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FIVE LECTURES

ON

BLINDNESS

By

KATE M. FOLEY

Home Teacher of the Blind California State Library

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Miss Foley teaching a class of men at the Industrial Home for the Adult Blind, Oakland, California.

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FOREWORD.

The following lectures were written primarily to be delivered at the summer sessions of the University of California, at Berkeley and at Los Angeles, in the summer of 1918. We are printing them, however, so that the information in them can be more widely distributed, since they are the outgrowth of almost a quarter of a century spent in work for the blind, and were written from the standpoint of a blind person, seeking to better the condition of the blind. They were addressed not to the blind, but to the seeing public, for the benefit that will accrue to the blind from a better understanding of their problems.

The successful work of Miss Foley as a student in the California School for the Blind, as a volunteer teacher, and in recent years as home teacher for the California State Library, makes these lectures particularly important and authoritative.

MILTON J. FERGUSON,
State Librarian.

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THE PSYCHOLOGY OF BLINDNESS.

In view of the widespread interest now manifested in the blind and their problems—an interest deepened by reports from the warring countries—I feel that a knowledge of the psychology of blindness should prove of great help to those wishing to take part in the re-education of the war-blinded soldiers.

As early as 1773, Diderot wrote an essay on the psychology of blindness, and, as this essay was written at the very beginning of blind education, it is interesting to note that his ideas coincide with the most advanced deductions on the subject today. However, as these deductions are not very numerous, and as the available literature is very scant, I shall be obliged to draw largely from my own experience and that of other blind persons, in presenting the subject to you.

First, let us consider the subject from the point of view of one who has been blind from early infancy, whose fingers are his eyes, and whose mental vision enables him to see many things not revealed by physical sight. A blind man once said, when asked if he would not be glad to have his eyesight, "to improve the organs I have, would be as good as to give me that which is wanting in me." This sentence sums up the whole aim of blind education. Dr. Eichholtz, a noted educator of the blind, says: "Education of the blind absolutely fails in its object, in so far as it fails to develop the remaining faculties to compensate for the want of sight." "Touch and sight must be developed by means which practically in all respects are dissimilar. A blind man discerns the sensation from the real presence of an object at his fingers' end, only by the force or weakness of that very sensation." So, then, let us consider that, to the blind, fingers are eyes, and remember that they have ten instead of two. As I have been blind since early infancy, my own case offers an illustration in point, so I hope you will not misunderstand the predominance of the personal note in these observations.

Blindness does not lead to any refinement of the senses of touch, hearing or smell, but to a greater keenness in the interpretation of the information furnished by these senses. Diderot says, "the help which our senses reciprocally afford to each other, hinders their improvement," and so the person in possession of all the senses regards the blind man as a marvel of intelligence and skill, just because, on losing his eyesight, his remaining senses come to the rescue, and he

continues to live and move and have his being without the most precious of all physical senses. In the world of the blind child eyesight plays no part, and so the other senses are made to do double duty, and the extent to which these may be cultivated is limited only by the mentality of the child, its early training and environment.

I think hearing is the first sense to be cultivated, both in the infant and the adult suddenly deprived of eyesight. Through its ears, the child recognizes voices, detects different footfalls, is enabled to measure distance with a fair degree of accuracy, and can form a very clear idea as to the shape and dimensions of a room. All this information is conveyed to the normal child through the eyes. Dr. Illingworth, a noted educator of the blind in England, says: "Of course, there is no doubt that blindness tends to a higher and more perfect development of the sense of hearing, even in the uneducated, on the same principle that Nature almost always comes to the aid of her children in providing protective agencies of one kind or another, even in the very lowest organisms, and, naturally, for those who are blind, the sense of hearing is the first to fall back upon for this purpose. Thus it becomes more highly developed, because there is more frequent call upon, and exercise of, that sense." Another writer has said, "but a distinction should be made between sensitiveness and an ability to use the sense, between native sensory capacity of the sense organ, and the acquired ability to use that capacity."

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The second sense to be developed in the blind child is that of touch, and this development begins at a very early date, supplementing the sense of hearing. Long before the child is old enough to read, its fingers have become its eyes, and each of the ten fingers carries its quota of information to the active brain, the amount and quality of this information increasing with the mental development. In addition to the fingers, the nerves of the face and those of the feet contribute their share of information. The child learns to detect differences in climatic condition by the feel of the air on its face. I have often heard very young blind children exclaim, "It feels like rain! It feels like a nice day! The air feels heavy! The wind feels soft! The wind is rough today!" The nerves of the feet contribute their share of helpful knowledge, calling attention to differences in the ground often unnoticed by the eye, telling whether the path is smooth or rough, grass-grown or rock-strewn. The auditory and pedal nerves are mutually helpful, the ear recording and classifying the sounds made by the feet, often guiding them aright by recalling certain peculiarities of sound—whether the ground is hollow, whether the sidewalk is of board or cement, and whether there is a depression here or a raised place there. I often wonder how deaf-blind people walk as well as they do, when they can not hear their footfalls. I find walking much more difficult when on a crowded thoroughfare, or when passing a planing mill or boiler factory.

The last of the trio of senses whose development compensates in large measure for the want of eyesight, is that of smell. Through this sense, the child comes very close to the heart of Nature. Of course, the ear is charmed by the song of birds, the hum of insects, the murmur of wind in the trees, or the sound of mighty waters. Through the finger-tips, he learns the shape and size of each flower and shrub and tree, traces the delicate pattern of ferns, notes wonderful rock formations, and finds the first blade of tender grass coaxed to the surface by the warmth of the Spring sunshine. But all this does not bring him the keen pleasure he experiences when he inhales the fragrance of the rose, the perfume of flowers with the dew still upon them, the smell of the freshly turned earth, the newly cut grass, or the blossom laden trees. In the case of Helen Keller, the olfactory nerves have been cultivated to a very high degree, and through this sense she is often able to recognize her friends. A little blind boy once told me that each member of his family had a distinct odor, by which he could tell things worn by them, or books they had handled. Laura Bridgeman is said to have selected the laundry of the pupils in her school by this unusual process. I frequently astonish my friends by telling them when I pass a drug store or hospital, a grocery, a confectioner's, or drygoods store, a paint shop, a florist's stand, or a livery stable. I do not think the blind have a keener sense of taste than any other class of people, although this claim is often made, even by the blind themselves.

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We have, then, the senses of hearing, touch and smell, each playing its part in the development of the blind child, and each playing it so well that the lack of eyesight is not keenly felt in early childhood. Not until it is old enough to understand the thoughtless remarks of well-meaning people, to catch the pitying tone, to feel the compassionate touch, does it realize that this lack of eyesight is to prove an almost insurmountable barrier to its future success.

I was in my sixth year before I understood the meaning of the word "blind." Up to that time, I had romped and played with other children, climbed trees, jumped ditches, accepting bumps and bruises as part of the game, and having no sense of fear, since some child always held my hand. In fact, in those days, all the children held each other's hands, and it was easier going, so. Is it not a pity that, in later life, we feel so self-reliant we are unwilling to admit that the way could often be made easier if we resorted to the childish game of holding hands, and moved forward together as we faced the more serious struggles of life. My first realization of the meaning of blindness came when, one day, after hearing some people call me "poor child," and expressing their sympathy to my mother, I asked if we were very poor, poorer than my playmates, and why I could not go to school. My mother explained that we were no poorer than the others, that the ladies did not mean it in that way, but were sorry that I could not see and did not think I could ever go to school. But my mother assured me that I was going to school, and that there I would learn to see with my fingers, better than the ladies did with their eyes. My childish mind was aroused then, and I asked every one what it meant to see, and soon realized that I did not know what "seeing" really was, at least, not in the sense the other children used the word. I was filled with wonder, since my world had hitherto seemed so complete—I heard things, or felt things, or

smelled things, and was satisfied—and yet there was another medium of knowledge entirely unknown to me, and until then unnecessary. How eagerly I looked forward to the time when I should learn to see and my heart was filled with childish rapture on the day when I entered the school for the blind at Berkeley. My first question, on meeting the Superintendent, was, "are you going to teach me to see?" How well he performed this task, how wisely he guided my childish feet, how carefully he developed my eager mind, stimulated my ambition, and renewed my faltering courage, I did not realize until I was called upon to face life, with its trials and opportunities. And here, where his work is so well known, I wish to pay my tribute of love and gratitude to Dr. Warring Wilkinson. He was my great-hearted, great-souled teacher, father and friend.

When I found myself in a place with children some of whom were, like myself, blind from infancy, and others whose eyesight had been lost through various accidents, and yet others who could see to go about, to tell the color of our ribbons, and advise us of the approach of a matron or teacher my wonder grew apace. This process of learning to see was varied and absorbing, but I soon found that it had its limitations, and that, after all, eyes were very useful possessions, and without them I could know nothing of color, could not picture the sky, or any of the heavenly bodies; nor could I distinguish different people, unless I heard their voices or steps, though no two had faces alike. I found, too, that some children who could see colors, could not recognize faces, and I came to realize that vision, however slight, was greatly to be desired. I could distinguish light from darkness, and this enabled me to locate doors and windows; but color, with its varying shades, was then, and is now, a mystery profound. But in my desire to see, to be just like other children, I resolved to learn all I could about color, and so I memorized the list of colors, which ones harmonized, which were most pleasing to the eye, which were bright, which produced a sombre impression. Thus I soon learned to speak of color with a degree of intelligence, and to select my gowns with a view to pleasing the eyes of my friends. I soon learned to associate certain phrases with certain colors—for instance, blue as the sky, green as grass, yellow as gold, black as night, red as fire, and brown as a berry. I also learned that a color had a variety of shades, and that at times colors were changeable, it being difficult to distinguish blue from green at night. The sky, with its starred phenomena, was even harder to conceive, and I could not understand how clouds obscured the sun, or how old Sol could put the blackest clouds to rout.

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My ears and fingers continued to flood my mind with knowledge, and the want of eyesight did not distress me. When I touched an object, or listened to a lesson, my mind stored it away for future reference, and often now, when recalling some facts in history or geography, I can hear the voice of the teacher who read the particular passage.

I was eight years old when I first examined a horse, although I was familiar with the sound of its feet on the pavement, and knew whether it walked, trotted or galloped. The horse I examined had been driven a long distance, and so was very warm; when my hand was placed upon its mane, the hair was damp and clung to the back, and there was an odor of steaming flesh. A fly was tormenting the animal, and, as it tossed its head impatiently, I could hear the rattle of harness, and the sound of its restive foot upon the ground. These impressions have always remained with me. My knowledge of the horse was acquired through the senses of hearing, touch and smell. And so with the cow. I can hear its low "moo, moo," hear the milk dropping into the pail, feel the hard outer shell of the horns, and catch the odor that is ever present in the cow's domain. The cat and dog have their peculiarities, too—the mewling of the cat, and the sounds heard when it purrs while washing its face—the dog's quick bark, and the sound it makes when panting for breath, as it rests after a long chase. I know the animals have different colors, peculiar to them, but this knowledge has no place in my mental conception of them.

In judging people, the voice is my infallible guide. I am instantly attracted or repelled by a voice, and my estimate of character is rarely incorrect. By the voice I am able to form a very accurate idea as to height, weight and age, so here again I do not feel the lack of eyesight. The voice is an unfailing index to character, and the trained ear is quick to catch the slightest variation in tone, and can detect traits and moods hidden from the eye, because not registered upon the face. There is a strong voice, a brave voice, a voice full of hope and cheer; a tired voice, a crafty voice, a voice full of dull despair. And so here again I do not feel the lack of eyesight in noting differences in my fellow men. I know that there are distinguishing marks, that heads are shaped differently, and that hair and eyes have different colors, corresponding to the various types, as blondes or brunettes. All this I know abstractly, but it is just one of the bits of information tucked away in memory's storehouse. I do not suppose many of you have ever heard a smile. I have. I hear a smile almost before the lips can register it, and to me the sound is as musical as the laughter of a very young child. I think hearing a smile must be like seeing the light in the eyes, and so lack of eyesight is no deprivation in this connection.

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All during my days at school, I went on acquiring knowledge, learning to see many things, scarcely realizing the handicap of blindness, because every help was given me, and I was surrounded by those whose condition was like my own. But when I went out into the world, I found that many seeing people, so called, had very little vision, although their eyesight was perfect. I found, too, that, although I knew many things, and was well equipped to earn my own living, my lack of eyesight was responsible for a corresponding lack of confidence upon the part of the public. This was a great disappointment, for I knew I could succeed, if only some one would give me the opportunity. After waiting twenty years, the State Library gave me the opportunity. This lack of confidence upon the part of the public is one of the most depressing

features of adult blindness. Thus far, I have considered the subject from the point of view of one who has been blind from early infancy, but now I shall view it from the standpoint of one deprived of eyesight in adult life, who is taking his first step in the dark.

M. Diderot says: "The help which the senses reciprocally afford to each other hinders their improvement," and so the adult whose movements are no longer directed by his eyes, feels utterly helpless and bewildered, as one who finds himself on a strange road, very late at night, with no ray of light to guide him. As the blinded soldier is uppermost in our thought today, I am considering the mental condition of an adult suddenly deprived of eyesight, not that of the man whose blindness has come on gradually.

