

A Few Words on Geography

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istory is the experience of human beings in time, but it takes place also in space, on the planet Earth, so that geography always underlies it. It is the business of geography not merely to describe and map the earth and its various areas, but to study the changing relationships between human activities and the surrounding environment.

The earth is over four billion years old. The entire history of mankind since the Middle Stone Age has occupied less than a hundred-thousandth of the time in which the earthly habitat has been developed. Some minerals now put to human use were formed in the earliest ages of the planet, others such as coal and petroleum were not laid down until a few hundred million years ago, but none that are now being consumed in a flicker of geologic time can ever be replaced. Oceans and continents have moved about, changing in size, shape, and location with respect to one another and to the North and South Poles. There was a time when dinosaurs could walk from North America to Europe (as we now call them) on solid land in a warm climate. The continents as we now know them became fully distinct less than a hundred million years ago. It is only a few thousand years since the end of the most recent glacial age, which may not be the last. The melting back into the ocean of water frozen over a mile thick in Antarctica and in large parts of North America and Europe produced the coastlines, offshore islands, inland seas, straits, bays, and harbors that we see on a map today, as well as some of the largest river systems and lakes. It is only about three hundred years since the first French explorers saw Niagara Falls, which then looked quite different, because by eating away the underlying rock the falls have receded several hundred feet since that time.

At present, the oceans cover more than two-thirds of the surface of the globe. By no means is all the remaining third suited for occupation by human beings, or indeed by most other animal or vegetable organisms, for much of the land still lies under perpetual ice in Antarctica and Greenland, much is tundra, much is desert, and some is along the windswept ridges of high mountains. Like the oceans, these desolate regions have been important in human history, first in earlier times by acting as barriers. Man, as the anthropologists call him (and her), is now thought to have originated in Africa. He (and she) eventually spread to every continent except Antarctica. In doing so, human groups became isolated from each other for thousands of years, separated by oceans, deserts, or mountains, and so became differentiated into the modern races, though all are derived from the same source and belong to the same species. The same is true of cultures or civilizations over a time period measured in centuries rather than millennia. It is such separation that accounts for the historic cultural differences between Africa, pre-Columbian America, China, India, the Middle East, and Europe. On a smaller scale it explains the differences in languages and dialects.

Separation has also produced differences in flora and fauna, and hence in the plants and animals by which humans live. Wheat became the most usual cereal in the Middle East and Europe, millet and rice in East Asia, sorghum in tropical Africa, maize in pre-Columbian America. The horse, first domesticated in central Asia, was for centuries a mainstay of Europe for muscle power, transportation, and combat, while the less versatile camel was adopted later and more slowly in the Middle East, and America had no beasts of burden except the llama. Not until Europeans began to cross the oceans, taking plants and animals with them, and bringing others back, did these great differences begin to diminish.

The present book is concerned primarily with Europe, and with the last few hundred years. And as a traveler setting out on a journey may provide himself with a map, and carry its contents as much as possible in his head, so the reader is invited to examine the map of Europe on pages 6 and 7, and keep it in mind while reading the following history. The map shows the topographical features that have remained unchanged in historic times.

Europe is physically separated from Africa by the Mediterranean Sea, which however has been as much a passageway as a barrier. A more effective barrier was created when the Sahara Desert dried up only a few thousand years ago. The physical separation of Europe from Asia has always been less clear; the conventional boundary has long been the Ural Mountains in the Soviet Union, but the Soviet Union recognizes no such distinction. The Urals are in any case low and wide, and it can be argued that Europe is not a continent at all, but a cultural conception arising from felt differences from Asia and Africa. Europe, even with European Russia, contains hardly more than 6 percent of the land surface of the earth. It has about the same area as the United States including Alaska. It is a little larger than Australia, and a little smaller than Antarctica.

