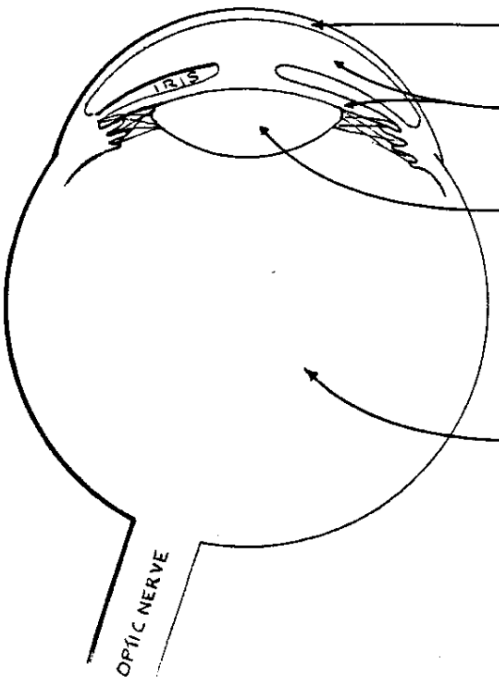


REFRACTION:

THE BENDING OF LIGHT RAYS WHEN LIGHT PASSES FROM ONE MEDIUM INTO ANOTHER.

4 AREAS OF THE HUMAN EYE HAVE REFRACTION:



1. CORNEA : A MAJOR AREA OF REFRACTION PLUS HAS A MAGNIFICATION FACTOR (@ 12%)
2. ANT. & POST CHAMBERS OR AQUEOUS FLUID : AQUEOUS HUMOR SECRETED BY CILIARY BODY
3. LENS : SAID TO BE THE ONLY CHANGEABLE STRUCTURE OF THE 4 REFRACTIVE MEDIUMS.
 INCREASE CURVATURE* = LENS THICKENS = ACCOMMODATION OR NEAR VISION REFLEX
 DECREASE CURVATURE* = LENS THINS = FOR FAR VISION (OR RELAXED VISION)
4. VITREOUS BODY OR VITREOUS HUMOR : OCCUPIES 4/5 TH OF EYE BALL

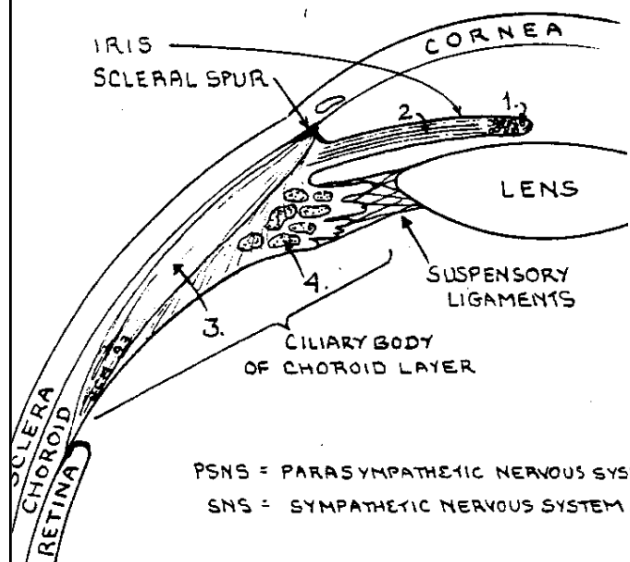
* INCREASE CURVATURE = INCREASED REFRACTION AND THE OPPOSITE FOR DECREASED CURVATURE.

ACCOMMODATION

3 COMPONENTS INVOLVED IN THE NEAR VISION REFLEX :

SEE BELOW

- A. EYES CONVERGE : MEDIAL RECTI CONTRACTED.
- B. PUPILS CONSTRICT : SHARPENS FOCUS.
- C. LENS THICKEN : CONTRACTION OF THE INTRINSIC EYE MUSCLES OF CILIARY BODY.



B. IRIS: MUSCLES AND INNERVATION:

1. PUPILLARY CONSTRICTOR (CIRCULAR)
CONTROL = CN III - PSNS
2. PUPILLARY DILATOR (RADIAL)
CONTROL = T₁ + T₂ = SNS

C. CILIARY BODY: MUSCLES + INNERVATION:

3. MERIDONAL MUSCLE : DUAL CONTROL CN III-PSNS (+) AND SNS(-).
PSNS PULLS CILIARY BODY FORWARD TOWARD SCLERAL SPUR, BULGING THE CILIARY BODY INWARD, THUS INCREASING LENS CURVATURE. THE SNS COMPONENT COUNTER-BALANCES THE PSNS CONTROL
4. CIRCULAR MUSCLE :
CONTROL = CN III - PSNS
CONTRACTION = LENS THICKENS.
RELAXATION = LENS FLATTENS

PSNS = PARASYMPATHETIC NERVOUS SYSTEM.
 SNS = SYMPATHETIC NERVOUS SYSTEM.