The first sensation when thus plunged into total darkness is that of unreality, and, just as the light of day dispels the gloom of night, so the sufferer clings to the hope that any minute he may open his eyes, and find things as they were before the darkness settled down, with all its weird shadows, to fill his soul with dread. The continued darkness causes a feeling of depression and repression, very hard to combat, and so the sufferer is in need of "first aid"—in need of a friendly hand and a cheery voice to help him through these trying days. Of this period, M. Brieux, Director of Re-education of the Blinded Soldiers in Paris, says: "The blind are, for the time being, put back into the helpless condition of children. They have to be sustained and given a new education for life. They have to begin many things all over again. Spiritually, they have lost their bearings, and are drifting about in restless anguish. Physically, their whole organism has been shaken by the wound they have received, and must have time after such a violent shock to recover its equilibrium. Their power of judgment has often been temporarily destroyed. They are weak in body and uncertain in mind. This double weakness lays on those who surround them a double duty. Much will have been done when their material welfare has been assured, but the responsibility will not have been discharged unless they have also attained to tranquility of soul and a sense of their own dignity. One must have confidence, in order to give them confidence. Most of us have no idea what powers to meet new demands are inherent in our organs. We have within us capacities unknown even to ourselves, inactive, so long as they are not necessary, awake and efficient, as soon as there is need of them. They are reserves which most of the time we never call on. They are a hoard which we do not touch. Our resources and our power of life are greater than we imagine. The sudden loss of sight gives, after a time, something like the lash of a whip to the whole organism. All the other senses are roused to greater sharpness. When the blind soldier fully realizes this, he will perhaps arrive at a state in which I have seen some men blind from birth, the state of being proud of being blind. Why should they not be proud, when they feel that they are as capable of accomplishing certain things, of practicing certain trades as other men? If, with their lessened powers, lacking the power that we consider of supreme importance, they can do things as well as we, are they not, therefore, cleverer than we? Instead of talking to them of resignation, incite them to revolt at the limitations of their condition. Inspire them to conquer circumstances. Insist that they can. Picture life to them, its beauty and its power, and tell them that it is good."

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In administering to the needs of this readjustment period, the volunteer should be an optimist, and should exercise common sense in guiding the adult over the first lap of the unfamiliar road. I have advised the volunteers who are now in France, and those preparing to go there, to take writing boards, games, bright, pithy stories, and a lot of nonsense verse. I have told these Red Cross workers that they themselves must know how to laugh, must be able to rise above the horrors about them, for they are there to serve heroes, not cowards, heroes who will laugh with a sob in their throats; heroes who, after a short respite, will reach for a new sword with which to resume the battle of life. God grant we may have the new swords ready for them—swords of hope, swords of confidence, swords from which all the old prejudice and misconception have been removed—swords of occupation and independence!

Of this readjustment period, Clarence Hawkes, the well-known blind naturalist who lost his eyesight at the age of fifteen, says: "the loss of eyesight seems, for a time, to upset the perfect working of the nervous system. The nerves have to adjust themselves to new conditions, and rearrange the channels of communication. On first losing one's eyesight, one is impressed with the fact that all noises sound much too loud, and it takes several months for sounds to get toned down to their normal volume, and one never quite overcomes the tendency to jump at sudden sharp noises."

As to the blind child the senses of touch, hearing and smell prove efficient carriers of knowledge, so these senses come to the rescue of the blind adult, and compensate, in large measure, for the loss of eyesight. Training does not increase the sensitiveness of a sense organ. It merely puts this capacity to better use. So the blind adult does not suddenly come into possession of wonderful powers, but, in time, his "acquired sense perception" enables him to do many things hitherto considered impossible of accomplishment. But to the casual observer, anything done without eyesight is considered little short of marvelous. The adult soon learns to recognize voices and footsteps, to measure distance with a fair degree of accuracy, and, in many cases, to go about alone, with only the friendly cane for company. Many of the blind have what is defined as a "sense of obstacles," and it is sometimes called a sixth sense. Dr. Illingworth defines this sense as "an exceedingly subtle kind of instinct that enables a blind individual to detect the presence or proximity of a person or object under circumstances of absolute silence, and very often to know the nature of the object." Dr. Illingworth believes that this remarkable power is of electric origin and latent in everybody. This power seems to have its seat in the nerves of the face, and is possessed by the blind adult as well as the blind child. This sense of obstacles, this "touch at a

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distance," enables a person to tell when he is passing tall buildings, fences, trees, and many other obstructions. Mr. Hawkes says: "The sixth sense, if such it be, probably depends upon three conditions—sound, the compression of the air, and whether the face be free to use its sensitive feelers. This subject is still in its infancy, and time may reveal many interesting facts concerning it; but for our purpose it is enough that the blind have a sense of obstacles, and let us regard it as another proof that we are wonderfully made and divinely led."

In a surprisingly short time, the blind adult becomes accustomed to the new conditions, the various organs perform their new functions, and he finds life in sightless land to be, in many respects, very like life in that world of light and color, now only a memory. But a very living memory—enabling him to recall the faces of his friends, the glow of sunset, or the rosy light of dawn with the eye of the mind whose vision is keener, clearer than mere physical sight. This ability to call up mental pictures is yet another of the compensations, and these pictures never fade, but come, when familiar scenes or objects are suggested. The adult is deeply interested in form and color, and likes to have them minutely described. This fact is not well understood by sighted friends, and so the blind are often deprived of details which would give them keenest pleasure, because friends fear to recall painful memories. In this connection, and by way of conclusion, I shall give a poem written by one of our pupils, who lost his eyes when a drummer boy in the Civil War. This man learned to read raised type after being blind fifty-three years. His poem follows:

A BLIND MAN'S SOLILOQUY.

What, then, is blindness? This and nothing more:
The window blinds are closed, the outer door
Close shut and bolted, and the curtains drawn.
No more comes light of stars nor morning's dawn,
Nor one lone ray from day's meridian light.
And men pass by and say "within is night!"
Not so; for Memory's lamp, with steady blaze,
Shines on the hallowed scenes of other days,
While Fancy's torch, prophetic, flashing through
The vistas of the future, brings to view
Scenes passing strange, but scenes that yet shall be,
Which I can see, but which he can not see
Whose dazzled orbs find nothing hid away
Beyond the brilliant margin of today.

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To me the radiant world forever gleams
With the rich halo of my boyish dreams;
The faces I have loved no wrinkles know;
My dear ones' eyes ne'er lose their cherished glow;
The hair of gold ne'er turns to silver hair;
The young are young, the fair are always fair.

With reason strengthened, feelings more intense,
The senses, multiples of former sense,
Vicarious servants for dead sight become.
I see the city in the city's hum;
I catch its subtle undertone of trade;
I hear of fortunes lost and fortunes made,
In sounds to him a mystery profound
Who, seeing, knows not vision muffles sound.
Distinct to him must sound become, to whom
Life walks in darkness—call it not in gloom.
'Tis only an exchange of good for good,
A new plant growing where the old one stood,
Old blessings taken, and new blessings given;
Sweet compensation, thou wert born in heaven!

There is not silence unto him whose soul
In darkness sits and listens. Like a scroll
On which the secrets of the world are traced,
Blindness is but a sea-shell kindly placed
Beside the ear, and in its varying tone,
Who will, may make life's secret all his own.
And thus misfortunes bless, for blindness brings
A power to pierce the depths of hidden things,
To walk where reason and fair fancy lead,
To read the riddle of men's thoughts, to read
The soul's arcana in each subtler tone,
And make man's joys and sorrows all my own.

Nor can I sit repining at my lot
As bitter or unjust, or curse the shot
Which tore away my sight. The world is kind

And gentle to her sons. Though I am blind,
Smooth paths of enterprise have always stood
Open for me, and, doing what I could,
With hand or brain, with simple earnestness,
Have gathered what was due me of success.

O you, who sit in darkness, moaning o'er
Your dead and vanished vision, mourn no more!
Keep in the current. Be you brave and strong!
The busy world is singing—join the song,
And you shall find, if you no duty shirk,
Who will may prosper, if he do but work.

And as a last thought, permit me to quote the concluding words of Clarence Hawkes' wonderful book, "Hitting the Dark Trail": "If night has overtaken me at noonday, yet have I found beauty in night. The sun at noontide showed me the world and all its wonder but the night has shown me the universe, the countless stars and illimitable spaces, the vastness and the wonder of all life. The perfect day only showed me man's world, but the night showed me God's Universe."

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THE BLIND CHILD AND ITS DEVELOPMENT.

As a foreword to this lecture, I shall quote from a paper entitled "Blind Children And How To Care For Them," written by Dr. F. Park Lewis, an eminent oculist of New York City, and a man who has devoted much time and thought to the blind and their needs.

Dr. Lewis says: "It is the mind and the spirit which control, and when these are great, they dominate and rise superior to mere physical deficiencies. The inspiration of great ideals must be held out to the blind, even more than to the seeing, from the very beginning. It is not enough that the blind man or woman shall have physical strength, but his training must be so well balanced as to give him poise as well as vigor. It does not suffice that the blind man shall be as well educated as his fellow who sees. Handicapped by the loss of the most important of his special senses, he must supplement this deficiency by a better training of his mind and body. It is not enough that he should have the good character of the average man. His word and his reputation should be beyond question. He should be independent, and proudly unwilling, except when absolutely necessary, to accept that for which he can not, in some way, return an equivalent. He must be taught to reason with clearness and logical precision, for he must succeed by the aid of his mentality and character, rather than by his manual exertions. These facts are emphasized here, because if such qualities are to be secured, the training which produces them should begin in the cradle." If I could bring it about, a copy of the foregoing lines should be framed and placed on the desk of every teacher of blind children, and such teachers requested to read these words at least once each day.

In considering the development of the blind child, we must recognize the fact that, in mental attainment, at least, he is the peer of the child who sees. But in order to bring this about, the early years of the child must be carefully supervised, and his training calculated to fit him for the tremendous task awaiting him, a task requiring the courage of a Spartan, the wisdom of Solomon, and the patience of Job. Unfortunately, the parents of blind children rarely understand the importance of this early training. They are too often too absorbed in their own sorrow at having a child so afflicted, too sure that loss of eyesight means loss of mental vigor, to realize that their own attitude, their own self-pity, may prove a greater handicap to the child than blindness itself. If a child lives in a house where he is waited upon, and made to feel that mere existence and the ability to eat and sleep are all that may reasonably be expected of him, and that he must depend upon his family for everything, he will grow up helpless, selfish and awkward, and no amount of later training will entirely counteract the pernicious effect produced in these early, formative years. When placed in school with other children, he will be very sensitive to correction, and may become morbid and unhappy, thus giving a wrong impression of the blind in general. If, on the other hand, the child is taught to be self-helpful, permitted to join in the work and play of other children, made to feel that, with greater effort, he may do just what they do, he will soon become cheerfully alert and hopefully alive to all the possibilities of his peculiar position. It is true that natural disposition has much to do with one's outlook on life, but cheerfulness and a certain form of stoicism may be cultivated, and to the blind child these qualities are absolutely essential if he is to attain any measure of success in later life. It would be foolish for me to ignore the difficulties and limitations in the path of everyone deprived of eyesight, either in infancy or adult life, but I know that these very limitations and difficulties may aid in forming a character whose quiet strength and unflinching courage can not fail to win the admiration and co-operation of all who witness its tireless efforts for success. But in order to achieve success, let me repeat that such training must begin at the earliest possible date.

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You may never have thought of it, but the blind child has no model, no pattern. It must acquire everything. It learns nothing by imitation. The normal child copies the gestures and mannerisms of its parents, and so learns many things unconsciously, and with little or no instruction. But the blind child must be taught to smile, to shake hands, to hold up its head, to walk properly, to present and receive objects, and the thousand and one details of daily living so naturally acquired

under ordinary conditions. Long before it has reached school age, the blind child should be permitted to romp with other children, to take bumps and bruises as part of the game, and should be encouraged to run, jump rope, and join in all harmless sports, thus acquiring that freedom of movement, muscular co-ordination, and fearless bearing, so necessary if he is to cope successfully with the difficulties awaiting him. His toys should be chosen to instruct as well as amuse, and in this way he should be made familiar with the different forms, the square, the circle, the oblong, the triangle and the pyramid. The Goddard form board and Montessori insets are invaluable at this period. He should be trained to recognize the difference between smooth and rough, soft and hard, light and heavy, thick and thin. He should be given plasticine or clay with which to model, and be urged to reproduce his toys, thus assisting in the muscular development and intelligent use of his fingers—another essential equipment. As soon as possible, the process of dressing should be taught. The child may learn this more readily if a doll is used as a model, and he is required to put on its clothes each morning, and remove them just before his own bedtime. This important process should be made as interesting as possible, and each successful effort greeted enthusiastically, each failure carefully pointed out, its cause discovered, and its repetition prevented, when possible. In this way he acquires system, learns to put his clothes away in a certain place, and to locate them again without assistance. His little fingers should be kept constantly employed stringing beads, putting pegs in a wooden board, cutting paper with kindergarten scissors, and modelling with plasticine. If thus occupied, he will escape the mannerisms peculiar to the blind child whose only amusement has been to put his fingers in his eyes, shake his hand before his face to see the shadow, rock his body back and forth, and whirl around in dizzy circles. I found just such a child, a girl of eight years, who had never done anything for herself, and whose parents refused to send her to school. It took me some time to win the child's confidence, but when I did, I had no trouble to correct many of her habits, and I soon taught her to dress herself and learn to read. When I asked her what she did all day before I brought her the beads and the little scissors, and she answered, "Oh, I just sat in my rocker, and rocked back and forth, shaking my hands." And when I asked why she did not play and act like other children, she began to cry, and said, "Nobody never told me nothin' else to do till you came."

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When six years old, a blind child should be sent to the nearest state school for the blind, or to a special class, if there is such a department in the public schools of the city in which it lives. The necessity of sending the child to school thus early can not be too strongly emphasized, and education of blind children should be made compulsory, just as in the case of ordinary children. This is a measure which should be considered by all those interested in child welfare. The unwillingness of parents to send their children away to boarding school at so early an age is one of the strongest arguments in favor of the special classes in public schools. But it is not possible to have such classes in the small cities and towns, and very often the home conditions are often unsuitable for the proper development of a blind child, and so, in every state, a residential school is an absolute necessity.

Such a school should consist of a kindergarten, primary, intermediate and high school department, and the life of the children should conform as closely as possible to that of a large family in a well-ordered home. Those in charge of the children should be impressed with the responsibility of the task they have undertaken and should do their utmost to assist in the work of fitting the little ones for the preliminary skirmish in the battle of life. All children should have constant supervision during the formative period, but more especially does the blind child need watchful guidance in his work and at his play. Little habits must be broken, awkward movements discouraged, self confidence fostered, and every effort made to develop the child along sane and normal lines, so that, in later life, he may have the poise and bearing so often lacking in those who are blind from early childhood.

