

ARTHUR GETIS/JUDITH GETIS/JEROME FELLMANN

HUMAN GEOGRAPHY

CULTURE AND ENVIRONMENT



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Culture and Environment

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PREFACE

A number of users of our textbook *Geography*, an introductory survey of both the physical and cultural branches of the discipline, commented that they wished there were a textbook embodying its approach that focused just on human geography. This text is the result. It divides human geography into manageable subfields and surveys the perspectives, concepts, and most important research findings of each. It is intended for a one-quarter or one-semester introductory course for college students who have little acquaintance with human geography or the breadth of its concerns.

From the earlier book we have eliminated the three chapters that dealt with physical geography and a fourth that introduced the regional concept. Four new chapters have been added in their place. Population geography, a topic treated as part of an earlier chapter, now constitutes the separate Chapter 2. Chapter 5, "Threads of Diversity," focuses on the variety of ethnic characteristics and spatial patterns that give particularly the North American culture realm its distinctive character. The principles governing human interaction are summarized in Chapter 7. Finally, Chapter 12 examines the geographic bases of three major societal problems: income distribution, health care, and crime. Its purpose is not only to summarize important topics of current human geographic and general public concern but also to outline the ways in which geography constitutes an indispensable background and point of view in the consideration of contemporary social problems.

All other chapters have received extensive reviews by colleagues in our own and other universities and been revised and updated. More than half of the figures are new or have been redrawn to reflect the most recent available data. End-of-chapter questions and suggested readings have also undergone appropriate revision.

The content sequence of the book reflects the authors' sense of orderly development of topic. Chapters may, of course, be taken in any sequence preferred by the instructor. References between chapters and an end-of-book glossary defining introduced terms and concepts make such rearrangement feasible and without penalty in student comprehension.

Special features of this book are illustrative text inserts and end-of-chapter questions and reading lists. The boxed inserts supplement the text presentation of concepts by giving details of a particular instance or amplifying an interesting point made in the text. The "For Review" questions are designed to enable students to check on their understanding of the material and thus reinforce the chapter content. The "Suggested Readings" are intended to facilitate further study and investigation and are therefore confined to easily accessible books. With the exception of a few "classic" works, only recent publications are listed.

An instructor's manual is available providing chapter summaries and suggesting discussion, review, and examination questions.

As noted, a number of reviewers have suggested ways to improve the manuscript. We wish especially to acknowledge the critical advice of Thomas D. Anderson, Bowling Green State University; D. E. Joan Miller, Illinois State University, and Roger L. Thiede, University of Wisconsin-Eau Claire. We thank them and our Editor, Peter Gordon, who at a late stage of manuscript preparation had editorial duties thrust upon him and who guided the book to successful completion. Our particular gratitude goes to Production Supervisor Elisabeth Belfer, who once again made contributions far beyond the implications of her official title, and to Designer Holly Reid McLaughlin, whose contribution was greater than the mere attractive appearance of our book.

We also wish to express our gratitude to the cartographer James Bier, who designed and drafted the large number of maps and diagrams included in the book. We are indebted to W. D. Brooks and C. E. Roberts, Jr., of Indiana State University for the projection used for many of the maps in this book: a modified van der Grinten.

A. G.
J. G.
J. D. F.

CONTENTS

INTRODUCTION

1

- Regions and the Divisions of Geography 2
- Tools of Geographic Study 3
- The Purposes of Geography: What Geographers Do 4

CHAPTER 1

HUMAN BEGINNINGS AND CULTURE ORIGINS

5

- Human Beginnings 6
- Culture Hearths 17
- Culture Change 30
- Conclusion 39
- For Review 39
- Suggested Readings 40

CHAPTER 2

POPULATION GEOGRAPHY

41

- Population Growth 42
- Some Population Definitions 43
- The Demographic Cycle 49
- World Population Distribution 54
- Population Density 56
- The Future 59
- Conclusion 67
- For Review 67
- Suggested Readings 68

