



John G. Schilling.



Lecture Apr. 9th 09.
Retinitis. Swelling
retina & choroid
involving & purulent.
Swelling retina -
so called edema of
retina. There is
2 fold size & turning
of v blood vessels - usually of
symptoms of megaloopia
sch. v object appear
to be larger. Microopia
where the objects
small.
Cause:

hypermetropia - cyphe.
& etc.

Dist. by optical -
microscope - high de-
gree of astigmatism

interferes with the
vision.

Treat.

Use atropine
and rest for that
eye. attend to general
health & eye strain.
Paraneuritic Reti-
nitis.

Here it is
characterized by edema
possibly of the
there if more or
less of the,

Progn.

Always removing
Albuminuria,
Diabetic, leukemia,
& some retinitis +

Agt retinitis.

It occurs in 6 to 8
of 1000 cases of reple-
ditis, there is a
failing of vision.
The first symptom
usually late,
usually after 40
may be at any age.
More common in men.
Sometimes one or
both eyes.

More common in early
stages. More common in ^{reple-}interst
Pachid.

retina more
than 1/2 at. show
signs of arterio scler-
osis and there is agt.

the be. into v ut-
jina, & there is
white spots and
~~unusual~~ ^{unusual}, they
me, tell me if
appear. It does not
necessarily have to
unusual & unusual
isla.

In some cases v optic
nerve is swollen
when you see
these white spots
it is strong evidence
of ~~an~~ ^{an} all-in ^{all-in}
retinitis - yet there
may not be any
all-in & ^{all-in} ^{all-in}
& at the same time
quite enlarged

+ optic nerve
swollen. when the
+ optic nerve is
swollen & he sees
+ vision is to blur
red. = inflam. type
of retinitis.

~~this type of~~

this type is also seen
in diabetes

+ visual acuity may
or may not be
much reduced.
Vision fails as it
progresses. may
appear as tho looking
thru fog. rarely
ever to fully blind.

If blindness comes
on suddenly it
is a sign of systemic
poison. It is not
yet well. It depends
on a kind. Unless
it progresses ^{retinitis} it
progresses.
Diagnosis.

Byr optical
microscope.

~~Diagnosis~~ all in
a minute. Bld. P. High
arteries atherosclerosis
& hypert. Ht.
about 80% of all
persons die in 20 or 30
years.

It usually occurs
in the first 10 years of life.

latter half of preg.
If shocked by ^{attacks} ~~attacks~~
before there are
relapses.

ophthalmos
shows a some part
me.

Frey. 1 in every
3000 pregnancies.
It occurs with
a kind of preg. & prog.
~~to~~ ~~with~~ good. If
there is no further
pregnancy not good
after termination
of preg. & vision be-
gins to clear up.
Whether it will
entirely clear up
depends on the

condition of Kid.
✓ white spots are
due to fatty degeneration
the polyuria & fluid
output may persist & persist
✓ prog. provided
✓ polyuria is terminated
It is a. preliminary
sign of eclampsia
treat.

that of nephritis
soliglossa,
tenuis, & correction
of reproduction.
affection much as
tea, coffee, & alcohol
prohibited & milk
primarily. Diet.
Solar Retinitis

may result from
looking at bright
lights or electric,
or sun, or snow,
symptoms method
of a central note.
If a. there is double
spot here. I suspect
various lengths
of exposure and
interesting of light
there are. I don't
know of reflex.
there is always over
exposure. This
pupil reflex may
be lost.

Prog. must be
guarded because

more cases don't
improve.
treat

Rest, mydriatics
& galvanism ^{pole over}
to eye.
In aggravated cases
there may be pleph-
ropia.

Embolic retin-
itis.

Aretic mela-
lus in cat may
cause it.

But compression of
arteries of iris,
but compression of
retinal vessels of
there me the into
arteria. never

reticulate shaped
spots.

Hair and punctate
ophthalmia &
veins lost.

Retinitis Pigmentosa

Is a progressive bi-
lateral ch.
dis. of retina
& leads to blind-
ness & choroid
by deposition of
pig. cells in
retina there is
atrophy of optic
nerve. There is
no design of idios.
& occurs in about

1500 Idiots.
Cortex over rever-
-al eyes, and ends
into the blindness
It also occurs
deep units.

Night blindness
is there is a
great reduction
visual acuity
field of vision
narrowed.

