

cannot be hidden in his hortatory appeals. The genius of his scholastic theology is apparent in his "Call to the Unconverted," and in his "Saints' Everlasting Rest." So thoroughly does the most abstruse science permeate the most familiar habits of thought and feeling.

ARTICLE VIII.

THE CONSERVATIVE USE OF THE EYES,

ESPECIALLY IN REFERENCE TO THE DISEASE KNOWN AS "MORBID SENSIBILITY OF THE RETINA."

By George A. Bethune, M. D., one of the Surgeons of the Massachusetts Charitable Eye and Ear Infirmary.

THAT disease of the eyes, which we regard as the great scourge of literary men, is known among physicians as the Morbid-Sensibility of the Retina. This term gives but an imperfect idea of the disease, as the most annoying sensations are felt in parts of the body which have only sympathetic relations with the retina, an organ which, as is well known, forms a part of the vital machinery of vision, and which, probably, has no capacity for sensation other than that concerned in sight.¹

This disease, in fact, consists of an over sensitiveness of the general nervous system of the eye, with its appendages and its neighborhood, especially of that part on, behind, and above its surface, and that of the living membrane of the lids. The uneasy or painful sensations are, it is true, produced by the exposure of the retina to the light in the discharge of its duty; at least, this is the *ordinary* succession of events, though the painful sensations are sometimes present when the organ is wholly at rest; but the sensations themselves are not in the retina, but in other parts. We wish to insist a little on this point, as connected with means for warding off attacks of disease.

¹ Sir Charles Bell says: "The nerve of vision is as insensible to touch, as the nerve of touch is to light."

There is, also, *occasionally*, in addition, a blur or failure of distinct vision, floating specs before the eyes, etc.; but these form no *necessary* part of the disease.

Besides the optic nerve and its expansion, the retina of the eye receives nerves from more sources than any other organ of the body. Of the ten nerves which go off from the brain, six are distributed *wholly*, and the other four *partially*, to the eye, which, therefore, as may be readily inferred, suffers promptly and keenly from the misbehavior of its allies and neighbors, the other organs of the body. The stomach and bowels, the liver, the skin, the circulation, and, in general, all parts of the body, are more or less concerned in its healthy action, and in their turns are liable to be affected by *its* derangement. It becomes evident at once that, from its complex relations, the regulation of diet and regimen demands, were the *eye only* concerned, an attentive consideration.

We have called the disease we are now discussing the especial scourge of students. We should, perhaps, have limited our remark to our own students. In Europe this disease has excited comparatively little attention, and is generally dismissed with a few lines in works on ophthalmic diseases. Why is it that in our land we suffer so much more, apparently, from that source? Perhaps some of the causes are beyond our observation. There are others, however, which force themselves on our notice, and should be kept in mind in attempting to ward off its approaches.

In the first place, what is the general physical organization of men who devote themselves, with us, to literary pursuits, and particularly to the study of divinity? Physiologists and writers on health have taken pains to impress on the public the necessity, in choosing a profession, of taking one that in its exercise shall meet in some degree the bodily deficiencies. Yet we imagine that their advice is seldom followed, and that a man chooses a profession about as often as he does a wife, on physiological principles. The reason for this is very obvious, and that is, that other motives will almost always have a stronger controlling power. As a matter of speculation, he agrees to the propriety of such rules for the good of the *race*, but other and *personal* considerations will generally lead him to neglect them as regards himself. The thoughtful and meditative cast of mind which leads a man naturally to clerical pursuits, is not ordinarily found united to a robust and active frame. Such a man natu-

rally prefers a mode of life which satisfies, to a greater degree, the inward demand for muscular exertion. In our own country this tendency is less controlled by accidental circumstances, as the chance of future patronage from the influence of powerful friends, etc.; and there is, therefore, a greater probability of his falling into the position towards which his inclinations spontaneously tend. So much for the individual. Having commenced his studies, he is now exposed to the influence of causes which affect him in common with others whose lives are of necessity more or less sedentary, and which, we think, are peculiarly rife in New England. It has often been remarked, that the native of Europe transplanted here, tends to thinness, to somewhat of the Indian type. The robust, florid Englishman, if not in his own person, at any rate in one or two generations, becomes lank, and loses his color. Now we suspect that this change, which we think cannot be denied, from whatever source it arises, renders the body more liable to the inroad of nervous disease, which is the leading element in this affection of the eye. The great prevalence of dry and high wind, in autumn and winter, in many constitutions give that "braced," irritable feeling which indicates an over-excited nervous system.