CHAPTER 3	
HUMAN IMPACT ON THE ENVIRONMENT	69
Ecosystems	70
Impact on Water	72
Impact on Air and Climate	82
Impact on Land and Soils	89
Impact on Plants and Animals	99
Solid Waste Disposal	105
Conclusion	107
For Review	107
Suggested Readings	108
 CHAPTER 4	
THE MOSAIC OF CULTURE	109
The System of Culture	110
Topics in Cultural Geography	112
The Technological Subsystem	115
The Sociological Subsystem	124
The Ideological Subsystem	130
Culture Realms	142
Conclusion	145
For Review	147
Suggested Readings	147
 CHAPTER 5	
THREADS OF DIVERSITY	148
Ethnic Diversity and Regionalism	148
Folk Culture	179
Popular Culture	187
Conclusion	193
For Review	196
Suggested Readings	196
 CHAPTER 6	
THE POLITICAL ORDER	198
Political Systems	199
Local Political Organization: The Districting Problem	200
Regional Organization: Political Fragmentation in the United States	202
The Nation-State	206
The Seas: Open or Closed?	221
Aspects of International Political Systems	227

Conclusion	232
For Review	233
Suggested Readings	233

CHAPTER 7

PRINCIPLES OF HUMAN INTERACTION 235

The Bases for Interaction	235
Modes of Interaction	247
Communication and Information Flows	261
Conclusion	266
For Review	268
Suggested Readings	268

CHAPTER 8

ECONOMIC GEOGRAPHY 270

Types of Economic Systems	271
Subsistence Economic Systems	273
Commercial Economic Systems	279
Planned Economies	301
Conclusion	308
For Review	308
Suggested Readings	309

CHAPTER 9

ENERGY AND MINERAL RESOURCES 310

Definitions	311
Energy Resources	315
The Nonrenewable Fossil Fuels	317
Renewable Energy Resources	334
Nonfuel Mineral Resources	341
The Emerging Crisis	349
Conclusion	351
For Review	353
Suggested Readings	353

CHAPTER 10

SETTLEMENT PATTERNS 355

Rural Settlements	356
Urban Settlements	358
Urban Development and Decline: The Economic Base	368
Inside the City	372
Suburbanization	383

Functional Relocations and Central City Change	386
The Making of World Metropolitan Regions	388
Conclusion	392
For Review	394
Suggested Readings	395

CHAPTER 11

BEHAVIORAL GEOGRAPHY 396

Individual Activity Space	397
Distance and Human Interactions	401
Spatial Interaction and the Accumulation of Information	401
Perception of the Environment	407
Migration	412
Conclusion	423
For Review	425
Suggested Readings	426

CHAPTER 12

PATTERNS OF SOCIAL PROBLEMS IN THE UNITED STATES 427

The Geography of Income	428
The Geography of Health	439
The Geography of Crime	450
Conclusion	462
For Review	463
Suggested Readings	463

GLOSSARY 465

INDEX 475

INTRODUCTION

The fundamental question asked by geographers is: Does it make a difference where things are located? If for any one thing or group of things the answer is, "You bet it does," then there is a good chance that it is discussed in this book. For example, it matters a great deal that languages (a cultural thing) of a certain kind are spoken in certain places. Studying the location of a specific language group requires that we attempt to answer questions dealing with the characteristics of the language and the reasons for the distribution of those who speak the language. In the process of our study, we will be compelled to discuss such concepts as migration, acculturation, the diffusion of innovation, the effect of physical barriers on communication, and the relationship of language to other aspects of culture.

Geography is often referred to as the spatial

science, that is, the discipline concerned with the use of earth space. In fact, *geography* literally means "description of the earth," but that task is really the responsibility of nearly all the sciences. Geography focuses on those phenomena usually describable on maps, such as cities and transportation routes and population distributions and language groups. Just as history focuses on time, geography is concerned with space. Historians are concerned with the events that they examine, and geographers are vitally concerned with process, that is, with the development of the distributional patterns that are of interest to them.

Geography might better be defined as the study of spatial variation, of how things differ from place to place on the surface of the earth. It is, further, the study of how observable spatial patterns evolved through time. If every-

thing were everywhere the same, if there were no spatial variation, the kind of human curiosity that we call geographic simply would not exist. Without the certain conviction that in some interesting and important way landscapes and peoples differ from place to place, there would be no discipline of geography.