Disc creamy
white. Vessel net.
obstructed?

with 1 ophthalm.
the most charac-
teristic is the deposition
of pigment deposits.

Prog. It is impossible
to cure. Only
hope is with
~~it~~ is cured by
surgical treatment.
Early.

Detachment of
retina. Here
the retina is
peeled off the
eye wall. One to two
occurs in 1/2 of 100
of all ophthalmic
cases. More in
women than
men. More
after 40.
Common
me. & reme.

After trauma, or the
pull on a ciliary
body?

Myopia ~~may~~ a cause
of it of high degree
It leads to floating
sp. bodies in eye.
It may come
it, after stopping
after excessive
exertion of any
kind and after

Anger.

there are prodromal
symptoms such
as spots or black
spots before eye.
there are, photopsia
& me. a diminution
of visual field.

✓ Blindness results
in spatial blind-
ness of visual field.
This is usually
absent. Vertigo &
condition known
as metamorpho-
py may be present.
This is due to
gives distortion
that object will
look crooked.
there is usually no
pain and no
problem with the
telescope.

✓ detached portion
of retina gives a
gray reflex. This
is not a problem. For the

should use a con-
-vey lens, depending
on conditions.

When you work
with an optician
you will find a
way, mean, the
medium, vibrates
bld. vessels run
over it. there
is a diminution of
vision.

Pray.

Is every
bod. It rarely
happens that it gets
well. If it is not
usually returns.
May just & for.

on back. you may
give rolines and
may give hypoderm
of picrotoxin.
Blindness usually
results.

Operat.

you may
insert a needle
underneath retina
in its attachment,
after care has
been ~~made~~ to the
retina reattach-
ed itself again.
The electric current
may be used to
reattach.
subconjunctive
injection used.

Optic nerve.
Two parts there in
eye & those on
side.

Intra oculum
itis when in the
eye. & when be-
hind = retro Bu-
lbar meningitis.

Intra oculum
itis = papillitis.

Conjunctiva very
numerous.

Alcoholism, chlorosis
syphilis. Intra oculum
meningitis.

It is also for Bu-
lbar meningitis, epinephrine
disseminated sclerosis

Alperton & other
toxins. High fevers
nervous dis. & dis. of
the senses. Diabetes,
cancer, degeneration
of skull, preg. & of
menstr. disorders
& heredity. The
most common cause
is Br. tumor, most
commonly cerebellum.
Br. tumors are
associated with
of the nerve infl.
in 90% of cases.
next. Meningitis
next. syphilis
Symptoms externally
no evidence

may progress to
blindness. people
immobile. vision
of acuity in
point. But there
no relation to open
thorax. put
there are ¹ contrast
in a visual field.
there are no
tomata. the play
blind spot is now
nearly enlarged
with a perimeter.

these will all
go.

A field for red
and green one reduced
optical view,
a nerve and slightly

red & swollen.
or it may be
mainly swollen
& project up above
cutting. You may
look all over
fundus and you
may see the optic
nerve much swollen
& be the present,
where this occurs
- choked disc.
If inflow con-
dition is not so
well marked it is
known as descent
- my neuritis.

Abs. are mil. and
veins are large.
Due to obstruction
to bed flow.

Prog.

I only hope
me. difficult to
late not so diffi-
cult.

Prog.

Must be
guarded may
extend over severa
l years.

there are more
alternatives

Indefinite course
of the rheumatism

to prevent you treat.

It, treat. & course.

It is that intra

cranial pre. in-

creased respon-

sible for most cases.

↑ cerebral spinal
fluid is found down,
and of great have
been done for the
↑ intra-cranial pres-
↑ optic nerve dis-
↑ the swollen. Cere-
bral decompression
was performed. It
It is essentially a
trephining. There
was a good deal of
relief.

4-14-09,

Retro Bulbar Neuritis.

As an inflam. affects

↑ eye ball behind

↑
ac or ch.

Sympt. slight or re-
-here.

Optic nerve atrophy
be found caused,
by inflammation
of optic nerve
found to be
and in this - such

Sympt. there is a double
spot in field. ①
retinitis, there is
a double spot with
bordered blindness,
- open days there
is a swelling of the
nerve. There is
orbital pain and
diplopia and proptosis.

from this. In optic
neuritis of the optic
nerve occurs.

One eye may be af-
fected and the other
a few weeks or months
later.

