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BOOK FOUR

Stretch Your Eyes

AN OPTICAL DISCOVERY

Based On

Fifty-Eight Years of Optical Research

by

JACOB RAPHAELSON, O. D.

Retired

Doctor of Optics, 1900

Doctor of Optometry, 1920



Published by

Research Foundation for Prevention of Myopia, Inc.

925 Marion Avenue
Cincinnati 29, Ohio

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by

JACOB RAPHAELSON, O. D.

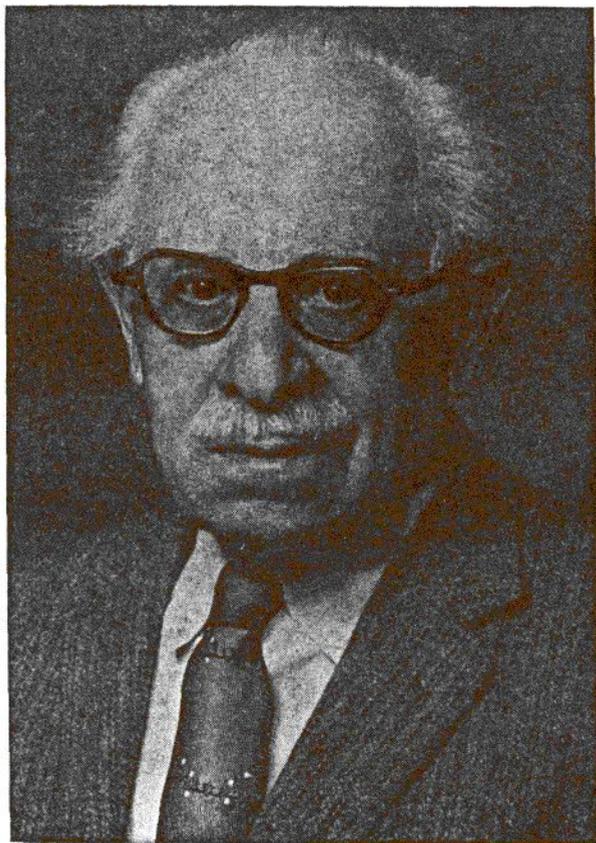
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Dedicated to

The Conservation of Vision and Health

Printed in U. S. A.

First Edition 1959



JACOB RAPHAELSON

Photograph taken April, 1959, at age 83.

*It is a blessing for the future of mankind
that the eyes of practically all children and
most adults can be stretched safely and easily*

BOOK FOUR

STRETCH YOUR EYES

For Better Vision and Better Health

Published by

RESEARCH FOUNDATION FOR THE PREVENTION
OF MYOPIA (near-sightedness)

A Non-Profit Corporation

Organized and Incorporated in 1956 under the Laws of the State of Ohio

Representative

DR. JACOB RAPHAELSON, O. D.

Salary, one dollar per year

PURPOSE OF CORPORATION

Research and publication of the causes and effects of astigmatism, school-myopia and all other forms of myopia.

Research and publication of the relationship of vision, spectacles and health.

Prevention, relief and cure of astigmatism, school-myopia, and other non-pathological forms of myopia.

FOREWORD

While Book Four is a complete book in itself, it is also part of, and a continuation of Book One, Book Two and Book Three, which were published in 1937, 1956 and 1958, respectively. It is also part of and continuous with Book Five and Book Six, which are yet to be published. Book One deals with research by the author on children's vision in public schools. Book Two provides a simplified and modified basic knowledge of spectacles and vision. Book Three includes ways and means to detect, prevent and cure school-myopia. The completed series will include the following:

Book One — School-Myopia, Published 1937

Book Two — Your Glasses and Your Eyes, Twenty Lessons, Published 1956

Book Three — A Preventive and Remedy for School-Myopia, Published 1958

Book Four — Stretch Your Eyes (1959)

Book Five — Spectacle Hobby

Book Six — An Autobiography

The last two books are now in the process of being written, about half the work being already completed. They will be ready for publication in succeeding years.

BOOK FOUR

STRETCH YOUR EYES

You Stretch Your Arms

You Stretch Your Legs

You Stretch Your Body

Why not Stretch Your Eyes

For Reducing Visual Tension and Better Health?



Part One — Autobiography, Optical Research and Case Histories

- Section A Toledo, Ohio and Prophetstown, Illinois
- Section B My Interlude in Davenport, Iowa
- Section C Newport, Kentucky and Cincinnati, Ohio
- Section D My Research and My Hobby

Part Two — The Universal Need for Eye Stretching

- Section A A Discovery and Revelation
- Section B Abnormal Health Caused by Abnormal Seeing
- Section C The Connecting Links Between Health and Spectacles
- Section D The Great Fallacies about Vision and Spectacles

CONTENTS

Author's Photo	3
Foreword	6
Preface	12

PART ONE

AUTOBIOGRAPHY, OPTICAL RESEARCH AND CASE HISTORIES

SECTION A

TOLEDO, OHIO AND PROPHETSTOWN, ILLINOIS

<i>Articles</i>	<i>Page</i>
My Near-Sighted Eyes	15
My Near-Sighted Spectacles	16
Darkest Before Dawn	17
I Became a Benefactor	18
An Optical Discovery	19
A Spectacle Faker	20
A Lecture at the Optical School	21
The Story of Mr. G. W. Courts	23
Prophetstown, Illinois	24

SECTION B

MY INTERLUDE IN DAVENPORT, IOWA

<i>Articles</i>	<i>Page</i>
Davenport, Iowa	25
The Blind Girl	26
Hereditary Headaches	27
The Cross-Eyed Boy	28
The Printer's Son	29
Friend Gibson's Warning	31
The Angel of Change	32
My Wholesale Optical Business Venture	33
A Trip to Nebraska and Oklahoma	34

SECTION C

NEWPORT, KENTUCKY AND CINCINNATI, OHIO

<i>Articles</i>	<i>Page</i>
Newport, Kentucky	35
Optical Societies	36
Stronger Plus Spectacles	37
Headache Glasses on Trial	37
My Encyclopedia	38
An Honest Optometrist	39
Teeth, Headaches and Spectacles	40
Poisoned Eyes	40
Children's Eyes	41

SECTION D

MY RESEARCH AND MY HOBBY

<i>Articles</i>	<i>Page</i>
My Semi-Retirement	43
School-Myopia (near-sightedness)	44
Illustration	45
The Beginning of My Hobby Cycle	46
The Polio Victim	47
The Fish-Fly Maker and His Nerves	49
The Cabinet Maker and His Heart	50
Swollen Glands and Spectacles	51
The Artist and Her Husband	52
My Daughter's Maid	53

PART TWO
THE UNIVERSAL NEED FOR EYE STRETCHING

SECTION A
A DISCOVERY AND REVELATION

<i>Articles</i>	<i>Page</i>
A Revelation	57
Stretch Your Eyes	58
The Term and Meaning of "Stretch Your Eyes"	59
Eye Stretching Compared to Body Stretching	59
Primitive Seeing Versus Modern Seeing	61
The Difference Between Exercising and Stretching the Eyes	61
Resting, Relaxing and Stretching the Eyes	62
From "Family Health Encyclopedia"	64
Sight Is Not Passive	65

SECTION B
ABNORMAL HEALTH CAUSED BY
ABNORMAL SEEING

<i>Articles</i>	<i>Page</i>
Harmful Results of the Modern Way of Seeing	66
Visible and Invisible Functions and Movements	67
Quotations on Vision and Health	68
Doctor Chalmers Prentice	69
The Eye in its Relation to Health (photo-static reprint)	70
Excerpts from "The Eye in its Relation to Health"	71
List of Ailments (photo-static reprint)	73
Dr. Charles McCormick	75
Optical Truths (photo-static reprint)	76
Excerpts from "Optical Truths"	77
Illustration: The Nerve System	79

SECTION C
THE CONNECTING LINKS BETWEEN
SPECTACLES AND HEALTH

<i>Articles</i>	<i>Page</i>
The Four Links Connecting Vision with Health	80
The Voice of Modern Ophthalmology	81
Physical Process and Function of Vision	83
The Mental Process of Vision	84
Nervous Tension and Resulting Ailments	85
Mental and Visual Tension and Fatigue	87
Modern Visual Environment	88
The Blood Circulation Link with Vision	89
The Fluid Drainage System	90

SECTION D
THE GREAT FALLACIES

<i>Articles</i>	<i>Page</i>
The Fallacy about Effortless Vision	92
The Fallacy about the 20/20 Vision Test	93
The Fallacy about Normal Vision (Emmetropia)	96
The Fallacy that "Normal Eyes Need no Glasses"	96
The Fallacy about the Effects of Plus and Minus Glasses	98
The Fallacy of "Better Vision with Glasses"	98
The Fallacy about Habit Forming Glasses	100
The Fallacy about Correcting Astigmatism	100

CONCLUSION

Safety and Benefits of Plus Spherical Glasses	102
---	-----

APPENDIX

Twenty Lessons on Your Glasses and Your Eyes	105
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PREFACE TO BOOK FOUR

Stretch Your Eyes

In book three, "A Preventive and Remedy for School-Myopia," we presented convincing proof that any prolonged near-seeing is unnatural seeing for children; that such unnatural, prolonged and intensive near-seeing is the main reason why so many children become near-sighted, poor sighted and astigmatic during school years.

In this book, "Stretch Your Eyes," we expect to prove that prolonged and intensive near-seeing is abnormal and harmful, not only for children, but also for adults.

We expect to prove that prolonged and intensive near-seeing is harmful to the health of adults and children; that prolonged and intensive near-seeing may be a cause, or the main cause, for many of our ailments and diseases; that prolonged and intensive near-seeing may also adversely affect good eyes, normal eyes and perfect eyes.

We are presenting convincing proof that there is a positive remedy which is safe, simple, practical and inexpensive to prevent and eliminate the harmful effects of prolonged and intensive near-seeing.

This book is written for the purpose of benefiting the vision and health of adults and children. It applies to those who have, or seem to have, normal and perfect eyes, 20/20 vision; to those who have, or seem to have good eyes but do not actually have good distant vision; to those who already wear glasses; and especially to adults and children who make a habit of or are compelled to use their eyes in prolonged near-seeing or near work.

Part One

**Autobiography, Optical Research
and Case Histories**

Section A — Toledo, Ohio and Prophetstown, Illinois

MY NEAR-SIGHTED EYES

I came to America in the year 1892 at the age of sixteen. I came from Lithuania, Russia, where I was born, to Fall River, Mass., where my parents were then living.

When I arrived in Fall River I applied for a job at Borden's Cotton Mill. Because of my near-sighted eyes¹ I was unable to qualify as a weaver since I could not see the fine breaks in the threads of the cloth a few feet from my eyes. I could have made more than twice as much as a weaver but had to take a job in their card room, where I was paid only \$5.39 per week.

I had used my eyes a great deal for near-seeing from a very early age. Until I was fifteen years of age I had been a religious student in Lithuania. At the age of thirteen I had studied intensively about sixteen hours each and every day, for a period of six months. Yet my eyes had never bothered me. My deficiency was in distant seeing only. When I was a boy I couldn't see a horse troop far away, as the other boys could. I remember, however, that I could sometimes see wigglers in my grandmother's bottles of vinegar, when others didn't seem to notice them.

After about two years in Fall River my parents moved to Steubenville, Ohio. Shortly after that I quit my job at the cotton mill and followed them there.

At Steubenville I became a country "pack peddler." I worked up a regular route of my own and had a fair little business. In about two years my parents moved again and this time it was to Toledo, Ohio.

My brother Harry came to Steubenville shortly after my parents had left. Wishing to give my brother a start and hoping to better myself, I turned my route and about \$150.00 worth of stock over to him. I had about \$200.00 in cash, so with high hopes and money in my pocket, I left to join my parents in Toledo. I was anxious to find something more desirable than pack-peddling.

In Toledo, neither my father nor I had any connections which would lead to employment; nor did he or any of his friends give me any guidance. As usual, I was left to my own resources.

There were no cotton mills in Toledo. Since I had no other experience I had to start peddling again. I peddled in the city,

1. Clear vision for near-seeing . . . blurred vision for farther seeing.

in the suburbs, in the surrounding small towns and in the country. I peddled with notions, writing paper, soap and with red stockings.

I got a job in a department store in a country town in Michigan, but lost that after a few months because the owner wanted to give his nephew a job. For short intervals I was a cattle buyer, a butcher, a sausage maker, a meat deliverer and an inventor. I invented a wire basket which hooked over my bicycle and discarded the horse and wagon. The butcher shop later closed and again I was out of work.

It was in Toledo at the ages of 21 and 22 that I found nothing but frustration, disappointment and defeat! I became a misfit and a failure.

MY NEAR-SIGHTED SPECTACLES

Until I came to Toledo I had never worn spectacles. In fact I didn't even know that there were spectacles which would enable a person to see farther than he could with his bare eyes. It was in the winter of 1898 while I was laid up with rheumatism, that a traveling spectacle salesman stopped with us for a few days. He noticed that I was near-sighted and persuaded me to buy a pair of near-sighted (minus)² spectacles. He fitted me with a pair of minus (concave) three-fifty diopter³ lenses.

I got my first pair of spectacles at the age of twenty-two and they opened up a whole new world for me. Now I could see far away as well, or nearly as well, as any other person. I could now see the faces of people far away as clearly as if they were close by. I could now see the house numbers and street signs from quite a distance. I could now see, clearly, the leaves on the trees and the bricks in the chimneys on top of the houses.

I tried my spectacles for reading and they seemed to be as good for close-seeing as for distance. I could read fine print with the glasses as well as without them. I began to wear them steadily and soon got used to them. My deficiency of not being able to see at a distance was now gone. However, I was unable to make any practical use of my improved distant vision because I was still laid up with rheumatism in my right knee, which made walking painful.

Shortly thereafter, I decided to try to prepare myself to become a medical doctor. I felt certain that I could master it easily, because when I was about fourteen years of age I had had an opportunity

2. Glasses that make distant seeing clearer.

3. The unit measure for the strength of lenses.

to study some secular educational books of college students. I had mastered nearly all of their books on mathematics and other sciences within six months. However, I had no access to books on English or Latin, and these subjects were essential for a medical education.

I went to see the superintendent of one of the public schools and told him my story. He introduced me to an eighth grade teacher, who accepted me as a pupil. I went to school for about five weeks and wore my near-sighted spectacles all during that time for studying as well as for distant seeing. Again I was doing a lot of intensive, prolonged near-seeing. For the first couple of weeks everything went well, but after that my eyes began troubling me.

An eye doctor (oculist), whom I consulted, gave me a treatment for my inflamed eyes and a prescription for stronger minus spectacles. I had the spectacles made at the Gould Optical Store in Toledo. The new spectacles were fine for distant seeing but as long as I went to school my eyes seemed to get worse instead of better. I simply had to quit school. After I quit school my eyes recovered quickly. My near-sighted spectacles proved to be greatly beneficial for the distant seeing required in my future travels.

Many years later I realized that it was the using of my near-sighted minus spectacles for near-seeing which caused my eyes to bother me and even become inflamed. Then, as well as now, we were not told that near-sighted spectacles should not be worn for prolonged near-seeing.

DARKEST BEFORE DAWN

When I quit school in the fall of 1898, I still had a little money left. I started a dress manufacturing shop with two partners. One was my sister who was a dressmaker; the other was a young lady who had recently come from New York where she had been working in a dress manufacturing shop. The women were to make the dresses and I was to sell them. I put the balance of my money into this venture.

For a few weeks we seemed to do very well, but early in January, 1899 I was again laid up with rheumatism and was unable to dispose of the dresses. The New York woman left us, so the venture failed and almost all of my money was gone. All I had left was my bicycle and a very few dollars. I became unable to pay board to my folks who were very poor at that time. I became a drag and a nuisance to my family.

It was then that our landlady, old Mrs. Steinberg, suggested that as soon as my rheumatism was better I should try to sell spectacles. She told me that her son-in-law, who had failed in his barber shop, had sold spectacles in the country for awhile and was doing very well. I decided to give it a trial.

Soon after I bought a special pair of warm, fleece-lined shoes which helped my rheumatism a good deal. I then investigated the matter of spectacles. I found that there was a jewelry and spectacle supply house in Toledo by the name of Sweigart and Co. I went there and got all the information I could about spectacles. I also established a credit with them. I then bought a supply of ready-to-wear spectacles⁴, a small suitable leather case in which to carry them, and a "count the dots" fitting apparatus. I decided to leave Toledo for good and go west on my bicycle.

Early in March, 1899, as soon as the weather opened up, I gathered together my personal belongings, put them in one valise, and put my spectacles in the leather case. I put them both on the handle bar of my bicycle and left the city of Toledo, Ohio.

I BECAME A BENEFACTOR

I practically ran away from Toledo in March, 1899, because of my unlucky ventures there. I had no destination in mind and it was too early in the spring to ride a bicycle straight west. I took a southerly course through the state of Indiana where I lingered for more than three months.

I was but a few weeks on the road selling my spectacles when I began to feel in my bones that, at last, I was doing something for which I was fitted. I soon gained self-confidence, lost my bashfulness and timidity and became able to confront anyone without fear or shame. Besides, I lost my rheumatism and lost it for good. I became convinced that by selling spectacles I would be a benefactor⁵ instead of a nuisance. I could see in the faces of people

4. Glasses sold over the counter.

5. Says Thomas Hall Shastid, M.D. in "My Second Life" . . . "Indeed I have shown that the Renaissance itself, with all its vast consequences to mankind, must have been largely the result of the introduction of spectacles. Imagine the stimulus to human thought and inventive genius which must have resulted from the extension of the active-eye age from that of 40 to that of 60, to 80, yes—as in the case of many famous men—even to over 90 years.

"There were, of course, causes for the arousal of the human spirit in the fourteenth and fifteenth centuries, but all of them together could not begin to equal in value that world-shaking occurrence, the introduction of spectacles (containing convex lenses) for old sight."

to whom I sold spectacles not only satisfaction, but gratitude. I decided to make the selling and fitting of spectacles my life work.

For a day or two I stopped at Ft. Wayne, Ind. Then for about a week I stopped at Muncie, Ind. There, I interviewed an oculist. I asked him if there was a school where one could learn to become an oculist. He told me that for that profession one must become a medical doctor first. However, he did know of a school in Chicago where one could learn to become an optician, and medical training was not a requirement for an optical school.

My next stop was Lafayette, Ind., which I liked very much. I almost decided to settle there. However, after a short time I took a train for Chicago with my bicycle on the train.

In Chicago I found that I was financially unable at that time to pay tuition to go to school and also have sufficient money to pay room and board. In order to receive an optical diploma one had to continue going to school for an indefinite time, until he was able to pass the examination.

Instead I went to an optical house and bought a book for opticians, which I mastered easily. I bought a small pocket trial case which fitted nicely into my leather case, charts for examination purposes, separate frames, lenses and assembling tools. Then I established a credit for any mail orders I might send in from other places. In short, I became a practical optician and spectacle fitter before I went to an optical school.

AN OPTICAL DISCOVERY

When I left Chicago on my bicycle in the summer of 1899 on my way westward, I was no more a mere spectacle peddler. I was now a qualified spectacle fitter. I knew nearly all that was necessary to know about a person's vision and I also knew nearly all that was necessary to know about lenses and frames. I was able to examine and neutralize any person's spectacles and know the strength of the lenses. I also carried an assortment of near-sighted (minus) lenses to fit near-sighted persons. In those days, however, especially in the farming communities, near-sighted eyes were few and far between.

