Introduction

The central theme of this book is the changing spatial pattern of human activities during the last 2,500 years of Europe’s history. Three factors have determined the locations of human beings: the environment itself, the attitudes and forms of social organization of the people who lived there, and, lastly, their levels of technology. These three factors have interacted in a variety of ways. Environments have encouraged, permitted, or restricted human activities and, on the other hand, have been modified to be brought into line with human needs. Human perceptions and attitudes have been an ever present but always unpredictable factor in the equation. The relations of man and the environment have throughout history been modified by the tools which man had at his disposal. Technologies, wherever they originated, have been diffused by human contacts. Sometimes they were welcomed and used; sometimes rejected. These interrelations are immensely complex, and the following model is a gross simplification, but it is this model which is elaborated here:

![Diagram](image)

Environment is the total physical setting amid which people live. It includes the terrain: mountain, hill, valley, and plain. These have in many ways influenced settlement, transportation, and communication, not to mention agriculture. One is tempted to think of the influence of landforms as static and unchanging. The “everlasting hills,” it might be assumed, were always there, witnessing the coming and development of the human species in the more recent stages of their history. But the physical lineaments of the continents have changed in detail even during the historical period. Changes have, generally speaking, been small and of no human significance, but some have had an impact which no historian can afford to ignore, most notably in changes around the coasts of Europe: the loss of land to
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the sea and, at the other extreme, the building forward of flat coastlines and the
siltng of estuaries.

The rocks of which the earth is composed form a vital part of the environment.
They provide building materials; they may contain wells of water, pools of oil,
and deposits of solid fuel and metalliferous ores. And from the rock, aided by
climate and the vegetation cover, soils have been formed and, in their infinite
variety, have provided the medium in which crops have grown. Soils which have
been cultivated for any great length of time have become modified for good or ill.
Soil is "a response to management," and the best soils today are those which have
been well managed over the centuries. The impact of man on the structure of soils
may not be too readily apparent, but no aspect of his relations with nature is more
important.

Lastly, weather and climate are universal and inescapable aspects of the environ-
ment, the weather being the day-to-day fluctuations; the climate, the long-term
or average conditions. The former could not until recent times be predicted for
more than a few hours ahead. The latter was known, and around its procession
through the year was built the agricultural calendar and the sequence of festivities
and jollifications with which most people measured the passage of time. But the
predicted did not always occur; climate was not always what it was expected to
be. There were cool, wet summers — sequences of them in fact — and very cold or
very wet winters. Each such departure from the normal and expected brought
hardship, compensated in some measure by those occasions when the weather was
better than expected, the sunshine more prolonged and the rainfall only when it
was most needed. Only the most minimal adjustments could be made to weather
in the choice of crops, the drainage of soil, and the drying of the harvest. The
weather was, and remains, the element of the physical environment least suscep-
tible to human manipulation.

Society itself has inbuilt attitudes to its environment. All societies have been
relatively conservative, unwilling to interrupt whatever stable relationships they
had been able to establish with their physical surroundings. As a general rule,
change in customary practices has been accepted reluctantly, and then as a result
of necessity, of the need to cope with shortages of food, of land, of fuel. Stuart
Piggott has distinguished between conserving and innovating societies, the former
reluctant to change either their social organization or their ways of exploiting their
habitat; the latter accepting change however unwillingly.1 No particular human
activity is ever pursued in isolation; it is part of a system, dependent on and
intermeshed with others which are in some measure complementary to it. Any
innovation or change must have far-reaching repercussions, and nowhere is this
more apparent than in agriculture. Practices such as open-field farming, fallowing,
and a three-course husbandry continued long after they had become technically
obsolete, because each was intertwined with other practices in a system which

1 Stuart Piggott, Ancient Europe from the Beginnings of Agriculture to Classical Antiquity (Edinburgh,
1965), 17–18.
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stood or fell as a whole (see Chap. 11). A conserving society was one in which social structure, craft industries, agriculture, and trade were so interlocked that voluntary change became very difficult, if not quite impossible.

