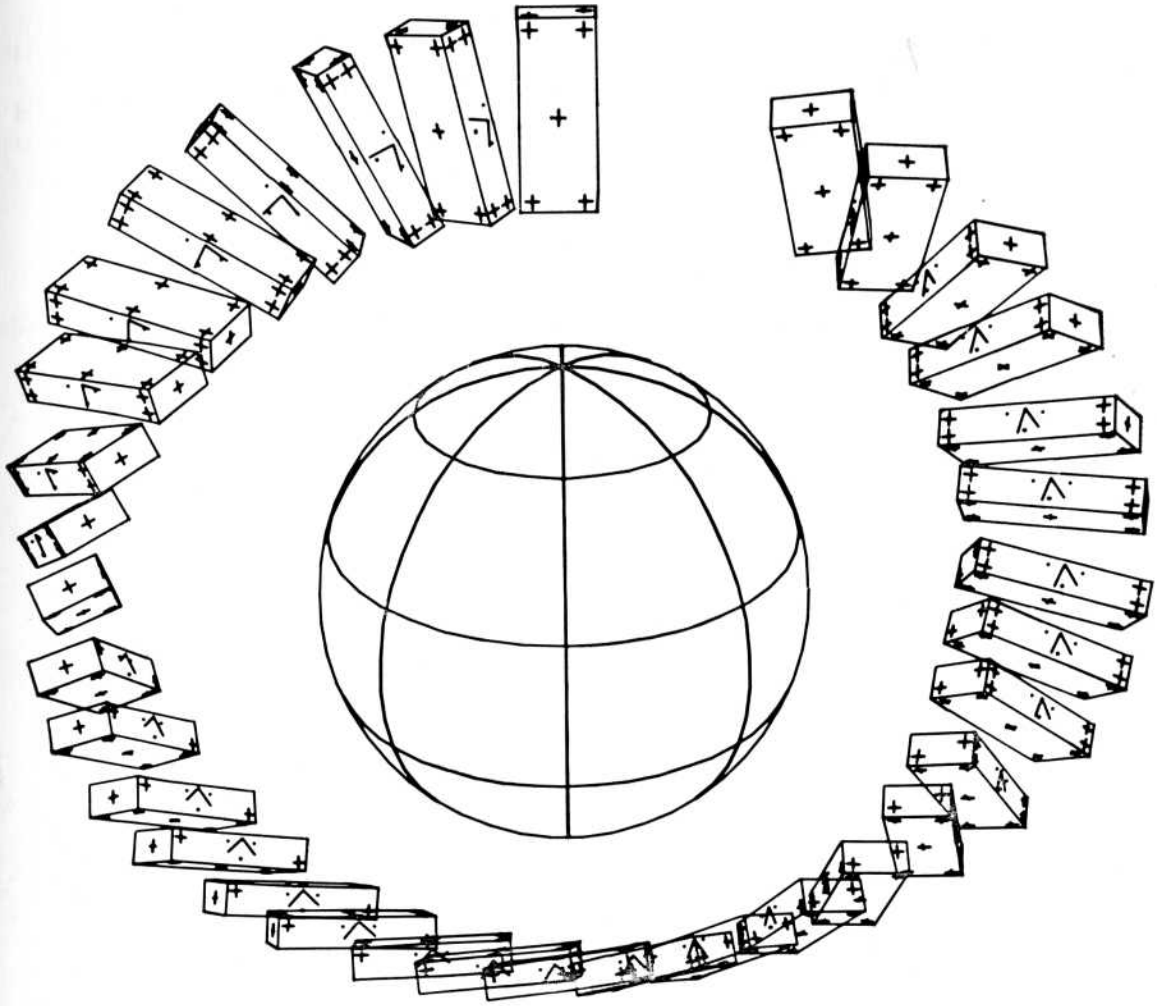

Picture of a satellite in orbit—as drawn by a computer

The domino-shaped box in the drawing above represents a communications satellite orbiting the earth.

The various angles and positions of the box show the relative positions of the satellite during one orbit.

The drawing was made, not by a man, but by a computer at Bell Telephone Laboratories to help scientists visualize how the satellite would behave.

What the computer did is called *simulation*. Working from data given it, the computer calculated, or simulated, the satellite's position at various instants and produced the picture on microfilm. The picture told us what we needed to know.

We use such simulation a great deal to save time and hold down costs in developing and testing new products and services.

Computers help us plan coast-to-coast transmission systems, new switching logic, and data systems. They also help us study problems relating to telephone usage at given times of the day or year.

Not all of our simulation is done on computers. Often we can simulate by other means.

We test new kinds of undersea telephone cables in buried, brine-filled steel pipes that duplicate the pressures and temperatures of the ocean's bottom at various depths.

Ingenious equipment in one of our laboratories sends test telephone pulses racing around an electronic ring that simulates a 6000-mile circuit containing 5300 repeaters to boost voice volume.

Many additional examples of simulation could be cited. Often they help us spend our time and money more efficiently in developing new services and improving present ones—in making sure that America continues to enjoy the world's finest telephone service at the fairest possible prices.

Bell Telephone System

Serving you