As a field of study, geography has ancient roots. Geographers of classical Greece measured the earth, devised the global grid of latitudes and longitudes, and drew on that grid maps of the known world. They explored latitudinal variations in climate, discussed the lands of the Mediterranean basin, and speculated about the more remote territories of Asia, northern Europe, and equatorial Africa. Employing concepts that are still useful, these early geographers described river systems, discussed forces of erosion, and noted the consequences of environmental abuse by farmers, herders, and woodsmen. The significance of spatial variation in patterns of human and natural features of the earth underlay all of their inquiries. Indeed, to Strabo, one of the greatest of ancient geographers, the task of geography was to “describe the known parts of the inhabited world, to write the assessment of the countries of the world [and] to treat the differences between countries.”

Regions and the Divisions of Geography

Geographers’ questions are all essentially spatial (distributional) in nature; those of the historian are concerned with time. The content of area, like events through time, may be infinitely variable. Both geographer and historian seek to bring order and understanding out of that variation. The historian subdivides time into periods or eras that have some unifying traits that set them apart from the continuous flow of events; the Federalist Period or the

“Roaring Twenties” are in some defined way seen as distinctive and separate. Geographers, too, subdivide their topic of study, earth-space, into coherent units called regions.

All of us have a general idea of the meaning of region, and all of us employ the regional concept in everyday speech and action. We visit “the old neighborhood” or “go downtown”; we plan to vacation or retire in the Sunbelt; or we speculate on the effects of weather conditions in the Middle West on next year’s food prices. In each instance, we have a mental image of the area based on certain criteria that seem important to us and, presumably, to our listeners. We classify spatial data to distinguish areas we wish to recognize as separate and distinct.

Many geographers examine how natural features and human patterns are distributed and interconnected in one particular area of the earth. As *regional* geographers, they isolate for study North America, the tropics, or other earth regions that have unifying characteristics justifying their separate consideration. Geographers may also divide their subject into topics and, as *systematic* geographers, identify particular classes of spatial features for separate study. They may focus their attention on agriculture, population, or landforms. In each case, the topic selected for study is examined in its interrelationships with other spatial patterns.

Because geographers interpret both physical and cultural variation from place to place on the earth’s surface, the principal division of geography is between physical geography and human geography. Physical geographers direct their attention to the natural environmental side of the human–environment structure. Their concerns are with landforms and their distribution, with atmospheric conditions and climatic patterns, with soils or vegetation associations, and the like.

The other branch of geography—human geography—is in the social science rather than the physical science tradition. Human geogra-

phy has a primary involvement with the cultural side of the human–environment interface. It is concerned with people in their numbers and distributions; it traces patterns of cultures and culture traits. It explores the spatial arrangements that people have developed in their economies, their political structures, and their settlement types. It examines the behavioral, social, and economic constraints that help shape patterns of human activity. Those activity patterns, collectively called *culture*, are the topics of concern in the chapters that follow.

Tools of Geographic Study

Maps

Because geographic questions are spatial in nature, maps are the indispensable tools of geographers. They display the distributions and associations of the items, physical or cultural, selected for analysis. *Selected* is the key word; maps are effective to the degree that they are designed to emphasize just those items isolated for study and to the degree that they are useful in answering the geographic questions asked. By compressing, simplifying, and abstracting reality, maps record in manageable dimension the real-world conditions of interest. Those conditions may be visible in the landscape, as are hills, forests, towns, and the like. Or they may be things real but unseen, such as where different religions are practiced, or how birth rates are spatially arranged. That is, maps are designed by geographers to serve their needs of recording and analyzing spatial data.

By their nature, maps distort reality. For one thing, maps are generalized, incomplete records of what actually exists on a portion of the earth's surface. Further, they invariably alter the scale of things, bringing down to manageable size the real area that they summarize. Finally, because they show part or all of a round

earth on a flat piece of paper, they tend either to distort shape or to misrepresent area. Despite their inevitable distortions, however, maps are the essential tool geographers use to study distributions in earth area, compare patterns of diverse phenomena, derive ideas of spatial interaction, and present their conclusions.

Maps are a kind of model. They represent reality in an idealized form so that certain of its properties may be more clearly seen. Maps are a special form of model, of course, for their abstractions are rendered visually and at a reduced scale so that they may be displayed, for example, on the pages of this book.