The size of the population exerts a continuing influence on environment and technology. Its growth may provoke scarcities and even stimulate invention. It is, within limits, a mobile factor; it can move in search of land or employment. Its size and distribution must be an essential ingredient in the changing spatial pattern of human activities. Behind the pattern and intensity of agriculture, the scale of craft and later of factory industry, and the growth of towns there lies the number of bodies to be fed, clothed, and housed. It is difficult to escape the conclusion that a growing population, even though it may fall well short of truly Malthusian levels, nevertheless sometimes stimulates innovation. The mechanism is simple. Incipient shortages, whether seasonal, irregular, or long-term, lead to small increases in price, and this in turn leads to greater inventiveness to satisfy demand.

The size of the population is a far from autonomous factor in making for scarcity or abundance. It is, in part, governed by social mores, which might, for example, favor early marriage, condone infanticide, or erect large families into a mark of social distinction. It has been subject no less to epidemic and other forms of disease, which are part of the biological environment. Their significance has been increased both by the congestion of densely settled areas and by migration. On the other hand, technological advance has had as one of its consequences the improvement of hygiene and of public health and thus a diminished mortality. How often in the world today do we see that the broad field of innovation, which has had as its objective the reduction of scarcities, has in the end precipitated greater difficulties by increasing population and thus demand.

The third factor is technological innovation. Its purpose has always been to increase or accelerate the productive process, whether in agriculture, the crafts, or in other human activities. Most often an innovation served to remedy scarcities which had themselves arisen through increase in human demand, from an exhaustion of naturally occurring resources, or from a combination of the two. It was an improving technology which allowed the Neolithic farmers to encroach on the forests and the medieval peasants to plow and cultivate the heavy clay soils (see Chap. 6). Technological innovation replaced the simple wind furnace with the high or blast furnace for smelting iron, and other innovations brought about the adoption of coal as an industrial fuel in place of charcoal. In every instance there were those who suffered, but in the long run, accepted wisdom tells us, the change was for the greater good of the greatest number.

Every innovation has had a spatial aspect. It brought about some change or other in materials used, in the labor needed, or the market supplied, and these in their turn necessarily brought about shifts in the location of activities, as those involved in them perceived the greater advantages of one place over another. The following pages contain many instances of the geographical shift of one phase of production or another in response to changing factors of production. But no such change has ever been inevitable or automatic. If the relevant data were fed into a
computer, it could doubtless be made to calculate the cost-effectiveness of one location in relation to another. Thousands of such calculations are being made today. But earlier peoples were not slaves to the computer. They judged their environment as they perceived it, and their perception was always colored in some degree by the values of the society in which they lived.

A PLAN OF CAMPAIGN

How then to organize a study of the shifting spatial pattern of human activity? This activity itself is infinitely varied so that selection and organization become major problems. But in this book a limit has to be set. Only those activities which play a major role in supporting human life are considered: agriculture and manufacturing, the choice of a place to settle and live, and the construction of shelter from the elements. Many other subjects might have been included, each representing in some way the interaction of society and its level of technology with the physical environment. Styles of building construction, patterns of social behavior and custom, even styles of pottery and of decoration all display spatial patterns which change through time and are susceptible to geographical analysis.

Within the broad framework of the interrelationships of environment, society, and technology a restricted number of themes is pursued from the fifth century B.C. to the early twentieth century. They are: settlement and agriculture, the growth of cities, the development of manufacturing, and the role of trade. But underlying each of these themes are two other factors: political organization and population.

The geography of the state might be thought to have little relevance to the study of the themes of this book as they have been outlined above. Indeed, there have been historical geographies from which it had been almost wholly excluded. Yet political organization can never be taken for granted. Boundaries not only set limits to political obligations; they also set bounds to economic regimes. Although the general tendency in this book is to look at the broad spatial patterns of the continent as a whole, one frequently finds abrupt changes at political boundaries, quite unrelated to the physical setting. Their explanation must lie with the contrasted economic and social policies pursued on each side of the line. At the simplest level of late prehistoric Europe, tribal areas were also areas of economic organization. The same goes for the Greek polis and the city-region of the Romans. Even during the Middle Ages, when political boundaries might have been thought unimportant, efforts were continually being made to systematize them and to strengthen their deisive influence.

