The column of darkness passes over. Brighter than the same event only minutes ago at second contact. Then a brilliant diamond ring phenomenon appears, seemingly prepared since ocular protection is not needed during totality. "Shouts of “Ten seconds to diamond ring” everyone prepares for overhead much like a silent and majestic cyclone. Then, with may be well over 6 minutes. The time flies by as centreline passes kilometres an hour along its predestined path. The longest eclipses greatest natural event passes its spell over the group. Usually, seem to be forgotten as the overwhelming spectacle of the earth’s humility, of joy take over. Birds going to roost and stars twinkling. The feelings of awe, of magnificence of a total solar eclipse plunges its viewers into darkness. “Corona!” are accompanied by gasps and screams of awe as the diamond solitaire on a ring. It is only a heartbeat until totality. “Shadow bands from the ripples in the earth’s atmosphere scatter across the ground beneath us. Shouts of “Chromosphere!” and “Corona!” are accompanied by gasps and screams of awe as the Sun’s rays are concentrated with a magnifying lens. Perhaps, I began to see a luminous halo more than two feet in diameter around the flame of a candle capable of concealing from me all objects, which lay behind it. As my malady diminished, so did the size and density of this halo, though more of it has remained with me than is seen by perfect eyes."

Although Sobel ascribes this to ocular infections transmitted by sharing an eyepiece, it is more likely to be solar retinopathy since Galileo was an avid observer, recording much about the movement of sunspots. I suspect that he did not use a proper solar filter.

If you visit southern Africa for the first total solar eclipse of the millennium on southern Africa. The shadow of totality will strike land in Angola and rapidly traverse to the south east, eventually crossing Madagascar, Africa. The red prominences of the chromosphere arc thousands of miles free from the surface as if red hot molten lava has been thrown from a volcano. In this photograph, the chromosphere surrounds the edge of the moon and one free prominence can be seen floating off the superior edge of the eclipse, on the right.

This month, June 2001, is in the eclipse season and will witness the first total solar eclipse of the new millennium over southern Africa. The shadow of totality will strike land in Angola and rapidly traverse to the south east, eventually crossing Madagascar, before being extinguished over the southern Indian Ocean.

If you plan to attend, remember to use proper eye protection. Eclipse gazing is a common source of solar retinopathy. Certainly, early observers did not understand solar retinopathy, and it is likely that such pioneers as Galileo developed solar retinopathy. He probably invented the telescope, and was an early champion of solar observation. You may remember what happens when the sun’s rays are concentrated with a magnifying lens.

In Galileo’s Daughter by Dava Sobel, Galileo is quoted as writing, “As a result of a certain affliction I began to see a luminous halo more than two feet in diameter around the flame of a candle capable of concealing from me all objects, which lay behind it. As my malady diminished, so did the size and density of this halo, though more of it has remained with me than is seen by perfect eyes.”

The cover photograph was taken during the last total solar eclipse of the millennium as viewed from Harput, Turkey (“Last of the millennium” is true no matter how you view the 2000–1 “beginning of the new millennium” controversy since there was no total solar eclipse in 2000). The diamond ring flashed brilliantly with a few so-called “Baily’s beads” visible on the leading edge of the moon. “Baily’s beads” are those few bright spots of sun visible though the valleys of the moon at the last moment before totality. The “slenor” of the moon, around the sun, the chromosphere, is but a few hundred miles 1 000 000° F or more of the corona. The red prominences of the chromosphere arc thousands of miles free of the surface as if red hot molten lava has been thrown from a volcano. In this photograph, the chromosphere surrounds the edge of the moon and one free prominence can be seen floating off the superior edge of the eclipse, on the right.

Eclipses are the source of myth including many popular beliefs. The Book of Revelation in the Bible speaks of tragedy “... when the sun turns to ashes.” Some cultures believe that the unborn child will be harmed in the womb or lost in a miscarriage if its mother views a total eclipse. In other cultures, a pregnant woman may be chided to hold a pot of lime on her abdomen or to lie prone with arms outstretched to prevent birth defects.

Eclipses have been important to our understanding of the sun’s energy as well as that of gravitational lenses. Total solar eclipses in thick and surprisingly, 9 and 1522 help prove that gravitational lenses actually bent light and proved Einstein’s theory of relativity.

Eclipses are the source of myth including many popular beliefs. The Book of Revelation in the Bible speaks of tragedy “... when the sun turns to ashes.” Some cultures believe that the unborn child will be harmed in the womb or lost in a miscarriage if its mother views a total eclipse. In other cultures, a pregnant woman may be chided to hold a pot of lime on her abdomen or to lie prone with arms outstretched to prevent birth defects. The cover photograph was taken during the last total solar eclipse of the millennium as viewed from Harput, Turkey (“Last of the millennium” is true no matter how you view the 2000–1 “beginning of the new millennium” controversy since there was no total solar eclipse in 2000). The diamond ring flashed brilliantly with a few so-called “Baily’s beads” visible on the leading edge of the moon. “Baily’s beads” are those few bright spots of sun visible though the valleys of the moon at the last moment before totality. The slender “ring” of red around the sun, the chromosphere, is but a few hundred miles 1 000 000° F or more of the corona. The red prominences of the chromosphere arc thousands of miles free of the surface as if red hot molten lava has been thrown from a volcano. In this photograph, the chromosphere surrounds the edge of the moon and one free prominence can be seen floating off the superior edge of the eclipse, on the right.

This month, June 2001, is in the eclipse season and will witness the first total solar eclipse of the new millennium over southern Africa. The shadow of totality will strike land in Angola and rapidly traverse to the south east, eventually crossing Madagascar, before being extinguished over the southern Indian Ocean.

If you plan to attend, remember to use proper eye protection. Eclipse gazing is a common source of solar retinopathy. Certainly, early observers did not understand solar retinopathy, and it is likely that such pioneers as Galileo developed solar retinopathy. He probably invented the telescope, and was an early champion of solar observation. You may remember what happens when the sun’s rays are concentrated with a magnifying lens. In Galileo’s Daughter by Dava Sobel, Galileo is quoted as writing, “As a result of a certain affliction I began to see a luminous halo more than two feet in diameter around the flame of a candle capable of concealing from me all objects, which lay behind it. As my malady diminished, so did the size and density of this halo, though more of it has remained with me than is seen by perfect eyes.”

Although Sobel ascribes this to ocular infections transmitted by sharing an eyepiece, it is more likely to be solar retinopathy since Galileo was an avid observer, recording much about the movement of sunspots. I suspect that he did not use a proper solar filter.

If you visit southern Africa for the first total solar eclipse of the third millennium on 21 June 2001, be prepared for the show of a lifetime, and remember that you may find other ophthalmologists beneath centrelines. — Ivan R Schweb, MD UC Davis Department of Ophthalmology, 4860 Y Street, Suite 2400, Sacramento, CA 95817, USA (irschweb@ucdavis.edu).