It is sometimes claimed that it is not essential that a teacher of the blind be possessed of more than an ordinary education, and this is why so many schools for the blind fail to turn out capable, cultured, self-reliant boys and girls. Dr. Illingworth, the noted English educator, gives the following qualifications for a teacher of the blind: "a sound education, self-control in a high degree, a boundless enthusiasm, a determination to succeed, should be kind and sympathetic, and at the same time firm, and should be true to his word." These are qualifications which should be possessed alike by the blind teacher and sighted teacher, and only teachers so qualified should be entrusted with the divine privilege of bringing light to the minds of these helpless little ones. I wish to add a few more qualifications to Dr. Illingworth's list, and they are these: a broad, comprehending sympathy, a sense of humor, and a heart brimming with love for all children—a heart capable of sharing the joy and grief of every child heart. And I wish to emphasize, in a special manner, one of the doctor's qualifications—namely, "a boundless enthusiasm," and to add yet another, a living, breathing faith that teaching is a divine calling, and that the opportunities for good or ill are limitless. To be successful, a teacher should be able to bring himself to the level of his pupil. I once heard a man say of a great teacher, "he had the heart of a boy, and understood our every thought and feeling."

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In many schools for the blind the inspirational value of a blind teacher is overlooked or ignored. In this connection Dr. Illingworth says: "it is almost as impossible for a seeing teacher to realize what it is to be blind, and know all the difficulties of his blind pupil, as for a congenitally blind person to enter into and share with one who can see, the beauty of a glorious picture or landscape." Dr. Illingworth continues, "it takes a seeing teacher to become what might be called a naturalized blind person, that is, one able to see things from the blind point of view; though he is never in the favorable position of a blind teacher who can say to a child, 'do it so; I can do it—I

am blind like you." In the residential schools Dr. Illingworth recommends that the ratio of blind teachers to seeing should be one to two. He says, "their very presence is a continual inspiration and incentive to the pupils," and he adds, "the education of blind children in those subjects in which the methods of instruction are necessarily and essentially totally different from those of the seeing, is best in the hands of a properly qualified blind teacher." The wisdom of this recommendation is recognized in the largest schools of England and France, and some of them have blind superintendents as well. America is slower to recognize the ability of the blind, but this period of reconstruction and readjustment through which we are passing may quicken their sense of the importance of employing blind teachers and superintendents, whenever possible. Superintendents are no longer required to perform clerical work. All these details are left to stenographers and bookkeepers. Neither is the superintendent expected to teach. But he should be a scholar, a man of culture, with broad vision and high ideals, and with a sympathetic knowledge of the difficulties to be met and overcome by the students in his care. It should be the aim of the residential school to train its pupils along lines best suited to their individual needs, and, when possible, to fit them to become partially self-supporting, if not wholly so.

The child in a residential school knows very little of life outside the buildings, knows little of the trials and struggles going on in its own home, perhaps. Its days are well ordered. It is clothed and fed, and is not expected to practice self-denial or to exercise any of the qualities of courage or fortitude which the exigencies of later life demand. Clarence Hawkes says: "courage a blind person should have above everything else. He must be literally steeped in it. It will not do to have just the ordinary, temporary supply allotted to the average seeing man—he will run out in a single day. But he must have courage that is perennial, a ceaseless fount of it—courage for the morning, courage for the noonday, and courage for the evening. Life is a battle and a struggle which never ends. He must fight for hope and cheer, laughter and happiness, every inch of the way along life's path." Another writer has said, "courage is the standing army of the soul, keeping it from conquest, pillage and slavery." But the child in the residential school knows little of all this, has little occasion to know. Dr. Park Lewis says: "The added importance of having blind children educated with those who see is, that they may realize more keenly the real difficulties of life which are to be met, and which have to be overcome. They will not always find kindness and courtesy, and they must be prepared to adjust themselves to the harder conditions when they arise."

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When the child finishes the required curriculum of the residential school, and goes forth to his place in the world, he is often unprepared for the struggle, unable to adjust himself to the altered conditions, lacking in patience, perseverance and pluck; the "three P's" of which Clarence Hawkes so often speaks, and without which he claims no blind person can successfully overcome his handicap. The need for this preparation is better known to a blind teacher or superintendent, and for that reason, if for no other, his presence in the school is desirable. He knows the value of higher education to the blind, and he will urge the pupils to fit themselves for college, reminding them that blindness is a physical, not a mental, handicap. And who is better qualified to fire the youthful mind, to strengthen the wavering ambition, and arouse the latent enthusiasm, than one who has made the effort, has fought the fight, and won gloriously!

Although Dr. Warring Wilkinson, who was Superintendent of the California School for the Blind for over forty years, and his brother Charles, who taught for the same period—although neither of these men was blind, they were true teachers and college men, and understood the value of scholastic attainment to the blind. As far back as I can remember, they urged us all to prepare for college, and, to stimulate this desire, they kept in close touch with the work of the university, and often brought essays written by the advanced students, to encourage us in our literary efforts, assuring us with a little practice we could write as well. Often, too, they would take classes to hear a lecture on some subject under discussion, thus forging the first link between the school and the university, in whose shadow our young lives were spent. In preparing us for competition with seeing students, Mr. Charles Wilkinson used to say: "never ask for quarter because of your blindness. Do your work so well that people will say not, 'how wonderful this is considering your affliction,' but 'how perfect in spite of it!'" This thought has remained constantly with me, strengthening and encouraging me, enabling me to overcome difficulties that would otherwise have been impossible to surmount.

It is of vital importance that the blind should have pleasant, well-modulated voices, and for this reason elocution should be included in the course of study. In recent years a number of blind students in eastern schools have been trained as readers and public entertainers, a line of work in which eyesight is not an essential factor. Reading aloud should be encouraged among the pupils, and frequent speed tests given, thus stimulating in them a desire for reading.

The school at Berkeley has included business methods in its course of study, and this is an excellent thing, because the day is not far distant when the ability of the blind to fill positions as typewriters, stenographers, telephone and dictaphone operators, and salesmen, will be recognized. And when this time comes, let us hope that our young people may be ready and eager to prove their worth in these lines of endeavor. If the students are made to feel that they are blazing a trail, and making it less difficult for others to follow, their ultimate success is assured.

Having outlined the aim and purpose of the residential school, and shown it to be a necessary factor in the education of the blind in every state, I wish to call attention to some of the advantages to be derived from coeducation of blind and seeing children.

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As early as 1900 Chicago started a special class for blind children as a part of its public school system, thus inaugurating the movement in this country, if not in the world. Since that time many large cities, including Boston, New York, Jersey City, Rochester, Milwaukee, Detroit, Cleveland, Toledo, Cincinnati and Los Angeles, have started similar classes, carrying the children from the kindergarten, through elementary and high school, and preparing them for college. The class in Chicago was started through the efforts of John B. Curtis, a blind teacher, and the Superintendent of Public School classes of Cleveland, Toledo and Cincinnati. Mr. R. B. Irwin, is a blind man, and so it is not strange that a blind teacher of Los Angeles should be the first to recognize the need of such a class in this state.

The State Library was glad to further this forward movement in the education of blind children, and permitted me to devote a great deal of time to organizing the class, and it provided the books and some of the apparatus for carrying on the work for the first year. It still supplies many of the books, though the Board of Education provides its own apparatus. Dr. Albert Shiels, Superintendent of the Los Angeles City Schools, was glad to have a class for the blind in the city, since he has seen how successfully the work was carried on in New York, where more than two hundred children attend special classes, and this in spite of the fact that New York has two state schools for the blind. When the home conditions are favorable, and a special class is available, it is wiser to permit the blind child to remain with its parents, to attend school each morning with its brothers and sisters. In this way there is no break in the family relation and the child does not grow indifferent to home ties, as so often happens when he is sent to a residential school. Mr. Irwin says "the special class is the twentieth century emphasis on the integrity of the home."

On January 2, 1917, the Los Angeles class started with eight pupils enrolled, and on June 30 of this year the number had increased to seventeen, with the prospect of more at the opening of the fall term. Teachers for special classes are generally chosen from the regular school department, their work being usually directed by a blind supervisor. In pursuance of my work as home teacher I found a number of children for whom there was no room in the State School at Berkeley, and before the special class was organized I taught these children in their homes or at the library. Miss Frances Blend, a grade teacher, asked to study with me, since she wished to teach the blind here or in the East. I sent her to teach the children, and in this way she acquired the necessary experience, learned to read and write Braille rapidly, and gained an insight into the psychology of the blind child, so, when the board of education needed a teacher for the special class she was ready and eager for the task. Since then Miss Blend's sister has qualified and is now the second teacher in the blind department, eight to ten children being considered all that one teacher can properly care for.

Among the poor of every large city, there are children whose parents conceal them, for fear they may be sent away to school. These are known as hidden children, and I found one such child tucked away under the bed, and was told she always hid there when she heard strange voices. She was a little Mexican girl, and spoke no English. She is now one of the brightest children in the class, and her parents are delighted that they need not part with her.

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In the special class, the children are trained to speak intelligently of things which they do not see with the physical sight, so that they may be able to converse naturally upon ordinary topics, and need not have to plead ignorance, on the ground of never having seen this or that object. Their minds are filled with a love for all beautiful things, especially flowers and pictures, and they are frequently taken to parks and museums. They are told about the stars, the blue sky, sunsets, the majesty of the ocean, and all the other wonders that enchant the eye; and they are taught to speak of "seeing" these things, because they really do see them with the mental vision, keener, in many instances, than mere physical sight. The boys of the polytechnic high school made a wonderful doll house for the children—a house of four rooms, fully furnished throughout. The children made their own rugs and baskets, tables and chairs, and one boy modeled a bathtub of plasticine, perfect in design. The house has a sloping roof, and it is thatched, and I must confess that my first real knowledge of roofs was gained from examining that one on the doll house. It has a chimney, too, and a stovepipe, and so the children learn a great deal from this miniature home of their dolls.

In their special classroom, the children are taught Braille reading and writing, and a great deal of time is given to these branches. They are taught all sorts of handwork, basketry, weaving, knitting, modeling, and chair caning, and, when old enough, they are sent with the other children to sewing, cooking, sloyd and music classes. As soon as possible, they recite with the regular classes, their lessons being previously read or explained by the special teacher. This gives them the contact with normal children, so necessary to the development of the blind child. Those not in favor of special classes claim that this competition is too severe a strain, and that it is unkind and unwise to place blind children with those whose physical advantages and opportunities for study are greater. But we have found that the plan works admirably. The special teacher trains her pupils to be self-reliant and helpful, insists that they join in the games of the others, assuring them that, with greater effort, they, too, may play, and it is delightful to watch them at recess or at noon, each blind child affectionately led by a seeing child, the latter calling the teacher's attention to the successful performance of some feat on the part of his blind playmate. In the classroom, too, the spirit is the same, the blind child remembering things for the one who sees, and the seeing child using his eyes for the one who is blind. The special teacher trains the memory of her pupils to the highest possible degree, impressing upon them that their minds are vast storehouses in which to keep all sorts of knowledge tucked away for future use, and that it is disastrous to blind children to forget. In mental arithmetic, they usually lead the class. Their

presence in the school is of the greatest help to the others with whom they work in class. Their success in overcoming difficulties is a stimulus to the pride and an incentive to the ambition of the seeing child. The presence of the blind children is a constant reminder to them of their superior physical advantages, and they are ashamed to have them outstrip them, as they so often do, in intellectual work. And so the presence of the blind child is sure to result in untold good, not only to the child so handicapped, but to the entire school, removing as it must, the belief, now, alas, so general, that when eyesight is lost, all is lost. Trained side by side with its sighted companions, doing the same work as well, if not better, the later success of the young blind seeker after knowledge is practically assured; for, as I have said, in mental attainment, at least, the blind child is the peer of the child with eyesight,—here, beyond cavil, the chances are equal.

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To my mind, the coeducation of the blind and seeing is a step in the right direction—a very forward step, since it will ultimately bridge the gulf of misconception and skepticism now separating these two classes—a gulf which must be bridged if we hope to arrive at a sane and satisfactory solution of the problem of finding employment, not only for the returned blind soldiers, but for the thousands of intelligent blind men and women who are waiting eagerly, hungrily, for a chance to prove their ability, a chance to earn their daily bread. When blind and seeing children are trained side by side, from the kindergarten, through the grades into high school, and on to college, perhaps, the barriers dissolve, the blind boy and the seeing boy are comrades—they have played together, worked together, and together they have planned their future. The seeing boy knows the blind boy will succeed because he has seen him victorious in many a mental skirmish. Just this May, right here in the University at Berkeley, a blind student graduated fourth in a class of more than one thousand seeing students. It may be interesting to note, in passing, that there are seven blind students now attending the university, and that the state provides three hundred dollars a year to defray the expense of a reader for each student. New York was the first state to provide readers for blind college students, and this was brought about through the efforts of Dr. Newel Perry, a blind graduate of the University of California, now a teacher of mathematics in the California School for the Blind. Dr. Newel Perry was largely instrumental in the passage of a similar bill in this state, and so once again, the blind are indebted to a blind teacher for advancement.

But all the children in the special classes will not care to go to college, and for those who do not, other work will be provided, manual training given, and all sorts of trades encouraged. Here, too, they will have the added stimulus of studying side by side with their sighted companions. It is my earnest hope that some day this state will establish a technical school for the blind. In such a school, a deft-fingered intelligent blind boy could learn electric wiring, pipe fitting, screw fitting, bolt nutting, assembling of chandeliers and telephone parts, trained as a plumber's helper, and taught to read gas and electric meters, by passing the fingers over the dial—in short, a variety of trades and occupations could be pursued with profit to the school and to the students. But while waiting for the establishment of such a school, there is much to be done by way of preparation. We must prove the truth of Clarence Hawkes' assertion that "blindness is, after all, but a 25 per cent handicap in the race of life." But it *is* a handicap, no matter what profession is adopted. I analyze the handicap thus: 24 per cent of it is the prejudice and unbelief of the public, and the other 1 per cent is the lack of eyesight. I believe this is not too strong. In speaking of the handicap, Clarence Hawkes continues: "a blind person, in order to succeed equally with the seeing, must put in 125 per cent of energy before he can stand abreast of his seeing competitor."

