

CHAPTER THREE

GRAVITY AND THE WARPING OF SPACE-TIME

In this chapter:

- We will examine the idea that gravity causes an attraction between objects
- Consider the fabric of the universe
- Consider gravitational fields and the forces acting upon objects within and without
- Consider whether objects in a gravitational field are pulled or pushed together
- Theorize about a new type of propulsion system that could render rocket propulsion obsolete and bring about many other profound changes for our civilization
- Consider the ideas of gravitons and gravitational waves
- Realize the exact reason for inertia



An Attraction Between Objects

GRAVITY SEEMS TO BE A STRANGE KIND OF FORCE. It acts between objects that are separated by distances of many light years of seemingly empty space; “seemingly,” however, is the key word here. In chapter one, we offered the fact that gravity influences objects through space as direct evidence that space is not empty. If the space were indeed empty, there would be no gravity between objects.

Most descriptions of gravity refer to it as an “attraction between objects.” Sometimes, with language such as this, the emphasis is on the fact that repulsion is not taking place. However, it seems that most of the time when people use this sort of language, the intended meaning is that the objects are somehow pulling each other together or that there is a force between them that somehow pulls them together.

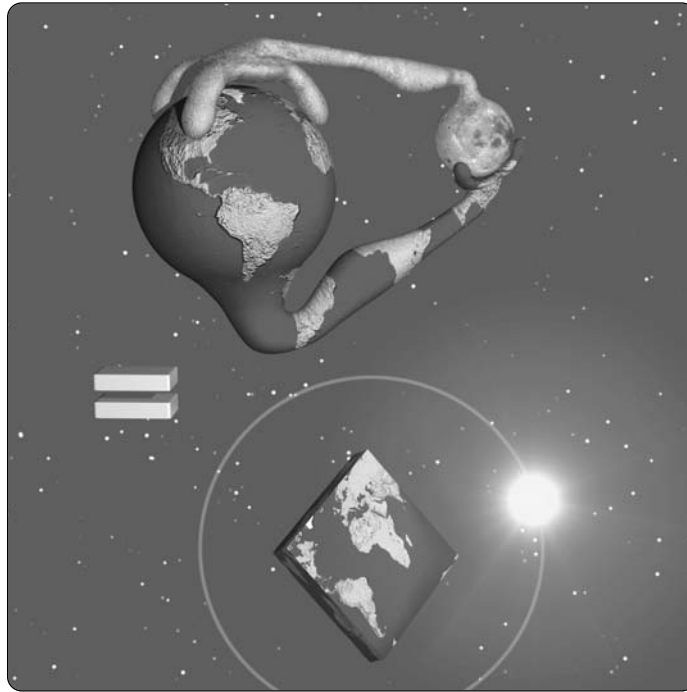
An important fact we often overlook is that gravity is not even an apparent attraction between objects in the sense that they are somehow pulling each other together. Despite this obvious fact, gravity is still widely portrayed as an “attraction between objects.”

To describe gravity as an attraction between objects could be correct, as long as the word “attraction” is used to mean only that objects, due to gravity, tend to move toward each other, rather than apart, and not that they are pulled together.

An observer watching an object as it falls to Earth might think that the object and Earth are pulling on each other. The

observer could take all types of measurements known to man, but would not find a single indication that this is what is happening.

To claim that acceleration due to gravity is because objects exert a pull on each other is perfectly acceptable within the context of a theory of gravity. However, making this claim in written curricula as if it were a proven fact is irresponsible.



The current belief that objects pull upon one another is as ungrounded and outrageous as the archaic belief that the sun revolved around a flat Earth. Although commonly thought of and described as an attractive force, and although some may think it absurd just to ask, the question remains: is gravity the result of a pull or a push?