



## ASTRONOMICAL PLACES OF INVENTION

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*Top:* Moon through Mrs. Lemelson's Meade model 312  
80-mm refractor, digital image by Arthur Molella, August 18,  
2007. *Bottom:* Joe Tatarewicz, ca 1975, Timber Ridge, Virginia

It was my pleasure to introduce you all to some of the celestial sights that have animated our quest for knowledge and invention. I've spent much of my career studying astronomy and space, and their relationship to our deepest humanity. And I mean space in its ambiguous signification as both "outer space" and also the lived space of our bodies located in a physical world. As someone trained in both philosophy and history, I'm always delighted to watch how our science and technology enable and express our situated physical presence. Below is some information on how you can spend more time with the night sky. Many participants asked me how to buy a telescope, to which I have always replied: *Don't*—at least not yet. More details about this may be found at the end.

Any night, we are fortunate to view a sky that would have been very familiar to our distant ancestors. That sky was for them, and remains for us, a fundamental aspect of place, defining our situated physical, bodily presence in the world. From careful observation and record keeping of the many motions and phenomena of the sun, moon, and planets against the stars and horizon, we get the year, month, hour, and even more minute divisions of time. And it is from such observations that we get our notions of space and place, and our location.

You don't need sophisticated instruments at first, and can reckon time and the calendar, and navigate over land and sea, fairly well with just the knowledge of how precisely regular these motions are. But this knowledge is extracted from huge series of observations, which must be kept somewhere as records, and which are tied to the places of their observation. This gave us the first archives, the first observatories, and the first general research institutes. Throughout the far and middle east in antiquity, then at Alexandria in the Greek-Roman period, and in Baghdad, Sammarkan, and other Persian and Arab Muslim centers, and eventually in Europe and then America, observatories became places of the learned fusion of scientific and technological innovation—among the first and the most enduring places of invention. Like the lenses of Galileo's telescope, observatories bring to a common focus the rays of diverse interests and agendas together with resources like money, machinery, archives, clever minds, and nimble hands.

There is a vast literature on the history of observatories and the institutional history of astronomy. Suffice to say that it demonstrates that astronomy has been one of the oldest, most enduring, and intensely productive arenas in which technology, science, and place have been in close and fertile contact.

But to enjoy the magnificence of dusk and the night sky, we don't need much in the way of technology—just a good place and a little know-how.

## RESOURCES FOR PERSONAL ASTRONOMY

### Astronomy Clubs World-Wide

One of several comprehensive listings of local astronomical organizations. There's one near you, and they would be delighted to show you the sky and introduce you to the technology.

<http://www.astronomyclubs.com/>

### Heavens Above

One-stop web site with observing information for your location. Just enter your zip code.

<http://www.heavens-above.com>

### National Capital Astronomers

Local D.C. astronomical society with public viewing nights and lectures. *Sky and Telescope* (below) has a good listing of such organizations throughout the U.S.

<http://www.capitalastronomers.org/>

### Orion Telescopes

A very good discount telescope and accessories store, with much helpful information for those just getting oriented. *Remember:* don't buy anything yet—use the internet observing sites, your binoculars, and go to your local astronomical society's public observing nights first.

<http://www.telescope.com>

### *Sky and Telescope Magazine*

For a century, the observer and enthusiast's journal of record and the most frequent means of introduction for newcomers. The web site is excellent.

<http://www.skyandtelescope.com/>

### *Starry Night Software*

One of the very best PC and Mac programs, and can be used in place of paper field guides and star charts.

<http://www.starrynightstore.com/>

## THE BASICS

- Chaise lounge
- Flashlight (preferably red to preserve night vision)
- Star Wheel or Planisphere (available at most bookstores)
- *Peterson's Field Guide to the Stars and Planets* (or your laptop or PDA with astronomy software)
- Binoculars, if you have them