Child.

Optic nerve
thickened. D. of fil. tr.
+ thickening of bed.
vs. walls, there are
amblyopia or en-
opio.

Progn.

may recover
completely or some
loss of vision &
blindness.

Treat

Rest and use

Optosine.

Toxic Amblyopia,
where there is a
ch. retro Bulbar
neuritis, be due
to a ~~to~~ ^{to} ~~poison~~ ^{poison},
where poison with
drugs, mercury,
hereditary ^{toxic} ~~poison~~ ^{incubated}
is a. ~~to~~ ^{to} ~~poison~~ ^{poison}
hide, too coffee
in excess, retinopathy
and, bad poison,
with benzol. Aniline
Ammonia, India,
P. excessive use
of ~~to~~ ^{to} ~~poison~~ ^{poison} ~~poison~~ ^{poison}
Cocaine. Delusion
Hemoglobin

+ wood alcohol by
~~stone~~ or, by insolubility
the compound. As
to alcohol & tobacco,
Dr. Pat. is usually
above 40 yrs. of age &
completes the winter
it foggy & makes for
a change of glasses.
Vision is greatly
~~reduced~~ reduced with
optical - there may
or not be a pale-
ness of the temporal
side of optic disc.

+
the drug is 7 barbed
in ^{eye} ~~eye~~ - of color
rich & perfruct

there is a central red
tomato for red & green.
A piece of red wood
is held before eye.
The pot no longer
sees it but it is
black. Is better per-
ceived in periph.
than in v. ①,
Limits for white are
about normal
v. ~~prose~~ ① normal
point. always involves
a blind spot. You may
get central angles of
v. field.

In advanced cases,
a vision method
would be much.

~~2 1/600~~ 2 6/100

But barely able to get
about.

26 prob in time
constr. & the atrophy
that

stop & come
of 15 days making
tobacco & drinking
alcohol. now & of
part. One person
may use more tobacco
cotton & other and
have it. or may
take it up again
& it's not return,
then & administration
of strychn. $\frac{1}{10}$ gr.
twice. Or you may
give K.O. in large
doses. Prof many

of the perfect vision
Dinner. And
then, that comes
on from a need
any for circular
pup. usually large
down of dinner
syrup. contrast of
field. contrast of
retinae arteries.
Dinner, vision.

Prog.
Good
test.
stop & dinner
same stuff.
Methyl alcohol

this may come
at blindness where
they work in factories
using it and also
where they mine it
It produces
systemic condition
called amblyopia,
that

me. photopia
very ch. & nutri-
tion food.

Atrophy of the nerve
the primary or
secondary.

Primary means
primary secondary
there is.

Result is atrophy
of optic nerve.

the primary from
common tendency
and one eye if
more affected than
other -

2 notes - Heret
follows some
dis. or muzzles
Spree is better
just is in voice
Spot will react to
strong light.

And that kind of mo-
ley with. follows
toss & jingles are
small - Ruzie
may present a egg
Robertson young,
untested.

Bain & not imitations
are about in either
primary or secondary
form. Dimer
quintion
Kyanite being
black & blue
& druse.

In primary &
field form is
contacted in
very early stages
& field form
is also contacted
Alvoscoto to
are also found
but not a
restomata. & would
be full of fibers.

most apparent.
then retinotomies
are not necessary
by rupture of optic
nerve artery
the disc is pale
& choroidic stripe
pale appear in
optic nerve.
by ophthalmoscope,
there may be changes
of color may look
pink or greyish,
the disc is pale
nonmoving. 
at the end of the disc,
& well outlined, there
one primary optic
nerve artery
rupture.

Secondary Symp.
Here the disc is white,
smooth & no rings.
Feet appear. The ant-
hairs not so well
developed. There are
no well marked
dividing symp. in
early stages.

In secondary atrophy
1 fundus looks dull.
the rest of fundus
looks normal.
there are other types
of atrophy. The
fundus of optic nerve
destroyed nearly
everything that is left
in eye.

Br. tumors, cellulor
Orbital cellulitis,
Traumatism. Congen
malformation of skull
where it is flattened
everywhere. frontal
region. the, into
nerve. Supply
& takes. Disten-
sion sclerotic,
progressive para-
lysis of nerve,
500% of total fund cone.