The brilliant atmosphere, unsoftened by a particle of mist, so characteristic of many of our days, especially if combined with the presence of snow in winter, is a severe trial for any but very strong eyes.

Almost every European traveller is struck by the bare, unprotected look of the houses in our country villages. Many of the houses are without blinds, and the light is tempered only by thin paper curtains, a very insufficient defence from the glare of our noonday sun, either in summer or winter. The dazzling white of the exterior, within a few years almost universal, is, we are glad to say, gradually giving way to more sober tints. The absence of trees, also, is beginning to be felt as an evil, as they no longer serve to conceal a savage enemy; and it is to be hoped that before many years their beauty and comfort will be universally recognized.

But, if we are advancing in these respects, in another and most important one we have wofully receded. We mean, in our modes of heating apartments. The old-fashioned open wood fire, at once the most cheerful and wholesome method of heating a room, has given way to hot-air stoves and furnaces. The

family circle, around the bright open chimney, with all its pleasant associations and delightful influences, hardly exists but in the past. Though not bearing on our subject, we may be permitted to say, that the moral effect of such a change, though some may think it trivial, seems to us to be of no mean importance. But, in reference to health, and, especially, the proper circulation of the blood, we most strongly enter our protest against it. Generally, no provision whatever is made for ventilation, and, in consequence, the head and eyes are often unduly crowded with blood, and we have not a doubt are thus brought to the discharge of their functions under the most unfavorable circumstances. Perhaps it is too much to expect, that, with the changes that have taken place in the face of the country, we can ever return to our old usages. At any rate, we would urge the necessity of efficient ventilation. Furnaces should be banished to the entries; and coal, if it must be used in our apartments, should be bituminous.

With regard to habits of exercise, our deficiencies in this respect have been so notorious, and so much talked about of late years, that it may seem almost superfluous to allude to it. No doubt the obstacles offered by our high winds, heavy rains, and extremes of heat and cold, account in a measure for our shortcomings, in comparison with the English, who are naturally held up for our imitation. We have, probably, much improved on our former habits; still, we must ever bear in mind, that exercise, to be productive of all its benefits, should be varied, and of a cheerful character. It should *not* be taken as a task. The prejudices which have grown out of what, no doubt, was founded in right feeling, have seriously interfered with what every man is entitled to as his right, viz. innocent and cheerful amusement. We know no reason why a clergyman should be debarred from using his muscles and brains in vigorous athletic sports, which shall regale the mind, while they exercise the body. If we have gone so far as to provide these amusements for the insane, with a view to help their restoration to reason, they are surely equally legitimate as a means of *prevention* of diseased minds or bodies. They are admirably adapted to the relief of over-used eyes, especially in those frequent cases, which can hardly be said to belong to the category of either health or disease, and which a slight difference in treatment may determine one way or the other. Horseback exercise is most valuable to those who can

command it; but in many cases it is not enough by itself, but should alternate with some other, which brings a different set of muscles into play. A good walk after exercise on horseback, so far from adding fatigue, will often have the effect of rest, with the advantage of increased vigor. In every instance, however, the individual must be guided by discretion, and, in general, it may be said, that no more exercise should be taken than can be recovered from by a short rest, either by sitting or lying down. We hardly need say, that a meal should not be taken by a man much fatigued.

With regard to food, we shall say but little, as our readers have, doubtless, at hand a good guide in the popular works which have been published of late. We would urge, however, that the preparation of an article for the table is as important as the kind of food; perhaps more so. This is especially true in respect to vegetables. They should be *thoroughly* cooked. To a laboring man this is of less importance, but the stomach of a student is pretty sure to suffer, sooner or later, from tough and fibrous food. In England it is beginning to be acknowledged, that French cookery is not only better to the taste, for that has long passed into a proverb, but is also decidedly more wholesome. The semi-pultaceous mass which results from the French mode of preparation, offers comparatively little resistance to average powers of digestion. Our own experience has shown us the rarity of so simple and easily prepared a thing, as a well-boiled potatoe; and we fear this is too true an index of a dinner at places where we might look for something better.

