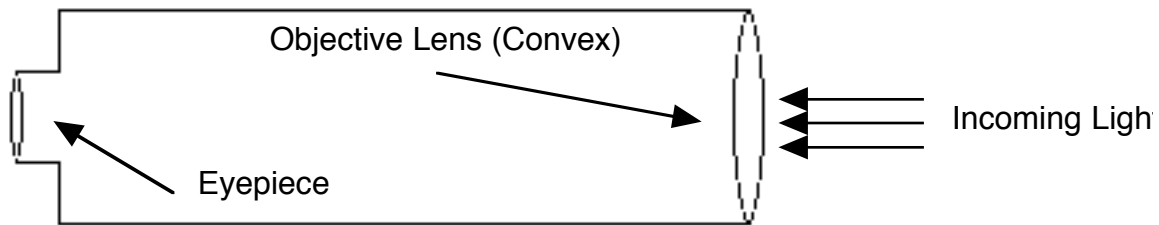


Basic Telescope Information

The Refractor



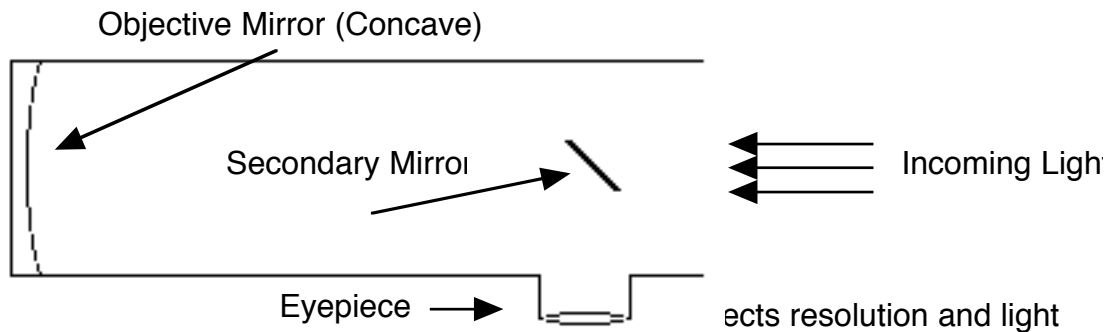
Advantages

1. High resolution for size
2. Rugged
3. Most performance for size

Disadvantages

1. Very Expensive in large sizes (glass, labor)
2. Chromatic Aberration
3. Difficult to make in large sizes

The Reflector (Newtonian shown)



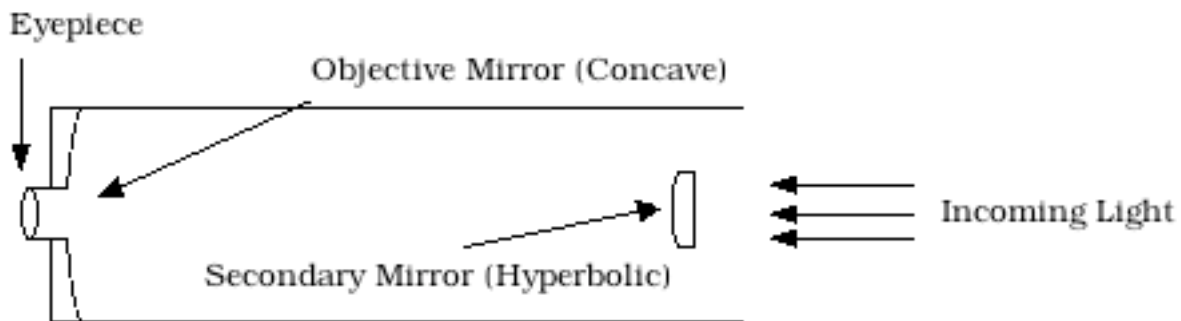
Advantages

1. No chromatic aberration
3. Easy to make in large sizes
4. Most performance for cost

2. Requires collimation

ffects resolution and light

Compound Telescope



Advantages

1. Less Expensive than refractor
2. No chromatic aberration
3. Easy to make in large sizes
4. Eyepiece in rear
5. Short for the focal length

Disadvantages

1. Secondary affects resolution and light
2. Requires collimation
3. large secondary may hinder resolution.

NOTE: Other types of similar reflecting telescopes (Schmidt Cassegrain, Maksutov and others, mount the secondary mirror in the middle of a corrector plate. The plate acts as a lens. These telescopes are called Compound Telescopes.

Other Information

1. Magnification provided by the eyepiece.

$$\text{Magnification} = \text{Focal Length of Objective} / \text{Focal Length of Eyepiece}$$

2. Magnification dims image and magnifies optical problems.
3. Realistic limit about 2 X per mm or 50 X per inch of aperture.
4. Telescopes can use invisible radiation (radio, IR, X Ray, Gamma etc. . .)
5. Radio telescopes are reflecting telescopes.