Prog. - On always ser-
ious. Leads to com-
plete blindness,
later on.

treat

It depends on
how the stage

This is the most
good is trying in
breeding of doves
may 11/6 of the
Co. the 1/10 + 1/10
+ galvans are
all used with
some success.
25th sup. in
practice of 1/10
K.D. may be used.
Takes its a para-
syphilitic lesion.
It is not yet
worse under some
of the 1/10 is the
disturbance of vision
with out opponent
come
amblyopia

Longer amblyopia
is very easily met
with. and when
you stop the eye
you find a high
degree of astigmatism
the proper fitting
of glasses will ~~not~~
~~but~~ improve vision.

Color Blindness.
Is very rarely
you find it in
women. In some
it runs congenital.
In others it is ac-
quired.
You may see woul-
ed skins.
You have red, green

seeing.

~~you~~ the pot may
pick out different
kinds of colors from
a proper one. The
pot may train up
and will go by shade
of color. such as the
Gautier test. and
~~now~~ used the low
terms are lighted and
be made aided to
match to tell what
they are.

there is no treat - for
color blindness.

Ambyopia Exomopia
= for a lack
of one eye.
Most can see there

of children with
strabismus. the eye
may turn ^{the} so ~~eyes~~
but don't see with
a strabismic eye
this may be result
of palsy or paralysis
~~that~~

Remove the
of obstacle of vision
as early as possible
Young strabismus
better & vision if
possible. Rest of
treat consists of cor-
rection of refraction.

Kernic Amblyopia
follows.
Small pox measles
etc.

Bilateral. lasts
several hrs.
follows sympt. of
meningitis
attack the one,
all in 2 min.
Occasionally &
first sympt. of
feintness.
During a fit attack
a pupillary dilatation.

Prog. Depends on &
meningitis, & Bend
ness usually dis-
appears. To fear
this. Reported on a
case - myoclonus.

Diaphetic
Diabetic and beginning
semit may follow
but diabetic. May
more less but
per result,
Proton scintal
less.

Here flocks
of light spread all
over the field there
is flocks of light.
this is at a sort
majority of cores a
preliminary signi-
ficate or will be.
this may be followed
by usual crania.
As disturbance in
vocative lobes.

Is removed by larger
by eye strength
Spontaneous recover-
ing from almost ill-
ness. Is strabismic
convergent, tumor
of cerebello-
pedunc. tract. in red
for eyes, sleep
but sure of tropine

Hypertensive amblyo-
pia.
more common in women
much rarer.

Normally min-
or loss of vision is complete
the pupil responds
to light. There is a

complete reversal
of color fields.
~~Change of picture~~
shows nothing
abnormal,

During our rever-
sion of color field
+ the lack of optical
- exam. Symptoms
may be cured after
last for many
years.
test

is - short of lighter

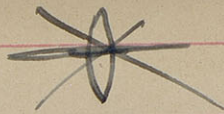
Simulated Blind-
ness.

Dr. J. H. C. is coming
to get damages.

In Europe escape
military service,
you hold your
finger ~~so~~ or a rule
to point the eye
and the foot of
bent can't not
cross & gaze
uninterruptedly
Another way is
to place a pin
in front of your good
eye and it will see
double. But eye is cover-
ed - when move
& pin up and
the foot can't see
double. but if he says
he sees two you know
he sees out of the bad

eyes. You may see
with out any dif-
ficulty with a 2.5
lens. You need
strong lens over
supposedly good
eye and the pt. may
go on and read.

Lecture Apr. 23rd.
Refraction & Errors.
Refraction = when a
ray of light passes
thru a ~~thin~~ transparent
medium - it is bent
towards a perpendicular.
Main refracting
medium of eye is lens.
Any ray of light that
passes thru a # 1 of
lens is not refracted



✓ out. of refraction
depends upon the
way they strike
✓ lens and 

Focal length of lens
is distance from
✓ optical center of
✓ lens to ✓ point
of rays of light.
For refraction
for ordinary pur-
poses from ✓ top of
✓ lens.