We wish to say a word on the use of stimulants. In the present state of public opinion on this subject, there is comparatively little danger of the abuse of alcoholic drinks on the part of educated men, and especially of those called by their position to set an example of temperance. We are not so sure that, so far as the health of the individual is concerned, the error in many instances is not on the other side. The majority of those exposed to this disease of the eye are persons whose ordinary state of health would be called, in State Street, somewhat under par. This condition of the body predisposes, as we have elsewhere hinted, especially to nervous disease. If the weight of action fall upon the eye, that will be the part to give way. It is impossible to lay down rules which would be a safe guide on this subject. We acknowledge that, with most physicians, we

feel very often a reluctance to advise the use of stimulants, for fear of the possible formation of a bad habit. But we have too often seen their good effects, when ordered by a practitioner bolder or less scrupulous than the greater number of physicians of the present day, not to feel strongly persuaded that there are many in our community who would be better for an occasional stimulant. It is no doubt true that a man in perfect health does not need it, cannot be made better, and may be made worse by it. But this is the condition of not so large a number as is generally supposed. Of course, we do not mean that *all*, or even the majority, in the opposite category, would be better for a more generous diet. That a proportion would be, we have no sort of doubt.

With regard to clothing, we have but little to say. It is a good rule for those who are not over robust to dress rather too warmly than the reverse, for, in such a shifting climate as ours, as has been very truly remarked, a man must have the activity of a Harlequin to meet the changes of the weather. Tightly fitting dress for *men* has gone out of use, we trust never to return. The late system of hats, at least partially adopted, is a great improvement on the old, as they set comfortably on the head and efficiently protect the eyes; a striking contrast to the analogous covering in the other sex, which does *not* protect the eyes and does not sit on the head.

In regard to bathing, a great advance of late has taken place in popular opinion. The free external application of water to the system has become so common, that we need not urge it strenuously. There may be a mistake on the other side. If a free reaction does not follow, the water should either be made warmer, or, what is sometimes better, its application should be deferred to a part of the day when the circulation is more active. Instead of in the morning, we have occasionally substituted to advantage a cold bath or sponging, just before dinner. This is less convenient, but in some cases will be found well worth the trouble of the change. If a feeling of comfort and warmth does not follow, the water should be used slightly warm. The same individual may vary the temperature according to his vigor and the activity of the circulation at the time, or according to the temperature of the season, but he may be certain that, if his ablutions are succeeded by a feeling of coldness, a blue skin, headache, and generally by uncomfortable sensations, they will do

him more harm than good. It should also be kept in mind that there is such a thing as carrying cleanliness too far. It does not do with all to remove too frequently or too thoroughly the secretions of the skin. In delicate persons they serve in some measure to protect the surface of the body. Friction with hair-cloth or a coarse towel should always conclude the operation of bathing.

With regard to sleep it is, perhaps, needless to say, that the time required for it varies with different constitutions. Generally, eight hours are sufficient. A good deal depends on habit and the quality, if we may so say, of the sleep. It must suggest itself to every one, that a man who sleeps soundly and without dreaming, takes the more rest in the same length of time. You should guard against the inference, that, because the health does not *apparently* suffer from a habit of sleeping only five or six hours, the habit does no harm. Sooner or later the bad effects will generally be seen in loss of vigor; and the man who perseveres in the habit, becomes old before his time. We do not think it a good plan to sleep in a very cold room, and heap on a great weight of bed-clothes to keep warm. As in the apartment for the day, ventilation should be secured. Indeed, here, if possible, it is still more important, as the body remains so much longer in the same place and with little change of position. The morning light should be admitted, if possible, from behind and above; and there should be no dazzling surface or white color to reflect the light on the eyes just opened from sleep. If the eyes are at all tender, the room should be well darkened, and little light admitted till the face and eyes have been bathed in cold water. In some instances of persons affected with the disease which forms our present topic, the first marked improvement has succeeded attention to this point. We would add, that the best preparation for a good night (in addition to a good conscience), is active muscular exertion carried to partial fatigue, before going to bed. It may be also observed, that, though suppers are not to be recommended, yet it is not generally advisable to go to rest with a feeling of hunger. If some light food is taken, the sleep will frequently be better, and the appetite for breakfast, a very important point, instead of being diminished, will often be improved. It hardly needs remark, that for delicate eyes, even for those not absolutely diseased, early hours for both rising and retiring to rest are all important. They should be exposed as little as possible to artificial light.

The regulation of the bowels must be carefully attended to, if we would preserve our vision unimpaired. A careless observer, even, can hardly fail to be struck with the ready sympathy of the eye with derangement of these organs. Its expression responds promptly to their complaints. Constipation affects the eyes directly, by tending to crowd them with an undue amount of blood; and indirectly, by affecting the quality of the blood and its circulation. Through the nervous system, also, in which, as we have before observed, the eye has so large an interest, its relations with the stomach and bowels are close and important.