I often stopped overnight at a farm house. One farm woman about sixty years of age refused to buy a pair of spectacles, because she already had a pair of good reading glasses⁶. I examined her

6. Glasses used mostly by aged people for reading and other close work.

spectacles and found them to be regular ready-to-wear plus glasses. In the morning I noticed that she was wearing these reading glasses to do her housework. I wondered how, at her age, she could see at a distance with her reading glasses and began to ask questions.

I asked the farm woman if she could see at a distance with her reading glasses and she said that she could. I didn't believe it possible. So I looked out of the window and saw a horse way out in the field and asked her if she could see it. She answered that she didn't have to see that. I knew then that she could not see well with her reading glasses for far distances but that they seemed to be good for intermediate indoor seeing.

Looking into this matter I found that there were thousands of people who, like the farm woman, kept their reading glasses on indoors when they were through reading. Whether this was by choice, convenience or necessity, it never seemed to harm their eyes. In fact, I found that those who used their reading glasses in this way seldom had eye trouble.

It was at this farm house that I discovered something valuable about spectacles, something which the vision specialists,⁷ even in the decade of 1950 do not seem to know, or do not want to know. I learned that *a pair of plus spherical glasses which are ordinarily worn for close seeing will also be beneficial, instead of harmful, if they are kept on for farther seeing, even if they blur the vision.*

It was later that I discovered a reason why it is good for the eyes to wear stronger plus glasses which blur the distant vision. It is because *the eyes, in trying to overcome the blur caused by the stronger plus glasses, will be forced to relax and resume their natural far-seeing posture.*

A SPECTACLE FAKER

I reached the city of Dubuque, Iowa on my bicycle in September, 1899 and stayed there for a few weeks. I sold my bicycle in Dubuque and bought a horse and buggy. I then took a leisurely, southward course through the Iowa farm country toward Muscatine, Iowa. Along the way I stopped in villages and farm houses to sell my spectacles. It was on this trip that I came across the trail of a spectacle doctor who was a phony.

I stopped overnight at a farm house where there was a young woman wearing spectacles. She told me a pathetic story. About

7. Ophthalmologists, Oculists, Optometrists, Opticians.

three years before she had not been feeling well for quite a while; also her eyes had been bothering her. A traveling optical doctor happened to come around at that time and promised to help her with a pair of spectacles. He charged her \$150.00 for the spectacles and told her that the frames were solid gold and the lenses pure crystal.

She didn't have the full \$150.00 at that time, so he let her have the spectacles on the payment of \$75.00; he was to collect the balance in a couple of weeks. She said, "The poor doctor! Something must have happened to him. It has been more than three years and he has not yet come back for his money." She was still keeping the \$75.00 cash in her home, waiting for him to collect it.

When I examined the spectacles I found that the frames were not solid gold but the cheapest roman alloy. The lenses were clamped in the frame and there were no hinges and screws for repair purposes. The plus 1.50d. lenses had a bottle-greenish tint which were the cheapest kind of glazed spectacles sold in those days in some hardware stores for less than twenty-five cents. I returned her spectacles but the woman seemed to be so healthy, I didn't have the nerve to say anything. I didn't want to spoil the woman's faith and satisfaction by telling her that she had been defrauded.

This episode, in the year 1899, gave me an incentive to search for the relationship of vision, spectacles and health. In the early part of that year I had already committed myself to make the fitting of spectacles my life work.

In later years I came to the conclusion that the benefits to vision and health derived from wearing plus 1.00 or plus 1.50 diopter spectacles is worth not only \$150.00, but ten times as much. *Fifteen hundred dollars for a pair of plus 1.00 spherical glasses, or stronger, would be a low price to pay for prevention or remedy of human ailments in comparison with the amount we pay for many other methods of treatment.*

A LECTURE AT THE OPTICAL SCHOOL

It was soon after my becoming impressed with the farm woman's story that I went back to Chicago to attend the Optical School of the Northern Illinois College of Ophthalmology and Otology.

At one of the lectures at the college I was impressed by a rule and advice given by one of the professors. He maintained that in fitting spectacles we should prescribe the most or the strongest plus, and the least or the weakest minus lenses. This further strengthened my belief that plus glasses must be good for the eyes and health and minus glasses not good for the eyes and health. It also gave me a practical explanation why the farm woman valued her plus glasses so highly and why they were good for her health.

Sometime later, in March 1900, after an examination, I received my Optical Diploma with the title of "Doctor of Optics." I decided to look for a location to settle and follow the profession of fitting spectacles. Because of my unlucky ventures in Toledo in 1897-1898, I believed that I would be better able to succeed in a small town with its surrounding farm communities.

I took a train westward from Chicago to Dixon, Ill., and visited several smaller towns south of Dixon and Sterling, Ill., where I sold spectacles. I then bought a horse and buggy to travel around the surrounding farm communities. I finally decided to settle in Prophetstown, a small town near Dixon, Ill.

The main reason I decided to make my future home in Prophetstown was because I had the good will of a Dr. Miller. He told me about his wife who suffered with headaches which he had been unable to help. He also told me that her eyes had begun to bother her for close-seeing at night by lamp-light. I fitted her with a pair of plus spectacles, which made it easier for her to read at night and also cured her headaches. Dr. Miller gave me a letter of recommendation which I still have and am printing here.

The small town of Prophetstown suited me fine. I had the good will of the people there and in the surrounding small towns and farming communities. I had excellent opportunities to try spectacles on all sorts of eyes and observe the good effects they had on all sorts of bodily ailments. I found that plus spectacles were beneficial to eyes *and health*.

It was soon after I cured Dr. Miller's wife of her headaches that I met Mr. Courts in the village of Deer Grove, near Prophetstown. It was Mr. Courts' story which gave me an added incentive to try spectacles for ailments other than headaches. It was mainly the three episodes, the spectacle faker, the lecture and the subsequent story of Mr. Courts, that started me on the way of research on the relationship of vision, spectacles and health.

COPY OF LETTER FROM DR. S. W. MILLER

"Prophetstown, Ill.
June 4, 1900

"To whom it may concern:

"My wife was troubled very much with headaches. Dr. Raphaelson fitted a pair of spectacles to her eyes which has given her great relief, enabling her to read or sew at night by lamp-light with ease. Dr. Raphaelson has proved himself a proficient optician here and I heartily recommend him to any person needing this kind of work done.

(signed) DR. S. W. MILLER."

THE STORY OF MR. G. W. COURTS

Mr. Courts was a teacher and principal of the school in Deer Grove. He said that when he was about sixteen years of age he had had a breakdown in his health and had become unable to attend school. During the next two years his folks had taken him to about ten different doctors for treatment, but it had done no good. At last, one doctor recommended an eye specialist. He was fitted with a pair of spectacles, recovered immediately and started to school again.

When I met him, Mr. Courts was 48 and was still wearing his first pair of spectacles. He had been using his eyes steadily for fourteen hours each day and had had no trouble until shortly before I saw him. I tested his eyes and his spectacles and advised him to wear slightly stronger lenses. He had been wearing plus 4.00 lenses and I changed them to plus 4.50. Again he became able to use his eyes for near work for as long as he wished. I fitted him with single lenses, though most people at the age of 48 require double lenses (bi-focals) if they have to wear them for far and near.

There were a number of things I learned from his case which impressed me.

First, the use of naked hyper-sighted eyes (Hyperopic⁸) for prolonged near work may undermine a person's general health.

Second, if full strength plus lenses are worn by a person with

8. Far-sighted, hyper-sighted, focus too long.

hyper-sighted eyes, he may continue to wear the same spectacles without change, up to the age of 45 or a little longer.

Third, a person with hyper-sighted eyes who wears the full strength of plus glasses may be able to use his eyes as well as, or even better than, a person with perfect or normal eyes.

* * * * *

COPY OF LETTER FROM MR. COURTS

"Deer Grove, Ill.
6/22/1900

"To whom it may concern:

"This may certify that I have had business dealings with the bearer, Dr. J. Raphaelson. The lenses received from him a short time ago have proven very satisfactory. I have reasons to believe that he understands his chosen profession and that he may be of service to any who need spectacles.

"Respectfully,
(signed) G. W. COURTS."

PROPHETSTOWN, ILLINOIS

In Prophetstown I shared the dentist's office for my headquarters. I now occasionally fitted spectacles by appointment in my new office. I became a little better known and joined the K. P. Lodge (The White Cloud Lodge No. 84). I still have an official receipt for dues of December 19, 1901. I lived in and around Prophetstown until about May, 1902, when I was married. I did not leave Prophetstown by choice, but because of the "Angel of Change."

One of my sisters had married and had made her home in Cincinnati, Ohio. I received a letter from her father-in-law to come for a visit. Since I was doing well and had a little money, I accepted the invitation. While there I met and became engaged to a girl from Newport, Ky., a town just across the river from Cincinnati. I intended to marry and take my wife back to Prophetstown.

Prophetstown was near Rock Island, Ill., which is one of the tri-cities: Rock Island and Moline, Ill., and Davenport, Iowa. Occasionally, I visited Rock Island where I made some friends. During one of those visits I had an appendicitis attack and under-

went surgery in one of the Rock Island hospitals. That was only a few months before I was to be married. The operation made me apprehensive about traveling in the country, as I had been doing in Prophetstown.

After I was married I found that, although I felt more secure in a small town, my wife could not be happy unless she lived in a city. We decided to settle in Davenport, Iowa, so to Davenport we moved.

* * * * *

Section B — My Interlude in Davenport, Iowa

DAVENPORT, IOWA

For a short while after we arrived, my bride and I boarded with our friend Edith Canter, who had moved there from Rock Island. Later, we rented an apartment on 14th and Harrison, above a grocery store. I put up a large optical sign on the outside of the building. We used the apartment as a home and an optical office.

About a year and a half later an optical doctor wanted to sell out his practice and equipment, which I purchased. That is how I acquired a location in the downtown business section, on the second floor at 310 West Second St. I now had special testing equipment and a dark room for eye examinations.

When I first came to Davenport I still had my horse and buggy, which I had brought over from Prophetstown. For a few months I used it to solicit spectacle trade in the farming communities around Davenport. Later, I sold it and concentrated my efforts in the city.

For more than four years, in Davenport, my mode of fitting glasses was about the same as in Prophetstown. I advised the use of spectacles for any and all kinds of eye troubles and body ailments. I had good success in my work and, as a result, made many friends. I followed this technique until after my experience with the printer's son and my venture into the wholesale optical manufacturing business.

NOTE

At that time I did not know that there were two medical doctors who prescribed plus spectacles for many eye and body ailments,

and claimed great success. Each had written a book explaining his work. In 1944 I came across one book, "Optical Truths." The other book, "The Eye in its Relation to Health," I found in 1957. Excerpts from both books are in Part 2, Section 2.

In Davenport I joined the Lodge of the "Modern Woodmen of America" and also the "Odd Fellows." I still have a copy of a letter from the "Prosperity Lodge No. 704, I. O. O. F., certifying that *Brother Jacob Raphaelson was entitled to the password of the order and that he was paid up in full to January 1st, 1907.*

THE BLIND GIRL

While we were boarding with Edith Canter, in Davenport, she told me about the blind girl who was her next door neighbor. This girl, about twenty years of age, was Bertha Zwicker. I told Edith that I would like to meet Bertha and find out if I could give her some help with a pair of spectacles.

Edith made an appointment for me to visit the blind girl at her home. When I entered, I found Bertha and her mother waiting for me. I observed Bertha's eyes and asked some questions. I noticed that her eyes seemed quite clear, but that she could not keep them still for even a moment. They were continuously dancing. In optics this is called "nystagmus" and is supposed to be incurable.

I was told that she had had her eye trouble since infancy; that she went to a school for the blind in a town in Illinois; that she was good at reading Braille (raised letters for finger reading); that she had a Braille typewriter in her home; that she was able to get along in walking and traveling by herself because she was able to distinguish between light and darkness, but that she was unable to distinguish the shape of any object or person.

Needless to say, there was no chance to make any sort of an examination since her eyes did not remain still and could not distinguish the shape of letters. I simply acted on the clue I had received from the case of Mr. Courts. I took out a pair of plus 5.00 (convex) lenses from my trial case. I put them in a single trial frame and gave them to Bertha to put on her eyes. She kept them on for quite a few minutes when she made the remark that they were hurting her eyes. Her mother at once exclaimed, "Take them off! Take them off!"

I told Bertha, "No. Don't take them off. Keep them on for a few minutes longer." I then explained to them that it was the reaction I was looking for and her statement that her eyes were hurting was a favorable sign that she could get help from spectacles. Without such a sign I would not try to help her with spectacles. I waited a few more minutes. Then I changed the lenses from plus 5.00 to plus 4.00. Again I put them on her eyes and told her to wear them for awhile.

The plus 4.00 glasses did not hurt her eyes. Instead, they seemed to quiet and soothe her eyes. I made her a pair of plus 4.00 spectacles and charged a nominal price for them. She wore them constantly and her eyes gradually began to improve. Sometime afterwards, I asked her to give me a letter of recommendation in Braille, which she did. About two years later, she visited me at my upstairs office on West Second St. She stood in the middle of the large room and was able to recognize the contents of the pictures on my walls. Her eyes were still and quiet and the dancing of her eyes had disappeared entirely. I still have the letter of recommendation from Bertha.

* * * * *

THE BRAILLE LETTER

TRANSCRIBED FROM OLD NEW YORK POINT

"Last August Dr. Raphaelson fitted me with spectacles. I wish to say that I have never regretted buying them; the light is clear, my eyes are stronger, and I can look at small objects without a blur or running together that I used to experience. Furthermore, many oculists have attempted fitting spectacles but all have failed to reach my case. I would urge all suffering from weak eyes, near-sightedness, etc., to give Dr. Raphaelson a fair trial.

"Sincerely, (signed) BERTHA ZWICKER.
1517 Ripley Street,
Davenport, Iowa"

HEREDITARY HEADACHES

It was early in the year 1903, in Davenport, that I became acquainted with the spinster sisters. They were about the ages of forty and forty-five. I had fitted the older sister with a pair of

spectacles to help her in close seeing. Once when I stopped in to see them, the older sister told me about her younger sister's headaches. She said that since she herself was feeling so much better, she wondered if spectacles would help her sister. She asked me to talk to her sister about it.

When I asked the younger sister if she would let me examine her eyes and fit her with a pair of spectacles, she refused. She said that her eyes were good for far and near seeing. She also told me that she believed her headaches were hereditary because her mother, father, grandparents and uncles all had them. Besides, her headaches were in the back of her head and didn't seem to have anything to do with her eyes.

I explained my point of view—that one does not inherit headaches, but may inherit the tendencies and causes. One may inherit a weakness or a defect in the eyes, which may cause headaches. I told her that I had had good success in curing headaches and believed it would be worth her while to try the spectacles.

Because her sister was feeling so much better, she finally consented to let me fit her with a pair. It was but a short time after she started wearing the plus glasses that her headaches became milder and soon disappeared entirely.

THE CROSS-EYED BOY

My clientele in Davenport was not confined to the city alone. I had clients in the tri-cities (Davenport, Rock Island and Moline) and in the surrounding country. Occasionally, I would go to a person's home to make an examination.

I was told of a cross-eyed boy whose family wanted me to examine his eyes, but were unable to get to my office in Davenport. We arranged a meeting at the boy's school, where it would be more convenient for both parties.

Upon examination, I found that when the boy's right eye looked straight ahead, his left eye was turned inward to the extreme end. I also found that while he could see well with his right eye, he could see almost nothing with his left eye. Acting on the basis of my former experiences, I took out a pair of plus 4.50 spherical glasses from my trial case and put them on his eyes. Instantly, both of his eyes became straight!

It was this instant success with the cross-eyed boy that greatly strengthened my theory of binocular relaxation with stronger plus glasses. It induced me to explore my theory of binocular relaxa-

tion more fully for restoring vision, not only in cases where both eyes were poor, but also in cases like the cross-eyed boy, who had poor vision in only one eye while the other eye had normal vision.

My theory of binocular relaxation is that the eyes will relax more fully if acted upon together instead of trying to relax them separately; that if a person has poor vision in only one eye, the vision in that eye has a better chance of being improved or restored under the influence of stronger plus glasses if both eyes are kept open, instead of covering the good eye. This treatment of covering one eye is called occlusion.

Prior to the episode of the cross-eyed boy, if a person had poor vision in only one eye, I had been trying to restore the vision in that eye by using the conventional treatment of covering the good eye. I had even designed a practical eye patch for that purpose. For cases of mild cross eyes (strabismus), I had tried prism lenses and also bought a stereoscope with a set of suitable double pictures. The stereoscope, with modifications, is used for the exercising and picture training of the eyes.

I soon found that poor vision in one or both eyes can be improved and often full vision restored by the method of binocular relaxation with stronger plus glasses, more so than with any other method used for improving the vision of the naked eyes. I also found that binocular relaxation is also the best method of helping milder cases of cross eyes, strabismus or muscular troubles.

After I was convinced that I was on the right track with my theory, I discarded the use of occlusion with eye patches, prisms and stereoscope picture training, and gave my full attention to improving the technique of binocular relaxation with stronger plus glasses.

I have developed the technique of binocular relaxation of the eyes to a high degree and have practiced it for more than fifty years with great success. Mainly by this method I have improved and restored the vision of many persons after all other methods by medical and non-medical vision specialists have failed.

* * * * *

Reprint from Book 3 "A Preventive and Remedy"

THE PRINTER'S SON

It was about the year 1904 that I met a mother at a social lodge meeting. She told me about her little son having trouble with

his eyes in school. I gave her my card and told her to bring him to my office and I would fit him with a pair of spectacles. She explained to me that she had no money at the time; that her husband was a printer and worked in another city. She did not expect him home for the next six weeks. I told her all this would not matter, that she should bring the boy over and I would fit him with a pair of spectacles without any deposit, and that she could pay for them when her husband returned home.

She brought the boy in and I examined his eyes. I found that his vision for distance was poor. It was less than 20/40. I made him a pair of plus 1.00 spectacles in a gold-filled frame. She was to pay me when her husband came back home. In about six weeks she came back and returned the glasses to me. She stated that her husband was provoked with her for getting the glasses. He had tried the boy's eyes with different prints, far and near, and had found him to have perfect vision with his naked eyes. In fact, the boy could see even better without the glasses than with them.

I was shocked and amazed, and could hardly believe this story. I persuaded the mother to bring the boy back to let me check to see if he could really see well with his naked eyes. She again brought the boy in and I checked his vision. I found that the father was indeed right. The boy seemed to have good eyes with 20/20 vision and better. I was in a dilemma and did not have the nerve to say anything to the mother. I just let her go. How was I to prove that the boy had had poor vision before he received his glasses? And who would believe that vision could be restored by just wearing a pair of plus 1.00 glasses for a few weeks?

My experience with the printer's son aroused my inborn tendency for exploration. It gave me an incentive to try to do special work on children's eyes and on vision restoration. It also enticed me to investigate myopic (near-sighted) eyes because I was myself myopic. On the other hand, this experience was a warning to be cautious in doing such work. For selling spectacles to persons who supposedly did not need them was almost a crime. And the fitting of glasses without the advice or consent of a medical doctor to unhealthy or diseased eyes, or even to an unhealthy person who might need or be under medical attention, was, and is now, an encroachment on the medical profession.

To shield myself against possible enmity and involvement, I took the following precautions: *First*, I quit using the title "doctor" in any form, in print or verbally. I was to be known as a spectacle

fitter and nothing more. *Second*, I charged a reasonable price for the spectacles I sold, but nothing extra for any special work or relief I gave. I did not advertise or boast about special work. I just did it as a matter of routine whenever or wherever I was given the opportunity.