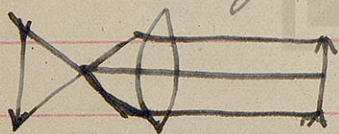
Rays of light coming
from a distance of
20 ft. are practically
parallel, or further

If focal length is v
distance from v of

Focal length of lens
 $= f$, power of lens
 $=$ reciprocal of that
 $= \frac{1}{f}$, $\frac{1}{f} = D$

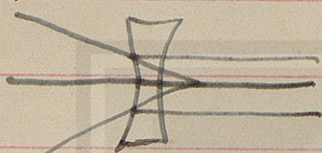
If lens has a length
of 5 cm, it is $\frac{1}{20} =$
~~5 dioptres~~

A 10 dioptre lens is
stronger than a 3 dioptre



A real image is
prod. by a biconvex
lens only when the
object is on the side of

✓ focus
You can't have real
images unless
rays are convergent,
Concave lenses



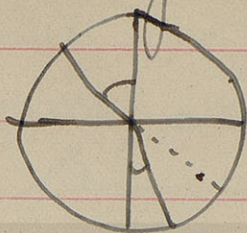
the image is not
real. the image
from ✓ some side
our object. Rays
are divergent,
Prism.

A ray of light passing
thru ✓ prism is
always bent toward
✓ base



Any object seen thru
the prism, it seen

projected towards
vertex of ∇ prism
Index of Refraction



Recognition of kind of
lens.

Converging lenses
)))

Diverging lenses,
[[[

cylindrical lens,
refracts only in
one direction



(A) vertical rays are
not refracted.

Plus or Minus lens
Recognition of
Held out side
of principal focus
Held + lenses out
side of focus or object
will move opposite
to the way of move-
ment of lens.

Cylinder then the
no object will
move in only one
way.

Concave lens. here
the image moves
from side to side
and not up and
down.

you may test

the lens by 2 me
of test. lens.

- 3 ought to meet
roige + 3,

~~you~~ Acamp.

lens has a cylindrical
surface to

Is composed of a
cylindrical & spher-
ical lens surface.

You may have

thin and thick
lenses in a same
glass.

Optician determines
strength by a
measurement

of lens. The in-
strument has a
needle that points

American & not foreign glass
to the ~~meridians~~,
Suppose a pt. is
wearing a prism,
you may look over
the lens & then look
thru the prism and
the line is dis-
placed towards the
apex. You may get
some with
convex lens.

Error of Refract.
= Anisotropia.

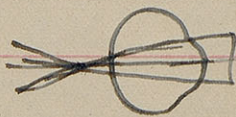
Here for the media
of eye is in com-
pensation that the par-
allel rays do not
focus on retina,
~~except~~
Emmetropia

= normal eye
Antigmatism
Here the rays of
light are focused
in front of the
retina

Apical ^mmetropia

Med Meridian ^mmetropia

Hypermetropia
Here the rays will
not fall on the retina,
they are focused
behind the retina.



An hypermetropic
eye is distant

objects must ac-
commodate

Accommodation
is lens power,
the nearest point
at which we can
see the object clearly

When looking at
distant objects
emmetropic eyes
at rest,

Hyperopia is a
congen. condition,
must be looked upon
as a lack of development
of eye, in child.

Hyperopia 3 dioptres
is $\frac{1}{20}$ in. shorter
than it ought to be.

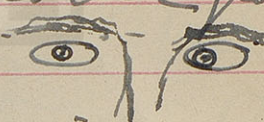
In high hyperopia
corneas are shallow
so eyes are set far
-ther apart & you
may see optic nerve
-itis. Byophthalmoscopy
the increased
action of ciliary
muscle leads to
congest. of eye and
to conjunctivitis
& of blepharitis of
low grade.
the symptoms

are more
pronounced in those
who have to change
eye rapidly.
symptoms are itching
of lids & pain of

plains,
there is a great deal
of weakness, but not
special sight.
It is continued
in there it almost
always at a well.
usually over
front of the pain
in eye, pain in
long, aggravated cases
the severe & fast.
proved it. In
aggravated cases
there is pain
in vertex.
There is no sense
of heaviness. There
is a great deal of
weakness. may appear
in person never

ing from some
exhausting disease
In there there is a me-
ant. of hyperopia
may give rise to
considerable trouble
 $1/4$ dioptre corrected
me. good. In V.
low degrees & acuity
vision is not
affected. Person may
show why eyes
are affected. the abili-
ty to see at a dis-
tance does not ^{ne-}ga-
tivate hypermetropia.
Including ~~to~~ degrees
of hypermetropia
person to see distinctly
may ~~not~~ use lens.

