

EITHER . . . OR When using *either . . . or* statements, you are offering the readers a choice or showing them two sides of the issue. You are saying, “Either you believe X, or you believe Y” or perhaps “Either X will happen, or Y will happen” (Figure 8.12). Statements using *either . . . or* patterns suggest that there is no middle ground, so you should use this strategy only when appropriate. When used appropriately, an either/or argument can prompt your readers to make a decision. When used inappropriately, these arguments can invite the readers to make a choice you didn’t expect—or perhaps to make no choice at all.

### A Section Using *Either . . . Or*

#### Shapley-Curtis Debate

During the 1920s, Harlow Shapley and Heber Curtis debated whether observed fuzzy “spiral nebulae,” which are today known as galaxies, exist either in our Milky Way Galaxy or beyond it. Shapley took the stance that these “spiral nebulae” observed in visible light do indeed exist in our galaxy, while the more conservative Curtis believed in the converse. While both sides of this debate seemed to either make too many suppositions or supported their claims with flawed data, the main points of both stances made the debate fairly close at the time.

#### Shapley’s Argument

Shapley argues that these “spiral nebulae” are actually within our galaxy’s halo. He presented faulty data which seemed to confirm that M101, a large angular-diameter galaxy, changed angular size noticeably. We know now that for M101 to change angular size appreciably (0.02 arcsecond/year), it would have to recede from us at warp speeds based upon our current knowledge of its diameter and distance. To account for all the galaxies’ observed recession from earth, not knowing of the universe’s expansion, Shapley invented a special repulsion force to explain this strange phenomenon. He was not cogently able to explain why galaxies observed from earth are less densely distributed along the galactic equator, though.

#### Curtis’s Argument

Curtis remained more conservative in his argument by not introducing outlandish suppositions like the special repulsion forces of Shapley. Curtis, although not able to explain galaxies’ redshifts well either, made a convincing claim for the distribution of galaxies in the sky. Because observed galaxies seen edge-on often contain opaque gas lanes, and if our galaxy is similar to those observed galaxies, then we should not see extragalactic objects near our equator because of our own opaque dust lane. Hubble’s observation of Cepheid variables in the Andromeda Galaxy confirmed the distance to a galaxy: millions of light-years, not thousands! Curtis was obviously correct.

The opening sets up two sides with *either . . . or* statements.

The remainder of the section discusses the two sides.

Here, the section ends by saying which side won the debate.

**Figure 8.12:** The *either . . . or* pattern is helpful when only one belief or action is the right one.