Through My Eyepiece

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I was born in 1941 and first joined the RASC in 1957, and have been a member off and on ever since. October 4, 1957 was an important day: the USSR launched Sputnik, and Avro rolled out the Arrow. The next day was even more important for me personally. It was the first night I climbed the wooden stairs behind Molson Stadium in Montreal to attend my first meeting in what is now the Isabel Williamson Observatory.

Back in April I'd read newspaper articles about a bright comet, Arend-Roland, visible in the evening sky. On the evening of May 1, I went out on my back porch to look for it, never having spent any time under the stars. I never did find the comet, but with the help of the *New Handbook of the Heavens,* I identified my first constellations, Boötes, Leo, and Virgo, and in the latter a bright interloper. At first I thought that might be Arend-Roland, but some calculations convinced me that I had in fact "discovered" Jupiter. More importantly, I was as totally hooked on astronomy as only a geeky 16-year-old could be.

My first evening at the Observatory was unusual in that some of the major players were absent at an AAVSO meeting in Massachusetts. But I did come home armed with a copy of *Skyward* and a mimeographed sheet describing the Montreal Centre's observing programs. I was like a kid in a candy store! The Montreal Centre held two meetings a week at that time, and I attended every one, and soon came to know the wonderful people who would be my mentors for the next seven years. For the first time in my life, I was treated as an adult by my fellow adults, and this was perhaps the greatest gift they gave to me.

Tool of the month

Those of you who know me will know that I'm a telescope junkie. Over the years, I have owned nearly two dozen telescopes of all kinds, plus countless eyepieces and other astronomical toys.

I'd like to tell you about my main working telescope, the one I haul out most often on clear nights. It is a 28-cm (11-inch) Starmaster reflector. Carl Zambuto, probably the finest mirror maker today, made its f/4.3 mirror. Mounted as a truss tube Dobsonian, it resides permanently on an Osypowski equatorial platform, giving me the best of two worlds: the ease of motion of a premium Dobsonian, with the bonus that as soon as I let go, the scope tracks perfectly.

There is an old adage that the best telescope is the one you use the most, and so my Starmaster qualifies as my best telescope. At home, I keep it assembled in a small shed. To observe, all I have to do is slide the tongue of my two-wheel handcart under it, snap on a bungee cord, and wheel it to my observing pad. Despite its size, it takes me less time to set up than any of my smaller scopes. If I need to transport it, it disassembles in a few minutes and fits into the cargo area of my station wagon with plenty of room to spare. Its short focal ratio means that I can observe anywhere in the sky while seated in a comfortable chair. The downside of the short focal ratio is that I must always have a Tele Vue Paracorr installed to eliminate coma. Starmaster scopes come balanced with the Paracorr taken into account.

The only aspect of my Starmaster with which I was less than happy was the Rigel QuikFinder that came as standard equipment. While the QuikFinder works well under dark skies, it was next to useless when I was living in the city, so I replaced it with an Antares 8 × 50 finder. This requires the addition of a small weight on the back of the mirror box to restore balance.

Thanks to Carl Zambuto's optical wizardry, the scope delivers exquisite lunar and planetary images despite its short focal ratio. On deep sky objects, the high contrast produced by its smooth mirror surface delivers the performance of a somewhat larger scope.

I have used this scope just about every clear night for more than three years, and it continues to wow me every night. It is an amazing combination of fine optics, fine mechanics, and a "just right" size for me.

The Magic of Jupiter

Although I love the tools of astronomy, I love even more the things that I can see with them. I started an observing log that first night in 1957, and now treasure those early entries, as they remind me of the joys and frustrations I experienced as a beginning amateur astronomer. My log-keeping was erratic over the early years, but there was so much good stuff there, that when I got back into astronomy in 1997, I resolved to keep a more detailed log, and have done so ever since. I have dabbled in all sorts of astronomical observations over the years, but the object I've lavished the most time with by far is the planet Jupiter.