Thus, in the year 1904, I became a silent, unknown, individual, independent researcher on the relationship of spectacles, vision and health. I have kept it up, more or less, until now, and will continue to do so as long as I continue to have the incentive and capability.

FRIEND GIBSON'S WARNING

Gibson was one of our close friends who visited us occasionally in my downtown office and home. He was a big man, highly intellectual and dignified. He had once been a non-medical doctor, or a sort of healer, in a town near Davenport. He was also a spiritualist and belonged to a spiritualist circle.

Once he brought a friend of his who tried to convert me to spiritualism. He invited me to a seance, but I refused. He took my hand in his and pressed it slightly. I felt some current passing through my whole body. He then asked me whether, if I went to a seance, saw a spirit and felt it, would I believe it? I said, "No. I would be scared to death, but I wouldn't believe it."

One time, when Gibson was visiting me, I told him that I had a bad case of diarrhea and was really miserable. He turned me around with my back to his face, raised his knee to the lower part of my back and bent me backward until it hurt. In a few minutes, in fact, almost instantly, my attack of diarrhea was gone. Since then I use the method of bending the lower spine backward on many occasions with beneficial results. In the beginning I would bend backward over the arm of a couch. Later, I designed a special tubular pillow which I often put under the lower part of my back and sleep on it. It has been of great benefit to me. I call it "Gibson's pillow."

Gibson was a close friend of old Dr. Palmer, the father and originator of the art of chiropractic healing. Dr. Palmer at that time had a small hospital of a few rooms in one of the office buildings in Davenport. Gibson helped him occasionally in his work, but did not work there steadily. On one of his visits Gibson told me that Dr. Palmer was in trouble with the medical profession. The doctors were trying to make him quit his art of healing.

It was soon after my experience with the printer's son that Gibson visited me again. I told him about the boy's case. He warned me that if I kept on fitting glasses to persons who had eye or body ailments, and helped or cured them, I would be stepping on the toes of the medical profession and sooner or later would be in trouble.

"THE ANGEL OF CHANGE"

For nearly four years I had been a settled optical doctor in Davenport. I had a good, but limited clientele, was making a fair living, had a little money saved, and had many friends and acquaintances. My wife, Ida, was well pleased with everything except our rear apartment. I was ready to buy a home, because I certainly never thought of leaving Davenport. But again the "Angel of Change" altered my plans.

Soon after Gibson's warning, which made me apprehensive about my security in the retail optical field, a wholesale optical agent came to solicit my trade. He was part owner and agent of an optical wholesale and manufacturing company in Chicago. I told him that I was well satisfied with F. A. Hardy and Co., with whom I dealt. However, he offered me an inducement. He promised that if I would buy a lens grinding outfit from his concern, I could go to their workshop in Chicago, and they would teach me how to use the machinery. I could stay there until I learned the mechanical part of optics. I felt that this would be a good opportunity to learn the mechanical side of the optical profession, so I took up his offer. I also believed that it would be a good plan for me to start in the wholesale and manufacturing part of optics and thought that Davenport was a suitable location for this business.

I went to their workshop in Chicago and learned how to cut lenses, edge them, and put them in the frames; how to use a rimless automatic machine; how to drill holes in rimless spectacles; and how to set the axis of cylinder lenses. I was also taught the surface grinding of lenses and then ordered surface grinding machinery along with other large sized equipment suitable for a wholesale business.

They treated me well at the shop. First I would watch one man and help him with his work, then go on to the next, and next, until I had learned everything about each machine. Then I put all of my money in this venture.

MY WHOLESALE OPTICAL BUSINESS VENTURE

My troubles began soon after I returned home from Chicago. The shipment of machinery did not arrive in Davenport in seven or eight days, as was usual but took nearly a month. When it came I found some parts missing and some parts wrong, which had to be exchanged. I also found that because I had bought large sized equipment, I would need a millwright man to set up the machinery. It took about four months to get my optical shop working.

In the meantime, a competitor came to town. He started a wholesale and retail optical shop on the best business corner. His shop was already in operation before I was able to start. All I could do was go ahead and do my best. I did edge-grinding of lenses successfully, for myself and others, but I was unable to manage the surface grinding.

One of my Swedish customers asked if I would take his young son in as an apprentice, and I agreed. I taught the boy and in a short time he became proficient. With the help of my young assistant, I managed to do some wholesale business. I planned to get some additional wholesale customers outside of the tri-cities, but this was not to be.

It was not long after my assistant learned the trade well, that my competitor took him away from me. Being left alone made it difficult to give prompt service to my Rock Island and Moline wholesale customers, and my competitor already had the Davenport wholesale trade. I decided that it would be best to move.

Later my former apprentice boy told me that my competitor was the agent who had persuaded me to learn lens grinding and to buy equipment from his company. The boy also told me that while I was in Chicago at the workshop, there had been a death in the agent's family in Minneapolis, Minn. The agent had gone there and found that there was an inheritance of cash money, and that his father-in-law was looking for some light work. The agent knew that Davenport was a good location for an optical shop and that I was green in the mechanical part of the business. He acted fast! With one hand he delayed the shipment of my machinery, so that I could not get started as soon as I had expected. With the other hand he moved his wife and father-in-law to Davenport, rented a good location, got the right kind of equipment, knew how to operate it, and in no time at all had a wholesale-retail optical

business. This deprived me of my potential basic local wholesale trade before I even started! Then he took my assistant!

A TRIP TO NEBRASKA AND OKLAHOMA

In those days there were very few optical men who were able to do both the fitting of spectacles and the grinding of lenses. Also, there were very few supply houses, and they were mainly in the large cities. I was sure that there were many cities, even more suitable than Davenport, for an optical business—either wholesale, retail, or both. I decided to investigate.

There were, in those days, monthly train excursions on which one could make stopovers at different places, at no extra cost. I decided on a trip west to Nebraska and south to Oklahoma City. Again I packed two valises; one with my personal belongings, and the other, my former small leather case, with ready-to-wear spectacles and an assortment of frames and lenses. I also took along my pocket trial case for fitting purposes.

First I took a train to Beatrice, in the western part of Nebraska. On my return trip, I made stops in villages, towns and cities, soliciting and trying to fit and sell spectacles. I did this with a double purpose — to make my expenses and also to find out what demand there was for spectacles. There seemed to be little demand out west in Nebraska. Nearly everyone seemed to have good eyes, and very few needed or wanted spectacles.

On my next trip, I took the train direct to Oklahoma City. I stayed there for about ten days and was pleased with the town and the people there. I felt certain that this would be a good city for an optician for either wholesale or retail spectacle trade.

I stopped at several small towns and cities on my return trip, and also spent a few days at Sapulpa and Tulsa, which was Indian territory at that time. Tulsa also looked very promising for an optician. I sold many pairs of spectacles in Oklahoma City and in the towns where I stopped on my return trip. I made all my expenses and had quite a few dollars left.

I came home to Davenport and told my wife, Ida, that I intended to move to Oklahoma City. Ida said that she didn't like to move so far away. If we had to move, she thought the best place would be Newport, Ky., where her people lived. To please her I said, "All right, we will try Newport."

In Oklahoma City, where an all-round optical man was badly

needed, I would have had the good will and cooperation of the people of a growing city and state. I could also have made use of most of my optical machinery. My success would have been assured from the start.

In Newport (practically a part of metropolitan Cincinnati, Ohio) I knew I would have to start from the bottom in selling spectacles, with much competition and no cooperation.

It was, therefore, necessary for me to dispose of most of my optical equipment. There was no demand for this type of machinery in Davenport, so I realized very little from the sale. When we left Davenport, there was little more than enough money to pay our train fare to Newport.

Thus, in this venture I lost my seven years' savings.

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Section C — Newport, Kentucky and Cincinnati, Ohio

NEWPORT, KENTUCKY

When we arrived in Newport, Ky., I was nearly broke. For about ten days we stayed with my wife's parents. Then we found a suitable place for a home and office at 321 York St., on the second floor above Dr. Crowley. I put up an optical sign, had some cards printed, and was ready to solicit optical trade.

I had my home and office at this location for several years. Most of my work was done at the homes of my clients, but a few came to my office by appointment. My outside clients were mainly in the suburbs of Bellevue and Dayton, Ky., and in the city of Cincinnati, Ohio. I was able to make my living expenses and save enough money to buy a small investment property, which I later sold at a profit.

Later I bought a building at 612-614 York St., which had two store rooms, one rented and one vacant. I remodeled the latter for an optical office with a dark room for eye examinations. I also made space in the rear for a small optical shop, where I was able to do the edge-grinding of lenses and other optical work for my own trade. After a number of years at this location I rented and moved to a store on Monmouth St., which was becoming the main business street of Newport.

Soon after I moved to Monmouth St., I sold the York St. property and bought the Monmouth St. building. I remodeled the

building and again built an optical store room, an examination room and a small shop. I practiced there for many years until sometime after I moved my family to Cincinnati, Ohio.

During the time I was in Newport, I bought and sold a few other pieces of property besides my business buildings. First I reinvested my capital in Newport real estate. Then, when I moved my family to Cincinnati, I began to reinvest in Cincinnati real estate. Later, when I sold my Monmouth St. property at a large profit, I reinvested it, also, in Cincinnati real estate. Thus, I realized a fair income from my property, aside from my optical profession.

It was then that I gave up my optical store-office in Newport and became a semi-retired optometrist in Cincinnati. Some years after I had moved to Cincinnati, a residence clause was inserted in the Kentucky optical law, which required an optometrist in the state of Kentucky to be a resident of the state. This made it illegal for me, a long established Kentucky optometrist, to examine eyes and fit spectacles in the state of Kentucky.

OPTICAL SOCIETIES

When I first went to Newport I was undecided as to whether I should settle in Newport or Cincinnati. I decided on the York Street location in Newport because it seemed the most suitable for a poor, unknown spectacle man. I took it as a temporary measure, for I believed and felt that sooner or later I would land in Cincinnati.

I joined the Cincinnati Optical Society, which was in existence at that time, and attended all of the meetings. Later, in the year 1909, I became a member of the Ohio Optical Association. After I was permanently settled in Newport, I joined the Kentucky Optical Association and also became a member of the American Optometric Association, in which I continued my membership for many years. In 1920, I took a post graduate course from the Needles Institute of Optometry and received a diploma with the title of Doctor of Optometry.

At the Cincinnati Optical Society we had discussions about eyes and spectacles, and each member was often called upon for comment. At one meeting, first aid was discussed. I was called upon, and my answer was applauded. At another meeting we discussed cross-eyes. We were asked what we would do if a plus

4.00 pair of spectacles did not straighten them. All sorts of remedies were suggested—operation, prisms, treatment and the new theory of training the eyes. I picked up enough courage to get up and suggest that I would try stronger plus lenses, plus 5.00 lenses. I really got the laugh!

I now realized that all the experimenting, research, findings and results I had obtained were not in line with the trend of the optical profession. I realized that the trend was in the opposite direction—for less and less plus and more and more minus. This, however, could not stop me from continuing my research.

STRONGER PLUS SPECTACLES

It was soon after I got the laugh at the Cincinnati Optical Society for advising stronger plus spectacles that I visited my friend, Mr. L. Zitt. After telling him about my special ideas and different technique in the fitting of spectacles, he asked me to see his mother. He said that her eyes were very bad and that she had been complaining about them.

I went to the home of Mrs. Zitt and found her to be about the age of forty-five. Even with her spectacles on, I noticed that her left eye was crossed. Upon examination I found that her spectacles were plus 4.00 spherical lenses. When I examined her eyes I found that, with her spectacles the vision in her right eye was good. However, with her left eye, she could barely see two fingers a foot away, with or without her spectacles.

I fitted her with stronger plus lenses and noticed that the left eye did not turn as much as before. In less than one year it became perfectly straight and the vision gradually improved. In less than two years, the vision in the left eye was almost as good as the right eye. Thus my theory of binocular relaxation with stronger plus glasses worked even in the case of a middle aged person.

I remember the case of Mrs. Zitt well, because, after I had practiced in Newport for about 5 or 6 years, I had a circular printed with the names of about 14 persons with special eye defects which I had cured, and Mrs. Zitt was one of them.

HEADACHE GLASSES ON TRIAL

I became quite friendly with the Hafer family when I first came to Newport, Ky., late in 1906. I fitted Mrs. Hafer and one

of her daughters with spectacles. Jim Hafer was an inventor and was working as a machinist and tool maker for the screen factory in Newport. He also had a small machine shop in a shed in his back yard. I remember letting him make some special gadgets for special purposes. Jim was hard of hearing.

It was Mrs. Hafer who told me about her husband's headaches. She wondered if I could help him. I asked Jim to let me fit him with a pair of spectacles to help relieve the headaches. He told me that he had ear trouble, not eye trouble; that it was not possible that his eyes could be the cause of his headaches. However, he said that he would consider buying a pair of spectacles if I would let him have them on trial.

I told him I would let him have the spectacles on trial under one condition. He must promise to wear them faithfully for six weeks, continually, all day while at work, regardless of how they felt or how much discomfort they might give him. When he promised to abide by this condition, I fitted him with a pair of plus spectacles.

When I saw him at the end of six weeks, he was wearing the spectacles, and his headaches were gone. He said, however, that it had not been an easy thing to do. He had been tempted many times to break the spectacles and throw them away, but because of his promise had continued to wear them. He stated that if he had bought and paid for them, he would surely have thrown them away.

MY ENCYCLOPEDIA

It was not long after I came to Newport that I met the Scharstein boys. The older one was a very intelligent young man who wore spectacles. The younger boy did not wear spectacles, but he had a case of nystagmus (dancing eyes). Other than that, his vision was fairly good, and the rolling of his eyes was not nearly as fast as the Zwicker girl in Davenport. I persuaded the family to let me fit the boy with a pair of spectacles to help his nystagmus.

Upon examination I found that the vision in both his eyes was fairly good. He had an ordinary eye defect of about plus 1.50 diopter. I fitted him with a pair of plus 1.50 glasses and instructed him to wear them steadily. For several years after that I would meet the boy, since he was a neighbor, and I noticed that the rolling of his eyes gradually lessened; finally his eyes became steady.

His older brother joined an organization to which I belonged, and I often met him there. Once he came to my office on York street and asked me if I could help him. One of his eyes was very poor and his spectacles did not seem to help him very much. I examined his eyes and found that the vision of one eye was good, but that he had very little vision in the poor eye, even with his spectacles. I fitted him with a pair of spectacles to develop the poor eye.

Sometime later he came to me and said that he had a 32 volume encyclopedia set, which he had bought while he was in college. He rarely had any use for it now, and to show his appreciation for what I had done for his brother and himself, he would like for me to have it, if I wanted it. I told him that I would be very grateful. I used the set for many years and obtained a vast amount of knowledge from it. In fact, the information and knowledge I received from the set was priceless.

AN HONEST OPTOMETRIST

David Davis was a printer and a singer. He sang in the Jewish Temple in Cincinnati on Friday nights and holidays, and in the Presbyterian Church on Sunday mornings and Holy Days. He had a one man printing shop on 6th St. in Newport. He was a fine looking young man and a friendly one. Occasionally I would go in for a chat and give him a few small printing jobs.

Once he told me the story of the honest optometrist. David had been having some headaches. He tried medical treatments but did not get much relief. Someone told him that his eyes might be causing his headaches. An optometrist was recommended to him and he had his eyes examined. The optometrist gave him a thorough examination and told him that he did not need spectacles and that his headaches could not be from his eyes.

I listened to the story and I smiled. I told David that the optometrist might be honest enough, but that he was surely wrong. I said, "Here you are, a printer, who is doing a lot of type setting which is close work. Any close work is hard on the eyes. I believe that it is your eyes causing the headaches, and I would fit you with a pair of spectacles to use while you are doing close work at the shop."

He took my advice and let me fit him with a pair of spectacles. I gave him a weak plus lens and in a short time his headache disappeared.

TEETH, HEADACHES AND SPECTACLES

It was about the year 1920 when one of my patients came to me for advice. About five years before, I had fitted her with spectacles because she had been troubled with headaches. Her headaches disappeared shortly after she started wearing the spectacles, but she continued wearing them for about two years. About two years after she quit wearing the spectacles her headaches re-appeared. She went to her family doctor and took his treatments for awhile, but got no relief. Her doctor then told her that it must be her teeth which were causing the trouble, and advised her to see her dentist.

The dentist, after an examination, told her that her headaches must surely be caused by her teeth. He advised that she have her teeth extracted and have plates made. It had been several months since she had her new teeth and her headaches seemed to be getting worse instead of better. She was now wondering if it could be her eyes, after all, that were causing her headaches. I almost laughed! I looked up her prescription and said, "You were nearly forty years of age when I fitted you with spectacles. Now you are nearly forty-five. At this age almost every person needs extra help from spectacles for close-seeing."

I told her that all she needed for the present was a pair of spectacles for close-seeing and her headaches would soon leave her. I fitted her with a pair of reading glasses and advised her to get a pair of bi-focals later. In a short while she reported that her headaches had disappeared.

There are very few doctors, or even oculists, who will advise their patients to try plus glasses to relieve headaches or other ailments, even if there are visible symptoms that the eyes are under strain or are being overworked.

POISONED EYES

In Newport, especially the first few years when I solicited optical trade, I had an opportunity to try spectacles on all sorts and all conditions of eyes. I was ready and willing to fit a pair of plus glasses to any person who was not totally blind. I believed that any person could get some benefit from wearing plus glasses occasionally. I believed that diseased eyes and unhealthy persons needed plus glasses even more than healthy eyes and healthy persons.

In the twenty four years that I practiced exclusively the fitting of spectacles in Newport I know of only two persons to whom I refused to sell spectacles. One was a young man whom I refused to fit with spectacles unless he quit smoking. His eyes were poisoned by nicotine, and spectacles seem to have no effect on such eyes. He left and never came back, so I never learned what happened to his eyes.

The other was a middle aged man, a barber whom I knew well, as I had done work for his wife and family. He wanted a pair of spectacles for reading. After a short examination I told him that I could not fit him with spectacles unless he quit drinking. I explained that his eyes were poisoned by alcohol and that spectacles seem to have no effect on such eyes. He asked me if he should see an eye specialist and I said, "Sure, go ahead."

About a year afterward, the barber came back for a pair of reading spectacles. I examined his eyes and found them to be almost normal, for his age, in both distant and near-seeing. I fitted him with a pair of satisfactory reading glasses. I asked the barber what he had done to cure his eyes. He told me that he had consulted an eye specialist, who also advised him that he must quit drinking. He said he had quit drinking and had used up a barrel of epsom salt during the year. This took the poison out of his system.

CHILDREN'S EYES

I never prescribed minus (concave) glasses for children unless it was absolutely necessary. I always prescribed plus glasses for eye strain or poor vision, whenever I could persuade the parents that they would be good for the eyes, even if the child could see as well or better without them. In most cases, the child's eye trouble would disappear, but neither the spectacles nor I would be given credit. I knew that the child might quit wearing the spectacles and that later, when his eye trouble re-appeared, he would be taken to a vision specialist who would give him spectacles for better distant vision. These would be minus (concave) glasses, and the result would be that he would become more and more near-sighted.

As an example: there was a little girl, Jean, who lived on the upper floor of the house of my father-in-law, who had moved to Cincinnati. I had my branch office in the front room of his house and had an optical sign in the window. Jean was about nine years of age and wore glasses constantly. She often visited us down-

stairs, and I noticed that she held her book too close to her eyes while reading. I examined her spectacles and found them to be minus 0.50 lenses. I gave her a reading chart and she was unable to read fine print. Besides, her range for close-seeing was very poor, and her distant vision with her spectacles, although better than her naked eye vision, was below normal. I tried PLUS 0.50 lenses on her eyes and behold, her distant vision was about the same as her bare eye vision, BUT, she could now read the finest print easily and her range for close seeing more than doubled!