If we consider only its physical features Europe is indeed one of several peninsulas jutting off from Asia. It is altogether different, however, from the Arabian and Indian peninsulas, which also extend from the mass of Asia, as shown on the back endpaper of the present book. For one thing, the Mediterranean Sea is unique among the world's bodies of water. Closed in by the Strait of Gibraltar, which is only eight miles wide, it is more shielded than the Caribbean or East Asian seas from the open ocean. Hence it has very little tide, and is protected

from the most violent ocean storms. Though over two thousand miles long, it is subdivided by islands and peninsulas into lesser seas with an identity of their own, such as the Aegean and the Adriatic, and it gives access also to the Black Sea. It is possible to travel for great distances without being far from land, so that navigation developed from early times, and one of the first civilizations appeared on the island of Crete. It is possible also to cross between Europe and Asia at the Bosphorus and between Europe and Africa at Gibraltar, so that populations became mixed by early migrations, and various historic empires—Carthaginian, Roman, Byzantine, Arabic, Spanish, Venetian, and Turkish—have used the Mediterranean as an avenue between their component parts. After the Suez Canal was built the Mediterranean became a segment in the "lifeline of empire" for the British Empire in its heyday.

In southern Europe, north of the Mediterranean and running for its whole length, is a series of mountains, produced geologically by the pushing of the gigantic mass of Africa against this smaller Eurasian peninsula. The Pyrenees shut off Spain from the north, as the Alps do Italy; the Balkan Mountains have always been difficult to penetrate; and the only place where one can go at water level from the Mediterranean to the north is by the valley of the Rhone River, so that France, since it came together in the Middle Ages, is the only country that clearly belongs both to the Mediterranean and to northern Europe. North of the mountains is a great plain, with branches in England and Sweden, extending from western France through Germany and Poland into Russia and on into Asia, passing south of the Urals through what is called the Caspian Gate, north of the landlocked Caspian Sea. One might draw a straight line from Amsterdam eastward through the Caspian Gate as far as the borders of western China, and although this line would reach the distance from New York to a point five hundred miles west of San Francisco, one would never in traveling along it be higher above sea level than central Kansas. The continuity of this level plain has at various times opened Europe to Mongol and other invasions, enabled the Russians to move east and create a huge empire, and made Poland a troubled intermediary between Western Europe and what is now the Soviet Union.

The rivers as shown on the map are worth particular attention. Until quite recent times rivers offered an easier means of transportation than any form of carriage by land. The principal rivers also give access to the sea. Most are navigable, especially in the north European plains. With their valleys, whether in level country or confined between mountains, they provided areas where intensive local development could take place. Thus we see that some of the most important older cities of Europe are on rivers—London on the Thames, Paris on the Seine, Vienna and Budapest on the Danube, Warsaw on the Vistula. In northern Europe it was often possible to move goods from one river to another, and then in the eighteenth century to connect them by canals; and the networks of rivers and canals still carry much heavy traffic by barges. The importance of water is shown again by the location of Copenhagen, Stockholm, and Leningrad (formerly St. Petersburg) on the Baltic, which is a kind of inland lake, and of Amsterdam and Lisbon, which grew up after the ocean could be traversed by Europeans.

There are many important geographical conditions that a topographic map cannot show. One is climate, which depends on latitude, ocean currents, and winds that bring or withhold rainfall. In latitude Europe lies as far north as the northern United States and southern Canada, with Madrid and Rome in the lati-

tude of New York, and with Stockholm and Leningrad as far north as the middle of Hudson Bay. All Europe thus is within what is called the temperate zone, somewhat misleadingly, since the temperate zone is by definition the region of pronounced difference between winter and summer. But the parts of Europe that are near the sea have less extreme temperatures than the corresponding northerly regions of America, and the Mediterranean countries have more sunshine and less severe winters than either northern Europe or the northern United States. Everywhere, however, the winters are cold enough to keep out certain diseases by which warmer countries are afflicted. They have also obliged the inhabitants to expend more effort on clothing, housing, and heating. Warm summers with their growing seasons have produced an annual cycle of agriculture, for which rainfall has been adequate but not excessive. Although the Spanish plateau is arid, and the Mediterranean shores are subject to seasonal variations of rainfall, Europe is the only continent that has no actual desert. Thanks to a combination of causes, including rainfall, ground water, deposits left by retreating glaciers, the character of the underlying rock, and the alternate freezing and thawing, Europe is also for the most part a region of fertile soils. In short, since the end of the Ice Age, or since humans learned how to survive the winters, Europe has been one of the most favored places on the globe for human habitation. In recent times it has been, as shown by the insets of the two endpaper maps in this book, one of the few large regions, along with China and India, of very high density of population.