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But in order to prove blindness to be but a 25 per cent handicap, we must train our blind children from their earliest infancy. We must not sidetrack them. We must plant their feet firmly on the highroad of life, encourage their first, faltering steps, teach them to go forward fearlessly, with head erect and shoulders squared, warn them of pitfalls and hidden thorns, show them the wisdom of making haste slowly when the path is steep or uneven, impress upon their minds the importance to others of their success, and, above all, train them to have confidence in themselves, teach them to realize that, because of their struggles and limitations, they have a mental equipment and reserve force possessed by very few of their more fortunate fellow beings. Thus trained and fortified, our young blind people will work like Trojans to prove their ability to those who doubt it, and succeed in removing one obstacle after another, until they stand ready to take equal chances with any who may be pitted against them. The hand of the sightless worker is steadier, and his courage greater, because of the years of struggle and constant effort of which his sighted competitors can form no conception.

And so those in charge of the education of the blind, whether in residential schools or public school classes, have a herculean task before them, but if their hearts are in the work, if they are alive to their wonderful opportunity for service, and if they have faith in the ability of their pupils, the future success of these handicapped young people is practically assured. As with the nation today, so with those interested in the welfare of the blind—we look to the children for the fulfillment of our highest ideals, and hope, in their advancement, to see our "dearest dreams come true." I am often called visionary, and I am proud to confess that I have a vision, a wonderful vision of the future of the blind. It may not be realized during my lifetime, but if some of the children I have inspired will take up the torch, and carry it on unflinchingly, I shall be satisfied. Meantime, I walk by the light of my vision along rough roads, across strange streams, up hills that are steep and rock-strewn; and, though my courage sometimes fails, and my strength seems unequal to the task, the light shines clear and steady, and I go forward, in the glad assurance that one day my vision will be realized, my cherished dream for the emancipation of my people, the emancipation of the blind, *must* "come true."

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THE RE-EDUCATION OF THE BLIND ADULT,

With Special Reference to the Blinded Soldier.

"A voice came in the darkness
And lifted the curtain of Mind;
I saw that fingers could be
Also eyes to the blind.
I touched, I thought, I saw,
And the dark shades rolled aside.
And to you my heart pays tribute.
Dear teacher, friend and guide."

These lines were sent to me by one of my blind pupils after he had learned to read and write the Braille characters. They express the purpose of re-education, and indicate the means by which it may be attained. Rehabilitate, reconstruct, re-educate—these are familiar terms in this hour of stress and world conflict. To the minds of many, these words may present problems that are entirely new, but to the social worker, and those whose lives have been spent in the service of the handicapped men and women of our civil communities, the problem presented is no new one, the only difference being that, whereas, hitherto, only a few recognized the problem, today, stirred by the knowledge of war and its frightful consequences, every one is eager to share in the rehabilitation movement now sweeping over the land. The re-education of the blinded soldier is, after all, only the re-education of the blind adult, and he has been with us, lo, these many years! Adult blindness has increased alarmingly in the past half century, and the problem of providing for this unfortunate class has assumed proportions. The prospect of having to care for thousands of blinded soldiers has led to a consideration of the blind and their possible rehabilitation, and much good should result from the united effort. We extend a cordial invitation to all to "come over to Macedonia and help."

The California State Library has been engaged in the re-education of the blind adult since it opened its Books for the Blind Department in December, 1904. At first it supplied books to those who already knew how to read, but soon it became evident that its field of usefulness could extend to the adult suddenly deprived of eyesight, and not eligible to a school for the blind. And thus the need for home teaching became apparent long before the State Library could employ such a teacher. I realized this need, even before leaving school, and it was my privilege to teach as a volunteer for twenty years prior to my appointment as home teacher for the State Library. During that period I taught the blind of this and neighboring states, and, before books were made available by the State Library I copied stories and poems suited to the tastes of my individual pupils. In this way I came in close touch with the blind and their problems, and my every waking moment was devoted to their service and although there were

"Heavy burdens in the load,
And too few helpers on the road,"

I clung to the belief that some day help would come, and I should be permitted to enlarge my scope of usefulness, and reach all who needed re-education. And this hope was realized in July, 1914, when the State Library asked me to accept the position of Home Teacher of the Blind of the state.

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As early as 1890 Pennsylvania started home teaching in this country, but its work was privately maintained. Since then other states have established such departments, Massachusetts, New York, Ohio, Illinois, but these have special appropriations for carrying on the work. Our State Library is doing it out of its general appropriation, and as a phase of its extension. It is the only state library maintaining such a department in connection with regular library work. Some of the large cities have reading rooms in their public libraries, where books are loaned on application, and where reading is taught to those who can go there for lessons.

The duties of the State Library home teachers are manifold. This department has steadily grown in importance until now it is recognized as the very bone and sinew of work for the blind in this state. Some of the teacher's duties are, first, to teach raised type to all who can not see to read ordinary print, (a person need not be totally blind in order to read in this way, as many learn who can see to go about alone); second, to search for, and when possible, place either in the school at Berkeley, or the special class in Los Angeles, all blind children who have reached the age of six years; third, to conduct a campaign for the prevention of blindness and conservation of vision in adults and children; and, lastly, to set forth the needs of the blind, convince the public that its attitude toward them is often an added affliction, and correct a few of the many mistaken ideas concerning those deprived of eyesight, who are, necessarily, somewhat handicapped in the race of life. The importance of this last duty can not be overestimated, and so my next lecture will present this subject in its many phases, with the hope of creating a better understanding between the blind and the seeing—an understanding which will not only help the blind adult now in our midst, but aid materially in the re-education of the blinded soldier. My task is not an easy one, but I love my work and my pupils, and I have come to know that the public needs, not so much to be instructed, as to be reminded.

Our first borrower was a lady of ninety years, and so we realized at once that there was practically no age limit in this work, thus proving the truth of the well-known saying, "we are never too old to learn." A man of ninety, with hands toil-worn and crippled from rheumatism, was able, after a few weeks of study, to read with pleasure, his only regret being that he had not learned twenty years before, when blindness first came upon him. When it is considered that, during all those years, the man had not read a single word, his progress is truly remarkable, and the fact that he is reading has stimulated others who, on account of their advanced age, hesitated to study the raised types. The requirements for study are simple—a love for reading, persistent application, and a determination to succeed. If a person did not care to read with his eyes, he will certainly not be willing to learn with his fingers. This is a fact not well understood, and it is very generally supposed that all blind people want to learn to read. Among our elderly borrowers are doctors, judges, ministers, teachers and authors, and to them the reading has given a new lease of life. There are invalids among our elderly people—men and women in wheel chairs, with crippled limbs, sometimes deprived of the use of one hand—but they are reading, and their pleasure is beautiful to see. One woman of eighty-seven, who has not walked for four years, and blind one year, learned to read last January, and since that time she has read twenty books, besides knitting squares for the Red Cross.

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The type read by the elderly borrowers, and those with toil-hardened hands, or suffering from some nervous affection, was formulated by a blind man, Dr. William Moon, of London, about 1845, and is called Moon type. The characters are large and distinct, many of them being shaped like the ordinary printed letters. They are easily learned, and this type is invaluable, not only for old people, but in cases where, in order to restore lost confidence, a quick return is imperative. Dr. Moon lost his eyesight in early manhood, and spent the remaining years of his life perfecting his system, printing books and pamphlets, and going about teaching the poor of London, thus inaugurating home teaching for the blind. Moon type books have been printed in many languages, and thousands of men and women have been blessed and brightened by the unique philanthropy of this blind man. His son, Robert Moon, brought the type to Pennsylvania, and that state and ours lead in the number of Moon books in circulation. Often when a borrower has read Moon for six months or a year, he is able to learn the Braille, his fingers being trained by the Moon to remain in a proscribed space, and his confidence in their ability fully established. This is a potent factor in mastering a dotted system, as the progress is generally slow and laborious, especially for elderly people.

The fact that an adult can learn to read with the fingers seems very wonderful to the uninitiated, and, indeed, it is a long step forward, but the ability to substitute fingers for eyes is only one of the marvels wrought. Helen Keller has truly said that "idleness is the greatest burden of the blind," and this is why our work with them is so acceptable, though the reading is, after all, only the means to an end. While training the fingers to perform their new functions, I strive to renew hope and courage in the hearts of the pupils, assuring them that they may still do many things that were possible before their blindness. Self-reliance and helpfulness—minus self-pity—this is the formula I use when urging the pupils to make the most of life; for when a man is sorry for himself, he is on the road to despair, and his condition is well nigh hopeless. When the pupils are able to read and write once more, after having given up all hope of ever doing so, their confidence is restored, and a way is opened to new and hitherto undreamed-of possibilities. Old aims and pursuits, relinquished when the eyesight failed, are once more remembered and discussed, and, in many instances, resumed, thus bringing back the light, not to the eyes, but to the mind, through work. John Newton says: "You can not shove the darkness out of a room, but you *can* shine it out." I see this miracle performed every day, yet to me it is ever new, ever wonderful, stimulating me to greater efforts for my people—because the blind *are* my people, and their joys and sorrows, triumphs and defeats, find an echo in my heart.

When the raised alphabet is mastered, books are sent from the State Library to the homes, through the mail, free of cost, and thus there is no expense incurred, and as this service is tax-supported, there is no element of charity connected with it. At present, the State Library employs two home teachers, and the number will be increased as the need arises. One of these, Miss Catharine J. Morrison, is stationed at Los Angeles, having been appointed to take my place there when I was transferred to San Francisco last October. The arrangement for this transfer was one of the last official acts of the late State Librarian, my well-loved chief. Mr. Gillis was devoted to the blind, and extended the service to this section at the earliest possible moment.

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The State Library selected me as home teacher, not only because of my years of experience with the blind, but because, blind from early infancy, I was familiar with the handicaps and discouragements that overwhelm the adult but recently deprived of eyesight. The pupils have confidence in a blind teacher, because they know that every step in their difficult path is familiar to her feet. The qualifications for a home teacher are, briefly, these: personality, adaptability, tact, a sense of humor, a broad, comprehending sympathy, a strongly hoping heart, unlimited patience, and a determination to do what is best for her pupils, no matter what the opposition, or how hard the task may be. "He who can plant courage in the human soul is the best physician," and this is one of the chief duties of the home teacher. Some knowledge of nervous diseases is also essential, and it is often necessary to exercise the greatest care and patience in giving the first few lessons, as an unwise word, or a failure to understand conditions, may lead to untold misery. This is especially true in cases of sudden blindness, as the pupil is often afraid to move about his own room, confused by the altered conditions, and bewildered by a multitude of sounds hitherto unnoticed. It is absolutely necessary to have the co-operation of the family, and I am often obliged to insist that changes be made in the household arrangements, in order to help a

pupil through the trying period of readjustment. This is sometimes fraught with difficulties for both pupil and teacher, but the latter should never lose sight of the comfort and benefit of her charge, and should care nothing for unreasonable objections or selfish protests.

The blind adult is in need of some one who, while recognizing the undeniable calamity and loss, is yet ready to lend a steadying hand, encourage the uncertain feet to their old, free movements, lead the troubled thoughts into other channels, and find new methods of doing old things. Thus encouraged, the blind adult will soon resume his normal attitude, realize that much good work may yet be done, and that others have blazed a trail which he may follow, if he will. But if his family and friends feel that, because eyesight is lost, all is lost, and tell him that, because of his affliction he can do nothing, he will do nothing. But if they tell him he has a handicap, and that they will help him to work it off, all his fighting blood will come to the rescue, and he will say, with Emerson, "the king is the man who can." I give this sentence to all my pupils, and their spirit leaps to the call, and, holding to my hand for the first few, uncertain steps, trusting in my assurance that very soon they will find their way along this new path, the bent shoulders straighten, the bowed head is lifted, the darkness is dispelled by the light of purpose, soul sight replaces physical sight, and the pupil is ready to face life again, undaunted and unafraid. What a wonderful privilege, what a rare opportunity for service, to the teacher alive to the possibilities of her unique position! "When the song goes out of your life, you can not start another while it is ringing in your ears; but let a bit of a silence fall, and then, maybe, a psalm will come, by and by." To live by a song is all very beautiful and wonderful, but to live by a psalm is braver and worthier. And, in the case of the blind adult, the readjustment period may be called the interim between the song and the psalm.

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During these trying months, the blind adult should not be left alone, to fight his way "out of darkness, through blood, into light." He should have immediate and competent care at the hands of one who is familiar with his needs, and familiar, too, with the possibilities of his altered condition. An occupation, however light, is an absolute necessity. Enforced idleness is an added affliction, and one not easily borne. The government realizes this fact, and its program for the blinded soldier includes many forms of handcraft, to be taught in the hospitals. Netting is taught, and the soldiers are encouraged to whittle. I was glad to see this latter occupation included in the "first aid" program, as I have recommended it for many years. When a man whittles, he whistles, maybe not just at first, but some day, almost before he realizes it, he finds himself whistling, and he is then well on the road toward a sane acceptance of the new conditions. I have found whittling to be as soothing to masculine nerves as knitting or crocheting to feminine ones. The ability to use the hands in some light work, removes the feeling of helplessness and enables the adult to keep his mind on his fingers; and this effort at concentration is often the means of preserving reason, and reviving in the soul the desire to take up the struggle of life again.

At this stage, the adult should be induced to learn to read raised type, and to write letters to his friends. There are several writing devices by means of which a blind person can once more use pencil or pen, and the ability to do this marks another milestone in his progress.