I explained the matter to her parents. They could hardly believe it possible, since Jean's spectacles had been fitted by a reputable vision specialist. However, they reluctantly let me change her lenses. Jean wore these new lenses steadily for more than a year, and her eyes became normal both in near and far vision.

I had made the lenses to fit Jean's small frames, and of course she soon outgrew them. When her vision became normal, she quit wearing her small spectacles and didn't get new ones for many years. In the meantime, she was going to school, doing a lot of prolonged near-seeing, without wearing spectacles. When her eyes began to bother her again, she did not come to me for spectacles to help her in near-seeing. Instead, she went to a vision specialist who again gave her minus glasses for better vision for distant seeing.

Many years later, at a social party in Cincinnati, I met Jean again. She was then wearing spectacles with very strong minus lenses. When she took off her spectacles she was almost blind. I joined her in conversation and asked if she remembered when she lived in the upstairs apartment of my father-in-law's house on West 7th St. She said that she did. I asked her if she remembered that I fitted her with a pair of spectacles when she was very young. She became very emphatic and replied, "No. I never wore glasses as a child. I got my first glasses when I was in high school."

Section D — My Research and My Hobby

MY SEMI-RETIREMENT

When the public became style conscious in their choice of frames for their spectacles, during the decade of 1920, my optical trade gradually began to drop off. My main interest was in helping eyes and vision, and I could not conscientiously pose as a style specialist in frames.

After I moved to Cincinnati near the university where my daughter was a student, I found it inconvenient to handle my Newport optical work properly. Later, when I sold my business building I had to pay a high rental for my optical store. Further, I had believed for a long time that being indoors so constantly was not good for my health. Since I had a fair income from my real estate in Cincinnati, which required more attention, it seemed better all around to retire from the optical profession.

However, I could not conscientiously give up my optical work entirely, mainly because I felt obligated to carry on with my research work on school-myopia and the relationship of vision and health; I also felt obligated to my few faithful clients, my relatives and friends who might need my special knowledge and services; and too, several episodes occurred which influenced my decision.

My insurance man gave me an incentive to continue, partially at least, with my optical profession. He told me that he often fell asleep at the wheel while driving his car. After I changed his lenses this never happened again.

Then I was called to the home of a sick man who was confined to his bed. He had been fitted with a pair of bi-focal glasses which he was unable to use for either far or near seeing. I examined his eyes and fitted him with single focus glasses which he was able to use with satisfaction for both far and near seeing.

Also, I fitted my nephew Bernie as a child with a pair of plus glasses. He quit wearing them and later went to an optometrist in Cincinnati, another uncle of his, who fitted him with a pair of minus glasses. His eyes became more and more near-sighted, so that he had to get stronger and stronger minus lenses. At that time Bernie was a senior at high school and his bare eyes became very poor for distance. I believed that his intensive studying with his minus glasses was the cause of the loss of his distant vision. I felt compelled to do more research on children's vision and school-myopia.

SCHOOL-MYOPIA (near-sightedness)

During the 24 years that I continuously practiced optometry in Newport, Ky. and Cincinnati, Ohio, I fitted many young children with plus glasses for eye strain and other visual defects. In all that time not one single child who continued wearing plus glasses which I had prescribed became near-sighted or ever needed near-sighted glasses. I became convinced that it is the prolonged near-seeing in school without plus glasses and also the subsequent wearing of minus glasses for near-seeing, that causes so many children to become more and more near-sighted.

In the decade of 1930, after I gave up my optical store and had free time on my hands, I had an opportunity to investigate school-myopia at its source, in many schools. I made group observations and individual examinations in many schools in Clermont County, Ohio, and my findings should shock our educators and our vision specialists.

I found that nearly all young children start their reading and writing at a distance of from 10 to 18 inches from their eyes. However, in prolonged near-seeing they soon begin to bring their eyes closer and closer to their material. After a few minutes of prolonged near-seeing, about 75 percent of the children bend their heads and bring their eyes to a nearness of 8 to 3 inches from their work. (Note: see illustration on page 45.) This is admittedly an unnatural use of the eyes.

The general public, including our educators and vision specialists, are under the false impression that the majority of the children at school keep their eyes at a distance of 10 to 18 inches from their work. It is deplorable that they are not even conscious of the fact that in prolonged near-seeing young children bend their heads lower and lower, bringing their eyes closer and closer to their work. If they were aware of this fact, they would realize that this is a main factor for so many children becoming near-sighted during school years.

It is recognized that a few children use their eyes too close to their work, but it is generally assumed that these children are near-sighted. However, by examination, I found that most of the children who bring their eyes too close to their work are hyper-far-sighted (Hyperopic) instead of near-sighted. These children need plus glasses to help them in prolonged near-seeing and also to prevent near-sightedness.

A PREVENTIVE AND REMEDY FOR SCHOOL-MYOPIA (near-sightedness)

ILLUSTRATING THE CAUSE OF MYOPIA

Two of the quintuplets (Canadian) copied from the original pictures of the quintuplets in Life Magazine.



her eyes about 10 inches from the paper. her eyes 3 inches from the paper.

In the "Land of Myopes" (China) Chinese children
Copied from a book "Thesis on the cause of Myopia," by Rasmussen.



hold their eyes about 3 inches from the paper.

How about your child?

I also found that most young children who have already become near-sighted can have their normal vision restored with plus glasses. I found that prolonged near-seeing has a direct visible ill effect on nearly all children.

In the year 1936 and the early part of 1937 I tried to get some foundations and other sources interested in my school research, but I could get none. Due to the importance of my findings I was then impelled to write and publish a booklet on "School-Myopia."

I had the booklet published in 1937. I mailed copies of the booklet to research foundations and to universities which had medical or optical schools, and also to school boards of most large cities, and to state boards of education.

I received but few replies and no offers of co-operation. Then I tentatively decided to give up my meddling in optical research.

THE BEGINNING OF MY HOBBY CYCLE

Excerpts from "Spectacle Hobby" manuscript

In the year 1939 I was ready to fully retire; to retire from what was left of my optical profession; to retire from my realty dealings; and also to retire from my research work on school-myopia. I had no aches or pains, and my economic and financial matters were in good order and needed little attention. The only problems left were my hot feet and my wife's insomnia.

It was April of that year that we signed a ten-year lease with a major oil company for the rental of my vacant lot on a main highway. I had previously signed leases with oil companies for two other vacant lots, and the income from these three sources was sufficient for our modest living expenses. There was enough income from other sources to make it possible for us to fulfill our desire to do some pleasure traveling.

I had no thought of going to Florida—not flat Florida where it is hot, with no mountains to cool off. I preferred California where the mountains are close to the ocean. It was Tanya, a relative who came from South Africa, who induced us to go to Florida.

Later we went to the World's Fair and also to California. In 1941 I bought my mountain in North Carolina and built a summer home where I went to cool my feet. We also took trips in the winter to Florida for a few months to warm my shoulders.

At the end of November, 1949, on my way to Florida, I found that I was enjoying a well-established and profitable hobby. It was the hobby of giving away glasses.

I call it well-established because I was carrying several dozen pairs of glasses in my automobile. From my previous experience I felt sure that this would be enough to last a whole season, since it was not easy to find customers who would accept glasses as gifts. Most people were suspicious and thought there was a gimmick or string attached to the gift.

I say it was profitable because it enabled me to continue with my research and also to make friends and acquaintances. It gave me great pleasure and even my wife began to enjoy my hobby.

I have been giving away glasses and prescriptions for glasses outside the state of Ohio since the year 1939, when we began traveling. In the beginning I did not think of it as a hobby. Since I am not permitted to sell glasses outside the state of Ohio, I had to give them away if I wanted these people to have them.

I am a registered optometrist in the state of Ohio. My registration number is 398. I have renewed my license each year for a fee of \$10.00, which gives me the legal right to practice optometry in the state of Ohio but in no other state.

I have given glasses, without charge, to the aged, to the middle aged, to teenagers and young children. I have given glasses in many states; east and west, from New York to California; north and south, from Michigan to Florida. However, I have given glasses mostly in North Carolina and in Florida.

THE POLIO VICTIM

It was in the year 1953 that I met the polio victim. I had stopped in a small store near my mountain home to buy a few things. There was nobody in the store but a little girl who was about nine or ten years old. She started to talk to me and tried to help me find the things I wanted, but I could not understand her speech. I noticed that she was crippled on one side of her body—crippled in one leg, one arm, and, seemingly on one side of her face. I looked her over carefully and watched her walking and her motions. I noticed that one of her eyes appeared clear, healthy, and open but the other eye was almost closed.

When the storekeeper came back I asked him who the girl was. He told me she was his daughter and that she had been crippled by

an attack of polio when she was a small child. I asked the father to bring the girl over to my place in the mountains and I would give her a pair of spectacles which might help the crippled eye. The father brought the girl over and I gave her an examination.

The examination consisted of trying two pairs of glasses on her eyes, a plus one (+1.00) and a plus two (+2.00) and asking her which pair she liked the better. She said she liked the plus 1.00 better so I gave her a +1.50 as a compromise.

I told the girl to keep the glasses on her eyes and to continue looking at the chart across the room, and I watched her eyes for effect and results. In a little while the crippled eye began gradually to open. Shortly thereafter, both of her eyes were open, clear, and bright.

I gave the girl a plus 1.50 pair of glasses (no charge) and impressed upon her and the father that she should wear them constantly. The little girl seemed to like the glasses so there was no objection on her part. Often I used to drive past her home and occasionally I would see her with the glasses on. Both of her eyes looked normal, clear, and bright. She must have worn the spectacles constantly about six months or longer.

In the summer of 1954 I met the girl again and saw that she was no longer wearing glasses. I also observed that both of her eyes were still open and looked normal. When I next met the father I asked him why the girl did not wear the glasses. He told me that she had lost them. I advised him to let me give her another pair of spectacles. He again brought the girl to me and I again gave her a pair of plus 1.50 spectacles.

Again the polio victim wore the plus 1.50 glasses for only a few months. For, when I returned to the mountains in 1955, she again wore no glasses and the father told me that she had again lost them. I did not bother the father any more about glasses for his girl. I met her many times in 1955 and 1956, she still had clear and wide open eyes, and wore no spectacles. Her whole face seemed to look normal and healthy.

Note

The reason the father did not hesitate to allow me to give his daughter a pair of glasses was because I already had benefited the eyes of one of his relatives, an adult, who had also been a victim of polio.

THE FISH-FLY MAKER AND HIS NERVES

It was in the summer of 1953 that the artificial fish-fly maker came to see me. He was under the age of forty and the father of three children. He visited me at my mountain home in North Carolina, not for spectacles or other vision aid, but to sell me his home, on which he was unable to keep up the payments. He told me that he was not well and that he was working at the mill at a special easy job reserved for employees like himself. He was a specialist in making artificial fish-flies which are used for bait. He had had his own tackle shop in town but had to give it up because of his nerves.

I began to ask questions about his eyes. I suggested that it might be his eyes that prevented him from working on his flies. He didn't believe that that could be possible because his eyes were good. Both his regular doctor and an eye specialist in the big city had told him that it was his nerves and not his eyes that affected him.

I put a pair of plus 1.00 glasses on his eyes and proved to him that for distance he could see about as well with the glasses as with his naked eyes and even somewhat easier. However, for reading, his vision with the glasses was much better and easier than with his naked eyes. He agreed to try the glasses, which he was to wear steadily to improve his vision for his fish-fly making and also for distance to help his nerves.

He came back in a couple of weeks and reported that he had worn the glasses quite steadily and that they had helped his nerves a good deal. He was now able to make four or five fish-flies without his nerves affecting him; with his naked eyes he was unable to finish even one. The glasses were helping him but were not good enough for him to go into business again.

I decided to go to his little shop at his home. I wanted to see how closely he held his eyes from his fish-fly making machine. I watched him closely while he worked and found that he held his eyes about eight inches from the machine. I then realized that he needed much stronger lenses. I let him try plus 2.50 and plus 3.00 and gave him the plus 2.50 since they seemed to be more satisfactory. He used these as an extra pair for his fly making work.

It is more than five years since the fish-fly maker became able to make flies again. Now he works at the mill in the daytime and

his health is much better. Nearly every evening and over the week-ends he is able to make and sell all the flies that time will permit without affecting his nerves. In the summer of 1957 he came to visit me and presented me with a few of his newly invented flies.

THE CABINET MAKER AND HIS HEART

It was in the year 1955 that I met the cabinet maker. A family with whom I had become friendly and to whom I had given some spectacles, told me about him. They asked me to go to see this neighbor who was unable to work because of his heart condition. My friends knew that I had recommended plus glasses for many ailments and therefore hoped that I might help him.

The cabinet maker lived only a few doors away, so they phoned him and told him that I would go to his home. There I met him and his family. He was less than forty and didn't look like a sick man. However, he told me that he had had medical treatment for a long time, and that for more than two years he had been unable to do any work. He also told me that his vision was good (20/20), and that no doctor had ever suggested that he wear spectacles.

I gave him a pair of plus 1.00 glasses and told him to wear them for a few minutes. He was able to see equally as well with the spectacles as without them, but they did seem to make his eyes feel more restful. I asked him to take me to his shop which adjoined his home and do some work while wearing the spectacles. With the spectacles it was much easier for him to do his regular work but not good enough for certain closer work.

I then tried a pair of plus 1.50 spectacles, which were fine for his nearer shop work, but blurred the distant vision. I advised him to wear these spectacles all the time or as much as possible, regardless of the blur in distance seeing.

About ten days later, I was told that the cabinet maker was able to do all of his regular cabinet work with his spectacles, but that he was unable to file his saws.

Again I went to his shop and watched him trying to file a saw. I noticed that he kept his eyes about eight inches from the saw. I tried a plus 3.00 pair of glasses for this particular work and they were much better. I advised that he use these spectacles for very special close work.

The cabinet maker with the heart condition had been told that he had 20/20 vision and was made to believe that he did not need spectacles. However, with the aid of plus 1.50 spectacles for his regular work and plus 3.00 spectacles for special close work, he became able to do all of his cabinet work with ease and without affecting his nerves or his heart.

SWOLLEN GLANDS AND SPECTACLES

Robert was a close neighbor of mine in Brooksville, Fla., in 1955. Robert was a young man and his young wife had been complaining of occasional nervous spells, especially after doing close work. I gave her a pair of plus 1.00 spherical glasses to wear while doing close work, and instructed her to continue wearing them a little while after she had finished. I explained that the spectacles would make her work easier, and also have a good effect on her nerves. After wearing her spectacles for a short time her nervousness almost disappeared.

It was sometime later that Robert told me a story which he believed would interest me, about his older sister in Tampa, Fla. She was about 44 years of age and had developed swollen glands in her neck and also had a bad cough. For more than three months she had had treatments, first from general medical doctors, then from medical specialists, but had gotten no relief. Then her husband noticed that she was reading with her eyes too close to the newspaper. He took her to an eye specialist, who prescribed a pair of bi-focal glasses, which she began to wear steadily. In a very short time the swelling in her neck disappeared, and her cough was gone.

Now, in her case, there were three kinds of medical doctors treating her: a general practitioner, a throat specialist and an eye specialist. Not one of those medical men suspected or would believe it possible that there was a relationship between her physical ailments and her vision. Even though it is a recognized medical fact that spectacles, in most cases, are a necessity at about the age of this patient, the medical doctor and the throat specialist did not recommend an eye examination. The eye specialist, who fitted her with spectacles for her vision, never suspected that they might relieve her gland swelling and her cough.

THE ARTIST AND HER HUSBAND

The artist became a close neighbor of mine in the year 1956. She worked forty hours a week at home as a free lance artist for a commercial art company in Cincinnati, Ohio. I asked her if she would reproduce certain pictures from a book and magazine for me. They are the pictures of the quintuplets and the Chinese boys in this book.

I watched her and noticed that she often kept her eyes quite close to her work. I offered to give her a pair of plus 1.00 spherical glasses to help her. She told me that her eyes were good and that she seemed to have no trouble whatsoever with her eyes or vision. She also told me that she had a pair of spectacles from an eye doctor which seemed to do no good for close seeing, but did help her quite a bit for distant seeing.

I examined her spectacles and found them to be the usual spectacles now being prescribed. They were minus 0.50 spherical and minus 0.25 cylinder, which give clearer vision for distant seeing, but are not helpful, and even detrimental, for near-seeing. I asked her if she had any other bodily ailments. She told me that her health was good. However, about every three weeks she suffered with splitting headaches which lasted for a few days. But she did not believe that the headaches had anything to do with her vision which seemed to be perfect.

She also told me that she, as well as other artists, must occasionally use a magnifying glass on certain work to make the fine lines larger and clearer. I persuaded her to try a pair of plus 1.00 spherical glasses, which would make the special fine work clearer and also might help her headaches.

At the same time she told me that her husband had been having blind spells after reading a certain length of time with his bifocal glasses, which had been recently fitted by an eye specialist. I examined her husband's spectacles and found that they had cylinders⁹ which I believed might be causing his trouble. I let him try a pair of plus spherical reading glasses without cylinders. He wore these for a few weeks and his blind spells disappeared. Then I fitted him with a pair of bi-focal spherical glasses. He never had the blind spells again.

The artist wore her spectacles for her work and although they did not seem to be too comfortable, they helped make certain fine

9. Lenses shaped with a cylindrical surface.

work clearer. Later, she told me that she still had to use the magnifying glass for special fine work. I suggested a pair of plus 1.50 spherical glasses, which she consented to try. Her headaches seemed to be getting somewhat better.

Later, in 1958, I visited my artist neighbor and she told me that she was using the stronger spectacles for special fine work; that she did not need the magnifying glass any more as the spectacles were so much more convenient and practical. Also, she told me that her naked eye vision was so improved that she was able to see very fine separation of lines much better than she ever could before. Also that her distant vision was much clearer than it had ever been.

I asked her about her headaches. She hesitated and then said, "Oh, the headaches, I forgot all about them!" She could not remember how long it had been since she had had one of her splitting headaches. She could readily concede that the spectacles had helped her vision, but she could hardly believe that it was the spectacles that had relieved her of her headaches.

MY DAUGHTER'S MAID

This woman, about forty years of age, often complained to my daughter that she could not see very well to read in the evenings at home. I offered to give her a pair of plus 1.00 glasses to help her with her reading if she would come to my home near by to get them. This she neglected to do. Later she began to complain of headaches and also of having trouble with her eyes watering. She worked for a little while in this condition, then she became unable to work and stayed home for about three days.

On the fourth day, when she came back to work, she was not much better. She had splitting headaches at night and her eyes were watering constantly. She also had severe pain on the sides of her head near her eyes. My daughter then arranged to take her maid to the eye clinic at the General Hospital, where she underwent a complete examination. She was told that there was nothing wrong with her vision. My daughter asked if it would be advisable for her to get a pair of spectacles. She was told that it was neither necessary nor advisable. The maid received treatment for her eyes and was told to return in a week.

On the second day after the treatment I met the maid again at my daughter's home. She told me that her eyes were still watering,

that she still had her pains, and that so far the treatments seemed to be doing her little or no good. I asked her to let me give her a pair of spectacles, but she said that my daughter had already given her a pair the day before. She had tried to use them for reading, but her eyes were watering so badly that she had to stop. Regardless of this, I advised her to wear the plus 1.00 glasses not only for reading, but constantly, at home. She followed my advice.