We have dwelt so long on what might appear to have a somewhat remote connection with our main theme, because a large experience has convinced us of its great influence for or against the disease in question.¹ But, as in other nervous diseases, habits of mind are not less to be regarded than those of body. Theological students, for whom especially we now write, are absorbed with themes of the deepest interest to themselves and the race. The highest powers of the human brain are hardly sufficient to meet questions which constantly present themselves in the course of theological study. The exercise of these powers, within proper limits, so far from being injurious, is no doubt capable of promoting the health of both mind and body. But clerical students should not forget, that the mind works with material organs, perishable and easily deranged, and that a man, as Dryden says, may

"O'er inform his tenement of clay."

Modern chemistry informs us that a constant process of waste and repair goes on with the brain and nervous system, as well as with the other parts of the body, and that the amount in

¹ After having presented various rules for preserving the health of the eyes, Dr. Weller, in his "*Diätetik für gesunde und schwache Augen*," says: "The reader will sadly err, if he supposes that he has done all which is needful for his eyes, when he has observed the prescriptions which concern them immediately. He must pay attention to his general health. The eyes are so intimately connected with the human body, that nearly all the errors which affect that injuriously, influence these also. Hippocrates meant to express this idea when he said: *Ita valet corpus sicut valet oculi*. Therefore, he who would enjoy a continued health and soundness of vision, must regard as sacred all the rational laws of health." — Eds.

a great measure depends on the demand on their substance. The higher intellectual operations, therefore, though a source of the highest pleasure, are a source also of danger, unless controlled by moderation. What chemistry teaches is confirmed by subjective observation in the experience of intellectual men. The proverbial eccentricities and failings of genius may find some apology in the feeling of lassitude which often follows its most successful efforts, and which too often drives its possessor to stimulating excitement for relief. The eye, especially if nervously diseased, is the first to sympathize with the overworked brain. We would strongly advise the literary man to keep this in mind, when tempted to pass the bounds of prudence in the ardor of his pursuits. It will be found of advantage to change from one kind of reading or writing to another, and especially from a more laborious to a lighter occupation of the mind.

We have purposely occupied the larger part of our space with a discussion of points many of which have reference as much to the health of the body in *general*, as to that of the eye in particular. This course has been followed, partly because we consider them of great importance in this connection, and partly because in an Article in the first series of the present work (*Biblical Repository* for July, 1833), the subject of the especial use of the eye is so fully discussed, that but little remains for us to say.

We have already noticed the importance of confining the use of the eyes in reading or writing as much as possible to that part of the day when we are able to dispense with artificial light. In our short days this is not always possible. We would, then, advise the student to take the early evening in preference to the early morning.¹

¹ The physical system is not prepared for a severe exercise of the mind before the morning repast. The eyes are injured by the suddenness of the change from the darkness of night to the brightness of an artificially lighted room. Nature prepares the eye for its labors by the gradual process of twilight. We should not dispense with that process. Hundreds of scholars have impaired their vision, some of them hopelessly, by reading with the aid of artificial light, before the eye had strengthened itself to endure even the natural light of day. "Immediately after rising from bed, all labor of the eye is more injurious than at other times, and the misty veil which persons seem to have before their vision, soon after awaking from sleep, disappears after a brief period." Weller, *Diätetik*, etc., p. 98. "To sensitive eyes almost every artificial light is a source of more or less pain; but most intolerable is the burning lamp in those hours when [light

If the eye is more than usually sensitive, but can be moderately used in the daytime, the general rule is, that it can be used for a longer time in the forenoon than in the afternoon. There are, however, many exceptions to this remark. Some persons feel their eyes to be stronger at noon or even later. Here, of course, individual experience is the safest guide. Students should guard against the inference, that, because they can study on some occasions a certain number of hours without injury, they can always do so. If their eyes feel tired, crowded or uneasy, it is *not safe* to continue their occupation. It is very true that this warning is often, perhaps most frequently, rejected with impunity, but there is always a risk in so doing. What that particular state of the system is, which leads to a different result at different times, we often cannot determine; but the wise man will keep on the safe side. A very large proportion of cases in which we are consulted for the relief of morbid sensibility of the retina, are traceable to a particular exposure in which the warning was given, but was unheeded, because, under similar circumstances, no bad effect followed its neglect.