When the adult is able to read and write once more, perhaps to use the typewriter, he feels encouraged, and begins to ask what other blind men are doing, and to wonder what avenues of usefulness still remain open to him. Whenever practicable, I induce the men to resume their former occupations, or suggest other lines of work suited to their altered condition. One young man who was an electrical engineer before his blindness, now wires houses in Los Angeles, his work always passing the inspector, despite the opposition of sighted competitors. He has his own shop, and there he assembles chandeliers, repairs motors, and charges storage batteries. It takes him longer to do the work than formerly, but its character is the same, and his heart sings with the joy of the task, and he is working off his handicap, in the hope that others may follow where he leads. In May he cleared one hundred and fifty dollars, above all expenses. Another young man supports two small children raising poultry, designing his own roosts, coops and troughs. Another man is making good selling janitor and sanitary supplies to hotels and apartment houses. Two of the men are doing well in a house to house canvass for brushes of various kinds. Several men are in the real estate business, and one has bought a home and is supporting his aged father. Another does expert work with the typewriter and dictaphone.

I encourage the women to knit, crochet, sew and cook by proving to them that this is possible without eyesight, and I feel certain that, through such efforts, many a domestic tragedy has been averted. I induce the older men, or those who can not take up any line of business, to work in the garden, chop wood, cut lawns, go to the near-by stores, and make themselves a necessary factor in the household. The possibilities of our work, and the real good accomplished, can not be told in words, but its effects may be seen in many homes where men and women, strengthened and encouraged, are once more assuming their rightful places in the household, sharing the work and the responsibility, just as in the days before blindness came upon them.

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In order to bring the work within reach of those to whom it is not possible to give oral instruction, we have a correspondence course for pupils in this and neighboring states. In this way, we are reaching people from Humboldt to San Diego county in this state, and the list includes persons from Arizona, Washington, Nevada and Oregon. This course is well known to every county librarian in the state, and even custodians of very small branches send us the names of blind persons in their vicinity. Among the correspondence pupils is a man who was superintendent of a power plant before losing his eyesight, and he still holds the position, despite his handicap. He tests meters in three power houses daily, walking a distance of three miles in order to reach them all. I taught him to read and write two systems, to use a writing board, and

he has now mastered the typewriter. He is a brave man silently fighting his way along the dark trail, and I am privileged in being permitted to guide his unaccustomed feet over the rocks and crevices I have long since learned to avoid. Another of the pupils is in the insurance business, and is also one of the Four Minute men in his country's service. I could give you many more instances of the splendid courage of these men and women who, though deprived of the most important of the special senses in adult life, are cheerfully doing their best, wasting no time in straining after the fruit just over "Fate's barbed wire fence."

Our work carries us into hospitals and almshouses, and, through the co-operation of charitable organizations, we find the poor and, in addition to teaching them to read, we endeavor to better their condition, and the charities are always glad to second our efforts. The teacher in Los Angeles goes regularly to the County Hospital and County Farm, and up here I teach in the San Francisco Hospital, Relief Home, and in the San Leandro Infirmary, and it is a great joy to minister to these lonely, friendless souls. In the Relief Home I have a splendid class, and I go there once each week, and read to all the men in the ward, blind and seeing, before giving the lessons. Two of the men are knitting, one is making squares for the Belgian baby blankets, and the other a muffler for the Navy League. When I asked for volunteer knitters, one old colored man said, "Madam, my hands are not steady enough to knit, but I can hold the yarn for some man to wind."

I am also teaching in the State Industrial Home for Adult Blind in Oakland, and I look upon the afternoon spent there as the redletter day of the week. I go from there each Tuesday with a fresh supply of courage and inspiration. The men collect funny stories to tell me, and the women show their appreciation in countless, little ways. The State Library is proud of its borrowers in this institution, and not long ago had some pictures taken, showing the men reading^[1] and the women knitting. It is an inspiring sight to see the men waiting for their lessons. They come in from the shop, where they have been sorting broom corn, sewing or tying brooms—young men and old—all eager to avail themselves of the services of the teacher, anxious to learn everything possible that will help to broaden their outlook on life—fine, brave fellows, all of them. Many have become blind within recent years, victims of industrial accidents in factories, quarries or mines. The thought of the blinded soldier has roused these men to renewed effort, in the hope that their success as broom makers may encourage other blind men who must learn a trade after the war. And their broom shop is a wonderful place to visit, with seventy blind men, and a blind foreman to inspire and encourage the workers. The business of the institution is principally wholesale, although some of the blind men have worked up a good retail trade in Oakland. The sales of the institution average \$6,500 per month, and with increased capital, more material and a larger plant, it could handle three times its present business. The board of directors will ask the legislature to increase the appropriation, to enlarge the plant, and to provide an industrial teacher to go into the homes of the blind, teach them weaving, basketry, chair caning and knitting, the Home to market the products, deducting the cost of material from the amount paid to the workers. This industrial teacher is greatly needed, and it is hoped the legislature will make it possible for the Home to enlarge its sphere of usefulness and provide employment for many who are not inmates, but who need to contribute to their own support.

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The men of the Home are not alone in their desire to help in the hour of their country's need. More than a dozen women are knitting for the men in the trenches. They are an Auxiliary of the Navy League, and their work is the finest of any turned in by the thousands of knitters in the bay region. They knit socks and sweaters, helmets and mufflers. One of the women made five pairs of socks in one week, with never a dropped stitch anywhere. This same woman made three sweaters in ten days, all perfect garments. The wife of the superintendent is the teacher, and two of the blind women help the others by picking up dropped stitches, straightening puckers, and suggesting easier methods to the inexperienced workers. Those who can not knit, snip rags for the ambulance pillows, hem Red Cross handkerchiefs, and sew on hospital quilts. In addition to this, a blind invalid in San Francisco rips up work poorly done by seeing knitters, and the members of our wonderful auxiliary make perfect garments from the used wool. This stimulates them to do their very best, for they know they are proving to the public that the fingers of the blind worker are deft and sure, and that, given the opportunity, they can knit as well, and often better, than their more fortunate sisters. They feel, too, that they are doing their best to promote the comfort of the soldiers, doing it evenings, after working in the shop all day, where they cane chairs and make toy and whisk brooms. I am sure we need not go to the hospitals of France in search of blind heroes—we have them right here in our midst, and are proud of them. The State Library permits me to devote all the time necessary to keep the women supplied with wool, and return the garments to the Navy League. The library regards this as a part of its campaign of enlightenment, and it is confident untold good will result, both to the public and to the blind. In addition to their work, both men and women read a great deal, and dozens of books are mailed to and from the Home each day.

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And so the State Library is doing its share toward the re-education of the blind adult, has been doing it for the past thirteen years. It provides the best books available in the various types. It has over eight thousand books in circulation, and its list of borrowers numbers more than one thousand. The keynote of this department is Service, and each borrower is made to feel that his success is of vital importance to the Library, and when a new reader is added to the list, a note is usually sent, welcoming him to the family circle. For we are all like one large family circle—with common aims, common interests and a common goal—namely, to spread far and wide the gospel of home teaching, to do our best in order to help others similarly placed, and to prove ourselves worthy of the help so generously given by the State Library.

Another potent factor in the work of re-education is the Matilda Ziegler Magazine, a periodical in raised type published since 1907, through the generosity of Mrs. Matilda Ziegler, head of the Royal Baking Powder Company of New York. This magazine is printed in New York City, and sent to the homes of more than twelve thousand persons in the United States and Canada. It is like any other magazine, with current events, timely articles, short stories, poetry, a woman's page, and a page of humor. In addition to this, every month there is an article telling of the success of some blind person, the account written by the man or woman in the form of a letter to the editor. And the manager, Mr. Walter G. Holmes, is a man with a heart of gold; he has his finger on the pulse of the blind of the country, and he believes in them, loves them, and brings out the best that is in them. Every number contains a map of some of the warring countries, and so the readers are kept in touch with all the vital issues of the day. Many a man is induced to learn to read raised type just to read this magazine. And so Mrs. Ziegler's philanthropy can not be too highly commended, and her name and that of Mr. Holmes are enshrined in the hearts of the blind. Her service to them is incalculable.

The government is making extensive preparation for the re-education of our blinded soldiers, both in the hospitals of France and the hospital school at Baltimore. The grounds and some of the buildings of this school were given to the government by Mrs. T. Harrison Garrett of Baltimore, and no expense is being spared in providing every care and facility for the training and comfort of the blind soldiers who are to be rehabilitated and returned, not to the battlefields of France, but to the battle ground of life. The government plans to begin the re-education in the base hospitals, to continue it at the ports of embarkation, and complete it in the hospital school at Baltimore. The training in this school is to be patterned after that of St. Dunstan's in London, where the work of re-education, under the direction of Sir Arthur Pearson, himself a blind man, is meeting with the greatest success. The Red Cross Institute for the Blind is on the same grounds as the Hospital School, and is supplementing the work of the government in a most able manner. Typewriting, dictaphone, switchboard operating, telegraphy, osteopathy, massage, and salesmanship are to be taught to those who are fitted for these branches; and trades and occupations, including piano tuning, winding coils for armatures used in electric motors, joinery, mat and mattress making, broom and basket making, rug weaving, and shoe cobbling are to be taught to those who are not fitted for the professions. The government will send over to France at least one blind teacher for each base hospital, for his inspirational value to the men during the first trying months of the readjustment period. Blind teachers will be employed in this country, too, and the government is already looking about for those best qualified for such positions. All blind soldiers will be given an opportunity to learn to read and write the raised system, and provision is being made for an enlarged circulation of books, and for newer publications to be embossed in the universal Braille system. In this work, the volunteers who learn to write Braille can materially assist, by copying short stories, timely articles, and nonsense verse to be distributed among the blind of their communities, and for the pleasure of the returned soldiers.

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When the men have been a sufficient time in the hospital school, they are to be returned to their own cities and towns, and the government, through its agent empowered to find employment for handicapped soldiers, will endeavor to secure work for them in existing industrial institutions and plants in the various states. It is also planned to place capable blind men in shops with the seeing, whenever possible. I say whenever possible, for it will take time and much effort to persuade employers to include blind men among their employees. But the day is not far distant when the public will see the wisdom of providing work for its handicapped men and women, and condemn those who fail to co-operate with the government in securing positions for those qualified to fill them. The government is generous in its appropriation of funds to carry on this re-education, but it does not include the civilian blind in this program. The blind adult in civil life must be employed or cared for by the civilian population, and this brings me to the discussion of the attitude of the public toward the blind since three-fourths of the blind of America could be gainfully employed right now, if the public would only believe in them, would only give them an opportunity to prove their ability. With his remaining faculties keenly alert, with a courage and fortitude born of many trials, the blind adult is prepared to face life squarely, undaunted and unafraid, asking only to take his place on the firing line, to march shoulder to shoulder with his seeing brother, and to do a man's work in the world.

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THE ATTITUDE OF THE PUBLIC TOWARD THE BLIND.

In discussing this subject I realize I have a most difficult and delicate task before me—a task which only a blind person can adequately perform. I approach it with no misgiving, with no unkind feeling, for, as I have previously stated, I believe the public needs, not so much to be instructed, as to be reminded, and I believe it will be glad to have some of its mistaken ideas corrected, and thus bring about a better understanding between the two classes.

In the first place, I wish to mention some popular fallacies concerning the blind. Chief among these is the idea that all blind people are so much happier than sighted people. This belief seems very general, and comes, I suppose, as a result of the feeling of the average human being that, if deprived of eyesight, he could never be induced to laugh again. The blind adult soon realizes that "humor is a shock absorber," and that "mirth is the soul's best medicine." When my pupils fail to recognize the efficacy of humor, I establish a rule that they must laugh at least once during each lesson, and very soon they agree with Charles Lamb that "a laugh is worth a hundred groans in

any market." One of my foreign pupils said to me when I spoke of his cheerful attitude, "Madam, I laugh that I may not weep." And this is the key to much of the cheerfulness of the blind, whose philosophy is not often understood by their sighted friends. There is nothing really remarkable about making the best of a trying situation, unless it is the small percentage of persons who do so. People feel so sorry for the blind that they are often unable to address them at all, or, when they do speak, convey a whole world of well-meant but misdirected sympathy in a few ill-chosen words. This misdirected sympathy is one of the hardest things the blind adult has to bear, and often when I urge a man to go out among his friends as he did when he could see, he answers, "I can't do it just yet. I can't bear the pitying tone. It would make me lose my grip, and I must not let go." And sometimes I go to his friends and explain the situation, and persuade them to call on their friend, take him out with them, talk to him of the ordinary, commonplace happenings, keeping their sympathy well disguised, or, rather, showing a comprehending sympathy, a sympathy that recognizes a brave man's effort to accept his fate unwhimperingly.

Another popular belief is that the blind are naturally very religious. Unfortunately, this belief seems to be shared by those who selected many of the books to be printed in raised types, since about one-half of the books selected are of a religious character. The blind are naturally introspective, and their power of concentration is greater than that of the average person, but I have not found them to be unusually religious. I do not think that blindness increases or decreases the religious tendency.

A third fallacy is that the blind can tell colors by feeling. This is absolutely impossible. I have heard of men who could tell the difference of color in horses, but, upon questioning them closely, I found that the texture of the hair varied in light and dark colored animals. Of course, there is an odor about some colored dyes, such as black and indigo blue. Some of the blind are themselves responsible for fostering this belief, but they do it to test the credulity of the public, and they do not know the real harm they are doing to the cause.

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It is a common belief, too, that all blind people like music, and are especially gifted in this art. I do not believe that the percentage of really musical blind people is greater than that of persons who see. Sometimes a blind man or woman will study music either as a pastime, or in the hope of making a living, but the lack of eyesight does not increase or diminish one's musical ability.