My daughter was able to give her maid a pair of plus 1.00 glasses because there are always five pairs in her home. My daughter uses them occasionally, and four of her children use them for their school night work.

Soon afterward, I saw the maid and asked her about her vision, her spectacles, her headaches and her watering eyes. She told me that she had been wearing her plus 1.00 glasses all the time while at home; that she could now read with her spectacles; that her headaches and the pains on the sides of her head had disappeared; and that her eyes were no longer watering. She also told me that she didn't wear her spectacles at work as she didn't seem to need them.

My daughter called the doctor at the hospital eye clinic and told him that her maid did not need to keep her second appointment because her eyes seemed to be well. She also told the doctor that she had given her maid a pair of plus 1.00 glasses and that they seemed to have cured her. The doctor laughed and said, "It was probably psychological."

Note

It is really tragic that the general public, the medical profession, and the vision specialists do not seem to know, or do not seem to want to know about the therapeutic value of plus glasses, and that they are not inclined to try them or believe in them.

Part Two

The Universal Need for Eye Stretching

Section A — A Discovery and Revelation

A REVELATION

It was in the year 1942, while alone at my mountain in North Carolina, that I got my revelation.

The cool air at my mountain was like magic for my hot feet. It was an ideal place for reflection, meditation and contemplation. World War II was in full swing. I followed events carefully by reading the Asheville, North Carolina, newspapers at the home of one of my mountain neighbors. There was nothing I could do to help. I had not brought along any books to read, but had a few copies of my own booklet on "School-Myopia."

* * * * *

On page 23 of this booklet is printed:

"For the duration and experimental stages of school-myopia the author is ready and willing to furnish, free of charge, the chart and record blanks especially ruled and printed, to any institution that is willing to undertake research work in school-myopia. The author will also give his time and knowledge, free of charge, to the observer and examiner designated by the institution. All the institution will have to furnish will be a volunteer or paid worker to do observations and limited examinations, and to attend to the records."

* * * * *

In the booklet I then promised to write an enlarged second edition of "School-Myopia." I promised that, depending upon the co-operation I would be able to get in my research work, I would write an enlarged edition of "School-Myopia" and give a remedy for same.

I was pondering over my promise to do more research work, to do more writing, and mainly to find causes and give remedies for School-Myopia. I gave up my research work on School-Myopia because I was unable to get help or co-operation. Now I was pondering the possibility that help might come from Beyond.

One night I was awakened by the "Angel of Vision." He let me a message and a slogan. The message was: "*Do not give up.*" The slogan was: "*Stretch your Eyes.*"

STRETCH YOUR EYES

“Stretch your eyes” was quite a catchy phrase, but it also had an element of ridicule. Up to now I had been simply ignored. Now I would be ridiculed. And ridicule has a sharp edge which may cut. Like the Prophet Jonah I was not ready to accept and acclaim the ridicule. But some time afterwards I got an idea on how to blunt the sharp edge. I sat down by the typewriter which I had brought along to the mountains. I typed it and it looked good.

You stretch your arms,
You stretch your legs,
You stretch your body,
Why not stretch your eyes?

Now the prevention and cure of School-Myopia seemed simple and clear to me. We compel our children, who have natural hyper-sighted eyes, to go to school and use them unnaturally. We compel them to bend their eyes and keep them bent for a long period of time. Why not give them a pair of plus 1.00 spherical glasses which would lessen the bending of the eyes when they read or write? It would also stretch their eyes when they looked through them for distance.

But I knew that the trend was in the opposite direction; that most oculists and optometrists were giving minus glasses to all borderline cases, and that the oculists, with the drops, and the optometrists, without the drops, were doing the same thing, thus defying nature and the Angel of Vision, and thus compelling the children to bend their eyes still more.

But why were they doing this? Was it for the sake of business? Was it for the sake of satisfying unwary customers and patients? Were they sacrificing the welfare of the eyes of their patients and the welfare of the human race on the Altar of Mammon and Moloch? Or was it possible that they did have an optical basis for it? I decided to find out.

I had to go back to research.

THE TERM AND MEANING OF "STRETCH YOUR EYES"

"Stretch your eyes" is a new term. It could also be called a slogan, a discovery and a revelation.

It is a term and an idea, the meaning of which gave me an understanding of many optical phenomena which were puzzling me. It is a term and idea, the meaning of which every person should keep in mind and understand when seeking aid for his eyes, vision and health. It is a term which the medical and optical professions should understand and adopt.

Stretching your eyes with stronger plus glasses does not mean the lengthening of your eyes. It means just the opposite. Plus glasses produce a counter pressure, both physically and psychologically, against the narrowing of the eyes and the cramping and contracting of the muscles inside the eyes. Plus glasses furnish a counter pressure against the forward lengthening of the eyes of children, which is caused by prolonged near-seeing.

Stretching your eyes with stronger plus glasses makes them more roomy for the fluid circulation inside the eyes. It lessens the chances of blood congestion, which is often the cause of eye ailments and diseases. It lessens the chances of the fluids of the eyes clogging the tiny canals in our eyes. It gives the eyes more freedom for natural functioning.

Near vision and minus glasses produce an inward pressure on our eyes. Plus glasses, on the contrary, produce an outward pressure on our eyes. Stretching our eyes with stronger plus glasses is the only way by which we may give our eyes the natural rest posture, the same posture as a natural eye assumes in far-distant-seeing. It is the only way by which we can fully relax our eyes. It is the most practical way to save nerve energy at times when the saving of nerve energy is necessary as an aid against sickness and disease.

EYE STRETCHING COMPARED TO BODY STRETCHING

The bending, unbending and stretching of your eyes may well be compared to the bending and stretching of your body. In the case of your body, the normal or rest posture is when your body is straight (unbent), or better still, when it is slightly bent backwards (stretched). In the case of our eyes, the normal and rest

posture of our eyes is when they are least bent, or better still, when they are slightly stretched.

In the case of our body, we have to bend it if we want to reach downward, and the lower we reach, the more the body must bend. Then, in order to bring our body back to a straight or normal posture, we must unbend. Likewise, with our eyes, we must bend our eyes (add curvature) to look at any object which is nearer than the rest posture of our eyes, or the natural far distant posture. Then, we must unbend our eyes (reduce curvature) to bring them back to their normal rest posture.

It is not possible to reach upwards when the body is in a bent position. It is necessary to unbend and often reach even beyond the length of our arms by stretching upwards. Likewise, with our eyes, we cannot see far away with our eyes in a bent posture. We must unbend them (reduce curvature), if possible, and sometimes even stretch them to see farther.

When the body has been kept in a bent position for any length of time it is beneficial, and often necessary to give it a good stretching. It is the same with our eyes, if they have been kept in a bent (too curved) position for any length of time in prolonged close vision. They too require a good stretching.

If the body should be kept in a bent position steadily for a long stretch of time it could develop an unnatural, stooped, curved and unsymmetrical posture of the shoulders and the spinal part of the body. It is the same with our eyes. Should our eyes be kept bent in near-seeing steadily for a long stretch of time without giving them an occasional stretching, they often develop an unnatural, excessive curvature, and an unsymmetrical posture of the tiny parts, muscles and processes that take part in the mechanism of vision.

The prolonged contraction and bending and adding curvature to the eyes in near vision, without giving them an occasional stretching, is the main cause of our children, during school years, becoming near-sighted, poor-sighted and astigmatic. It is also a factor, which causes many of our ailments and even some of our diseases.

In our modern environment, where we have little opportunity for far-distant-seeing, the only way by which we may stretch our eyes is by the use of stronger plus spherical glasses.

PRIMITIVE SEEING VERSUS MODERN SEEING

The primitive man did a great deal of eye stretching. To make use of and understand the movements of the sun, the moon and the stars, was a necessity of his life. Primitive science was mainly the science of the sky, which required eye stretching. His eye mechanism did very little extreme bending for near-seeing, and scarcely any sustained bending for prolonged near-seeing.

When primitive man finished doing the few tasks which required close seeing, his eyes returned to their natural posture for far seeing. When he closed his eyes or slept, his eye mechanism would unbend and resume a stretched posture. With primitive man, relaxing and stretching his eyes was nearly one and the same thing.

With modern man it is just the opposite. The modern man's distant vision is mainly only a few city blocks. His intermediate distances are but a few feet from his eyes, and his close seeing is only a few inches from his eyes. Worse still, while the primitive man used instant vision for close seeing, modern man uses his eyes in reverse. Modern man uses instant vision for distance and far seeing, and sustained vision for intermediate and close seeing. After continuous close seeing it becomes more and more difficult for his eye lenses to unbend and the ciliary muscles to relax into their normal postures.

If a person keeps his body in a bent position most of the time, eventually it will become more and more difficult for him to straighten his body to a normal posture. Eventually his bent posture will become fixed and he will be unable to fully straighten to a normal posture. It is reasonable to conclude that too much contracting and bending, and not enough stretching of our eye muscles and lenses, cause our eyes, especially children's eyes, to become bent and short-sighted; also, that too much contracting and bending and not enough stretching of our eye muscles and lenses can affect our eyes and our health.

THE DIFFERENCE BETWEEN EXERCISING AND STRETCHING THE EYES

There is a great difference between exercising the eyes and stretching the eyes. Exercising the eyes is generally understood to be the exercising of the muscles of direction which are located outside the eye ball. This type of exercising is advised in many

books and, to a certain extent, is being practiced by vision specialists. On the other hand, stretching the eyes, as proposed in this book, is directed to the focus mechanism which controls the far and near vision and which is located inside the eye balls.

The muscles of direction to which we give much attention and which we are advised to exercise, actually need little attention and need no exercising. The muscles of direction are stronger and larger than the focus muscles; they are well protected; favorably situated; well supplied with nerve energy; seldom deteriorate, even in very old age or in very poor eyes; and have ample exercise in the daily use of the eyes. *The exercising of the eyes by way of the muscles of direction is a mis-directed effort.*

The tiny muscles and other parts of the focus mechanism inside the eyes, however, need a great deal of our attention. It is the near-and-far focus mechanism which is continuously subject to pressure and tension which wears out and becomes defective. *This is the mechanism which needs the greatest care and protection from overloading and abnormal use.*

The focus mechanism inside the eyes is not a voluntary mechanism which can be controlled and manipulated against its natural functioning for far-and-near seeing.

The only way by which we are able to protect the focus mechanism against deterioration and defects is to reduce the overbending and overloading caused by modern seeing. This can only be accomplished by using plus glasses which reduces the bending and overloading of the eyes in near-seeing and stretches the eyes in distant seeing.

RESTING, RELAXING AND STRETCHING THE EYES

It is recognized that our body (arms, legs, etc.) needs resting, relaxing and stretching. It is recognized, also, that our eyes need resting and relaxing. However, the fact that our eyes need stretching has been almost totally disregarded by the medical profession and by our vision specialists.

The following is an excerpt from a medically approved book which gives good reasons for the need of resting and relaxing the eyes.

From "The Sight Saver," by C. J. Gerling, page 164:

"RESTING THE EYES. Prolonged muscular effort of any sort at length brings on strain and fatigue; if a heavy burden is long held the arm muscles get cramped and weary. But if the burden is put down even for a short time and the muscles allowed to relax, they can then again support it with renewed vigor. And so with the eyes. Looking at objects closer than twenty feet away necessitates a muscular effort on the part of the eyes in order to obtain clear vision. This effort is greater as the distance is shorter, and it must be maintained the whole time that close vision is being performed. Thus, close eye work (reading, writing, sewing, etc.) constitutes a burden for the eye muscles just as much as a weight does for the arm muscles; likewise, they are refreshed and again made fit for their work by periods of relaxation. The eye muscles are relaxed simply by looking at distant objects, anything more than 20 feet away, or by closing them and visualizing in the mind a distant scene, as a mountain range—to think of something close, as a printed page, may tend to keep the eye muscles tense. One should therefore train himself when doing close work to look up from it in this fashion for a short time (even 20-30 seconds are beneficial) at regular intervals, say every 15-20 minutes. And even when not doing extended close work, it is advisable from time to time during the day whenever opportunity offers to close the eyes for a few minutes. This practice faithfully followed is an excellent protective measure against eye strain and the physical distress it may entail; and for women it is an excellent beauty treatment for keeping wrinkles and crow's-feet from around the eyes. Of course, these brief periods will not furnish all the rest and restoration the eyes require; for this ample sleep is needed, preferably in a completely dark room."

The very same reasons the above article gives for the need of resting and relaxing the eyes also applies to the stretching of the eyes. In fact, since modern seeing is mostly close seeing, the stretching of our eyes is more important than the stretching of any other part of our body. This fact should be recognized by our medical men and vision specialists and also by each and every person. The simple fact that plus spherical glasses will stretch the eyes safely and easily should be known by all.

FROM "FAMILY HEALTH ENCYCLOPEDIA"

Copyrighted 1955. Page 1000.

"Eye strain and its many symptoms can occur in the presence of even the best lighting conditions, when the eyes are defective. Eye defects such as nearsightedness, farsightedness and astigmatism can lead to eye strain!"

The encyclopedia concedes that the above eye defects may cause eye strain, but it does not tell you that nearly all of us are either farsighted, nearsighted or astigmatic. It also fails to make any distinction between nearsightedness and farsightedness and their effect on eye strain.

* * * * *

On the next page of the encyclopedia it states, "Ideally, the lens of the eye receives light from the outside and bends it in such a way that an image is resolved upon a small point of the retina. In order to maintain focus on the retina, the lens must change its shape when objects are viewed from different distances. This process is called 'accommodation.' For distant vision the pupil becomes large, the lens becomes flattened, and the amount of convergence, or crossing of the eyes, is diminished. Reversal of this process brings about accommodation for vision at close range."

Now for mere polemic, the above explanation of accommodation, or the adjusting of the eyes for nearer vision, is well said and seemingly correct.

For the purpose of knowledge in regard to vision and health the above explanation of accommodation, or the adjusting of the eyes for nearer vision, is misleading and harmful. It is misleading because it gives one the impression that sight, normal sight, is effortless. It is harmful because it makes one believe that no help is needed in our modern near vision environment unless the eyes are defective.

SIGHT IS NOT PASSIVE

Excerpt from "The Eye in its Relation to Health," page 24
By Chalmers Prentice, M. D. 1885

"Sight is not passive, it is an active function; and, although we see apparently without effort and without volition, yet every moment of vision is costing its adequate amount of vital energy. True, we cannot say just how much energy is utilized in looking any given length of time at any particular scene; but we do know that many nervous persons are very much exhausted by the use of the eyes for a short time in an art gallery, where things of great interest are constantly attracting their attention. Some are more exhausted by one hour of such effort with the eyes than they would be by ten hours of manual labor; consequently the same amount of vital force that would be required for ten hours of labor, may be disposed of in one hour through the medium of the eyes. Now, if there be some defect in the construction of the eyes, the consumption of nerve force will be much greater."

* * * * *

A CLIPPING FROM READERS DIGEST

"Doctors' waiting rooms are crowded by large and growing groups of patients who are neither sick nor well. They are the borderline cases of diseases who, chronically fatigued, drag themselves about their daily tasks only with great effort. Physical examinations show nothing seriously wrong."

Says the author of this book:

Modern, unnatural seeing, which saps our nerve-energy, may be the main cause of this growing body fatigue. A pair of plus 1.00 spherical glasses would help most of them and cure many of them. Plus glasses supply the deficiency of curvature required for nearer seeing.

*Section B — Abnormal Health Caused By Abnormal Seeing***HARMFUL RESULTS OF THE MODERN WAY
OF SEEING**

Modern civilization sends the child to school and the adult to office or factory, all of which requires prolonged near-seeing which affects their eyes adversely in many ways. So far, about one-third of our population has already become near-sighted. Furthermore, the prolonged, excessive and intensive near-seeing is also affecting the health of nearly every one of us, more or less, physically and mentally.

Prolonged and excessive near-seeing may interfere with the natural growth of the eyes; it may cause a permanent excessive curvature in the eye lenses; it may cause a lengthening of the eye ball, resulting in myopia; it may change the spherical curvature of the eye, resulting in astigmatism; it may distort the movements and balances of the eyes; it may interfere with binocular vision; it may reduce the vision in one or both eyes; and it may cause or enhance ailments and diseases in the eyes, the body and the mind.

Many eye and body ailments may be caused, primarily or secondarily, by overworking our eyes. However, the connection or relationship between the use of our eyes, in modern civilization, and our body ailments is neither believed nor considered.

One of the main reasons for this disbelief is because eye work is invisible work. Most eye work takes place inside the eyes. It is involuntary and is neither seen or felt. An additional reason among others for this disbelief, is that the relationship of the eye to the trouble spot is indirect.

The fact that the eyes are being overworked cannot be detected by the person himself. Also, it cannot be detected by the physician; by the x-ray machine; by the oculist and the ophthalmologist with their scopes and drops; by the optometrist with his twenty-one points, his optical machinery and devices; nor can it be detected by the psychiatrist with his couch. It cannot be detected because, in most cases, if and when this overworking of the eyes adversely affects other parts of the body, the eyes themselves, or the vision, may not appear to be affected.

The fact that modern seeing is abnormal seeing and adversely affects our eyes, our vision and our health should be recognized and accepted on general basic physical and optical principles and on known and proven facts.

VISIBLE AND INVISIBLE FUNCTIONS AND MOVEMENTS OF OUR EYES

In order to see clearly and properly for different distances and in different directions, the eyes, like the camera, must make constant adjustments and movements. In the camera, the photographer makes the adjustments. In the eyes, the adjustments are made automatically by two separate mechanisms. One of these mechanisms is located outside the eye ball and the other inside the eye ball. These separate mechanisms also must be coordinated so that they move and work in unison.

The muscles outside the eye ball are those which adjust and control the direction of our seeing. They move the eyes upward and downward, outward and inward. They rotate the eyes and also converge them for near seeing. These functions and movements are both voluntary and involuntary. Also, these movements are felt and can be seen. These muscles of direction are comparatively much larger than the muscles inside the eye ball and seldom deteriorate or fail even in old age.

The muscles and mechanism inside the eye ball control the near and far vision, or the focus. They are tiny muscles and their function and movements are constant, involuntary and invisible. The work which they perform is neither felt nor seen. They are at rest only when looking at the farthest distance, beyond the horizon, or star gazing. They must contract and are under tension in nearer seeing. The nearer the seeing, the harder becomes the work and the greater the tension. If misused for nearer seeing, the near vision or focus mechanism which deteriorates with age will deteriorate more rapidly. It is capable of causing all sorts of trouble. If overworked, it will sap and drain the nerve energy from any part of our body. It will contaminate and coagulate our blood system and other fluids of our eyes and body.

Because the action of the focus mechanism of our eyes is neither felt nor seen, medical men, vision specialists and the general public fail to give this important health matter recognition or attention.

QUOTATIONS ON VISION AND HEALTH

The fact that modern near-seeing does affect our eyes and our health has been and is now only partly recognized by only a few of the medical and optical professions. Let me quote from a book called "Headaches," by Stuart Wolf, M. D. and H. G. Wolf, M. D., copyrighted in 1953.

"Farsightedness and astigmatism may produce headaches which are primarily due to excessive contraction of the ciliary muscles, which control the shape of the eye lenses. Nearsightedness, on the other hand, is rarely associated with headache. Such headaches are commonly brought on by prolonged and close application of the eyes, as in reading and drawing."

* * * * *

From an article in the Optical Journal of Nov. 15, 1949, page 54, I quote, "Here from a competent authority, is a listing of some of the unpleasantness of hyperopia, sick headache, epileptic diseases, hysteria, melancholia and many more . . . and with more direct relations to the eyes, blepharitis marginalis, styes, conjunctivitis, a gritty feeling in the eyes, ocular pains, epiphora, to mention only a few."

