A Celestial Globe

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Nature is deceptive. Things that appear to be true are often untrue. This point is well illustrated in the science of astronomy. The history of astronomy is strewn with rejected theories that were once held by wise men. Even today many false theories that should have been discarded long ago are believed by many people. Why is this true?

The rotation and revolution of the earth confuse us. Often we attribute some observed effect to the motion of a planet or star, when in reality it is the motion of the

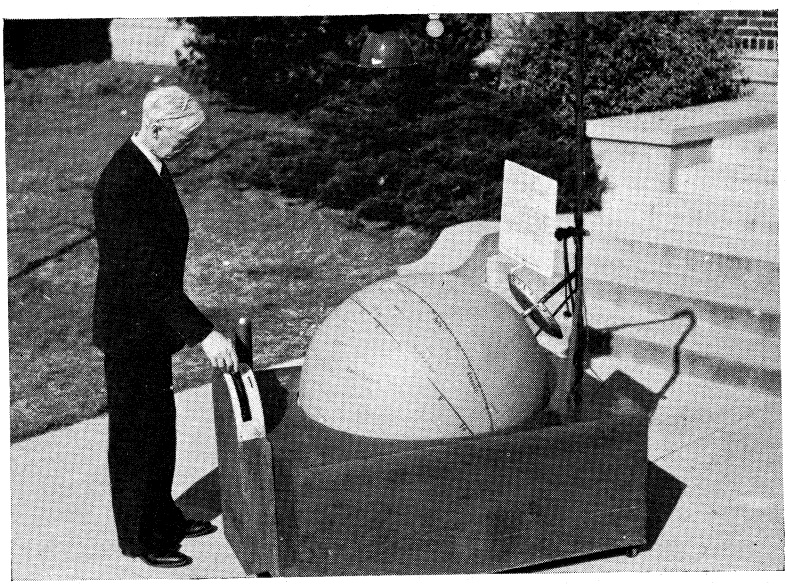

Fig. 1. A celestial globe.

earth that produces the effect. There is another reason why the simplest facts of astronomy are not understood. Much of the teaching that is done in science is by means of maps and models, but in astronomy neither maps nor models can be made that correctly represent the facts. Maps have two

dimensions; astronomy requires three, hence all maps are distorted and deceptive. In the case of models they are all far too small and must be viewed (excepting the great planetariums) from without, while we see the astronomical world from within. All of this means that the facilities for teaching astronomy are very limited and inadequate.

There is another point that is interesting about an elementary course in astronomy. Nothing is forgotten more quickly than astronomy. Few people who have had a simple course in this subject are willing to admit it ten years later; and this is true in spite of the fact that the heavens are ever before us, or rather the deceptive appearances are ever before us.

In view of the importance and the general interest in astronomy, the writer has constructed a celestial globe which has proven very helpful in overcoming some of the difficulties given above (Fig. 1). In addition to the usual features found in celestial globes, it has the following unusual features:

1. The globe is 36 inches in diameter, large enough to be seen by a class of 40 or 50 students. Yet it is not too large to go through a 40-inch door.
2. It may be illuminated either by ordinary or ultra-violet light.
3. The stars are in fluorescent paint, and shine brilliantly when the ultra-violet light is on in a dark room.
4. A large dial, divided into 24 hours, is fixed on the polar axis just above the celestial pole. This dial turns with the globe, and by means of a fixed pointer siderial time is read. If this dial is moved eastward on the axis one degree per day, solar time is obtained.
5. The globe is rotated by means of a wheel very much like those used to steer boats.

Those who have taught astronomy will see at once the advantages gained by the use of this globe, but only those who have used it can understand the thrill that the students get when first they see the stars flash out on the surface of the globe.