Models

The complexities of the distributions and associations that they deal with have led some geographers to use other kinds of models in their work. Model building is the technique employed by social scientists to simplify complex situations, to eliminate unimportant details, and to isolate for special study and analysis the role of one or more interacting elements in a total system.

An interaction model discussed in Chapter 7, for instance, suggests that the amount of interaction expected between two cities depends on the distance separating the cities and on their population size. The model suggests that the larger the cities and the closer their distance, the greater their amount of interaction. Such a model helps us to isolate the important components of the real-world situation, to manipulate them separately, and to reach conclusions concerning their relative importance. When a model satisfactorily predicts the volume of intercity interaction in the majority of cases, the lack of agreement between what is observed and what is expected in a particular case leads to an examination of the circumstances contributing to the disparity. The quality of connecting roads, the political barriers, or

other variables may affect the specific cities examined, and these causative elements can be isolated for further study.

The Purposes of Geography: What Geographers Do

Geography deals with the world as it is and with the world as it might be made to be. It treats of people: what they do, what they are, and what they want. It considers physical and cultural features in association in area and leads to questions, and answers, about how those locations or associations are important to what humans do, are, and want. It helps us to understand and control the world we occupy; it enables us to appreciate the circumstances affecting peoples and nations other than our own and simultaneously makes us more aware of the realities and the prospects of our society in an increasingly troubled and competitive world. Geography can make us better informed citizens, more able to understand the important issues facing our communities and our country, and better prepared to contribute to their solution.

Geography admirably serves the objectives of a liberal education. Can it, as well, be a pathway to employment for those who wish to specialize in the discipline? The answer is "Yes," and in a number of different types of jobs. Because of the breadth and diversity of the field, training in it involves the acquisition of skills and approaches applicable to a wide variety of professional needs. The flexibility of the trained geographer is a useful attribute in a rapidly changing employment world.

For those interested in careers involving human geography, the possibilities are as many and as varied as the agencies and enterprises

dealing with humans and human concerns. Geographers work at various levels of government as urban, economic, land-use, and traffic planners, for example. They are involved in assessing and planning for health care delivery, in analyzing patterns of crime and delinquency, and in working with social action agencies of all types at the local, state, and national levels. The application of geographic skills is also important in the private sphere. Advertising, merchandising, industrial location, real-estate development, commodity trading, and the like are areas in which human geographers have found employment and professional success. Regional expertise is vital in the areas of foreign policy (in the U.S. State Department and in the foreign trade and aid agencies, for example) and in overseas business enterprises. The list is long; indeed, there can be no particular list when the possibilities of productive application of geographic understandings and techniques are limited only by the intellect and the enterprise of trained individuals.

For those who are sufficiently excited by geography to seek their careers within it, opportunities are present and ever-expanding. Certainly, they are not limited to teaching the subject in the schools or at the university level. Indeed, any academic geographer is regularly surprised (and excited) by reports from past students about the ways in which their geography training is being used in a variety of careers not usually identified with the discipline.

Whether you find in this course and this book simply the satisfaction of your curiosity and an expansion of your outlook as an educated citizen, or you use them as stepping stones to further specialization in the discipline, we welcome you to the exciting world of human geography!

CHAPTER 1

HUMAN BEGINNINGS AND CULTURE ORIGINS

Some 3.7 million years after they were made, the footprints were still clearly visible, prints indistinguishable from those made on a sandy beach today. They showed a strong arch, a well-shaped heel, the big toe forward in a straight line. A highly improbable sequence of events in the remote past had preserved for discovery in 1978–79 at Laetoli in Tanzania, East Africa, the tracks of more than twenty species, some now extinct, of birds, insects, and animals, including free-standing, upright, two-legged, humanoid creatures with the gait of modern humans.

Just at the start of the rainy season, when intermittent light showers alternated with periods of intense sunlight, a now extinct volcano emitted a series of eruptions of a light sandy ash. One such eruption deposited on the adjacent plain perhaps half an inch of the ash. A

gentle shower falling immediately after the eruption converted the ash to a plastic-like substance able to record clearly the tracks of the creatures that moved over it. Heat from the bright sun that followed the brief shower hardened those tracks. To complete the unlikely chain of occurrences, a new blast of volcanic ash covered the solidified tracks before they could be washed away by another of the intermittent rains. Had the eruptions come during the dry season, the tracks would not have been clearly defined; had the ash had a different chemical composition, it would not have formed a recording cement; had the rains been heavier, or differently timed, the evidence of animal passage would have been obliterated.