* * * * *

BONE TIRED? MAYBE IT IS YOUR EYES

The above heading comes from a metropolitan newspaper in the decade of 1950. The article states, "Many a young mother, dogged by an unexplained tired feeling, may wonder if she is getting 'old before her time.' As she looks about for a clue to her fatigue, she may find it in the mirror. It could be eye strain. If her eyes are tired, she feels tired all over. Can eyes become strained without 'close' or detailed work? Surprising enough, the mere act of seeing can consume up to one-fourth of all the energy our bodies put out. Whether the housewife uses her eyes for sewing or merely to sort the wash, her eyes are being 'used' constantly — except when she closes them.

"Studies show that the normal distance for seeing at which the eyes are practically at rest is twenty feet or more. Unfortunately, most of a person's seeing tasks are performed while at work, approximately fourteen inches from the eyes."

DR. CHALMERS PRENTICE

It was in the year 1957 that I came across a book entitled "The Eye in its Relation to Health," by Dr. Chalmers Prentice, M. D. In his book, Dr. Prentice cited numerous cases which confirmed his theory that the relationship of the eye and health is by way of the visual centers of the brain. He claimed that most sicknesses are caused by irritation of the nerves. He believed that the cause of most of our ailments and diseases is due to the fact that the visual centers are compelled to use up too much nerve energy in modern seeing.

Dr. Prentice stated and contended that sight is not passive, but active work; that eye strain is mainly the result of prolonged and excessive near-seeing; that excessive near-seeing uses too much nerve energy; that prolonged and excessive near-seeing drains the nerve energy of our body through the visual centers of the brain; that most of our body ailments are caused by lack of nerve energy; and that by eliminating the extra load on the visual centers, most of our body ailments could be cured.

Dr. Prentice believed that both the eye muscles of direction (outside the eyes) and the eye muscles of near and far vision (inside the eyes) should be treated. He treated the muscles of direction by operation, prisms or both. He treated the near and far, or focus muscles, with strong plus spherical glasses, which blurred and fogged the vision and suppressed the muscles.

In his book, Dr. Prentice described many cases of long standing ailments which were considered incurable. He cured these cases by reducing the drain of energy on the visual centers. His main treatment was by the use of strong plus spherical glasses which actually caused his patients to have blurred and fogged vision while wearing the glasses.

We present, in the following pages, a photostatic copy of the title page of his book; also photostatic copies of pages from his book, listing diseases and ailments which he asserts that he cured through reducing the drain of energy on the visual centers with the aid of strong plus glasses.

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THE EYE
IN
ITS RELATION TO HEALTH

BY
CHALMER PRENTICE, M.D.



CHICAGO
A. C. McCLURG AND COMPANY
1895

EXCERPTS FROM "THE EYE IN ITS RELATION TO HEALTH," BY CHALMERS PRENTICE, M.D.

P. 13. "Eye-strain, or excessive abnormal innervation of the eye muscles, depletes the nerve centers. It gives rise to brain irritation of varying degrees. Dispositions are altered by it, character is forcibly changed, mental faculties are impelled into channels of work that are anomalous. Into such an altered state, these conditions may force a being as to make him appear to the world an entirely different character from what he otherwise would have been. So, if in time these disturbing conditions can be corrected, we may expect to see favorable changes in the physical, mental and moral parts of the individual.

"Some very remarkable cures have followed the correction of defects in and about the eyes; in fact, so wonderful have some of these changes been, that to the novice it seemed absolutely incredible that anything in connection with the eye could have been the real cause of the change; and, naturally, he turned in some other direction to account for the facts which were too stubborn to be denied. Generally what is called "mental suggestion," in some of its forms, has been settled upon as the cause of these changes."

* * * * *

P. 85. "Consumption. I have made preliminary examinations and repression tests in one hundred and twelve cases of consumption, and in all with the exception of nine, some of which might have yielded with longer persistence in the tests, I was able to bring about marked changes in the prominent symptoms, generally consisting of a reduction of the high action of the heart, change in the color of the skin, increase in the warmth of the hands and feet, where the extremities had been cold. None of these cases were treated further than a few preliminary tests. In such cases there is a great lack of patience to understand the repression; but this is quite natural to nervous persons, inasmuch as they generally lack confidence in the possibility to affect lung diseases through the visual centers. Consumption is most markedly a nervous disease. Its premonitory stage is marked by nervous conditions which, emphasized in character, accompany it through all its stages. F. J. McGillicuddy, A. M., M. D., of New York, says, "Tubercular consumption is not a local but a constitutional disease, and calls for general treatment. Tubercular bacilli do not and cannot cause consumption in a perfectly healthy individual. They only induce

disease in persons with lowered vitality, who thus become susceptible to their influence.' I am thoroughly convinced that a large percentage of consumption takes its origin from irritation arising through the visual centers, and that many cases, especially in their earlier stages, are amenable to treatment through the same medium."

PHOTOSTATIC REPRINT

126

THE EYE IN ITS

point. I directed her to read in the above combination, and in ten minutes she could hear a faint whisper in the left ear and ordinary conversation in the right. By repression I developed exophoria of 20 deg. at the far point, and on the fourth day made a complete division of the tendon of the external rectus of the left eye. All of the previous disturbances were at once relieved; within one month the catarrh had disappeared; all sensitiveness and neuralgia in the ovaries were now gone, and for the first time in her life the monthly sickness came and passed without the slightest headache or local disturbance. In every way the general health has been much improved and the patient says she feels perfectly well.

I do not present this case as an ordinary one, but because it is one of the quickest and most remarkable cures in the history of my practice.

The following tabulated list of clinics has been selected from a large number of cases for the express purpose of showing what class of cases have yielded and may possibly yield to repression treatment. Failures in about the proportion noted in the preceding detailed clinics could be shown. A report of adverse results would be of no value as it is the object of this work to show what can be accomplished through the visual centers. The failures are due to several causes,

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RELATION TO HEALTH.

127

especially neglect to follow treatment, and to the fact that some cases are beyond or outside of its influence

DISEASE.	MARRIED OR SINGLE.	DURATION.	SEX.	AGE	PERIOD OF TREATMENT.	RESULT.
Ovaritis with general female weakness	M.	5 yrs.	F.	38	3 mos.	Cured.
Prostatitis with inflammation of the neck of the bladder	M.	12 "	M.	58	1 mo.	Cured.
Insanity	M.	5 "	M.	50	8 mos.	Cured.
Uric Acid Diathesis, rheumatism and general nervous debility	M.	8 "	F.	53	2 mos.	Cured.
Chronic Rheumatism	S.	10 "	M.	48	4 mos.	Very much relieved.
Asthma	S.	20 "	F.	51	1 mo.	Cured.
Insanity	M.	5 "	F.	38	7 mos.	Cured.
Diabetes Mellitus	S.	4 "	M.	40	1 yr.	Cured.
Paralysis hemiplegia	M.	12 "	M.	53	1 yr.	Cured.
Motor Ataxy	S.	3 "	M.	38	5 mos.	Much improved.
Prostatitis and irritation of the bladder	S.	12 "	M.	50	5 mos.	Cured.
Rheumatism	M.	8 "	F.	55	6 mos.	Cured.
Consumption	S.	1 "	F.	22	8 mos.	Cured.
Consumption with nervous debility	S.	15 "	M.	25	8 mos.	Cured.
Ovaritis	M.	8 "	F.	26	3 mos.	Cured; was previously barren; had a healthy babe 1 yr. after treatment
Hay Fever	M.	10 "	M.	34	3 mos.	Cured.
Heart disease functional.	S.	5 "	F.	16	3 mos.	Cured.
Glaucoma	M.	5 "	M.	53	4 mos.	Cured; one eye was blind at beginning of treatment.
Nystagmus	S.	20 "	M.	48	1 mo.	Cured.
Heart disease functional	S.	3 "	F.	22	6 wks.	Cured.
Prostatitis	M.	20 "	M.	65	1 mo.	Cured.
Rheumatism	M.	15 "	F.	38	1 yr.	Cured.
Diabetes insipidus	M.	3 "	F.	37	8 mos.	Cured; was previously barren; gave birth to a healthy babe 18 months after treatment.
Ataxy	S.	2 "	M.	38	3 mos.	Much improved.
Bright's disease	S.	2 "	F.	40	4 mos.	Cured.
Ovaritis	M.	6 "	F.	30	2 mos.	Cured; previously barren; 18 mos. after treatment gave birth to a healthy babe.

PHOTOSTATIC REPRINT

128

THE EYE IN ITS

DISEASE.	MARRIED OR SINGLE.	DURA- TION.	SEX.	AGE	PERIOD OF TREAT- MENT.	RESULT.
Anæmia and general nervous debility	M.	10 yrs.	F.	32	4 mos.	Cured; previously barren; had babe 10 mos. after treatment.
Insane and paralyzed	S.	6 mo.	F.	11	9 mos.	Cured.
Prostatitis and irritation of the bladder	M.	10 yrs.	M.	68	1 mo.	Cured.
Carbonia of the liver	M.	12 "	M.	45	4 mos.	Cured; has remained perfectly well for two years.
Melancholia and sterility	M.	8 "	F.	37	1 yr.	Cured; gave birth to babe 10 months after treatment.
Constipation and nervous debility	S.	12 "	M.	27	6 mos.	Cured.
Insanity	M.	8 "	F.	51	9 mos.	Cured.
Chorea	S.	2 "	F.	13	3 wks.	Cured.
Diabetes mellitus	M.	1 "	M.	49	9 mos.	Cured.
Shaking Palsy	M.	10 "	M.	60	1 mo.	Cured.
Rheumatism, chronic	M.	9 "	F.	63	7 mos.	Cured.
Melancholia, constant dread	S.	6 "	M.	41	6 mos.	Cured.
Diabetes mellitus	M.	1 "	M.	49	9 mos.	Cured.
Shaking Palsy	M.	10 "	M.	60	1 mo.	Cured.
Rheumatism, chronic	M.	9 "	F.	63	7 mos.	Cured.
Melancholia, constant dread	S.	6 "	M.	41	6 mos.	Cured.
Asihæmia	S.	12 "	F.	28	2 mos.	Cured.
Prostatitis	M.	9 "	M.	50	6 mos.	Cured.
Ovaritis, sterility	M.	9 "	F.	26	5 mos.	Cured; had healthy babe 9 mos. after treatment.
Chronic ulcerative catarrh	M.	6 "	F.	43	8 mos.	Cured; had been pronounced and treated as syphilitic catarrh.
Hay fever	M.	10 "	F.	36	1 mo.	Cured.
Motor Ataxy	S.	5 "	M.	45	4 mos.	Much improved in every way.
Constipation and dyspepsia	M.	50 "	F.	72	2 mos.	Cured.
Sciatica and uric acid diathesis	M.	15 "	M.	65	6 mos.	Cured.
Hay fever	S.	6 "	M.	31	3 mos.	Cured.
Consumption	M.	18 mo.	M.	45	7 mos.	Cured.
Diabetes insipidus	M.	2 "	M.	43	1 mo.	Cured.
Shaking Palsy	S.	5 "	M.	65	3 mos.	Cured.

DR. CHARLES McCORMICK

In the year 1944, during the time I was doing academic research work on school-myopia, I came across a book titled "Optical Truths," by Dr. Charles McCormick, M. D. The book had been published by McCormick Neurological College, Chicago, in 1906. It had been written not for the general public, but for general medical practitioners to interest them in the eyes and nerves, and perhaps influence them to become neurologists and ophthalmologists. The book did not deal with school-myopia, but it did draw my attention because it presented and stressed the relationship between the eyes, the nerves and health.

Dr. McCormick was an eye doctor and a neurologist. He believed that most eye and bodily ailments come from the nervous system, and that the eyes and the nervous system are inter-related. He stressed the theory that, for the purpose of health, the brain must have a reserve supply of nerve energy. He asserted that most ailments are the result of the depletion of the nerve supply reserve. He proclaimed that the over use of our natural far-sighted eyes in modern seeing depletes the nerve energy reserve, thus becoming a main cause for many ailments.

Up to this point, the views of Dr. McCormick and Dr. Prentice coincide. However, like myself, Dr. McCormick did not believe that the muscles of direction are a primary or main cause of eye strain. Dr. McCormick believed that prisms and operation on the muscles of direction are seldom necessary and often even harmful. He recommended wearing full strength plus glasses for treating most ailments, but also neurological treatments and diet along with the glasses.

In the following pages we give you excerpts from his book, and photo-static copies of the title page and illustrations which appear in his book.

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OPTICAL TRUTHS

Second Edition

ILLUSTRATED

By CHARLES McCORMICK, M. D.
President McCormick Neurological College
The First Non-Sectarian Medical School
CHICAGO

Published by
McCORMICK NEUROLOGICAL COLLEGE
Chicago

EXCERPTS FROM "OPTICAL TRUTHS"
BY CHARLES McCORMICK, M. D., PAGES 5-6

"INTRODUCTION"

"In the practice of ophthalmology one of the essentials is a general knowledge of the nervous system, what it is, whence it cometh, and whither it goeth.

"It is simply a complete telegraph system, intimately connecting every portion of the anatomy.

"In structure it is a series of tubular membranes containing in a minute and continuous stream, matter identical with the brain substance, through which electrical energy is transmitted.

"This energy is of two kinds, galvanic and faradic. The first is generated by the digestive organs, and is constant; the second is an intermittent current generated by molecular friction throughout the body.

"The nervous system is divided into two classes, the cerebrospinal or animal, and the sympathetic or organic.

"There are two currents of nerve force. The afferent, from the peripheral parts to the nerve centers, and the efferent, from the nerve centers to the peripheral parts.

"The brain is the chief nerve center. All force is sent there and thence distributed in every direction and in such proportions as conditions require. To do this the brain gives off twelve pairs of cranial nerves and the spinal cord, the latter being the grand trunk line which supplies the minor centers in the body.

"In normal physiological conditions the distribution of nerve force is proportionate to the capacity for supply, and Nature has so arranged that the brain contains a reserve stock for emergencies. Were it not for this wise provision the suspension or decrease in capacity of the source of supply would surely and speedily result in death.

"In youth the quantity of reserve force, as well as the capacity for supply is greater, hence the more speedy recovery from injuries and ills. Extraordinary drain upon the nerve supply can be endured without discomfort, because of these conditions. When however, the reserve supply is exhausted, the demand is made directly upon the capacity of the machinery and trouble follows.

"Any abnormal physiological condition, or functional demand

which requires more than the normal proportion of nerve force in one direction, will have evil effects upon other functions as soon as the reserve is reduced below the safety line. One of these is the intense thought associated with grief, joy, fear, anger and other emotions, because the demand is directly upon the chief source of supply."

PAGES 67-68

"The hyperope, because of the constant activity of his accommodation, develops remarkable strength in that department, even while sacrificing other functions, and he naturally notices the disturbance elsewhere before he does in his eyes, because the extra current of energy only makes the eyes perform their functions normally while other sphincter systems throughout the body, which are normal, receive the extra current too, and it makes them overdo their work, with the result that there will be interference with the circulation of blood, there will be constipation, bladder troubles, the heart, stomach, lungs and muscular action generally will be insufficient or hypersufficient, and women will suffer menstrual derangements. But these are not all. The supply of energy in the cerebellum being depleted, there will be a deficiency in the acid reactions in the stomach and elsewhere, the blood-making and cleansing organs will fail for chemical, as well as mechanical reasons, and then the whole body is subject to any or all the disorders flesh is supposed to be heir to."

Dr. McCormick gives valid reasons why hyperopes (persons with far-sighted eyes) become more susceptible and subject to any and all diseases of human beings. Now comes the question: how many of us are hyperopes? The following quotations will serve to answer this question.

"The great majority of eyes are hyperopic (far-sighted) at birth. Myopia (near-sightedness) arises later, commonly during school life." *Journal of Ophthalmology.*

"In the newly born, the eye is almost always long sighted (hyperopic)." *Starling's Principles of Physiology.*

"How many children are born hyperopic (far-sighted)? All of them according to the best authorities." *Lepper, in the Optical Forum.*

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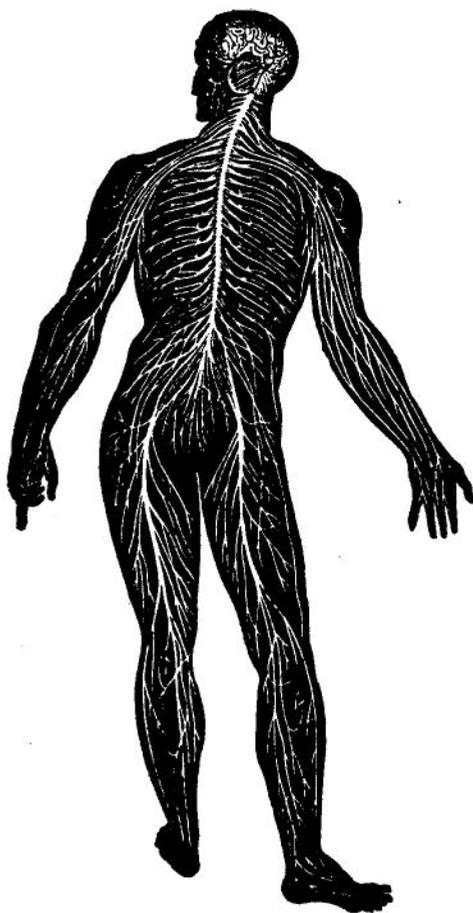


Illustration showing interconnection of nerves

*Section C — The Connecting Links Between Health
and Spectacles*

**THE FOUR LINKS CONNECTING VISION
WITH HEALTH**

There are at least four links or ways by which vision and health are connected. These four ways are: by way of physical energy, psychological or mental nerve-energy, blood circulation, and the fluid drainage system in and adjacent to the eyes. Vision can and does affect our health for better or for worse. Glasses can and do affect our vision for better or for worse. Therefore, glasses can and do affect our health for better or for worse.

Of the four ways listed above, only the physical energy link has been reluctantly and partially recognized by the medical profession and by our vision specialists. Let me quote from a medically approved health book in the decade of 1940.

* * * * *

“GOOD EYES FOR LIFE,” by Henderson & Howell

Page 9: “The pace of modern life has taken its toll on man’s nervous system. Part of this toll can be eliminated if we use the eye under conditions which cause the least expenditure of nervous energy.”

Page 55: “Eye difficulties resulting from eye strain, are definite occupational hazards and must be combated. The studies of Gould reveal that the non-close work occupations might have as low as one to twenty percent of ocular impairments as compared with eighty to one hundred percent in occupations requiring much use of the eyes in close work, as among professional men, tailors, wood carvers, diamond cutters and others.”

Page 64: “The most severe symptoms of eye strain may result from astigmatism. Fully seventy percent of functional headaches are caused by it. There may be all sorts of disturbances such as dizziness, convulsions, rapid heart, night terrors, indigestion, and even constipation. There may be pains in the nape of the neck, near the shoulder blades, over the heart, at the end of the spine, and in the mastoid region. The tilting of the head and shoulders in attempting to secure a clear image has resulted in lateral curvature

of the spine in children. Nervousness always results. Early discovery and treatment is important."

* * * * *

In the first quoted paragraph there is recognition that our eyes consume too much of our nerve-energy in near vision. The need for reducing the nerve-energy used by the eyes is also recognized. However, the simple fact that plus spherical glasses would make such a reduction of nerve-energy possible, is completely ignored.

