

is simply due to the inclination of the axis of the earth, which causes the north pole to bend alternately toward and away from the sun. Surely the ability to read these pages of the book of nature, should fill us with a genuine satisfaction.

"Well, suppose it does," I think I hear some one say, "that is not quite the same thing as *recreation* — where does the purely recreative part of astronomy come in."

I had not forgotten the lighter aspect of the science, but before touching upon it I judged it desirable to make a general review of the celestial mechanism. Having done this, I will now proceed to show how it is possible to spend many a delightful hour in exploring the mysteries of the skies.

For this a telescope is necessary. Now a telescope to the uninitiated is apt to suggest a costly instrument with a correspondingly expensive equipment — an observatory with its revolving dome and all sorts of complex contrivances. But this is another of the many fallacies which obscure the pursuit of astronomy. The very slightest optical aid proves of immense assistance in the study of the skies. An opera glass will disclose wonders. A telescope, having an object glass of two inches in diameter, will, of course, show much more — while a three-inch glass will prove a veritable mine of pleasure. Such a telescope requires no elaborate equipment. You can tuck it under one arm, and carry it and its stand along with you till you find a suitable spot for observing — as far removed as possible from the glare of electric lights and the tremor of passing trains or street cars. For \$75 one can obtain an excellent glass, and often one can be picked up for half the money. I once had a good glass which I purchased second-hand for \$30.

Now just one word as to the mechanism of a telescope. The principal feature is the glass at the far end, called the object glass. When we speak of a two or a three-inch glass, we mean that the breadth of this glass is two or three inches from rim to rim. It costs more than the other parts of the instrument put together, and upon its quality the excellence of the instrument mainly depends. Let me, in passing, urge you never to wipe

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