May to
a child with 3 diopters
of accommodation
may unconsciously
use 4 D. & this is
called a game of
accommodation,
the child may ex-
press 5 D. This
game is occasionally
met with. You
have to use a cyclo-
plegic ~~the at~~
atropine (Homer).
will relax the ciliary
muscle. The lens
may not be comple-
tely relaxed.
there is a manifest
hyperopia see with

glasses & Latent
hyperopia is the
hyperopia left behind
after ciliary
muscle, ~~muscle~~ not being
relaxed completely.
Squinting.
If the eye is turned
in to a certain extent
the eye of weaker power
turns in. 
this condition in course
of time tends to correct
itself. they may
even have the eye
turned out.

Diagn.

1. History of past & present

2. Improvement of
vision by convex
lenses.

Convex lenses blur
vision of normal
eye.

The pat. may see
better with ^{convex} lenses.

3 then I made a open
stethoscope. When
you look out. I put
eye & nose dir. of
1 - or 2 D. etc. for

if you are emmetropic
topic & lens at web.
you can see plain-
ly.

Lecture Apr. 28th
there is no cure for
hyperopia. all the
lens does is to focus
v rays. Healthy eyes
with, 1 diopter of
or less of hyperopia
do not need correction
unless they have
plephoritis etc.

In prescribing v glass
you must consider
v conditions of pt.
of his mode of eye
habits & use of glasses.
In young adults &
children the use of
ocycloplegic is usually
needed in old persons
there are no. reasons

trouble caused by
a cycloplegic. You
may have to wait
in old people. After
you have used it
you may use en-
dine a while after
you use the cyclo-
plegic. You should
always examine con-
dition of tension
before you use
cycloplegic. May
prod. glaucoma.
You may in old
persons have the
person not be able
to see when you
have the glass
fitted.

Consider each ^{individual} ~~individual~~
Case.

Myopia.

Is that condition that when
the eyes are at rest
the rays are focused
in front of the retina
when at first the
eyes cannot focus
divergent rays, the
far and near point
is nearer the eye.

M. Myopic in front of retina

H. Hyperopic Behind "

~~M.~~ Emmetropic on retina.

E	E	10 cm.
	$\frac{1}{2} = 20$	10 D 12.5 "
	$M = 15$	8.5 "

Myopia is usually
due to a stretching of
the retina at the
posterior eye.
Myopia tends to in-
crease.

Increasingly congenital,
Increasingly acquired,
and has a tendency
to increase. It produces
strain on eye and
an increased head position,
and the globe becomes
proptosed - and the
pressure on the globe of the
eye by the muscle.
causes the eye to elongate.
- gone. It is a disease of the eye.
Myopia develops with
obedience in schoolwork

at 8 $\frac{1}{2}$ yrs. 88% were
hyperopic, + 4 $\frac{1}{4}$ were
myopic.

17 $\frac{1}{2}$ yrs.

Hyperopia to 6, 8.

Myopia nearly 20%

In Europe myopia
is much more
than in this country.
In German mid-
western students over
 $\frac{1}{2}$ were myopic,
+ causes

. Poor light
+ ventilation, and
the desks are too
close to the children
eyes. Dr. M. thinks
that a great deal of the
work done in the school

is too much precluded
-ren, too much pushing
Myopia usually
begins in early life,
and progresses. It
has not reached
a high degree at pu-
erty it may not
progress. If high it
will progress,
there is a tendency
to divergence.
there is almost
impossibility for-
eyes keep.

cornea is more
convex. Ant. chamber
is deeper.
If not connected by

glances the ciliary
muscle. atropine
and the ciliary muscle
may be absent

So for an pupil.
but globe is in
length & space be-
tween & retina the
contains retina

In retina gets
blind & retina
then when retina
at opacities may
occur. there may be
floating opacities.

In myopic eye
these - after to be
seen a slight
crescent or ring
to me a staphyloma

the fibers of  *Lamina cubroana*
shown here, and
when it appears they
are pretty much as best
myopia eye,
retine spots may
occur

Myopia of more than
2 D. course.

to Light from
street cars & etc
may come & light
to be large like a
globe.

The eyes are. Myopia
is ~~to~~ not corrected
in early youth does
not play so much
maybe very bright

they maybe ~~un-~~
~~usually~~ self reliant
they may ~~also~~^{rather}
make remarks
they can't see the
facial expression
of other persons
Some of these people
may become very
slightly may be of
standing position
they like to use
small pages and
small print.
they like some
thing very narrow
the lids usually
but. Greater soft
vigilance is required
there is no other

news & news-journal
since there is no
time news.)