In the lecture on the psychology of blindness, I endeavored to prove that the blind were not possessed of greater faculties than their seeing fellows, but that loss of eyesight made it imperative to cultivate the remaining senses to a very high degree, and that such cultivation led to a greater keenness in the interpretation of the information furnished the remaining senses. When told that the blind do many things well and quickly by employing methods different than those who see, the information comes as a shock, when it is not entirely discredited. There is an idea prevalent among so-called well informed men and women that a loss of eyesight carries with it a loss of mental vigor, and a total inability to engage in any of the world's work. This belief, and the many foolish notions which it breeds, presents one of the greatest difficulties to be met, and, if possible, overcome, by the blind man or woman obliged to earn a livelihood. So potent is eyesight considered that, without it, some people think it impossible to perform even the simplest duties, and the person obliged to substitute fingers for eyes, and memory for pad and pencil is regarded as a marvel of intelligence and skill, and as possessing a sixth sense. Anything done by the blind, from recognizing a voice to remembering a street number, is considered wonderful by the average person, and this attitude is very trying to the blind adult who is striving to adjust himself to new conditions, and train his remaining faculties to the highest possible degree of efficiency. The commiseration and incredulous words of his friends is one of the greatest trials which the blind adult is called upon to bear, and it is not strange that he is often embittered and discouraged, and unwilling to subject himself to the thoughtless comments and undisguised pity of his former associates. These associates do not realize that their attitude has changed or that they are adding another burden to the already heavy load borne by their friend. They are sorry, honestly sorry, and want so much to help, but to their minds blindness is the greatest of all afflictions, and loss of eyesight is accompanied by a corresponding loss of physical ability and mental vigor, unless the person so afflicted is unusually gifted, and, in that case, he is regarded as the marvel of the age. Unfortunately, the percentage of gifted people is no greater among the blind than among the seeing, and so it is not strange that many of the former class are unable to cope with the difficulties and discouragements that blindness entails, when thousands of seeing people succumb to what they consider the unequal struggle for existence. As a class I honestly believe that blind people are more courageous than seeing people, and I am sure that a greater demand is made upon their stock of courage. This demand will be lessened when the public learns to look upon blindness as a physical, not a mental handicap, and when, instead of compelling persons so handicapped to sit on the side lines holding their broken swords, it leads them forward, places a new sword in their hands, and brings them the glad tidings that they are needed on the firing line. Loss of eyesight is always deplorable, but it is not so terrible as the isolation which generally follows it, an isolation due, in large measure, to misconception, lack of information, and misplaced sympathy on the part of the public, generous to a fault in bestowing alms, but slow to believe in the ability of the blind, and the wisdom of employing them. If the public could be brought to look upon the blind, not as an isolated class whose affliction entitles them to the pity and generous alms of those more fortunate, but as men and women, with normal aims and desires, just as full of hope, just as eager to work, and just as interested in things as when they saw them through the natural medium, their handicap would be lessened and their lives much happier. Most people think all that can be done for the blind is to divert them, amuse them, provide for them in institutions, or encourage them to accept private charity. This lack of

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understanding on the part of the public is the greatest drawback to the advancement of the blind, and often leads to untold misery. Occupation the blind should have, must have, if they are to enjoy any degree of happiness, or retain their self-respect. Loss of eyesight does not deprive a man of his desire to earn his daily bread, or to provide for those dependent upon him. He is willing and eager to work, and should be given the chance. A French physician, himself without eyesight, said: "So long as the blind can still bring their stone, however small it may be, to the building of civilization, or of bringing happiness to their kind, they feel that they live; and whatever be the wounds received, they are not out of the battle of life—the inequality of arms only increases their ardor." This inequality of arms should, and usually does, act as a spur to the courageous man or woman, but to the mind of the average sighted person, this inequality seems to apply inability, and so very little is expected of the blind, and little thought is given to their possibilities. Senator Gore, the blind Senator from Oklahoma, says: "It is a mistake to tell the sightless their loss is insurmountable or inconsequential. It is neither. The sightless confront a situation, not a theory. We ought to study their problems, and help them to lessen their burdens, to smooth their path, and to multiply their resources, to enable them to adapt themselves to a new and sometimes a strange environment; to help them to adjust themselves to a new set of circumstances, which presents a different problem, as it presents a different situation from those who possess the sense of sight." "And," the Senator concludes, "the greatest service we can render to the blind is to help them to help themselves." And this is where the public can help, though, as I have said, in its mistaken kindness, it more often hinders, and encourages the blind to accept alms, instead of making it possible for them to become self-supporting, self-respecting men and women.

The constantly increasing number of blinded men in the warring countries has made it imperative to find work in which they can successfully engage, and trades and occupations hitherto untried have been found to be both practicable and lucrative. What Sir Arthur Pearson is doing for the blinded soldiers at St. Dunstan's is little short of marvelous, and his success should help the cause in all parts of the world. In Eastern cities, a large number of the blind are gainfully employed, and new avenues of usefulness are being opened to them. At Ampere, New Jersey, Dr. Schuyler S. Wheeler has formed what he calls the Double Duty Finger Guild. This is composed of some twenty blind people, sixteen men and four women, and they have been taught to wind coils for armatures used in electric motors and mill machinery. These people earn from a dollar and a half to two dollars a day, and their work is done as well as that of the sighted employees, though, just at first, a little more time is required. They are making up this discrepancy slowly, but surely, and it is thought they will soon do the work as fast as the sighted operatives. Unfortunately, on this coast, we have no factories where this winding is done, as most of the electric concerns here do repair work, which varies so that it would be difficult for the blind operative to keep changing from one kind of work to another. Henry Ford employs a number of blind men in his factory at Detroit. There the men fit nuts to bolts, wind armatures, assemble different parts of machinery, and fold paper boxes. In his factory Mr. Ford also employs other handicapped men, and has machinery especially devised for their use. He believes that all large factories should employ a certain percentage of handicapped workers, as its contribution to the rehabilitation movement, and it is to be hoped his example may be followed by employers all over the country. The Light-House for the Blind in New York City, the Cleveland Association for the Blind in Ohio, and other similar associations are doing splendid work in arousing the interest of the public, and in finding employment for blind men and women, both in their homes, and in shops with sighted persons. Mattress making and upholstering have been found particularly adapted to the blind, and in Boston thousands of mattresses are made and renovated yearly by blind workers employed in the shops of the Massachusetts Commission for the Blind. Folding towels in laundries, wrapping bread, packing catsup bottles and fruit cans are some of the things being successfully done in the East. And the increasing shortage of labor will induce employers throughout the country to see the light, and realize that what the blind operative loses because of lack of sight, he makes up by increased concentration and faithfulness to duty. In the West, the people have very little faith in the ability of the blind, but in time we hope the social consciousness will become less lethargic, and that the mental and physical needs of this class will be given the consideration accorded to them in the larger cities throughout the East. The San Francisco Association for the Blind, a privately-maintained institution, is doing good work in arousing public interest, and in its shops the men are taught to make brooms and reed furniture, and the women to weave rugs and make baskets. It is in constant search for new fields of endeavor, and this spring it induced one of the largest canneries to employ over twenty blind people to sort asparagus, and the same cannery has selected a number of the best workers to cut fruit in its orchards in the Santa Clara Valley. All this is very encouraging, but it is only a beginning, as there are hundreds of blind in this state who should be contributing to their own support. This is why an enlargement of the plant of the Industrial Home for Adult Blind in Oakland is so urgently needed, for, after all, the state should assume the duty of providing its handicapped civilians with employment, instead of caring for them in almshouses, or permitting them to become objects of private charity. The state should see to it that its blind children receive an education which will fit them to earn their own living. All schools for the blind should be under the direct supervision of Boards of Education, who should give the same careful consideration to the problem of educating blind children as is now given to the education of seeing children. And this is one argument in favor of classes for the blind in the public schools. Vocational training is of more importance to the blind child than to his more fortunate brother, and when this is recognized, one of the barriers to his success will be removed. Is there any reason why an intelligent blind youth especially interested in medicine, should not be trained as an anatomist, a heart and lung specialist, an osteopath or a masseur? He does not need eyes to listen to heart beats, find the third vertebra, or rub the kinks out of a

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refractory muscle. In Japan the government reserves massage as an occupation for the blind, and in the hospitals of England and France blind masseurs are given the preference, and their work receives the highest commendation. Los Angeles has a blind anatomist at the head of its College of Osteopathy, and several blind osteopaths.

When mentally equipped, all blind students should be sent to college, and urged to fit themselves as teachers. In every college and university blind men should occupy chairs in history, English, economics, and mathematics. I know two blind men in this state well qualified to teach any of these subjects, who are forced to accept inferior positions, because educators generally fail to realize that blindness is no bar to mental attainment, and that the ability to teach does not depend upon the ability to see with the eyes. This will be better understood when the coeducation of blind and seeing children becomes more general—God speed the day! As music teachers, concert players, leaders of orchestra, or masters of the violin and 'cello, the blind should have an even chance of success, but their inability to read music at sight, or watch the director's baton often deprives them of positions which their quick ear and well trained memory would enable them to fill with profit to themselves and satisfaction to the public.

And so in all the professions. I know a man who, before he lost his eyesight, was considered an eminent lawyer, but now his associates regard him pityingly, and his clients take their business elsewhere. When the light went out of the eyes of this brilliant man, it did not take his brain as well. He is fitted to be a consulting lawyer or court pleader, and could occupy a chair in a college of law. Surely, there is something radically wrong when these conditions exist! Surely the public needs to open its eyes, and polish its glasses in order to see more clearly that there is a mental blindness, more pitiful, more far-reaching in its consequences, than physical blindness, however hard or uncomfortable the latter condition may be. Some one facetiously suggested that I call this lecture "bringing light to the seeing," and, in a sense, this is what I am trying to do. But the light is carried by a kindly hand, and the hand is the index to a heart in which there is no bitterness, no malice, no distrust—a heart brimming over with love, with hope, with confidence, and with a belief that the public *will* see the light, and, seeing it, and reading my message in its beams, will pass it on to others, adding to it as it goes, until it floods every corner of our vast state, and result in untold good for my people. And let me tell you how this light may be disseminated—let me apportion your share in this labor of love, this highest form of social service, this movement of re-education now sweeping over the land.

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I am so often asked by those who wish to volunteer in their country's service, "What can I do to help in the re-education of the blinded soldier?" And I invariably answer, "You can first help in the re-education of the public, and this will be the greatest service you can render to the men blinded in battle." In order to know what lines of work will be available for them when they return, we must look about and see what the adult blind of our civil communities are doing. If we can not employ all these who are willing and able to work, how can we hope to employ an increased number later on? Let us ask ourselves what the blind can do, and then, how much of this are we permitting them to do? If we are an employer of salesmen, and one of our employees has recently lost his eyesight, let us ask ourselves why, when he came to us and urged us to let him continue to sell our goods, we told him that, although he had been a faithful worker, and we were exceedingly sorry for his misfortune, we could not retain his services, because competition was so great, and so many unexpected things happened, and we felt we could not entrust our business to any one who did not possess all his faculties. We meant to be very kind, and we thought every word we said was true, but was it true? Did that man sell our goods with his eyes, or did he sell them by using his tongue and his personality to persuade customers to patronize us? If he had a boy to go about with him, could he not talk as convincingly, work as hard, and, indeed, might he not put forth a greater effort to extend our business and make himself invaluable to us? This is a typical case, and one that occurs almost daily. So it is in all lines of work the blind man or woman attempts. A blind piano tuner asks for work from house to house, just as a sighted tuner has to do, but, whereas we sometimes employ the latter, we refuse the former, saying, we could not trust our instrument to the hands of a blind man, and maybe we offer him a small piece of silver to lessen the hurt we have unwittingly inflicted. Perhaps a man with defective eyesight asks to clean house or help in the garden, or work on a ranch, or perform some light task in a store. The same condition obtains. We are so hurried these days, we must have the work done with the greatest possible expediency, and so we can not entrust it to any one who is handicapped, although we are sorry, and really wish we could do something for such people. And so sometimes, men who started out with high hopes and lofty ideals are forced to the streets, there to depend upon the spasmodic charity of the passerby, and to attract this wavering attention of the public, the man resorts to all sorts of subterfuges, from holding up pencils and gum to grinding out popular tunes on a wheezing old hand organ. Sometimes these men have families and feel they must make this effort to maintain them. Many of them try to sell newspapers on the corners of our principal streets, but here, too, the competition is very great, and little boys patrol the curb, holding the ever-ready paper under the nose of the hurrying pedestrian who, though he may be conscious of the blind man selling in front of a building, thinks he can not spare time to go to him for a paper, and so snatches one from the waiting boy, throws him the pennies, and jumps on a moving car. Selling newspapers is better suited to a blind man than almost any other line of business. I mean the man who has never learned a trade, or who has no special profession. If the government could commandeer this line of work for its blind civilians, I am sure there would be fewer itinerant street musicians, gum or pencil venders. Of course, after a while, the blind man reduced to playing on the streets, becomes accustomed to the excitement, the roar of traffic, and covers, I will not say earns, more money than he could by canvassing, piano tuning, or making brooms. And so, once started on this road, once accustomed

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to the acceptance of public charity, it is almost impossible to induce the street vender or musician to try a more legitimate means of livelihood. He invariably says, in answer to the protest of those who have the interest and advancement of the blind at heart, "When you can find me a job where I can earn as much as I do right here, I'll take it, but until then, I must live, and I must help to support my family." Meanwhile these street merchants are creating an erroneous impression in the minds of the unthinking, but ever sympathetic public, leading it to believe that begging is all that the blind can do; and so, when asked to employ a blind person, even in the smallest capacity, people mention the blind of the street, and say they will gladly contribute to the support of the sightless either in institutions, or by private charity, but they do not believe in their ability to perform work of any kind. Of course, this is not the answer given in every case, but it is the reply generally made to all such requests. This is the sad state of affairs here and in many of the large cities throughout the country, and this is why the State Library is conducting a campaign for the enlightenment of the public. Whenever possible, I raise my voice in this cause, before clubs and organizations, high schools and colleges, in order to change this mistaken attitude, in order to urge a saner point of view. In presenting this gospel of work for the blind, I put the matter very plainly, prove to the public that it is to blame for many of the conditions I deplore, laugh at its incredulity, score its misconception, urge a broader, more comprehensive sympathy, and usually leave the platform with the assurance that I have won many recruits in this campaign so dear to my heart.

