USING THE MAPS

IF, AS IS often said, a picture is worth a thousand words, then a map is worth a million. This book contains more than 200 maps, locational and thematic, to help you understand the text. Please make it a point to study each map when it is referred to and do so as carefully as you would a paragraph of text.

Maps display locations and patterns in geographic space. They are a kind of shorthand through which encoded spatial messages are transmitted to the user. Such shorthand is necessary because the real world is so complex that a great deal of geographic information must be compressed into the small confines of maps that can fit onto the pages of this book. Cartographers (mapmakers) must carefully choose which information to include; these decisions force them to omit many other things in order to prevent cluttering a map with less relevant information. For instance, Figure A shows several city blocks in central London but avoids mapping individual buildings because they would interfere with the key information being presented—the spatial distribution of cholera deaths in that part of London during an epidemic.

MAP READING

Deciphering the coded messages contained in our maps—map reading—is not difficult, but a few rules of the road do help. The need to miniaturize portions of the world on small maps is discussed in the section on map scale (pp. 8–9), and Figures A and B in this appendix offer two additional and contrasting examples.

Orientation, or direction, on maps can usually be discerned by reference to the geographic grid of latitude and longitude. Latitude is measured from 0° to 90° north and south of the equator (parallels of latitude are always drawn in an east-west direction), with the equator being 0° and the North and South Poles being 90°N and 90°S, respectively.

Meridians of longitude (always drawn north-south) are measured 180° east and west of the prime meridian (0°), which passes through the Greenwich Observatory next to London; the 180th meridian, for the most part, serves as the international date line that lies in the middle of the Pacific Ocean (the red dashed line in Fig. 12-1). Inspection of Figure B shows that north is not automatically at the top of a map; instead, the direction of north curves along every meridian, with all such lines of longitude converging at the North Pole. The many minor directional distortions in this map are unavoidable: it is geometrically impossible to transfer the grid of a three-dimensional sphere (globe) onto a two-dimensional flat map. Therefore, compromises in the form of map projections must be devised in which, for example, properties such as areal size and distance are preserved but directional constancy is sacrificed.
Once the background mechanics of scale and orientation are understood, the main task of decoding the map’s content can proceed. The content of most maps in this book is organized within the framework of point, line, and area symbols, which are made especially clear through the use of color. These symbols are usually identified in the map’s legend (as in Figure B), but sometimes accompanying text must tell the map reader more. In Figure A, for example, we need to be informed that the dots reflect cholera deaths, and that each P symbol represents a municipal water pump at the time of this epidemic in 1854. Point symbols, shown as dots on maps, can tell us two things: the location of each phenomenon and, sometimes, its quantity. Look, for example, at Figure 1-14 (p. 73). Not only does this map show the locations of Western European cities but also their relative population size.

Line symbols connect places or areas between which some sort of movement or flow has occurred or is occurring.