The Glossary of Telescopes

When you enter into any new area of science, you almost always find yourself with a baffling new language of technical terms to learn before you can converse with the experts. This is certainly true in astronomy both in terms of terms that refer to the cosmos and terms that describe the tools of the trade, the most prevalent being the telescope. So to get us off of first base, let's define some of the key terms that pertain to telescopes to help you be able to talk to them more intelligently.

The first area of specialization in telescopes has to do with the types of telescopes people use. The three designs of telescopes that most people use are the Refractor, the Reflector and the Schmidt Cassegrain telescope.

* The refractor telescope uses a convex lens to focus the light on the eyepiece.

* The reflector telescope has a concave lens which means it bends in. It uses mirrors to focus the image that you eventually see.

* The Schmidt Cassegrain telescope uses an involved system of mirrors to capture the image you want to see.

* A binocular telescope uses a set of telescopes mounted and synchronized so your view of the sky is 3-D.

Beyond the basic types, other terms refer to parts of the telescope or to the science behind how telescopes work.

* Collimation is a term for how well tuned the telescope is to give you a good clear image of what you are looking at. You want your telescope to have good collimation so you are not getting a false image of the celestial body.

* Aperture is a fancy word for how big the lens of your telescope is. But it's an important word because the aperture of the lens is the key to how powerful your telescope is. Magnification has nothing to do with it, its all in the aperture.

* Focuser is the housing that keeps the eyepiece of the telescope, or what you will look through, in place. The focuser has to be stable and in good repair for you to have an image you can rely on.

* Mount and Wedge. Both of these terms refer to the tripod your telescope

sits on. The mount is the actual tripod and the wedge is the device that lets you attach the telescope to the mount. The mount and the wedge are there to assist you with a superior viewing session and to keep your expensive telescope safe from a fall.

* An Altazimuth Mount refers to the tripod of the telescope that holds the device in place and makes it useful during a star gazing session. The altazimuth mouth allows the telescope to move both horizontally (which is the azimuth) and vertically. In this way you have full range to look at things close to the horizon or directly overhead.

* Coma has a different meaning than the one we are used to, and that's a good thing. The coma is the blurry area on the outer rims of your view through the telescope. How big the coma is and to what extent it interferes with your viewing will have is important to the effectiveness of your telesscope.

* Planisphere. A fancy word for a star chart. It is nothing less or more than a detailed map of where everything is in the cosmos and how to find the star you wish to study by keying off of known stars.

* Barlow. This refers to a specialized type of lens that you can buy to enhance the magnification of your telescope.

These are just a few of the basic concepts of telescope operation. We deliberately picked the ones you have to know to discuss telescopes intelligently. But your education into the more complex aspects of astronomy and telescope design and operation will go on for as long as you are a lover of astronomy, which we hope is for the rest of your life.

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