We have remarked, that we cannot *always* be aware, beforehand, of a state of the body which may predispose to this affection. In the great majority of cases, a reasonable caution will guard from danger. If any function of the system is deranged, the student of course must know, from what has been said, that his eyes must be used with moderation. But it often happens that, without being able to say that anything is the matter, he feels less vigorous and cheerful than usual. He may be sure in this case, that he is not quite well, and, though it generally happens that this state is but temporary, and that nature, if fairly treated, will effect a cure, yet, while it lasts, he should diminish his usual amount of literary labor.

Any mental excitement, especially of a depressing character, is unfavorable to the use of the eyes. At such times, the student should seek relief rather in the woods and fields than in books, to which, it is true, he is strongly tempted.¹ The winter, with its

and darkness] day and evening are struggling with each other. Even the healthy eye is pained in these circumstances with the artificial light. Before one uses such a light, then, at such a time, it is important to close the window shutters" entirely. *Ib.* pp. 65, 66. The reading in the twilight without a lamp, has also been often the cause of permanent injury to the eyes. — Eds.

¹ "The most excellent recreation with which the wearied eye can be indulged,

long evenings and heated rooms, is the season of especial danger to the student's eyes. In our short days, at this season, it is necessary to resort to artificial light. Of late years, gas is much used in our larger towns. Its extreme brilliancy, especially if used with a reflector, is apt to make the light too concentrated, and there is frequently a flickering and inequality in the volume of the flame, from its unequal supply. Wax and spermaceti candles, which give, perhaps, the most agreeable light, are objectionable on account of interruption from drafts. On the whole, the best for reading is still the oil lamp with an Argand burner. The reflector should be diaphanous, either of ground glass, or, what is better, oiled white paper. If an opaque reflector is used, another lamp at the side without the Argand burner or reflector, moderates the intensity of the light, and will be found a useful and pleasant addition. The degree of illumination required varies with different persons. There should always be sufficient to give the letters of the book with distinctness, so that you can read without effort. The best position for the lamp is to the side, and somewhat behind and above, so that the flame shall be thrown well on the page without first coming to the eyes. In this connection we would ask, that, when students are required to speak in public in the evening, they would have compassion on the eyes of their audience. There are few exposures more distressing to many persons, than being obliged to listen to a speaker with a bright Argand lamp on each side of his head.

A word with regard to relapses may not be unimportant. It should never be forgotten by one who has once suffered from morbid sensibility of the retina, that, for a long time at least after recovery, he is very liable to a return of the disease, and that it is often more difficult to relieve, than the first attack. Everything previously urged as a means of prevention, will apply with still more force here. One would think that the deprivation and suffering once experienced would always prove a sufficient warning, but such we have not found to be the case. By a happy provision of Providence it generally happens, that painful sensations fade sooner from the memory than those of

is to move about in the free pure air, and in regions which command an extensive and pleasant view of the face of nature." "The clear air is itself a medicine to the organ, and the beautiful distant prospect, while it delights, regales and strengthens the whole man." *Waller's Diætetik, etc.*, pp. 100, 122. —Eds.

an agreeable character. These painful sensations should be recalled sufficiently at least to guard us, if possible, from a similar infiction.

After all this caution, we wish to call the attention of our readers to one point, the bearing of which might seem at first sight to be in the opposite direction.

In common with all nervous diseases, this one is often aggravated by the influence of the mind. Without going into the depths of what is called animal magnetism, we are probably all aware that some of the best demonstrated and not the least striking of its phenomena are explained by referring them to a new development of the faculty of *attention*. This faculty is heightened and increased to a diseased point by sympathy. It will, therefore, be a good rule for students, in their intercourse with each other, not to dwell much on their diseased sensations. We strongly suspect that the occasional prevalence of this disease in schools and colleges results, in part, from the sympathy of students with each other. They direct so much attention to their sensations, that they at length acquire the disease which they fear. If such habits of association prove too strong for control, the best remedy is a temporary absence from the place of their origin.

ARTICLE IX.

CORRESPONDENCE.

Letter from Henry Lobbell, M. D., Missionary of the American Board in Assyria, with Remarks on the same by Prof. Stowe.

"Mosul, Mesopotamia, Oct. 2nd, 1854.

“PROF. C. E. STOWE, D. D.

“DEAR SIR,—I wish to express to you my thanks for the perusal of a valuable Article on Jonah, which, though it appeared in the *Bibliotheca Sacra* a year since, reached Mosul but a few weeks ago.

“The confidence with which you state that the plant which shielded the prophet while seated in his booth outside the city walls, was the *Ricinus Communis*, leads me to suppose that you deem the question finally settled.