As I said in my last lecture, the government has a well-defined plan for the re-education of its blinded soldiers. But suppose this plan is carried out, and the men are returned to their home cities, qualified to pursue a certain line of work, only to find that the public does not share the government's confidence, is unwilling to give them an opportunity to prove their ability? The public will cheerfully pay taxes to care for these men in idleness and seclusion, thus diverting to the rear of life's battle line these heroes who have given the most precious of all their physical possessions in their country's cause. The soldier killed on the field of battle pays the supreme sacrifice all in a moment, but the sacrifice of the blinded soldier is lifelong. Are we going to find employment for these returned heroes, or are we going to add yet another burden to their already heavy load? Are we going to add the burden of dependence to the burden of darkness? If we want these men to know that we appreciate the service they have rendered to their country, let us provide occupations for them, and in order to do this let us begin by employing the civilian blind, the blind right here in our midst. Let us study the problem with an open mind, freed from the old prejudice and unbelief; let us turn the light on ourselves, and see that it is we who sit in darkness. Let us ask the blind leaders of the blind what work can be done without eyesight, and let us be guided by their judgment, their experience. And, as a bit of Red Cross service, let us employ the blind; let us create a demand for their labor; let us ask for work made by the blind, and tell our friends to ask for it; let us buy our newspapers from the men on the streets, and let us give our magazine subscriptions to blind men who have subscription agencies; let us patronize blind lawyers, osteopaths, salesmen, piano tuners and musicians. Let us find other and broader avenues of usefulness for these our civil blind heroes, who went into the dark with no blare of trumpets, no applause from cheering multitudes, and who wear no badge of honor on their breasts. Let us do this, so that when the blinded soldiers return, we may welcome them with the glad tidings that we have work waiting for them, that we know they can do it, because blind men and women here have blazed the trail, and have, by their splendid courage and boundless enthusiasm, succeeded in changing the attitude of the public, and removing the last lingering vestige of doubt as to the ability of the blind to become self-supporting, self-respecting citizens. In this campaign of enlightenment, this bit of Red Cross service for the blinded soldiers and the blind adults of our civil communities, every one of you can help, and I feel sure it will be unnecessary for me to ask a pledge of co-operation from any one who has heard me speak this afternoon. The State Library is heartily with me in every phase of this campaign, and, with its co-operation and encouragement, I go fearlessly forward, overcoming obstacles, uprooting prejudices, laboring with heart and mind and voice in the service of the blind and in the hope of bringing about a clearer understanding of their needs in the minds of the public.

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And now, in conclusion, let me tell you my dream for the future of the blind, a dream which, please God, will one day come true. I dream of seeing blind men occupying chairs in our colleges and universities, blind heart and lung specialists, anatomists and osteopaths, lawyers and lecturers. In my dream, I see blind salesmen, telegraphers, musicians, piano tuners and electricians, and other men making brooms, brushes, mattresses and furniture now so often made by prison labor. And in my dream, I see blind women teachers, stenographers, dictaphone and switchboard operators; and other women knitting, crocheting, sewing, cooking, weaving rugs and making baskets, and doing the work side by side with their more fortunate sisters, and doing it as well, and often better. Then and only then will the greatest sting be removed from blindness; then and only then will the blind beggar depart from our public thoroughfares, and when all these things come to pass, my dream for my people will be realized. Aren't you going to help to make my dream "come true"?

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PREVENTION OF BLINDNESS AND CONSERVATION OF VISION IN ADULTS AND CHILDREN. [2]

Helen Keller, in writing on prevention of blindness, says: "Try to realize what blindness means to

those whose joyous activity is stricken to inactivity. It is to live long, long days, and life is made up of days. It is to live immured, baffled, impotent, all God's world shut out. It is to sit helpless, defrauded, while your spirit strains and tugs at its fetters, and your shoulders ache with the burden they are denied—the rightful burden of labor."

When I was twelve years old, the well-known oculist, Dr Barkan of blessed memory, came to examine the eyes of all the children in the School for the Blind at Berkeley. I was the first to be examined, and I remember distinctly every word of the great doctor when, after looking at my eyes, he turned to the superintendent, and said sadly, "Needlessly blind! her eyesight *could* have been saved." These words made a profound impression upon my childish mind, and as I sat and listened, while child after child was examined, and heard again and again the same remark, "needlessly blind!" I resolved to know more about this eye disease with the very long name, ophthalmia neonatorum, to learn its cause, and see just how it might have been prevented. But we did not hear as much about prevention as we do now, and, although I did not forget the matter, it was many years before I had an opportunity to study it further. When I did, I found that at least one-fourth of the children in schools for the blind in this country were there, just because a simple precaution was not taken at the time of their birth.

Five years before I knew there was such a thing as unnecessary blindness (since I had been told I was blind as the result of a severe cold in the eyes), a Belgian doctor, Professor Crede, a famous obstetrician of Leipsic, appalled at the number of children who lost their eyesight within a few days after birth from a virulent eye infection, determined to try the effect of a simple prophylaxis, a two per cent solution of nitrate of silver, dropped in the eyes of every newborn child. The effect of the prophylaxis used in Dr Crede's clinic was marvelous, reducing the number of cases from ten per cent in 1880, to one-fourth of one per cent in 1886.

"Babies' sore eyes," or ophthalmia neonatorum, is defined by Dr Sydney Stephenson as "an inflammatory disease of the conjunctiva, usually appearing within the first few days of life, due to the action of a pus-producing germ introduced into the eyes of the infant at birth." Dr Crede found that, by putting two drops of the solution into each of the infant's eyes at birth, all danger of infection was averted. The solution is harmless to healthy eyes, and, in ninety-nine cases out of a hundred, destroys infecting germs when they are present. The cost of the drops is nominal, about two cents per patient, and yet over ten thousand persons in the United States, and as many more in other countries, have been deprived of the most important of the special senses through the ignorance and neglect of doctors and midwives, and the public at large, as to the gravity of the disease, and the methods of prevention. It is estimated that twenty babies in every one thousand have sore eyes, and that from five to eight of these cases are serious, and capable of causing blindness. Infant ophthalmia is found among all classes, but more especially among the poor, who must so often depend upon the services of a midwife or neighbor who, in most instances, does not know the meaning of the word antiseptic. Consequently, it was found necessary to make laws for the prevention of this disease. For various reasons, it is difficult to pass a law making the use of a prophylaxis compulsory, and in only a few states has this been done. But in more than thirty states the immediate reporting of infants' sore eyes is compulsory, and in thirteen states the prophylaxis is distributed free to doctors and midwives.

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In our own state, every precaution is taken to prevent infant ophthalmia. Dr Edward F. Glaser, secretary of the State Board of Health, has given this subject unlimited time and study, and, with the help of the California State Library, California Society for the Prevention of Blindness, and many social and civic organizations, has conducted a continuous campaign, and has succeeded in passing a law which is both simple and effective, and which has resulted in lowering the percentage of infantile blindness, and in arousing the public to a sense of its duty in this regard. Dr Glaser and the above-named organizations have also rendered yeoman service in securing the passage of laws prohibiting the use of a roller towel, and for the licensing and registering of midwives.

In this state, the law for the prevention of infant ophthalmia provides for the immediate reporting of every case of babies' sore eyes, and failure to do so is considered a misdemeanor, and a third offense results in the revocation of the license to practice medicine. In 1915, the State Board of Health purchased 23,000 prophylactic outfits. These are little wax ampules, containing just enough one per cent nitrate of silver solution for the eyes of a child at birth. These ampules are distributed free to physicians and midwives all over the state, and in the past two years, more than 16,000 have been so distributed. In California, the birth certificate asks these questions: "Was a prophylactic for ophthalmia neonatorum used? If so, what?" The birth certificate must be filed within five days. Few doctors have the temerity to ignore these questions, or confess that they have used no prophylactic, so the questions on the certificate insure the use of the nitrate of silver solution in nine cases out of ten, though its use at birth is not made compulsory. Dr Glaser reports that the birth certificates in fourteen of the largest cities of the state, for the year 1917, show that on eighty-seven per cent of the certificates filed, the questions had been answered, and the prophylactic used. In Berkeley, every one of the birth certificates filed in 1917 reported the use of a prophylactic. The State Board of Health insists on the reporting of all communicable diseases, and infant ophthalmia is considered one of these, and in this connection, Dr Glaser says, "a case reported is a case safeguarded, a physician aided, and a community protected." But it is necessary to urge a ceaseless warfare against this most prolific cause of infantile blindness, and social and civic organizations, churches, schools, and all individuals who deplore needless suffering, are asked to give the subject the widest publicity. Physicians are only now beginning to realize that, in all phases of preventive medicine, their strongest, most necessary, and, indeed,

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essential ally, is the public, and the needed stimulus to a better medical performance is an intelligent knowledge on the part of the people as to what should be done.

It is a common belief that ophthalmia neonatorum is an indication that one or both of the infant's parents have led unclean lives, and so, until recently, it has been difficult to have all such cases reported. While ophthalmia neonatorum *is* often the result of the social evil, the introduction of other pus-producing germs into the eyes at birth is responsible for a large number of cases. So it should be remembered that babies' sore eyes is not a disgrace (any baby may have the disease), but blindness from babies' sore eyes *is* a disgrace, for, in almost every case, it can be prevented.

Dr Park Lewis says: "And when we think of the long life of darkness of the blind, the limited possibilities of the child to be educated, the narrow lines in which he may hope to be trained, the fields of usefulness from which he will be cut off by his blindness, his dependence on others for things he should otherwise do for himself, the financial loss to the community for his maintenance when he might, under happier conditions, not only have been self-supporting, but possibly independent—the pity of it all comes with added emphasis. The importance, then, increases of every intelligent human being knowing that the most serious forms of birth infection of the eyes, in almost every instance, should not have occurred." Dr Lewis continues, "The majority of the blind are not wage earners, and are thus not only an added expense, but an economic loss. The education of each blind child costs the state yearly about three hundred and fifty dollars, while it costs but thirty dollars to educate a seeing child for the same period. Ophthalmia neonatorum is a crime, because of the suffering it brings to helpless, innocent persons, and because it leads to a reduction in economic efficiency, deprivation of many pleasures and privileges and, very often, immeasurable misery, suffering and sorrow during a lifetime in the dark."

Of the twenty children brought to me for inspection during the past three years, fifteen were blind from infant ophthalmia, and, as I myself am a victim of this same disease, I am leaving no stone unturned in my efforts to save other children from hardships and limitations that are wholly preventable, and I feel that I am peculiarly fitted to help in this great work.

There are other common causes of blindness in children, one of which is phlyetenuar keratitis, usually the result of poor or improper feeding, or lack of ventilation, and it often leaves the cornea badly scarred. Tuberculosis of the eyes results in much the same condition, often causing total blindness. Measles and scarlet fever cause blindness or defective vision. Parents do not realize the gravity of these diseases, and fail to cleanse the eyes frequently, or to keep the room properly darkened. In some cities, during epidemics of these diseases, health officers are requested to distribute circulars, calling attention to the danger to the eyes, and giving instructions as to their care. In this state, measles and scarlet fever are among the communicable diseases which must be reported.

Trachoma, a virulent form of conjunctivitis, is a communicable eye disease which must be carefully safeguarded. It flourishes in unsanitary surroundings, camps, and homes where the family uses the common wash basin and towel. There are not many cases in this state, but even one is too many. We are profiting by the unhappy experience of Kentucky and other Southern states, and are adopting drastic measures for its prevention.

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Interstitial keratitis, or inherited syphilis, is a common cause of blindness in children, though, in many cases, the blindness is only partial, and, if taken in time, the remaining eyesight may be saved. This disease usually appears between the ages of four and twenty, often following some childish malady, and it requires the greatest care and most nourishing food to counteract its pernicious effects. The victim of interstitial keratitis is never strong, and, although a blood test may show a negative condition, any serious illness may cause the constitutional trouble to reappear.

It is a common belief that children will outgrow cross-eyes. This is not true, for the eye that turns either in or out, will, sooner or later, become useless, simply from disuse. Such children should have attention as early as possible, even in infancy, as properly fitted glasses will usually restore such eyes to their normal condition.

Children are often needlessly blind as the result of an unwise and harmful selection of toys, such as scissors, forks, toy pistols, air rifles and bows and arrows. The observance of a sane Fourth of July has lessened the number of accidents to the eyes of children.

I have thus far spoken of the prevention of blindness in children, and now I wish to call your attention to what is being done for the conservation of vision in childhood. In the lecture on the development of the blind child, I mentioned special classes for blind children in the public schools. In most of the cities having such classes (Chicago and Los Angeles excepted), sight saving classes, as they are called, are maintained. In these conservation classes, the children do not read with their fingers, but books in heavy face, large type are provided. And for these books we are indebted to Mr R. B. Irwin, the blind supervisor of special classes in Cleveland. So here again we find a blind man planning not only the advancement of blind children, but the conservation of vision of partially-sighted children. In these classes desk blackboards are provided, and a great deal of oral instruction is given, and the amount of reading is limited. A great deal of handwork is required and everything possible is done to save eyestrain. Much time and thought is given to the proper lighting of schoolrooms, and to the color scheme of the buildings. Light should not be judged by its brightness, but rather by the way it helps us to see what we are looking at. Walls should have light paper or tinting, as dark walls absorb light

strongly, instead of reflecting it. Reds, greens and browns reflect only ten to fifteen per cent of the light which falls on them; while cream-color or light yellowish tints reflect over one-half the light.