But the improbable did occur, and the uncovered evidence was clear: two tracks about 165 feet (50 meters) long, showing nothing of

the shuffling gait, splayed toes, or knuckle-supported stance of apes. The creatures had walked northward on parallel courses. The larger, shown by the size of its foot and the length of its stride to be perhaps 4'7" (140 centimeters) tall, walked directly and purposefully, its tracks sharply preserved. The smaller, some 3'10" (120 centimeters) tall, crossed when the ash was drier. Its passage was less clearly recorded, though at one point it apparently paused, made a half-turn to the west, and then moved on.

The modern appearance of the Laetoli footprints does not imply that their makers had fully human characteristics. Fossil evidence of the same period found at Afars, Ethiopia, farther to the north, shows that bipedalism (two-footed movement) was fully developed while small-brained, apelike cranial features were still retained. The now-famous "Lucy" (discovered in 1974 and assigned a disputed age of 3.6 million years) and the perhaps 4-million-year-old male fossil unearthed in 1982 to the south of the "Lucy" site in Ethiopia have been assigned the species name *Australopithecus afarensis*, the Afar ape-man, in part reflecting the size and shape of the chimpanzeelike skull. Apparently, human ancestors walked upright for millions of years before the larger brain and the tool-making abilities leading to the emergence of modern humans developed.

The nature of the evolutionary process has recently been the subject of considerable controversy between those who follow Darwin and insist on a gradual pace of evolutionary change and those who observe the growing evidence of fossil discoveries and propose a history of "punctuated equilibrium." This latter concept describes evolution as a series of long-enduring stable species abruptly adapting to drastic environmental changes. Whatever the nature of human evolutionary change, either gradual or in spasms of alteration, its broad outline is becoming increasingly clear.

Human Beginnings

Perhaps 2–3 million years ago, the ancestors of modern humans were making primitive stone tools in East Africa, acts of creation that were part of a prolonged developmental process during which our forebears became increasingly differentiated from other animals, learned how to adapt to a variety of habitats, and gradually spread over the surface of the earth. From an early date, humans and their immediate ancestors demonstrated their ability to be the active elements in the complex of human–environment interactions leading to the peopling and the exploitation of the earth's surface.

In geologic terms, the extended period of time during which these developments took place includes the late *Pliocene* epoch and all of the *Pleistocene* epoch. The Pliocene period lasted until 2 million years before the present (B.P.), and the Pleistocene epoch dates from 2 million years to 10 thousand years B.P. Both were characterized by climatic fluctuations, and the Pleistocene, particularly, was a period of recurrent ice advances and interglacial warmings. Although people developed advanced civilizations only during a recent interglacial period, the origins of humans go back far beyond the onset of the glacial age. The incompleteness of the fossil record renders the exact details and sequences of human evolution uncertain. New discoveries subject even that uncertain record to changing interpretations. Some approximate key dates on which there is general agreement are given in Table 1.1. By any standards, humankind's biological and cultural evolution has traversed an immense span of time.

Perhaps 10–15 million years ago, *hominids*, or "humanlike" creatures, diverged from their apelike ancestors. Not accepted by all scientists as a hominid, *Ramapithecus* appears to have moved from the trees to a more open savanna

TABLE 1.1 Key Dates in the Evolution of Culture

Recent fossil discoveries make uncertain the early sequence of hominid development.

Cultural Period	Approximate Number of Years Before Present (B.P.) ^a	Chief Developments
Paleolithic	4–2 million	Emergence of <i>Australopithecus</i> (Pliocene) and <i>Homo</i> (Pleistocene).
	1.5 million	Evolution of <i>Homo erectus</i> ; migration to Asia and Europe; use of fire and crude tools.
	100,000–11,000	<i>Homo sapiens</i> develops and disperses across world; hunting and gathering economy; variety of tools; artwork; burial rituals; retreat of last glaciers.
Mesolithic	11,000–9000	Domestication of plants and animals, some production of food; semi-permanent settlements; further refinements of tools.
Neolithic	9000–5500	Systems of agriculture; use of animals for work; specialization in occupation.
	5500 to present	Growth of culture hearths, cities, city-states, and empires; continuous development in all systems of culture.