In modern times the state has assumed greater powers and responsibilities than it has ever possessed before, and with increasing demands has come an intensification of the role of political boundaries. They are seen increasingly, and especially in the most recent period, to separate attitudes to land use, to industrial development, to the structures of transportation and communication. One might say that the almost ‘seamless web’ of earlier Europe became broken and fragmented by the
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political lines drawn across it, so that it became a mosaic rather than a continuum.

The inclusion at every stage of this book of the changing geography of population calls for no explanation or excuse. It is human geography with which we are concerned, and to leave out the population element, as has occasionally been done, is to omit the Prince of Denmark from the drama.

Human settlement is a vital part of human geography. Settlements are where people live, and their size and plan reflect in varying ways both social organization and economic activity. They range in size from the isolated homestead to the metropolitan area. As a general rule they are permanent structures; they cannot, like people and craft industries, migrate, though they may decay and become abandoned. In terms of accommodating people a multitude of small settlements may be no different from a few large, but as responses to human needs for homes and for the opportunity to gain some form of subsistence from the environment they may be worlds apart. The city is commonly thought of as something different and distinct from rural settlement. In fact, it lies at one end of a spectrum which reaches to the isolated farm at the other. The distinction between small towns and large villages is only juridical. Many a large village was as industrialized as a town, and thousands of towns, right up to the nineteenth century, were as agricultural in function as any village. But at the extremes of the spectrum the large city has always been poles apart from the village. Its agricultural functions have disappeared, and it has become a center of manufacturing and service industries and of government and administration.

Urban settlement is given particular emphasis not only because it has, at least during the past century and a half, absorbed a large and increasing proportion of total population, but also because the city has played a role of immense significance in the cultural and material development of western man. A city is a center of specialized production. Frequent reference will be made to the “basic” activity of a city. This is the function whereby it supports itself and pays for the foodstuffs and other materials which it obtains from elsewhere. The basic function of an industrial city is the provision of certain manufactured goods for a national, even for a world, market. That of other cities might be the provision of services, administrative, commercial, educational. Even in the fifth century B.C. such specialized cities were beginning to crystallize from the mass of human settlements, and the process has continued and intensified until the present.

The second theme is land use and agriculture, the utilization of land for the production of food and industrial crops. No aspect of human activity is more closely dependent on the physical constraints set by the environment. Relief, climate, and soil all play a role in determining where people till soil and what they grow. Nevertheless, man has progressively modified his environment and made social, even biological, adaptations to it. It may not be possible to modify climate in any significant fashion, but small steps can be taken to moderate its influence. Windbreaks, contour plowing, basin irrigation, and dry farming are all adaptations to climatic factors. The relief of the land cannot be altered, but slopes can be terraced for cultivation and the choice of crops can be adjusted to slope. Soil is the
most susceptible to change. Careless use can, it is true, lead to the deterioration or even loss of the topsoil, but most soils which have been long under cultivation have been so progressively modified and improved by deep drainage, careful plowing, and the use of manure and fertilizer that they bear little resemblance to those first tilled by prehistoric man.

On the quality of the soil, the climate, and the levels of management have depended in the last resort the density of population. Agricultural technology and resulting yields thus assume a fundamental importance, and the very slow changes in agriculture and the levels of agricultural production are an important theme.

Next to agriculture must come the craft industries which have from the earliest times supplied the physical needs of mankind and, through the provision of the tools of cultivation, food production itself. Industries have to be studied from the viewpoints of both the technologies employed and of their structural organization. They thus range from the use of the humble distaff to mechanical spinning, and from the craftsman working alone in his home to the highly structured factory. A feature of manufacturing is the continued existence of the simplest structural forms and the most elementary technologies into the nineteenth century, when they coexisted with the most sophisticated forms of factory organization. The long survival of labor-intensive craft manufactures has in some degree resulted from the surplus of labor in many areas of Europe, but this is not the complete explanation. The inelasticity of social structures has been an important factor in the slowness of change here, as it has been in agriculture.

