



FIGURE 1.5

The expansion of the Universe is demonstrated by the black dots on the surface of a rapidly expanding balloon. The nature of the expansion in the three-dimensional real world is more difficult to conceive, but the principle is the same.

Thomas Gold, and Fred Hoyle, proposed a new model of an eternal Universe. It became known as the *steady state* or *continuous creation theory* mentioned above. It accounted for the expanding galaxies and the depletion of hydrogen by stating that new matter was being continuously created. As the galaxies expanded outward, new galaxies were created to fill the vacant spaces.

But how was new matter created? Bondi, Gold, and Hoyle proposed the existence of an undiscovered energy field called the C-field (Creation-field) in an attempt to provide a physical and mathematical foundation for their theory. The continuous creation theory enjoyed widespread public and scientific support. It became an equal rival to the theory that the Universe had a beginning.

The problem with the continuous creation theory was that, although novel and appealing, there was no observed data to support it. The debate between a beginning versus an eternal Universe continued until 1965. New evidence then came to light.

Cosmic Radiation. In 1965, scientists at Bell Laboratories were annoyed with static in their sensitive instruments. Searching for the