As a result of the ophthalmic work of the medical inspection departments of many of our public schools throughout the country, much is being done to help children who are partially blind, or suffering from some visual defect which may lead to blindness if they continue in school under ordinary conditions. Every large city should have one or more of these conservation classes, and the demand for them will increase when the public realizes their importance in saving the sight of school children. Dr De Schuynitz, an eminent oculist of Philadelphia, in an address on conservation of vision, asked these questions: "Shall children be allowed to trifle with their most precious possession? Shall our homes be permitted to disregard the rules of visual hygiene? Shall children, and those children of the larger growth—men and women—remain on the side lines because they can not see well enough to play the great game of stirring life, with its joy of untrammelled effort? Shall they not have a game which they *can* play? Shall we of these better walks of life pursue our way in smug contentment, and permit the preventable causes of blindness to continue their black business, and ever add to the roll of their victims?" The leading oculists of the country recommend sight-saving classes, and many of them give their time and money to the service of these handicapped children, establishing clinics for their care and treatment. In Los Angeles the Parent-Teacher Association has a wonderful clinic, and Dr Ross A. Harris and his assistants have saved the eyes of hundreds of children who would otherwise have become public charges. But here again it is necessary to educate the public. An old schoolmaster, rich in the wisdom of ripe experience, has said, "More children's eyes are injured in the home than in the school," and his words receive daily verification. But in schools where medical inspection is given, and where a visiting nurse is in attendance, untold good is being accomplished, and children who should wear glasses, and attend conservation classes are promptly sent to the oculist, and assigned a place in school.

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The commonest visual defects are, first, inflammation of the cornea, or imperfections of the lens—the cornea is often so scarred as to make vision imperfect; second, myopia, or progressive shortsightedness, a condition in which the axis of the eye gradually grows longer. This lengthening is accompanied by stretching of the eyeball, and such children always run the risk of the inner and most important part of the wall of the eye, the retina or nerve layer, being torn away, and blindness resulting. When nearsightedness is discovered early, and glasses are given that make distant vision normal, and all needless near work forbidden, the myopia may be held in check, and any considerable increase prevented. Teachers are usually the first to notice such defects, but many parents do nothing when their attention is called to the matter. But happily these conditions are improving, and the school nurse and school clinic, and all the clinics maintained by public and private charities, are accomplishing wonderful results. When preventive medicine and preventive social service are joined in the effort to help mankind, there must result a saving of our most precious physical possession, and an addition to human joy. The National Committee for the Prevention of Blindness and Conservation of Vision, with headquarters at 130 East Twenty-second street, New York City, carries on a ceaseless campaign of enlightenment by means of pamphlets, lectures, charts, lantern slides and posters, and the work of this society is directed by Mr Edward M. Van Cleve, Superintendent of the School for the Blind in New York City. The leading oculists of the United States are members of the society. Charts and lantern slides are loaned to societies for the prevention of blindness in the various states, and pamphlets on many important topics are sold at a nominal cost. When addressing a large gathering in New York, and urging the wisdom of publicity, Dr De Schuynitz said: "We are here to help in the work of health education, of eyesight protection; we are to call on society for aid in devising measures, and for means to carry them out, in order that effective results shall merge into perfect victory. We are here, too, I take it, to cure those who are dull-sighted in this regard, so that, with vision cleared, they shall join in the struggle for ocular conservation and make it possible to give sweetness of disposition and ever-present cheerfulness, not to the blind, the good God sees to that, but to those who shall be saved from blindness."

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In New York and Boston, the children are given instruction in hygiene, taught to properly care for the nose, throat, eyes and teeth. These lessons begin as early as the second grade, and are illustrated with charts showing how perfect teeth and eyes should look. These lessons include the harmful effect of enlarged tonsils and adenoids, and the children are very anxious to be in as perfect condition as those shown in the pictures. A teacher of one of these classes in Boston took her children to a museum, where they spent a morning studying statuary. The next day, wishing to see how they had been impressed by what they saw, she asked, among other questions, "What do you remember about Aphrodite?" One little boy held his hand up, saying, "She has adenoids." "What makes you think so?" asked the teacher, wonderingly. "Why, she had her mouth open all the time." The children learn just how far from the eyes a book should be held, and often call attention to a companion whose myopic condition makes it necessary to hold the book very close. And so the outlook for the children is very promising. With conservation of vision classes, classes in hygiene, with school nurses and clinics, with medical inspection of schools, and with the public aroused as never before to its responsibility towards its boys and girls, we should have less need for oculists and schools for the blind, and fewer persons should be obliged to go through life deprived of the light, which was God's first gift to the world.

Before discussing the prevention of blindness in adults, I wish to say a few words concerning the attitude of oculists toward patients suffering from eye diseases which, in all probability, will result in loss of vision. If, for some special reason, the oculist fears it would be unwise to tell the

patient that blindness is imminent, he should at least urge him to conserve his remaining vision, and advise him to do as many things as possible by touch, and warn him of the consequences of eyestrain. But, whenever possible, it is kinder to prepare the patient for oncoming blindness, so that he may shape his life accordingly, and may be induced to learn to read raised type, and use a writing device, before the light is entirely gone. Most of us exclaim over our trifling hurts, the mosquito bites of life, but when the real trial comes, when we know we must face a great crisis, we square our shoulders, take a long breath, and meet the inevitable with courage and fortitude. I wish the oculists could hear as I do the despairing cry of men and women who were led, until the very last, to hope for a restoration of eyesight, and then told that in their particular case, all usual remedies failed. Dr Daval, an eminent French oculist, who lost his eyesight at sixty, makes an eloquent plea to his colleagues to tell their patients the truth, and, instead of treating them when they know that loss of eyesight is inevitable, advise them to study methods used by the blind, even though they may not need to use the knowledge for months or even years.

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There are a number of eye diseases that may be inherited, and those having such diseases should be told that they will transmit them to helpless, innocent children. The social evil is largely responsible for the infections of which ophthalmia neonatorum is only one result, but since this disease comes so often from a cause which is not generally discussed, it is particularly hard to combat. Forty per cent of existing blindness, and a vast amount of physical degeneracy, is the direct result of venereal causes.

Certain forms of glaucoma may be inherited, and children whose parents have had this disease should watch their own eyes very carefully, since, if taken in time, the progress of this disease, in certain forms, may be arrested. Persons who see rings around the lights should heed the danger signal and see an oculist.

Retinitis may also be inherited. I have known of three generations becoming blind from this cause.

Nearsightedness may also be inherited. I have known this condition of the eye to be present in four successive generations, and in the last generation, the young woman became totally blind from detached retina, due to excessive eyestrain while in school. If you could see my records, and count the number of cases where blindness is given as the result of straining nearsighted eyes, you would realize with me that progressive myopia should be classed as one of the preventable eye diseases, and a vigorous campaign waged against the marriage of persons so affected. Nearsighted people should be especially careful to avoid eyestrain, and should not work by artificial light. Bookkeepers, hotel clerks, and women who do fine sewing at night should be cautioned against such work, if they are myopic.

Optic atrophy is an eye disease very baffling to oculists, sapping the vision slowly but surely, as a rule, but occasionally destroying eyesight in a very short time. Electricians and those working in chemical laboratories are susceptible to optic atrophy.

A common cause of eyestrain is reading on street cars, or using the last, lingering bit of daylight to finish a chapter or complete some fine work. It is easier to turn on the light than to spend years in the dark.

The eyes of many people are ruined because, instead of going to an oculist to have their eyes properly fitted to glasses, they go into a ten-and-fifteen-cent store, try on a lot of cheap glasses, and purchase the ones that magnify the best, and feel most comfortable on the nose. The cheap varieties of glasses are often made from bits discarded by opticians, and never intended to be used again. People are not always careful in selecting eye shades, and often use those made of very inflammable materials, which frequently catch fire, and destroy the eyesight.

I can not understand how people can trifle with the most precious of their physical possessions, and yet my records teem with such instances, and the victims realize when too late how criminally thoughtless and careless they were. Some of our grown-up children need instructions as to the use and abuse of their eyes. In Los Angeles, I addressed the various Parent-Teacher Associations on these important subjects, and I believe that the note of warning sounded by one who is herself a victim of unnecessary blindness, went straight home to every heart.

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The percentage of adult blindness is increasing at a very rapid rate, owing to the numerous accidents in factories and workshops, accidents that are, in many instances, preventable. Owners of factories, quarries, mines and other industrial plants have become alive to the necessity of safeguarding the eyes of their operatives, and much needed legislation is being enacted in all parts of the country. The National Council of Safety, an organization in existence but five years, has accomplished a great deal and this council co-operates with State Industrial Accident Commissions, and with civic and social organizations. The National Council of Safety estimates that there is one worker killed every 15 minutes, day and night, in the United States, and one injured every 15 seconds, day and night. This gives 30,000 killed and 2,000,000 injured, and of this number 200,000 are eye injuries. The National Committee for the Prevention of Blindness estimates that there are 100,000 blind in the United States, and half this number are needlessly so. Mr Will C. French of the State Industrial Accident Commission estimates that we have 1,000,000 employees in the state, and we have 300 industrial injuries daily, including Sundays. We thus have approximately 100,000 industrial accidents each year in this state. Since 1914, there were 23,451 eye injuries, and of these 549 were permanent injuries, and 11 resulted in total blindness. The medical and compensation costs of these eye injuries will be about \$788,000. The 11 blind call for life pensions. The State Library home teachers are teaching 7 out of the 11

cases, and the Industrial Accident Commission is very glad to co-operate with us.

In California we have an average of 26 eye injuries each working day, and this number is likely to increase, especially in the shipbuilding industry, because of the chipping steel, use of emery wheels, and machinery in the construction of vessels. The State Accident Commission advocates goggles, one pair to each man. There are four kinds of goggles used. Those for the protection against flying material, for protection against intense heat and light, for protection against gases, fumes and liquids, and dust goggles. Masks are urged for welders and babbitters, and these masks are so strongly constructed that they not only fit the eye, but have shields at the sides of each lens to prevent the flying chips from entering the eyes from the sides. In most of the large plants there are committees of safety composed of employees, and they do much to reduce industrial accidents. Precautionary leaflets are circulated among the workmen, and attractive posters, printed in all languages, are used. Some of these are very effective. One shows a man saying "good-bye" to his wife and five little ones, and underneath is written, "How could they do without you?" One of the best known slogans, and one carrying conviction, is "You can see through glass goggles, but you can't see through glass eyes."

Many trades and occupations have their well-recognized types of injury. In the bottling works eyes are frequently lost through the impact of popping corks. The bursting of unprotected water gauges caused many cases of blindness yearly among engineers and machinists. In the grinding trades eyes are frequently lost by bits of flying emery becoming imbedded in the eyeball, and the Industrial Accident Commission recommends iron or glass guards for emery wheels. In factories, quarries and mines more serious damage is done by larger bits of metal or stone. Sometimes harm is done in an attempt to remove the foreign body from the eye, as the hands of the one performing this service may not be clean, or the instrument used may be the corner of a soiled handkerchief, a toothpick or match, or even, as sometimes happens, the tongue. More eyes are injured from infection than from the presence of foreign bodies, which, if properly and carefully removed, might result only in temporary inconvenience and the loss of a few days work. Workmen should not trust to the shop or factory doctor, but should go to the company doctor at once. Immediate and competent care should be secured without delay, and this will save eyes, and also save employers and insurance companies a great deal of money.

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Lime-burn, solder-burn, and all the so-called dusty trades produce chronic inflammation of the eyes, which often results in total blindness. The National Council of Safety enumerates fifty-five industrial poisons, thirty-six of which affect the eyes. Absorption of drugs often causes blindness—tobacco, wood alcohol, lead, used in so many industries; bisulphide of carbon, used in making rubber; nitro-benzol, used in the manufacture of explosives, and some of the anilin dyes. Hoods and exhausts should be used to prevent the escape of dangerous fumes, vapors and gases. For men exposed to great heat, antisweat pencils have been manufactured, and when these are rubbed over the goggles, the glass will remain clear of steam for hours. Special eye coverings are designed for men working over acids, or in sand blasting. One of our pupils, a man past fifty, who had worked in a creamery for over twenty years, and who usually wore goggles when making tests with sulphuric acid, neglected to take the precautionary measure one morning, and some of the acid splashed up into his eyes. He is totally blind, and must begin life all over again. There have been so many cases of blindness as a result of dynamite explosions occurring in quarries and mines, that laws have been enacted for the protection of workmen. When a blast has been fired, and it is not certain that all the charges have exploded, no person is permitted to enter the place until forty-five minutes after the explosion. My records prove the great need for this precautionary measure, and I only wish it had been enforced years ago, before so many men in the prime of life had been deprived of eyesight, and of earning capacity as well.

Improper lighting and ventilating in factories, shops and stores, and work requiring excessive eyestrain, contributes to a long list of disabilities often resulting in total blindness. The passage, by our last Legislature, of the Common Towel Bill, prohibiting the use of roller towels anywhere in the state, has removed one of the most flagrant causes of infection, and one to which very little attention was paid by factory workers generally. I know one young man and two young women whose total blindness is the result of infection from the use of a roller towel.

I trust all these facts and figures may not prove wearisome, for it is necessary to know them if you are to realize the extent of the work being done here and elsewhere to prevent blindness and conserve vision. I have not mentioned all the activities of the State Industrial Accident Commission, or the National Council of Safety, but a visit to the Safety Museum, 525 Market street, San Francisco, or to the Union League Building, Los Angeles, will enlighten you further as to the progress of the Safety First movement, and convince you of the wisdom and humanity of it. Let us adopt prevention and conservation as household words; let us do our share in spreading the gospel, and soon we shall have fewer blind babies, fewer children sitting on the side lines, and fewer men and women deprived of eyesight at the floodtide of life. This is another of my dreams, and this one is already coming true. "Let there be light!" was the first recorded utterance of the Most High God. "Let there be light!" has been the watchword on the lips of human progress during all the centuries that have gone, and they must be the battle-cry of Progress during all the centuries that are to come. I am sure we shall all be glad to do our share to preserve this light for our own and future generations.

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FOOTNOTES

[1] See illustration, [p. 4.](#)

*** END OF THE PROJECT GUTENBERG EBOOK FIVE LECTURES ON BLINDNESS ***

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