^a Dates apply to East Africa and the Old World. Societies in other parts of the world passed through many of these stages at later dates.

environment. It may represent a link between the early apes and the two or more genera of later hominids, undoubted members of the human family, that began to develop approximately 5 million years ago.

One of these was *Australopithecus*, “near man.” Walking erect and with limb and tooth structures that were clearly hominid, small-brained *Australopithecus* may have given rise to the genus *Homo*, or “true man” (Figure 1.1). It does appear, however, that *Australopithecus* was contemporary with early humans, arrived at an evolutionary dead end, and became extinct perhaps 1 million years ago.

The date of the appearance of *Homo* is much in doubt, ranging back by some disputed estimates to 3.75–4 million years B.P. A better documented date for East African *Homo habilis* is 2 million years B.P. Physically similar to the related *Australopithecus*, the first humans showed clear evidence of the beginnings of culture through tool and fire making. It is assumed that they had use of language and perhaps were organized into linguistically based bands.

The emergence of these cultural essentials and their later regional refinements are roughly associated in time with the Pleistocene epoch, beginning approximately 2 million years B.P.

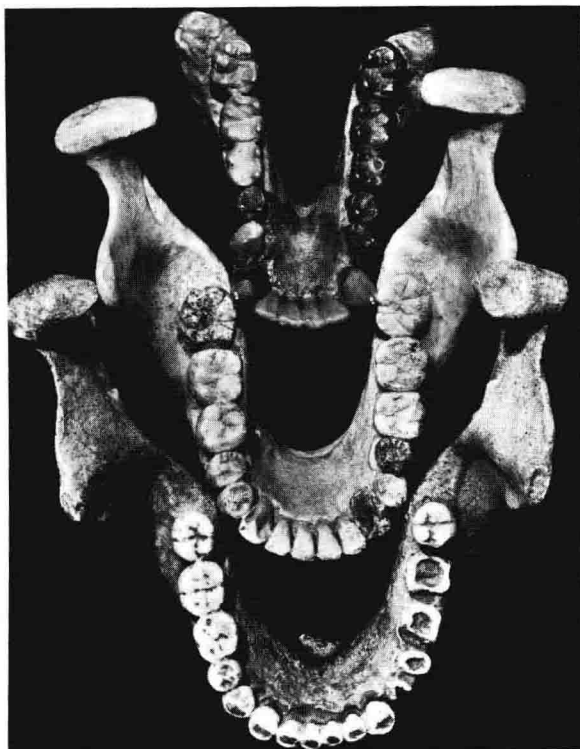


FIGURE 1.1 Models of the lower jaws of (from top to bottom) a hominid, *Australopithecus*, and *Homo erectus*. Over time, variations in the size of teeth may have been partially determined by the types of food consumed and the extent to which teeth were used for gripping and chewing nonfood items, such as animal hides. [Courtesy of the American Museum of Natural History.]

The Emergence of Humans: An Alternate View

The developmental history of early humans is undergoing constant revision as new fossil evidence is discovered, particularly in East Africa, and as new theories and lines of evidence are proposed. The temporal sequence summarized in the text stands, in the middle 1980s, as accepted but challenged wisdom.

One serious challenge comes from the biochemists, who have rejected as impossible the anthropologists' suggestion that the hominid–ape split came as early as 10–15 million years ago. Biochemically, the great apes and humans are closely related, and in some ways, chimpanzees are closer to humans than to gorillas. On the basis of biochemical similarities, a date of 5 or 6 million years B.P. for the hominid revolution would appear more logical than one 10 million years earlier. Recent fossil evidence from Ethiopia seems to support the biochemists' timetable: some 4-million-year-old remains have been found of the “Afar ape-man,” which show evidence of divergence into both human and *Australopithecus* descendants. Other fossil evidence, as well as that of the Afar ape-man, points to the likely emergence of true humans as recently as 5 million years B.P.