In the long and outrageous history of human error and folly, the fear of comets holds a considerable space. Comets, right down to this very day, are held in terror by large numbers of people who consider them as harbingers of disaster.

To be sure, people are not foolish for no reason at all. Lying at the base of all superstitions and nonsense are observations and assumptions that seem to make sense—or even to be so obvious as to require no argument.

Let's try and work out the line of reasoning, for instance, that led to the fear of comets.

1) As far as our direct observation is concerned, the universe is a small place. Until quite recently in history, individuals knew only of a small section of Earth's surface in the vicinity of their dwelling places, and the sky did not seem very far overhead. The universe consisted then of a small patch of ground that was covered by a curved patch of sky.

2) Within this small universe, human beings seemed the most important material objects of all. It followed, therefore, that the universe must have been created to serve human beings and provide them with a comfortable home.

3) Changes took place in the sky that affected human beings. The coming of clouds presaged rain needed for crops, also violent storms that could do damage. The sun produced light and warmth and when it vanished from the sky, it was dark night and the temperature fell. The moon went through a cycle of phases that could be used to mark the passage of time and to guide human beings through the cycle of seasons—summer and winter, wet and dry, seed time and harvest.

4) The changes in the sky are cyclic and, after careful observation and thought, those changes could be predicted. The stars, generally, moved in regular circles and the sun and moon moved in predictable ways against those stars. In the early days of civilization, it was found that even certain bright stars (the planets), which moved in ways that seemed irregular at first, displayed a deeper regularity so that their movements could be predicted, too, though not as easily as those of the sun and the moon.

5) The simpler cyclic changes in the sky, those involving the sun and moon, seemed to match the obvious cyclic changes on Earth, such as the alternation of day and night, the changing lengths of day and night, the progression of the seasons, and so on. The subtler changes in planetary positions, compared with each other, with the sun and the moon, and with the back-
ground stars, must therefore indicate rather subtle changes in human affairs. Out of this reasoning was born the pseudo-science of astrology, which almost everyone considered as based on obvious truths, and which countless millions of people accept, even today, on the basis of this ancient reasoning.

6) There are unusual events in human life, however, that are not cyclic, but that are interruptions of the generally peaceful and expected progression. Usually, these are disasters—droughts, floods, epidemics, war, and so on. If everything human is predicted by the changes in the sky, these unpredictable disasters should correspond to something unpredictable in the sky as well.

7) The most obvious unpredictability in the sky are represented by the comets. They come without warning; they travel across the sky in an unpredictable path; they disappear at an unpredictable time. What’s more, they have a shape that is different from all other heavenly objects, and that shape is itself portentous. A comet with its long sweeping tail looks like the head of a woman with long, streaming hair (a traditional sign of mourning), or like a sword (a sign of war and death).

8) The conclusion of all this, then, is that comets appear in the sky in order to serve as a warning of disaster. They are sent perhaps by the gods as a kindly gesture, to give humans time to change and stop sinning so that the divine anger would be turned aside and the disaster averted.

9) The final test of all this would be to observe whether disaster did, in fact, follow the appearance of a comet—and it always did.

With time, however, new facts arose. The nature and behavior of comets came to be understood. In particular, the orbits of many were worked out and it was clearly shown that their comings and goings were as regular as those of other heavenly objects. They were not unpredictable.

Secondly, the relationship between the planetary positions and human affairs (other than the obvious ones involving the sun’s light and warmth and the moon’s phases and tidal pull) became less and less likely as scientists understood more and more about the properties and motions of the planets. The assumptions on which astrology is based are simply false, and astrology is dismissed as nonsense by astronomers.

And what about the fact that disaster always follows a cometary appearance?—Well, disasters invariably come even when visible comets are not present in the sky. The sad fact is that disasters come every year and comets have nothing to do with it.

To fear comets now, therefore, is simply foolish, and yet—people do.

Roberta Olson, in this book, supplies us with a diverting account of people’s fascination with and dread of comets, and how, as a result, comets have not only contributed to folly, but have filled human art and literature, to the enrichment of both.

Isaac Asimov