The last theme in this book is that of the role of trade. Trade is the necessary consequence of specialization of production. From the earliest stages in human social development there have been specializations and trade, if only because such essentials as salt, flint, and obsidian for tools and desirable, if less essential, materials like jet and the precious metals were highly localized in their occurrence. In a sense the specialization of labor was apparent in the Neolithic. What are the flint-workings at Grime’s Graves in eastern England and at Spines in Belgium but primitive “factories” from which flints were dispatched to other regions and were, presumably, paid for in other commodities? No doubt most communities, even into the twentieth century, were self-sufficing. Their trade was only of marginal significance. But its volume and variety tended to increase and the routes which it followed to change with supply and demand. Trade is, indeed, a barometer of human progress, and its spatial pattern a theme of extraordinary importance.

The organization of so many discrete themes over so great a period of time presents not inconsiderable difficulties. It would be possible to take each in turn and follow it through the two and a half millennia which this book spans. This method has not been adopted because to do so would be to lose the opportunity to integrate the themes with one another. Instead, a “picture” of Europe is presented as it might have appeared at seven different times in the course of its history. Each of these times was important in its own right in the history of Europe, marking the climax of a period of development. They are the time of Athenian greatness in the fifth century B.C., the culmination of Roman imperial
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power in the second century A.D., the time of Charlemagne, the early fourteenth century, the Renaissance, the eve of the Industrial Revolution, and, lastly, the first decade of the present century with which the book ends. Between each successive picture has been inserted a kind of continuity, tracing the changes that occurred during the intervening period.

Process

One may ask by what processes these changes were brought about. Change is not quite the same as growth. The latter implies the multiplication of what is already there. Agriculture or an industry may, for example, grow without any change in its internal structure or technology. Change implies some alteration in the factors of production. The heavy plow and the horizontal loom represented change, since they permitted the same labor to produce more efficiently or more abundantly. Of course growth is likely to accompany change, which would otherwise have no sensible purpose, and continued growth may be impossible without change in structure or technology in order to take account of different physical conditions encountered as growth proceeds.

The agents of change appear to be fourfold. First there must be innovation, the discovery and use of a new material or process, or a refinement in an established technology. It is not our purpose to discuss the psychology of change, the human predisposition to experiment or to conserve traditional practices. It is sufficient to say that some people have shown a greater disposition to innovate than others.

The second agent of change is diffusion, the spread of an innovation to other peoples than those who initiated it. This has never been an automatic process. Knowledge of a new “invention” in technology or organization has to be carried by people. Sometimes there has been a desire for secrecy, a reluctance to part with the good news. At other times, there has been resistance to the changes implicit in its adoption. The very great differences in material standards to be found in Europe at any of the periods discussed are, in part, the consequences of resistance to innovative practices.

Specialization is the third agent of change. When a community begins to produce more of a certain article or commodity than it needs for its own consumption, it must part with the surplus. It becomes a specialist. Small-scale surpluses may have little significance, but beyond a certain point specialization must be accompanied by organizational change. It implies innovation. Specialization may be seasonal, like the work of the winter linen weavers of Flanders (see Chap. 11) or part-time, but tends always to become a total occupation. Specialization breeds the expert, so thoroughly versed in his craft or occupation that experiment and innovation come to him naturally. Specialization increases total production, as with Adam Smith’s pinmaker, and is thus likely to contribute to change, growth, and human betterment.

Exchange is a necessary consequence of specialization. It is a process whereby the benefits of more efficient production are spread more widely, and, if only by
example, encourage further growth. Lastly, migration, which may in a sense be regarded as a form of diffusion, takes people with different technologies and organizational patterns into areas from which they had been absent. Its importance from prehistoric times to the present is too obvious to require elaboration here. It makes no difference that migrants were sometimes refugees and their contribution to change involuntary, or sometimes mere individuals enticed or bribed to carry their skills elsewhere. In these ways were the changes described in the following pages achieved.
I

