fibres are disposed in a radiating manner, constituting the *dilatator pupilla muscle.*

But another agency having to do with the size of the pupil is the blood supply. We know that the bulk of the iris is made of vessels, which lie like the spokes of a wheel, but close together. These vessels can be rapidly filled with blood, so rapidly that some authorities speak of the iris as belonging to the erectile tissues. The more the vessels are filled with blood, the smaller the pupil is.

Now, without going into the nerve supply of the iris, it will be sufficient to say that the sphincter muscle is supplied by the third cranial nerve, the dilator fibres by the sympathetic.

The size of the pupil, then, is affected in three ways: First, by the sphincter muscle of the iris: second, by the dilator muscular fibres; third, by the blood poured into the iris.

Anything which stimulates or irritates the third nerve will cause the sphincter to contract, thereby lessening the size of the pupil. Anything which stimulates or irritates the sympathetic nerves will cause the radiating fibres to contract, thereby dilating the pupil. If, however, we have stimulation of the third nerve, with paralysis of the sympathetic, we will have extreme contraction (*i.e.*, pin-point pupils) while, if we have stimulation of the sympathetic, with paralysis of the third, we will see extreme dilatation.

What abnormalities or diseases are indicated by these various changes of the pupils?

(*a*) The patient may have the pupils evenly contracted (myosis). This may indicate:

1. Locomotor ataxia (tabes dorsalis).
2. Meningitis and encephalitis (early stages).
3. Inflammations of the cervical cord (chronic).
4. Apoplexy of the pons.
5. Epileptic fits (early).
6. Uraemic poisoning.
7. Tobacco amblyopia.
8. Inflammation of the retina.
9. Opium poisoning.
10. The use of myotics (Eserine, etc.)
11. Long continued use of the accommodation as seen in watchmakers, etc. (occupation myosis.)

(*b*) Where we have the pupils evenly dilated (mydriasis) This condition is found in:

1. Paralysis of both third nerves (as after diphtheria).
2. Intra-cranial tumors (late stages).
3. Intra-cranial effusions (pressure signs).
4. Irritation of the cervical sympathetic.
5. Acute inflammation of the cervical cord or its covering.