In the second quoted paragraph, additional direct and concrete proof is given that prolonged close vision occupations will impair vision, cause eye strain and cause occupational hazards. Again, however, there is no mention of the fact that plus spherical glasses help in close vision, and that eye strain, impairment of vision, and occupational hazards could thus be reduced.

In the third quoted paragraph many ailments are enumerated which may be caused by eye strain or impaired vision and we are advised, "Early discovery and treatment is important." In reading through the book we found no advice for direct help or treatment for near vision eye strain. Instead, all through the book, conventional medical treatment is advised, which involves treatment for other parts of the body, including the mind.

That was the medical voice for the public in regard to the use and abuse of our eyes in the decades of 1930 and 1940.

THE VOICE OF MODERN OPHTHALMOLOGY

The voice of modern ophthalmology in the decade of 1950 is more or less different from that of the decade of 1940 and a few decades prior thereto. It not only fails to advise direct assistance for nearer seeing and eye strain for younger persons, but more or less openly and emphatically opposes it.

* * * * *

I quote from a metropolitan newspaper in a health column, dated August 22, 1954. The heading is, "Eye Strain? No."

"Can a child misuse his eyes? Or use them too much? Can he strain his eyes?"

"The answer is no. Use of the eyes in any capacity does no harm to a child or to an adult. Lighting or the position of lighting does no harm. Lying down when you read does no harm. Neither

does reading when upside down harm. Even using the wrong correction in one's eyes, as in glasses that don't fit, does no harm. It merely reduces efficiency.

"The human eye, young or old, can be damaged only by an infection, and injury, a systemic condition—as a severe illness which temporarily affects the eyes just as it affects the whole system—or degenerative conditions relating to heredity or old age.

"When a child's eyes bother him he will let you know, usually without words. He will rub them, frown, try to brush away that blur, thrust his head forward when looking at an object close or far away, blink a great deal, be irritable when doing close work, or his eyes will be watery or inflamed.

"None of this, however, comes from overuse of the eyes, or from reading, lighting or position.

"These rather revolutionary concepts of the eye are those of modern ophthalmology. They are based on the strong belief that there is no such thing as eye strain. The word 'eye strain' itself is a misnomer. The eye can tire, as the entire body tires, but it tires with the body, not apart from it."

* * * * *

These modern, revolutionary ideas of ophthalmology, as quoted above, are not so modern as they sound. They have been taught and practiced, in the land of China and elsewhere, for more than a thousand years. The voice of modern ophthalmology in regard to vision and eye strain, as stated above, sounds similar to the medical voices of the 18th century and prior thereto, in regard to eye strain and spectacles.

Dr. Thomas Hall Shastid, an American ophthalmologist, in his book "My Second Life" tells how uncorrected eye strain handicapped him in his youth, and how he was without relief until finally fitted with glasses by a jeweler-optician. His own father, a physician, shared the medical sentiment of the time, the 1880's, and swore that the glasses would ruin his son's eyes.

Said Dr. Shastid, "The M. D.'s generally would not recognize even the existence of such a thing as eye strain. For eye strain headache they gave morphine, antipyrine, antifebrin and the like. Sometimes, in this way, they produced drug habitues. If there was any worse quackery than this of the regular medical profession, I know not what it was. Yet they called 'quacks' all those of us who fitted glasses to the eyes of the young."

PHYSICAL PROCESS AND FUNCTION OF VISION

Vision is performed by two separate but interconnected visual systems. One is a physical and mechanical system which uses physical nerve-energy. Its function is to produce a clear image or picture on the retina, in the rear of the eye. The other is a mental system which uses mental energy. Its function is to interpret the image on the retina into projected vision.

The physical function of vision performed by the eye is similar to a miniature camera and, like the camera, is governed by optical laws of refraction. The eye has an iris, corresponding to the diaphragm of the camera, which controls the light entering the eye. For focusing purposes the eye has two convex lenses which are transparent. One is the cornea, which is a rigid lens on the front of the eye. The other is a small lens inside the eye which is flexible. It is mainly the flexibility of the eye-lens which makes it possible for our far-seeing eyes to have clear vision in near-seeing.

ANATOMY AND OPTICS OF THE EYE

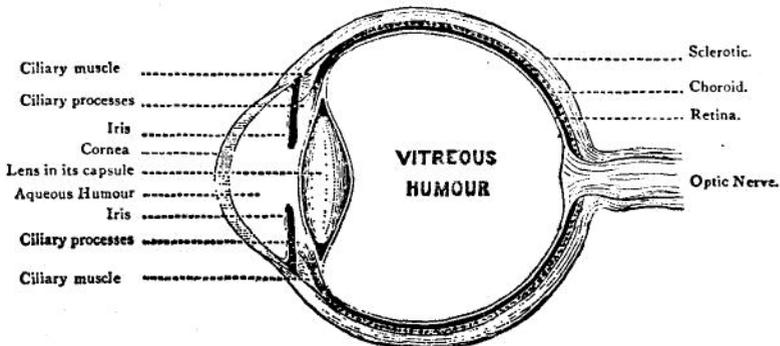


FIG. 2.—VERTICAL SECTION THROUGH THE EYE

It is a physical and optical rule that a lens has to be more convex or more curved to focus nearer objects, and less convex or less curved to focus farther objects. By the same token, the eye-lens must become more convex or more curved to focus nearer objects, and less curved to focus farther objects. This bending and curving for nearer seeing is performed mainly by the flexible eye-lens inside the eye. The eye-lens is surrounded and kept in place by a muscle called the ciliary muscle (and ciliary process). For nearer

seeing the ciliary muscle contracts and bends the eye-lens, thus giving it more curvature. A contraction of the ciliary muscle and a bending of the eye-lens takes place in nearer seeing.

The impulse and energy used for contracting the ciliary muscle and bending the eye-lens for nearer vision is supplied to the ciliary muscle by a nerve which is connected directly to the brain and also to all other nerves of the body.

This contraction of the ciliary muscle and curving or bending of the eye-lens in nearer seeing, if prolonged, will cause pressure, tension, fatigue and eye strain.

THE MENTAL PROCESS OF VISION

The mental process of vision is performed by the retina, the optic nerve and the brain. It is the innumerable nerve endings of the retina (rods and cones) that receive the light-rays which enter the eye. It is the optic nerve cable that conveys these light-ray vibrations to the visual centers of the brain. It is the brain that interprets these vibrations into projected vision. It is the brain, not the eye, that really sees. Vision is a process of perception."

* * * * *

The function of vision being active at all waking moments, the visual centers of the brain need a constant supply of nerve-energy for their own use, for the nerve endings of the retina, and for the physical processes of vision.

* * * * *

Quote from the booklet "Seeing and Health."

"Research by the Mayo Clinic found that at least one-fourth of all the energy consumed by the human body is taken up in seeing. This explains why faulty seeing can affect the general health. There is a drain on nerve-energy."

* * * * *

The brain is called upon by the visual centers to supply this constant demand for nerve-energy. In turn, the brain calls on the blood stream for a constant supply of oxygen and other energy-generating fuels to replenish the nerve-energy which is used up in the constant act and function of vision. The visual centers, having a priority on the supply of nerve-energy will, in case the supply

is limited, first drain the supply of reserve nerve-energy, then will sap the mental and physical energy allotted to and needed by other parts of the body.

In distant seeing with normal, or nearly normal eyes which have but little defect, the function of vision is performed with the normal amount of nerve-energy which is allotted to the visual centers. Distant seeing ordinarily is an asset rather than a liability to general health. It is in nearer seeing that an excessive amount of nerve-energy may be consumed.

With defective eyes, however, even in distant seeing an excessive amount of nerve-energy is consumed. *In all instances, this over consumption of nerve-energy is a detriment to health.*

NERVOUS TENSION AND RESULTING AILMENTS

The medical profession has, in the late decades, given much credit to nervous tension, physical and mental, as a cause for many of our modern ailments. But the medical profession, including the nerve specialists, has disregarded the existence of visual tension. The nerve specialists are obscure and also hazy about the definition of nerve tension or nervous tension. The general medical practitioners are baffled by the numerous ailments which apparently have no physical basis, since the patients seem to get little or no relief from physical treatment.

* * * * *

From a Metropolitan Newspaper, 1954.

"Nerves cause most illness says 'Family Doctor' of 1954. Dr. K. B. P. of Greenville, N. C. was chosen the 1954 general practitioner of the year by the American Medical Association. He was selected for the gold medal honor. He put his finger on 'nerves and tension' as one of the biggest causes of American sickness. He has practiced for forty years and has seen the pattern of sickness change. Malaria, typhoid and diphtheria have almost been abolished, but tension and worry are taking a higher toll.

60 Percent Psychosomatic

"'Forty years ago only about ten percent of my patients had some psychosomatic or emotional trouble. Now, it is easily 60 percent. Physically there is little or nothing wrong with them'."

From a Metropolitan Newspaper, Nov. 17, 1957.

"TENSION, FATIGUE CAN STRIKE EVEN YOU"

"Tension and general fatigue are not diseases in themselves. They are not contagious — but they can strike you. The variety and number of persons suffering from tension and fatigue are amazing.

Many people are troubled with so-called mental fatigue, even when they disregard sensations of bodily fatigue. Mental fatigue is defined as a slackening in mental or intellectual work. The factors causing mental fatigue are the same as those causing fatigue in general. Mental overwork is serious, because it leads so rapidly to hypertension — the forerunner of exhaustion and breakdown.

We can learn to recognize various signs of excess tension in the nervous and muscular systems and to bring relief by techniques for relaxation."

* * * * *

Quote from a Metropolitan Newspaper, 1955.

**DOCTORS KNOW LITTLE ABOUT HYPERTENSION,
PHYSICIAN SAYS AT ACADEMY OF MEDICINE**

"The physician still has the job of relieving the symptoms of hypertension — high blood pressure; of reassuring its victims, of advising them how to live with their diseases.

"Thus, in spite of the fact that still no physician knows the cause of the diseases, what factor or factors may be predominant, or what mechanisms are involved in the killing complications.

"'Speculation and a few hunches still are about all science has in explaining hypertension,' said an expert on circulatory diseases, talking on drug treatment of hypertension."

* * * * *

From a book called "Civilized Diseases," page 58,
by Boris Sokoloff, M. D.:

"Dr. Cushing and other medical men are inclined to think that the chief underlying cause of ulcer of the stomach is the nervous strain which is imposed on our brain.

"It is logical that the first step in treatment of an ulcer should be complete rest for two weeks."

MENTAL AND VISUAL TENSION AND FATIGUE

Mental tension and fatigue have been recognized by the medical profession as a factor in causing all sorts of ailments and diseases. They are advising patients and others to relieve the tensions and get more relaxation by way of treatment and otherwise. Doctors will tell you that it is not healthy to overtax your muscles or your mind, but they do not mention that it may be unhealthy to overtax your eyes and the visual centers of your brain. The medical profession and our vision specialists have ignored and scoffed at the fact that visual tension and fatigue, caused by defective vision and by excessive near seeing, could be an important factor in causing all sorts of ailments and diseases, including mental ailments.

* * * * *

Quote from a Metropolitan Newspaper, decade 1950.

"MENTAL ELEMENT SEEN IN SICKNESS"

"A medical team asserted today that there is strong evidence that all known diseases are psychosomatic to some degree.

"The physicians found a direct relationship between a wide variety of bodily illnesses and disturbances of mood, thought and behavior.

"In a report to the annual meeting of the American Medical Association it is stated: 'Man's attempt to adapt to his social environment is a very important deterrent of his health in general which often overrides all other influences — a matter which must be of ever increasing concern to medicine in the years to come.'

"Theoretical considerations, as well as laboratory investigation and clinical observations provide no basis for assuming that some diseases are psychosomatic, while others are not. There is every reason to believe that the contrary is true — all disease processes are to some extent influenced by the host's — the sick person's adaptation to his social environment."

* * * * *

Quote from the book "How to Free Yourself of Nervous Tension," 1955.

Page 142: "What is the meaning of the word 'tension' and where does it occur? To the physiologist, when a muscle is under tension it is in a state of contraction: namely, its fibers are shortened."

Page 141: "Does a muscle held in steady tension consume much more energy than one in motion? Yes, the sum total of this unconscious effort may be so great as to throw a heavy load on the heart."

Page 161: "Today the problem of tension, fear and fatigue has become critical. Psychiatry, counselling, and psychoanalysis are being more widely employed, yet the number of tension victims mounts excessively."

MODERN VISUAL ENVIRONMENT

Our modern visual environment compels us to use the visual muscles of our eyes in a prolonged state of contraction. It also compels us to use the visual centers of our brain in a state of prolonged intensity, because near-seeing is also intensive seeing. Why is it not possible that our visual environment is a factor, or the main factor, in our nervous ailments and diseases that are affected by nervous tension and fatigue?

* * * * *

Quote from "The Eye in its Relation to Health," 1895.

"Disease may take its origin from a sufficient irritation of any of the nerve centers, but much oftener will disease find its origin through the most highly acute and sensitive centers. Of all the centers in the nervous system, which is the most sensitive, the most highly acute and the most constantly in use? It is the most delicate sense of all, sight."

* * * * *

Quote from the Coronet, October 1958.

"The Russian education system is tough and effective. Youngsters attend classes six days a week and shoulder a heavy load of homework. Recently, doctors warned that too much study was affecting the eyesight and mental health of many students."

* * * * *

Why do the vision specialists of the world ignore the matter of visual environment and its harmful effect on our vision and health? Perhaps one reason is that our vision specialists, along with the great majority of the people, are still under the spell of the old

Chinese superstition about vision and spectacles. The old Chinese belief was that the Gods gave the crystals from which spectacles were made, to help the aged when their sight failed for near seeing. For children or young adults to use them would be considered disrespectful to the aged, and therefore taboo.

Another valid reason may be because the remedy is too simple. In fact, it is so simple, that the vision specialists and the nerve specialists, with their expensive machinery and equipment, ridicule the possibility of such an easy and inexpensive remedy.

The remedy to prevent and decrease the ill effects of our near vision environment is simply to use plus spherical glasses whenever we use our eyes for prolonged near seeing. This would reduce the contraction of the muscles of the eyes and lessen the intensity of the visual centers of the brain. This applies to all persons — children and adults of all ages. In most cases, either for adults or children, a pair of plus 1.00 spherical glasses will satisfy all requirements. *It can be safely tried in all cases, with or without the advice of a vision specialist. In fact, if we are to save the distant vision of the human race, and to lessen modern ailments, the people themselves, regardless of our present day vision specialists, will have to utilize this simple remedy.*

* * * * *

“It is common and natural to cling to a belief in things and methods that have been long established, and in which leading men and authors concur; and, if results of such following are universally perfect, more cannot be desired. But, when they fall short of satisfaction, we are warranted and even impelled to search outside of established authority for the aid that it fails to give; otherwise, science and art would never advance.”

DR. CHALMERS PRENTICE, M. D.

THE BLOOD CIRCULATION LINK WITH VISION

The link between the blood circulation and our eyes and vision is a two way link. The blood circulation in many ways affects our eyes and vision. Conversely, our eyes and our vision in many ways affect the blood stream in many parts of the body. Our near vision environment adversely affects the flow of the blood stream directly and indirectly.

Prolonged near-vision may directly cause arterial pressure and

tension against the walls of the arteries in and adjacent to the eyes. Prolonged near vision and eye strain can and does often congest the blood vessels and cause visible inflammation of the eyes. Prolonged near vision and eye strain which cause pressure, tension and congestion of the blood vessels in and adjacent to the eyes, may bring about other invisible ailments of the eyes.

Indirectly, prolonged near-seeing may affect the blood circulation by the excessive drain on the oxygen in the blood. When an excessive amount of nerve energy is used up by the visual centers, a likewise amount of oxygen in the blood which feeds the brain to create energy is used up. The loss of oxygen in the blood causes a derangement in the blood circulating system of our eyes and body. Thus, there is a direct and indirect link between blood circulation and eye strain.

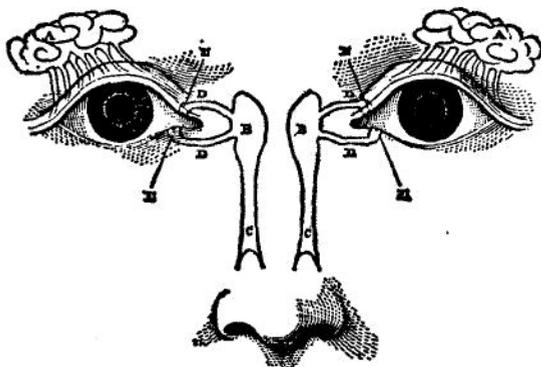
The oculist will look into your eyes with an ophthalmoscope and, by the shape and color of the congested blood vessels on the retina, he can detect some forms of diseases of the eye and other parts of the body. The doctor concludes that because the ophthalmoscope indicates that one had a disease elsewhere in the body, that that particular diseased part of the body should be treated. In prescribing or advising treatment, he does not consider the possibility that relieving the tension on the eyes would be beneficial in the treatment of the disease.

Acting both ways, the eyes affect the body and the body affects the eyes. Plus glasses for prolonged near-seeing and eye strain are beneficial primarily as a preventive against many ailments and diseases. If the body has become run down or diseased, plus glasses should be used to retard and help cure the ailment. If a person is under medical treatment, the use of plus glasses is advised in order to provide additional aid in conjunction with the treatments. *Plus glasses should be recommended in conjunction with medical treatments for a more rapid recovery.*

THE FLUID DRAINAGE SYSTEM

There is a direct connection between the act of vision and the flow and drainage system of the tears and humors inside, above, and adjacent to our eyes. The act of vision will affect the flow and drainage of the tears and humors. Conversely, the flow and drainage of the tears and humors will affect our vision and our eyes. Moreover, they will also affect our health directly and indirectly, visibly and invisibly.

DIAGRAM OF THE FLOW OF TEARS



A,A, Lachrymal Gland; B,B, Lachrymal Sacs; C,C, Nasal Ducts;
D,D,D,D, Canaliculi; E,E,E,E, Puncta.

“The tears escape from the eye by a minute opening (punctum) on the edge of each lid, near the nose. Each punctum is really the mouth of a small tube (canaliculus) through which the tears are led into an egg-shaped chamber (the lachrymal sac) near the bridge of the nose. From the lachrymal sac they pass down a bony tube (the nasal duct) which opens into the cavity of the nose.”

The tears and other fluids of the eyes, of the cranium, of the nose and of the throat are influenced by and subject to emotion, irritation, pressure, tension and strain. Crying and laughing will produce a copious amount of tears which will overflow the eyes and fall on the cheeks. These emotional tears are clear, thin and saline. They are normally a shield against bacteria, and often beneficial.

On the other hand, irritation, pressure, tension and strain have the opposite effect and will, more or less, change the normal composition of the tears and other humors. Under strain or irritation, tears often change into a gluish matter. These gluish tears and other fluids, instead of being a shield, become a lodging place and harbor for polluted air, foreign bodies, microbes and germs.

Semi-near vision, near vision and especially prolonged near vision, because of the continuous tension, will often produce an excessive amount of tears and other fluids and/or change tears into gluish mucous. It may interfere with the normal secretion of the glands inside and adjacent to our eyes. It sometimes interferes

with the normal flow of the fluid and drainage system by thickening the fluid and clogging up some of the tiny passages and canals.

The surplus gluish and sticky fluids will flow downward in a regular and an irregular way. It will fill the nose with an extra amount of mucous. It will also pass downward into the pharynx, into the throat and into the esophagus. Thus, the secretions of the tear and cranium glands change from a shield against disease to a harbor and an attractive lodging place for germs and microbes, causing all sorts of ailments and diseases.