Jupiter is probably the most satisfying object in the sky for the amateur astronomer. It is second to Saturn for sheer beauty, but makes up for it by offering an incredible level of activity that is accessible to small telescopes. The smallest of scopes will reveal the dance of its four bright moons and at least a couple of dark bands in its atmosphere. As the telescope size and skill of the observer

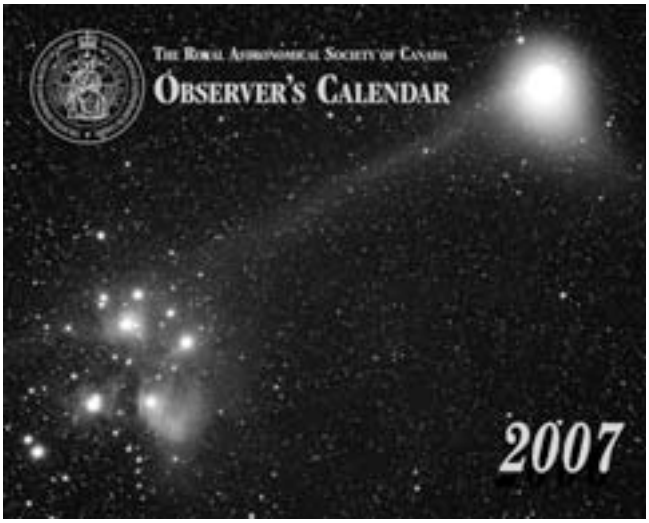
increases, Jupiter reveals more and more complex detail in its upper atmosphere. I am a sucker for *activity* in my astronomical subjects, so Jupiter's dynamic atmosphere makes it a winner for me.

The first thing to notice when you spend a bit of time with Jupiter in a good telescope is that it is a planet in motion. First, there are the four bright moons discovered by Galileo in 1610. These are in constant motion back and forth in front of and behind the planet. They can be observed going into and out of eclipse, and both their shadows and the moons themselves can be observed as they cross the planet's face. Our *Observer's Handbook* gives you all the information you need to identify and follow these objects.

If your telescope is good enough to reveal detail within Jupiter's cloud belts, you will soon notice that this detail is moving across the disk as the planet rotates. The most famous piece of detail is the Great Red Spot, located just south of the first dark belt south of the equator, known as the South Equatorial Belt. Unfortunately, the Great Red Spot has lost much of its colour in recent years, and is often hard to distinguish from its background. Another area to watch for detail is in the first belt north of the equator, the North Equatorial Belt. There are often looping festoons along its southern edge, and dark reddish brown spots embedded in its northern half, known as "barges."

Because of the obvious movement of detail within Jupiter's belts, it is possible to time these features as they cross the planet's *central meridian,* the line joining the planet's two poles at right angles to its belts. While individual timings are usually only accurate to within a minute or two, .Jupiter's rapid rotation, roughly once every ten hours, allows rotation periods of individual spots and the wind currents that carry them to be calculated to accuracies of a fraction of a second. You can read more about central meridian transits in an article I wrote for the *JRASC* in April 1962, pages 79 to 80. These timings of central meridian transits are one of the areas where amateur astronomers can make a real contribution to astronomy. They also give you a wonderful excuse to spend hours gazing on the face of Jupiter!

Call for Photos — 2007 RASC Observer's Calendar



All members of the RASC are encouraged to submit astronomical photos for consideration for publication in the 2007 RASC Observer's Calendar. Images can be of any type – deep-sky or solar system; prime focus, piggy-back, or fixed-tripod; film or CCD-based.

Electronic images under 2 MB in size may be sent by email to rgupta@telus.net.
CDs, prints, negatives, or slides should be mailed to:

Rajiv Gupta
2363 18th Ave W
Vancouver BC V6L 1A7

The submission deadline is April 30, 2005.

For further information about submissions, please contact me by email at the above address.

Rajiv Gupta
Editor, RASC Observer's Calendar