The physical basis of European history

When the period of written history began in the sixth century B.C., Europe had already been inhabited by members of the human species for a million years or more. During this long span of time they had seen the ice sheets advance from the north and then melt away at least four times. They had been obliged to adjust, both physically and mentally, to this changing environment, and in doing so had gradually raised the level of their own skills and of the control which they were able to exercise over their surroundings. Nevertheless, their levels of cultural development varied from one part of the continent to another. Most of the significant advances in man’s material culture, like agriculture and the smelting of metals, had been made in the Middle East and had entered Europe through the Balkan peninsula. From here they had been diffused northwestward to central Europe and then to western. There was always a steep cultural gradient between the more developed regions, like Greece and the Aegean, and the least, such as Scandinavia and the Atlantic periphery of Europe. Such differences, it might be thought, would be bridged in time, as the more advanced cultures spread outward like ripples from their heart in the Aegean region. But such a leveling up did not, and indeed could not, take place. The receptivity of Europe to new cultures and new techniques itself varied too greatly. There were areas where the Neolithic farmers could establish themselves with the same ease and success that they showed in the riverine plains of the Middle East. There were others where soil and climate combined to repel the agriculturalist, where only the hunter-gatherer could scratch the barest of livings from the land.

It is this variegated pattern of resources which forms the background of this book. Against it are set the changing and slowly evolving patterns of population and settlement, of agriculture, manufacturing, and trade. These were influenced as they developed by the physical environment, but how deeply they were affected has long been a matter for debate. One school of thought, which stems from Greek historical writing of the fifth and fourth centuries B.C., conceives of human society as shaped by its environment. “Soft countries,” wrote Herodotus, “invariably breed soft men, and it is impossible for one and the same country to produce splendid crops and good soldiers.” And again, “the deficiency of spirit and courage . . . in the human inhabitants of Asia has for its principal cause the low margin of seasonal variability in the temperature,” whereas the “inhabitants of mountainous . . .
country . . . will tend to have large-built bodies constitutionally adapted for courage and endurance.” From the nature of the environment Greek writers deduced the probable economy and form of government. Against this can be set the statement of a recent Italian foreign minister, disclaiming any Communist threat to his country: “Communism is a creed of the plains; my country is mountainous.” The legacy of Greek historical thought is clearly with us still. But such extravagant views cannot be seriously held today. Of course, all human activity is influenced by the physical environment amid which it takes place. Climate, soil, mineral wealth, rivers, and routeways all offer opportunities for man to use, but together they also set limits to human action. These limits are rarely absolute. Nature never says, “thus far and no farther may you go, or cultivate the soil, or carry on manufactures.” It merely makes these tasks more difficult, so that there comes a time and place, different for different peoples, where they give up the unequal struggle. In the last resort it is people who decide whether a given resource or a particular environment can be used, and how. The harsher the circumstances, the more likely they are to abandon the effort. One cannot generalize. Peoples’ motivation and resilience are as varied as the physical circumstances amid which they have lived and worked.

THE HUMAN ENVIRONMENT

The physical environment has not been a fixed, immutable presence throughout human history. Its alterations within the historical period have been small compared with the giant fluctuations which accompanied the advance and retreat of the ice sheets, but they have, nonetheless, been of significance in the development of human societies. Change in the topography of the land has been too slow to have much importance, though one must not underestimate the ways in which harbors have silted and the coastline advanced or retreated. But the most important environmental change since the final withdrawal of the ice sheets has been fluctuations in the climate. The postglacial amelioration has been irregular, broken by phases when cold returned though never on the scale of the Ice Age itself. Very broadly cool and relatively dry phases alternated with milder and wetter ones. Change in climate brought about change in the natural vegetation. Broad-leaved trees spread northward as well as upward on the mountain slopes, only to yield place at the margin to conifers when the climate again deteriorated. Change in flora led to change in animal life. The stable relationships established between the human animal and the environment were shaken, and man was obliged to migrate or to modify his way of life. Particularly important, in retrospect, was the transition to cooler and damper conditions at the end of the so-called Subatlantic phase. Peat bog began to form in many areas of central and northern Europe, and to spread over upland surfaces – the so-called blanket bog – trapping trees and burying the evidence of human settlement.

1 Hippocrates, as quoted in A. J. Toynbee, Greek Historical Thought from Homer to the Age of Herodotus (London, 1924), 165–6.