They may not be
able to keep up the
struggle for anything
the time and tone
eye may wonder out
and doubt whether
there with to be
then I usually
conjectural about
Belonging out
and from proper
trust is this - room
or a child shows
any sign of eye
returning the eye
should be looked
after.

so as soon as a
child gets to school
there are some
symptoms. If the
myopia is corrected
the myopia may
be checked, the glasses
may prevent the
eye from
these degrees of myopia
may when corrected
be lessened.

Dr. M. don't think
kindergarten work is
good. Should not
start to read before
8. Dr. M. thinks
that a protest should
be raised against
out of writing.

In young persons
myopia is regim-
ed. If you retinal
hope from eye strain
you may have
an eye for
me. I can be-
lieve the largest.
Of retina:

Young or old
person remove
lens but it is
risky.

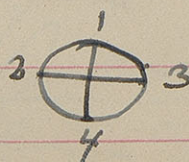
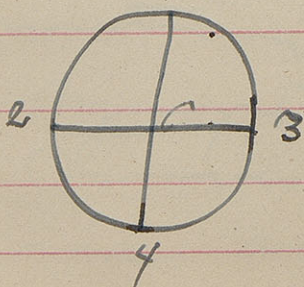
Antigmatism
the eye is not a
perfect sphere.
It has spherical
aberration.

2 classes.

1. Regular antigmatism
2. Irregular

there are
 our eye. Cornea
 Durey. Astigmatism
 is not on
 lens, Durey
 eyes vertical
 curvature of cor-
 nea is greater than
 horizontal.
 Regular Astigma-
 tism is where the

you may
 have benefit by
 correction but
 it usually does
 not need correction.



$2 \frac{1}{4} 3$

further
 from eye

paper further till given
 this, $2 \oplus^4_3$ further $2 \frac{4}{3}$
 further $2 \oplus^4_3$

When eye focuses
 to see the horizon
 the eye the vertical
 lines are not
 distinct. the eye
 alternately focuses
 for one line and
 then for other
 line.

A difference of 1 mm.
 will make an astig-
 mation of 6 D.
 sympt. of astig.
 commonly called
 near sighted.

there is much
disorder & delay,
pain & H.d. none
muscle balance
is interfered with
persons have great
trouble in follow-
ing moving objects
moving fast will
be disappointed to
look. therefore
persons will make
characteristic
mistakes may
call an E a Z,
may call O a R,
they may mispro-
nounce words,
don't see it indis-
tinctly.

Another way of diag.
Only on clock dial.

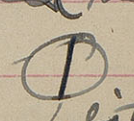


there are oblique
aring, it come more
troubled.

aring with + against
rule.

aring. ~~is~~ against
rule is, but so

as aring.
with rule for
low degree of aring,
in some persons
prod. a good deal
faster.

Steno-pleys riding
be used  

Various kinds of astig.
maybe hyperopic
this is rarer by
hyperic astig when
other rays are E.
If diff the rays of
one eye M. & H. then
one E = hyperic
astig imper.
there are comp.
M. & H. astig.
there are mixed
astig. where
possible use cyclo-
plegic.

Diopt use cylindrical
lens. Stereopsis test,
clock test,
Gonioscope

rhodospirit

Lecture May 5th 09

Appt. with low degree of
astigmatism

Most cases of astig. make
mistakes in reading
test cards. may leave
out words. may go back
several.

With high degrees of astig.
you have indistinct
vision. Therefore don't
try to see clearly.

At low degrees they re-
sist & don't have the
appt. with 5 or 6
diopters may get close
to proper & don't suffer
with the so much.

Exophonia or *hypophonia*
may occur in
long degrees of astig.
they with long degrees
of astig. may
have increased
vomiting & moving
pup. & collecting out
of focus is painful.
Astigmatic person
may tilt head one
side to see more
distinctly. May come
closer to eye
& turn off line,
marked coils of
astig. may have
hair of flipping
& eye lids. when

in house & means
reproitive error.
You place second
lith lines at dif-
ferent axes and
20 ft away and
above & pot. pick
out those he sees
most clearly
of the sees horizontal
lines put v. cylin-
der at vertical.

