

readings— **map** of my study site

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curate, but the ideas on which they were based were correct. Roman world maps showed a huge empire with small countries scattered along the edge. Jerusalem occupied the center of the picture, but inaccurate maps of the Middle Ages. However, the charts (portolans) of Mediterranean sailors were strikingly accurate. Fra Mauro's map of 1457 drew information from the travels of Marco Polo and showed an accurate Ethiopia on the basis of information gleaned from Ethiopians in Italy. The translation of Ptolemy's Geography in the 16th century gave a boost to mapmaking. Columbus' voyages were charted by his companion Juan de la Cosa. Thereafter world maps comprised the New World as well as the Old World, and they steadily became more accurate despite certain Ptolemaic traditions that persisted on maps until 1700. Magellan's journey confirmed the global concept of the world, which had already been incorporated into Martin Behaim's Globe of 1492.

In the 16th century Gerhard Kramer, who called himself Mercator, developed a map projection that bears his name. Map printing was also improved by the development of map engraving. Antwerp and Amsterdam became the centers of cartographic progress even before Mercator's death. During the 18th century France assumed the lead in mapmaking, and accurate maps of France were made on the basis of careful surveys by the Cassini family. The naval conquests and discoveries of England during the 18th century made it a major producer of maps. The 18th-century mapmakers, such as D'Anville of France, also swept away the imaginary lakes in Africa and the unexplored southern area called Terra Australis. They based their maps on surveys and well-verified accounts by travelers. Germany produced some of

MAP AND CHART. A map is a representation of the earth's surface. If a map is designed to serve the special requirements of navigation, it is called a chart. All peoples have found maps useful in their day-to-day activities. The Polynesian sailors made very good charts, showing by sticks the direction of winds and ocean currents and by shells the islands they encountered. Eskimos, who are especially dependent on landmarks, have an uncanny ability to map huge areas with accuracy. The earliest map still preserved was drawn on clay about 2500 B.C. It was probably used in connection with Babylonian land taxation. The Egyptians produced maps of a rough sort. Maps were also made in early China. The Greeks, great travelers and merchants, learned cartography (mapmaking) from the Egyptians and Phoenicians. Anaximander is said to have designed the first map of the world in the 6th century B.C. His map showed a circular world surrounded by the oceans. These circular maps were popular down to the time of Herodotus, who criticized them in the 5th century B.C. A map of the world was prepared in the 3rd century B.C. by Eratosthenes, who estimated very closely the circumference of the earth. Eratosthenes' map was criticized by the astronomer Hipparchus, who thought that the parallels and meridians, used by Eratosthenes, at regular intervals. Strabo made improvements on Eratosthenes'

the finest maps of the 18th century.

Virtually none of the world remains unmapped. Aerial photography has greatly increased the cartographer's ability to study firsthand the areas he maps. Many nations have prepared maps of their territory on the large scale of 1 inch to the mile. See *OAKBROOKER*. Many kinds of maps exist. The commonest show the outlines and political boundaries of the earth's land areas. Topographical maps give an idea of the features of these land areas. Maps are also adapted to show temperature, rainfall, and plant distribution. Dot maps are drawn to show the distribution of population, crops, or animals.

Weather maps showing approaching weather changes are distributed each day by weather bureaus. See *MAP, SKY; WEATHER MAP*.

The most accurate presentation of a portion of the earth's surface is the globe. Unfortunately, globes are impractical for most uses. The problem of transferring the earth's features onto a flat surface is a difficult one—in effect, a basketball must be flattened without tearing the hide. There is no way, of course, to flatten the globe-map without stretching and distorting portions of it. Small areas can be shown with a great deal of accuracy, but large areas are often greatly distorted. The problem of projecting the features of a globe onto a flat surface—as a slide can be projected onto a picture screen—is partly solved by map projections. The name of the map projection is usually given in the legend or on the margin of the map.

my piece of the neighborhood

What is a map?

Who made the earliest recorded map?

Name 3 types of maps

1

2

3

What?
was it
made

Give a brief history of map making

11/25

Our goal is to understand what maps are and how they are used.

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The scientific ideas of Eratosthenes and Hipparchus were adopted in the 2d century A.D. by Ptolemy of Alexandria. His maps were inac-

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