Using plus glasses to carry some of the overload and tension of our eyes, could be a real factor in preventing and reducing the ravages of nose and throat distresses, including the common cold and the resulting after effects. It could also be an important factor in preventing and reducing many eye ailments, including glaucoma which is a fluid drainage affliction.

* * * * *

Section D — The Great Fallacies About Vision and Spectacles

THE FALLACY ABOUT EFFORTLESS VISION

Of all the widely popular, erroneous and harmful fallacies, those about our eyes, vision and glasses are among the most widespread. It is almost universally assumed and accepted that vision is performed without effort and without the use of energy. This is a false assumption. On the contrary, our eyes use considerable effort and consume a great deal of energy to perform the act of seeing.

Our eyes do not just see; they work to see. Seeing is to our eyes as walking is to our legs. A reasonable amount of walking is necessary and will do us good. A small proportion of fast walking or running will do us no harm. But too much fast walking or running will not only tire our legs but our whole body. The same, and even more so, is true of our eyes. Distant seeing is like walking. Nearer seeing is like fast walking. Very close seeing is like running; it will tire and affect not only our eyes but our entire body.

For our natural hyper-far-sighted eyes which are fully relaxed only when star gazing or looking in the dark, even distant vision is a task. It is a normal task which uses up the normal amount of nerve energy allotted to our eyes. In nearer seeing, the task be-

comes harder and an extra amount of nerve energy is consumed. In very near seeing, a still greater amount of nerve energy is consumed.

It should be clear to everyone, including our medical men, oculists, optometrists as well as our educators, magazine and newspaper editors and reporters, that prolonged and intensive near seeing is not good for our eyes or our health. It should be clear that we need a reducing agent to lessen the effort required in our modern excessive and intensive near-seeing. Fathers and mothers should realize that this is true for the eyes of their children as well as for the eyes of middle aged and elderly people.

A pair of plus one (+1.00) spherical glasses would be such a reducing agent. They should be used for prolonged near-seeing by nearly all persons (children and adults), including those who have good distant vision. A pair of plus one spherical glasses will reduce the amount of nerve energy consumed in seeing by about one-third.

THE FALLACY ABOUT THE 20/20 VISION TEST

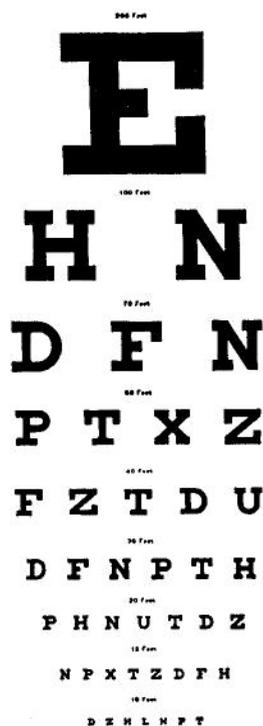
Our sciences, knowledge and practices about vision and glasses is interwoven with many great fallacies. One of these fallacies is our worship of the 20/20 vision test. It is a fallacy which, in most cases, produces harmful results.

The 20/20 vision test is a standard eye test given to children and adults by means of a vision chart located at a distance of 20 feet from the eyes.

The Snellen letter chart reduced four times, shown on following page, is composed of a graduated "Letter Chart" of nine lines of different sized letters. Each line of letters is marked with a number. The numbers are: 200, 100, 70, 50, 30, 20, 15 and 10. The numbers give, in feet, the distance from the eyes at which such size letters should be read.

In vision rating, if a person cannot see the large letter E in line 200, he is rated as blind. If he can read line 200 but no more, he is rated 20/200. If he can read the letters in line 100 but no more, he is rated 20/100. If he can read as far down as the letters in line 30, he is rated 20/30. When a person, at a distance of 20 feet from the chart can read correctly with his naked eyes and

THE SNELLEN LETTER CHART REDUCED 4 TIMES



with each eye separately all the letters in line 20, he is rated 20/20 vision. Having 20/20 vision is considered normal vision.

There are many persons whose distant vision with their naked eyes is better than 20/20. At 20 feet, if they can read the smaller letters in line 15, it is rated 20/15 vision. There are also some persons who, at a distance of 20 feet, can read the letters in line 10, which are the smallest letters on the chart. This is rated 20/10 vision and it may be called super normal.

* * * * *

The 20/20 vision test is a suitable scientific vision test for far-away seeing, for star gazing, for hunting and for certain occupations that require good distant vision. It is not a suitable vision test for children and adults who are compelled to do a great deal of semi-near and near-seeing. In fact, for most children at school and for many adults who do close work in offices, shops and factories, the 20/20 vision test is misleading and even harmful.

It is misleading because the parents of school children and the near vision workers are made to believe that when a person has 20/20 vision his eyes are normal and require no assistance for their near vision work.

This wide-spread belief that 20/20 vision means normal vision is a harmful fallacy. The facts are that a child or adult to the age of 45, but seldom later, can have 20/20 vision and better and still have defective eyes, either hyper-opia (hyper-sight) or astigmatism. One could have hyper-sighted eyes of 1.00, 2.00, 3.00 or even 4.00 diopters and still have 20/20 vision and better.

These hyper-sighted eyes, especially the higher grades, are unfit for prolonged near-vision work, whether in school, office or factory. *Making people believe that 20/20 vision means normal vision is unfair to the children and the near vision workers.*

Persons with hyper-sighted eyes having 20/20 vision are susceptible to many eye and body ailments and are often subject to blind spells and blindness. They could be potential killers in long trip driving on the road.

In the October 1958 issue of American Mercury, Sidney A. Fox brands the statement, "the farther you can see, the better your eyesight" as being "the commonest fallacy of all." He continues, "If you could read every character, even the tiniest, on the oculist's vision testing chart, it would still be no indication of normal eyes."

THE FALLACY ABOUT NORMAL VISION (EMMETROPIA)

It is assumed that nearly all children and most young adults have normal or perfect eyes (emmetropia), which are supposed to be good for all purposes; that only a small portion of children and young adults have defective vision (errors of refraction) which need correction with glasses; that only the aged need glasses for near-seeing, due to an eye defect known as old sight (presbyopia). These are great and harmful fallacies.

* * * * *

The definition in the dictionary of emmetropia is, "em-me-tro'-pi-a, noun, a normal refractive condition of the eye denoting perfect vision."

Says Richard Carter in Life Magazine of May 27, 1957, page 126: "If there ever was a medical misnomer it is 'normal vision'. 'Normal vision' is absolutely abnormal, a state of theoretical perfection so rare, that it is enjoyed by fewer than 2 percent of all adults. And even this 2 percent can be sure of losing it as they grow older."

Dr. Alphonse Laber of Teaneck, N. J., has compiled data in a survey of school children, while he was public school optometrist of Ridgefield Park, N. J. This survey was made in a five year period between 1935 and 1939, and showed that out of 1491 children who were examined by Dr. Laber, there were only 26 (less than 2 percent) whom he classified as having emmetropic, normal or perfect eyes.

I doubt that even those 26 had perfect eyes.

The facts are that nearly all children, when they enter school, have to a greater or lesser extent hyper-sighted (hyperopic, far-sighted) eyes. Their eyes are suitable and normal for far-seeing, but not at all suitable for modern prolonged near-seeing inside and outside the school room. Most adults have hyper-sighted, bent and contracted eyes, near-sighted, or astigmatic eyes, or a variation of these. *There are not many persons who have so called normal or perfect eyes.*

THE FALLACY THAT NORMAL EYES NEED NO GLASSES

It is almost universally believed, preached and accepted that "normal eyes need no glasses." This belief is ingrained in the

minds of nearly all vision specialists and in the minds of nearly all laymen. In truth, this belief is based on superstitions carried over from the middle ages. It is not in line with optical facts and has no basis in the physical and optical science of refraction. It is a great and harmful fallacy which is ruining our eyes and our health.

The statement that "normal eyes need no glasses" is based mainly on the following fanciful assumptions: that normal eyes see without effort and without the use of energy; that normal eyes are all purpose eyes; that there is no difference, in the effort and energy used and consumed, in far-seeing or near-seeing; and that there is no basic difference between plus and minus glasses in their effect on the eyes.

According to basic optical laws, only parallel rays of light from an object 20 feet or more from the eyes will focus on the retina of a normal (emmetropic) eye without adjustment. In order to focus and see clearly any object which is less than 20 feet away, normal eyes must make optical adjustments. These optical adjustments are a form of curving and contracting. The nearer the object to be focused the more curving and adjusting normal eyes must do. In optics, the curving and adjusting of the eyes for near and far seeing is called 'accommodation.'

At 40 inches from the eyes, which is semi-near seeing, normal eyes have to curve one diopter to see clearly; at 20 inches, two diopters. At 13 inches, where most near-seeing is done, normal eyes have to curve and contract three diopters, and have to use three diopters of nerve energy. Most children and many adults read and work at 10 inches or less from their eyes. Normal eyes have to bend four diopters or more, while doing this close work. It is unfair to the parents of school children and to the workers with near-seeing occupations to make them believe that "normal eyes need no glasses".

This statement, if qualified, is true. It would be true if it were said that "Normal eyes which do normal seeing, need no glasses." But we must remember that normal seeing is mainly distant seeing, with near-seeing only at short intervals. Prolonged near-seeing is absolutely abnormal seeing. It is this abnormal seeing which makes most of us lose our normal eyesight and become near-sighted and astigmatic. It is this abnormal seeing which plays havoc with our health.

A pair of plus 1.00 glasses for prolonged near-seeing on the normal eyes of children and adults would be a boon to mankind.

THE FALLACY ABOUT THE EFFECTS OF PLUS AND MINUS GLASSES

It is usually assumed that there is no difference in the effects on our eyes in using plus or minus glasses; that all glasses correctly prescribed for our eyes will affect our eyes and our health in a similar way. This "no distinction" has been and is being preached and practiced by most of our vision specialists, and is being accepted as truth by those who wear glasses as well as those who do not. This is a great and harmful fallacy.

Facts and optical truths give a different picture. Glasses which are fitted to our eyes are composed of two opposite kinds of lenses. One kind is called plus lenses and the other is called minus lenses. They affect our eyes and our health not in a similar manner at all, but in opposite ways. Plus lenses supply an additional curvature for the eyes, thus making it unnecessary for the eye mechanism to use as much effort and energy in contracting and bending for nearer seeing. On the other hand, minus lenses subtract or reduce curvature, thus compelling the eye mechanism to use even more effort and energy in contracting and bending for nearer seeing.

It is important, it is very important, that we recognize and emphasize the difference between plus and minus lenses. Making no distinction between the effects of plus and minus glasses, by our vision specialists, has been a factor in confusing the science of optics and optometry. It has been a factor in reducing the benefits derived from the use of spectacles. It has enhanced and encouraged the use of minus glasses which is ruining the natural distant vision of the human race. It is discouraging and restricting the use of plus glasses, the use of which is a boon to vision and health.

THE FALLACY OF BETTER VISION WITH GLASSES

The emphasis on "better vision with glasses" as it is being preached and practiced now, is for distant seeing. We are conditioned to believe that if a person, child or adult, can see better with glasses for distance, the glasses are good for the eyes, even for near seeing. We are made to believe that if a person can see better at a distance with the naked eyes, glasses which blur the distant vision are not good for the eyes. This assumption and belief is a harmful fallacy.

This erroneous and harmful belief about better vision with

glasses comes from our failure to recognize that there is an optical distinction between far-seeing and near-seeing; also that there is an optical difference between plus and minus glasses and their effects on our eyes. The simple facts are that minus glasses, even though they give you better distant vision, are not good for your eyes if used for nearer seeing. With minus glasses more effort and energy are needed for nearer seeing. Plus glasses, even though they may blur the distant vision, are good for the eyes. With plus glasses less effort and energy are needed in nearer vision. Plus glasses also help relax the eyes in distant vision.

When children enter school nearly all of them have hyper-far-sighted eyes. They are compelled to do prolonged and excessive near-seeing for which their eyes are unsuited. The positive need for plus spherical glasses which would help them in near-seeing and prevent near-sightedness and health problems is entirely ignored. Because we give no attention and no help in their near vision work, many of the children gradually lose their distant vision and become near-sighted.

When a child loses some of his distant vision, his eyes are given some attention. But the attention is not directed toward help for the abnormal near-seeing. It is directed toward "better vision with glasses" for distant seeing. When a child is taken to a vision specialist, he is fitted with a pair of minus glasses which give him better vision for distant seeing.

The minus glasses make it harder for the eyes to do near vision work. With the minus glasses the eyes have to contract and bend even more than without them. In only a short while the child may lose more of his distant vision. Again, he is taken to a vision specialist who prescribes stronger minus glasses for better distant vision. This performance is often repeated many times until the youth loses nearly all of his bare eyed distant vision. He is then nearly blind without his glasses.

"Better vision with glasses" would be a boon and a blessing to mankind if we made use of glasses in the proper way. If we would supply our children with plus spherical glasses to assist them in their prolonged and intensive near vision work, they would not become near-sighted. The natural distant vision would be saved and there would be little need for minus glasses for distant vision.

As it is preached and practiced now, "Better vision with glasses," instead of a blessing, has become a curse to mankind.

THE FALLACY ABOUT HABIT FORMING GLASSES

It is generally assumed that once you begin wearing glasses, any glasses, you will grow accustomed to them and become unable to get along without them. This is another harmful fallacy. It is harmful because it instills a fear in a person, causing him to hesitate to start wearing glasses, even though he needs them for near vision work. Parents, also, are often afraid to let their children start wearing glasses for their school and night work, for fear that they will be compelled to wear them for the rest of their lives. It is again important that we differentiate between plus and minus glasses.

Plus glasses are not habit forming and should be used for all prolonged near vision work. Plus glasses improve the vision of the naked eyes, make them stronger and preserve their normalcy. This applies to adults as well as children. It is only aged persons with hyper-sighted eyes and persons with very poor eyes who cannot see clearly without plus glasses after wearing them for a time.

On the other hand, minus glasses are more or less habit forming. Minus glasses diminish the vision of the naked eye. The more one wears them the stronger the need to wear them. Minus glasses, especially if worn for near work, as advised by many vision specialists, will often cause a child's eyes to become steadily worse until he will be unable to see without them. Furthermore, he will be compelled to change the glasses, periodically, for stronger and stronger minus glasses. The same is true to a lesser extent with adults.

Even though a person (child or adult) has good distant vision, the wearing of plus glasses, mainly for prolonged near vision work, will protect his eyes and allow them to retain their normalcy. It is not necessary for a person to wear them at any other time unless his health is poor. In that case, plus glasses would be beneficial to his health and should be worn steadily and indefinitely; he would still be able to see just as well without them. *Plus glasses may be worn for longer or shorter periods without becoming habit forming.*

THE FALLACY ABOUT CORRECTING ASTIGMATISM

There is entirely too much emphasis on the importance of correcting the astigmatism in our eyes with special glasses containing cylinder lenses. We have reached the stage where more than

half the glasses now being prescribed contain cylinders to correct astigmatism. It is maintained that astigmatism is the main cause of eye strain, of most of our eye troubles, and some of our body ailments attributed to eye strain. It is alleged that fully 70 percent of all functional headaches are caused by astigmatism. These assumptions are harmful because they divert our attention from the main cause, prolonged near-seeing.

The claim that astigmatism is the cause of most eye strain, most eye troubles, and some of our body ailments is a deception. It furnishes the medical man and the vision specialists a good and seemingly valid excuse for ignoring the real and evident cause of eye strain. It is the abnormal use of the eyes in prolonged near seeing which mainly causes both the astigmatism and the eye strain and the resulting eye and body ailments.

Astigmatism is a meaningless term, with a frightening sound. However, it merely means that the curvature of the eye is uneven. It means that the eye, instead of having a natural spherical shape like a ball, has assumed a cylindrical shape like an egg. In other words, the curvature of the cornea (on the front of the eye) and the eye lens (inside the eye), or both, are uneven. The correction being used for this supposedly uneven shape is a cylinder lens for the purpose of restoring the eye to its natural spherical shape.

Actually, there are but few special cases of real astigmatism which require attention or correction. The eyes of practically all children, until they enter school, are spherical in shape, and not astigmatic. It is mostly during the primary grades that astigmatism begins to develop. Like near-sightedness (myopia), astigmatism develops as a result of the excessive near-seeing required when the child starts doing close seeing at school and elsewhere. This in turn requires the eyes to bend, contract and curve, and often does not bend and unbend evenly, thus resulting in apparent astigmatism.

Correcting astigmatism with cylinder lenses, especially in children, often does more harm than good. By the continuous use of cylinder lenses, the apparent and unreal astigmatism in time will become real. By the use of plus spherical glasses, mainly for nearer vision, the development of astigmatism can be prevented. Moreover, even after astigmatism has developed, the use of plus spherical glasses will often restore the shape of the eye to spherical normalcy.

CONCLUSION

SAFETY AND BENEFITS OF PLUS SPHERICAL GLASSES

We recommend and encourage the universal use of plus spherical glasses for occasional or steady wearing by children and adults, because they are a safe and practical medium to benefit our eyes and our health.

Plus spherical glasses, unlike minus glasses or even plus glasses which contain cylinders, are safe to wear under all conditions. They are safer than sun glasses. They are even safer than soap, sugar, salt and spices. They are much safer than aspirin or any other of your favorite drugs sold over the counter. An overdose or too strong plus spherical glasses might cause some discomfort, but can do no harm. Because of their therapeutic value, plus spherical glasses should be recommended by every medical doctor and because of their safety should be sold over the counter.

Plus spherical glasses are always beneficial even if they are weaker than needed for distant vision. A stronger pair is more beneficial, but to obtain full benefit it is best to use a pair strong enough to blur the distant vision. In many cases these strong glasses might even cause discomfort, but this uncomfortable feeling would soon disappear and the result of the wearing of the glasses would be very beneficial. These strong plus spherical glasses will keep your eyes stretched, thus allowing a freer circulation of the fluids in the eyes and in the blood vessels.

Plus spherical glasses which are strong enough to blur distant vision are prescribed for most older people for reading and any near-vision task and for younger adults for certain special work which requires very near-seeing. Since these glasses blur the distant vision, adults generally remove them from their eyes when they look at a distance. However, it could do them no harm and would even benefit them if they kept their glasses on while looking at distant objects, even though faces and objects appear very much blurred.

Plus one diopter spherical glasses, which reduce the overload on the eyes in near-seeing by about one-third, should be used by children and teenagers during and after prolonged and intensive near-seeing. They should be used especially for doing night work and during examination periods. Plus one diopter spherical glasses

should also be used by adults occasionally, intermittently or steadily, for nearer seeing and especially for prolonged near-seeing. They should be used for the preservation of vision and for the betterment of health.

The use of plus one diopter spherical glasses for near-seeing by children and adults who have or seem to have good or perfect eyes should be encouraged by the medical and optical professions. It should also be encouraged by our educators, legislators and molders of public opinion in order to save the natural distant vision of the human race and to lessen the visual strain on our nervous system with the resulting ill effects on our health.

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This book, "STRETCH YOUR EYES," is a challenge, a warning and an appeal.

It is a challenge to the medical and optical professions to give an unprejudiced new look to our near vision environment and its relation to vision and health and to give the simple and practical remedy proposed in this book a fair trial.

It is a warning to our educators, legislators and molders of public opinion that much of their information in regard to the relationship of vision, spectacles and health is based on great fallacies.

It is an appeal to fathers and mothers, whose primary interest is the welfare of their children, to give serious consideration to the discovery, proposal and advice given in this book for the prevention of the ill effects caused by prolonged near-vision and the preservation of vision and health.