You may diag. with
stereops. kit $\odot$
then you correct
each meridian of
vision.

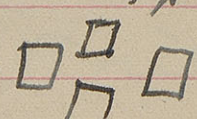
O.S. + 1.50 Cax 90.

then you may
take out with other

the microscope. You
It takes a good obser-
ver to try with
ophthalmoscope.
You see which
glass you can see
most distinctly in
horizontal & vertical
direction. Then
prescribe for pt.
this is not reliable
the simplest and
best way is by
used cylinders and
you know cylinders
in different ages
until you & pt.
more
sees distinctly
Astig. of 1 degree
magnified correction

1/4 Degree of astigmatism
produces good results by
correction.

Particularly if spot
is weakly or if suffer-
ing from near-sightedness
or ~~some~~ some asthen-
ic condition, correc-
tion is the proper
thing. Person may
not have near glasses
all the time.

~~Off~~ Ophthalmometers
may be used to
prescribe for spot.
You use 2 mirrors
in different positions, viz.
the + vertical. 
this only corrects vision
in - vision + not in

✓ lens. Hazyest part
of vit. is by the
cornea.

Shadow test is the
best. May describe
Presbyopia.

Is a condition

of diminished accommodation. When
✓ near point has
weakened to such a
degree ✓ near point
has receded to 22
cm. or beyond
this is due to ✓ aging
process. weakening
this is due to old
age. People who
at work out side
become presbyopic

at about same age
that students
become more
because of tropics
low degrees of myo-
pia the person
has just as much
accommodation
as normal person
When person has
to change glass
my. it is usually
due to cataract
or beginning of glaucoma
this opposite to hyper-
opia pot. the pro-
nounced line is
for from ~~astigmatism~~ ^{delirious}
line is
When a pot. accom

modation has re-
ceded.

Under normal
conditions

10 yrs 14 D. Near p. 2, cm
15 . 12 8 1/2

20 10 . . . 10

25

Ordinarily at 40
an emmetropic eye
becomes presbyopic.
A hyperope becomes
presbyopic at an
earlier age.

A man at 40 may
have 4 1/2

at 27. Emmetrope
has

Myope of ^{less} ~~less~~ 4 1/2 Dioptries of he
will never become
hyperopic. Then
grow & change to
further than 22 cm.
As myope gets older
he can do without
glasses or has to
weaken & glasses.

Myopes after age of 40
may put glasses on top
of head.

Sympt. of Presbyopia

He begins to hold
the page far from
face and may turn

lead to the rise
up + want to bright
light. may not
see well to read
at night. I order
to

Persons may have
to use bifocals. R for,
O.D. + 2,50 ^{distance} S + .50 Cx 90,
O.S. + 2,00 S + .50 Cx 90

Reading.

O.D. + 3,50 S + .50 Cx 90

O.S. + 3,00 S + .50 Cx 90

+ 1,00 S Reading

Bifocal.

Cemented.

Now they may get
invisible bifocals.

Persons like mine
the teachers may have

to have 3 pairs of glances.
Person may be
Anti-metropia &
Micro-metropia.
Anti-metropia
means ~~off~~ different
reproduction.
Micro-metropia.

Squint = exotropia
this one first
in one eye and
then in the other.
the permanent non-
ocular variety is
most common. May
be periodical first
and later becomes
permanent.
May be noticed in

knobbing everything
the child to see dis-
tinctly. Lines con-
verge. Incident
prevents double
vision one eye
turns in. the con-
verging eye vision
gets weaker & weaker
other comes on
converges. weakness of
recti muscle.

~~Exotropia~~
Exotropia is the
most com. cause
there is no accom-
modation. the angle
of gaze is > angle
of deviating eye makes
with the other

Read this in Book.
treat of trachoma.
are connect & repress
we know as soon
as possible you may
instill aropine
into the eye.
In this manner
you may be able
to correct them &
the eye may be-
come straight
when wearing glass
es may become
crooked when not
wearing glasses.
You may have
great singlet
stomach. But
is also a infant.

tenotomy will cor-
rect about 20° of
squint.

No operation should
be done until old
enough to resist
again determining
right & left of squint,
and also not until
the eye has been
tried to correct
by glasses. For
myeloider many-
fold more getting
stronger and need
right & left eye
side.

John G. Schilling.



Handwritten text at the bottom of the page, likely a signature or date, partially obscured by the binding.