Climate itself can change. The Roman ruins in the interior of Morocco and Tunisia remind us that the climate there was once more favorable. Studies of tree rings, fossil plants, and alpine glaciers show that average temperatures were warmer from the end of the Ice Age throughout ancient and medieval times, and then fell during what is called the "little Ice Age" from about 1400 to 1850, when the winters lengthened and the growing season shortened, without drastic consequences for the people, who by that time could simply wear more wool, so that sheep raising and the woolen trade became a main staple of European commerce.

There is no geographical determinism. Climate and the environment not only set limits but provide opportunities for what human beings can do. What happens depends on the application of knowledge and abilities in any particular time and place. A broad river is an obstruction and hence a good boundary under simple conditions; it is less so after bridges connect the two sides. The oceans that long divided mankind became a highway for the Portuguese, Spanish, Dutch, French, and English, and later for others. Distance, which any good map will show by its scale, also varies in its effects according to the means of transportation; it must be remembered that for most of human history neither persons, information, nor commands could travel much more than thirty miles a day, so that localism prevailed, and large organizations, in trade or government, were hard to create and to maintain. For most of its history Europe was in fact made up of a diversity of small local units, pockets of territory each having its own customs, way of life, and manner of speech, each largely unknown to the others and looking inward upon itself, rather than of the blocks called "Germany" or "France" that we take for granted on a map today. A "foreigner" might come from a thousand miles away, or from only ten.

What constitutes a natural resource varies with the state of technology and the possibilities of exchange. The tin of Cornwall at the western tip of Britain became an important resource as long ago as the early Bronze Age, when despite its

remoteness it gave rise to some of the first long-distance European trade. Deposits of coal lay little noticed and scarcely exploited until the nineteenth century, and petroleum was of no significance nor even known, until about a century ago. It is a big fact of human history, rather than of geologic history, that some of the world's greatest coal beds happened to be in northwestern Europe and the United States, which could the more readily industrialize because they had easy access to abundant fuel, over which they had control, an advantage that was lost as they became more dependent on natural gas and oil. If the future is like the past, it will see a similar conversion of natural materials into natural resources.

The Mediterranean coasts were more wooded three thousand years ago than they are today. It was not only the change of climate that changed their appearance. Many human generations spent in cutting timber, pasturing goats, and planting vines and olives brought about erosion and depletion of the soil. Europe north of the mountains was heavily forested before human intervention. Trees were cut down and burned there as in America centuries later, so that the landscape slowly became an orderly expanse of carefully tended fields, still interrupted by woodlands. The state of agriculture obviously depends on natural conditions. But it depends historically also on the invention and improvement of the plow, the finding of appropriate crops, the rotation of fields to prevent soil exhaustion, and the introduction of livestock from which manure can be obtained as a fertilizer. Socially, agriculture benefits from the existence of stable village communities, and is affected by demographic changes; if a population falls as a result of war or epidemics, some fields will be abandoned and return to "nature"; if population grows, new and less fertile or more distant areas will be brought under cultivation. Nor can agriculture be improved without the building of roads, a division of labor between town and country, and some degree of regional specialization, so that some areas may grow cereals, others raise livestock, and still others be devoted to orchards and vineyards. Basic to agriculture, as to other enterprises, is elementary security. Farming cannot proceed, nor food be stored over the winter, unless the men and women who work the fields can be protected from attack by marauders, brigands, barbarian invaders, warring chiefs, or hostile armies. Such protection, or what might be called the normalcy of peace, was for several centuries imposed by the Roman Empire, in more recent times (barring wars) by the national state, and in between by barons who at least protected the peasants who worked for them, and by kings attempting to pacify their kingdoms.

For maps with exact detail, or extensive coverage, it is best to consult a good historical atlas, of which several are listed in the bibliography at the end of this book. Over fifty maps are included in the present volume, but some are only diagrams rather than true maps; all are intended to supplement the written text, by showing the location and geographical spread of matters under discussion. Many of the maps are mainly designed to show political boundaries at particular dates. Readers in looking at them can use their imagination to fill in the mountains and rivers that these maps cannot show but which can be important for an understanding of the extent of political power. Readers can also, by using their imagination and consulting the scale, convert space into time, remembering that until the invention of the railroad both people and news traveled far more slowly than today, or that at a rate of thirty miles a day it would take three weeks to travel from London to Venice, and at least six weeks for an exchange of letters. In human terms Europe has not been such a small place after all.

