



NORTH AMERICA

J. H. PATERSON

EIGHTH EDITION

North America

A Geography of
the United States and Canada

EIGHTH EDITION

J. H. PATERSON

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This Eighth Edition commemorates

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Extract from the Author's Note to the First Edition, 1960

The regional geographer is essentially a gatherer of Other Men's Flowers. It is not, usually, the transmission of new facts that justifies his authorship, so much as the rearrangement, into more significant patterns, of facts which are already known. This book represents a search for such rearrangements, as it traces new patterns emerging from the familiar facts of the geography of North America at mid-century.

In the course of such a search as this, the geographer inevitably finds that he has to revalue, or even to discard, some of the symbols of his short-hand which have served over past decades—such labels, for example, as the 'Manufacturing Belt' or the 'Cotton Belt.' I believe that, in some cases, their use has actually masked a more logical analysis of the geographical facts than they themselves provided, and I have tried to show how and why they have served their time. So much has changed in North America since they were first invented.

The later chapters of the book deal with the regions of North America, and all of these regions are familiar to geographers. I have not, however, devoted much attention to their exact definition on the ground, nor attempted to map them. Rather, I have allowed them to define themselves, in terms of the regional problems which confront them. Among a forward-looking people like the North Americans,

the bonds of regional sympathy are tied less by topography or climate than by a shared concern for the future of the community.

In dealing as a geographer with these problems, however, I have tried to keep in sight the fact that they are human problems. Thus, for example, in the sections on manufacturing I have usually cited the statistics for employment rather than output. Although the employment figures admittedly tell only a part of the story, and tend to mask the effects of automation and increased efficiency, nevertheless they serve as a better expression of the human side of the ever-changing relationship between man and environment.

With regard to some of these regional problems, I have merely raised questions which I hope may provoke thought and discussion. With others, I have hinted at a judgment which is, obviously, personal and therefore liable to challenge. To an extent unknown in the longer-settled lands of Europe, however, the problems of resource use and geography are, in newer lands, subjects of public interest and debate, and millions of Americans have made their own personal judgments on these technical problems. In making mine, I have drawn upon as wide a range of literature and opinion as possible, besides incorporating, in two or three places, findings based on my own research.

Preface

The first edition of this book was published in England in 1960. For an author to re-read, let alone reprint, the preceding introductory note, which he wrote for his book twenty-eight years ago, is likely to get him into all sorts of trouble. Few politicians would care to repeat a 28-year-old speech, and few scientists would regard anything said that long ago as of other than antiquarian interest. For an author voluntarily to recall his own words after so long is to run the risk of suffering a self-inflicted wound.

I have, however, taken this risk. My reasons for doing so are twofold. The first is the purely personal reason that I want to check whether I still believe what I wrote in the first edition. I find that I do, although I must now withdraw the implied criticism that Europeans do not pay sufficient attention to resources and resource decisions. But my own belief in what I wrote proves nothing: there were people who disagreed with me twenty-eight years ago, and doubtless there still are. The second reason is more substantial. It is that over these years there have been great changes not merely in the facts of North American geography—those are obvious, and explain why a new edition of the book has been called for roughly every four years—but in the nature of geography itself.

In 1960, the world was full of textbooks of regional geography like this one, good, bad, and indifferent (this third category was always, alas, the largest). But for many years thereafter, while the number of textbooks increased, the number of students or pupils studying these regions steadily diminished. As geographers turned their attention to other matters, regional geography in its traditional form disappeared, in some institutions completely, from the academic menu. Systematic geography, theory building, and the development of a formidable array of new (or borrowed) techniques now

occupied the curriculum spaces vacated by former courses on Asia, Africa, or North America.

About this trend I should like to make two comments, which immediately become two justifications for keeping this book in print, instead of consigning it quietly to the literary Valhalla of the library cellar. The first comment is that, although I have, I believe, correctly described the trend of the 1960s and 1970s, I keep hearing forecasts that regional geography is going to come back again. I hear this not from geographers like myself, who have a vested interest in its survival or its resurrection, but from some of those who led the charge away from the original regional studies. They, who once dismissed them as absurdly subjective, selective, and partial are now busying themselves on the heights of phenomenology or idealism, compared with which our original regional geography was objectivity itself; or, as Lewis Carroll put it, “When you say ‘hill’ I could show you hills, in comparison with which you’d call that a valley.”

Of course, our students did not necessarily follow our tastes in this matter. I suspect that, whatever we teachers have said about regional geography, it has always been our best recruiting agent. Our students may have been disillusioned by the product we served up to them, but the fact that they were in our classes in the first place was evidence of their interest—an interest we may later have killed. At any rate, we are now assured that times are changing: Places are in again. Those of us who never moved with the trend can smugly congratulate ourselves on our foresight: hemlines have come down, and now they are going up again, and we can look forward to being in fashion once more.

What we shall, however, have to do is to ask ourselves whether the new wave will call for exactly the same kind of regional geography as we had be-

fore. And that brings me to my second comment. During the years of this book's lifetime, geography has been moving in two different directions—so different that, even if they were the *only* two directions of movement (which they certainly are not), they would threaten the subject with dissolution. One of these has been toward the building of theory, or the search for laws; incidentally, also, toward greater objectivity. The second is precisely opposite—toward the study of subjective perceptions, and the worlds of the mind as they are expressed in individual behavior, in art and in literature.

The first of these two trends was recalled to my attention when a kind critic commented that he found an earlier edition of this book of only limited usefulness, because it made no mention of the concepts he was teaching his classes, such as central place theory and gravity models. (I am grateful to him, incidentally, for the precision of his criticism, because he omitted from his complaint the third member of the geographer's Holy Trinity, the core-periphery concept, which certainly *did* feature largely in the earlier edition.)

Now here is a fine dilemma: on the one hand we have the facts of geography and, on the other, we have the theories we have evolved, slowly and painfully, by which we hope to account for some of those facts. But if the facts do not bear out, or illuminate, a theory, is the chronicler of the facts obliged to give space to it? Is he obliged to go around trying to find examples of a theory at work and, presumably, reporting his failures as well as his successes? Where did the theory come from in the first place?

But I am, of course, only human: I want the critic to like me and my book, and so I have taken pains to drop the necessary code words into this new edition, where he and his pupils will find them enshrined in the index. And will he, in his turn, ask himself what, if anything, has been gained by this? Does it actually help to regard the geography of a continent—any continent—as a series of deviations from a theoretically normative model?

I commented earlier that there were two opposing tendencies within geography today. I have mentioned the first; let me now refer to the second. It has grown out of the realization that the world of man is not only—perhaps not primarily—a world of real, physical objects, but a world that each of us perceives, individually and also communally, and it is to that perceived world that we react or respond.

Anything that clarifies or heightens our responses is, therefore, important to us, and anything that renders our perceptions more vivid is likely to affect us—to *change* our perceptions.

Now, on a scale of one to ten for vividness, the average passage in a regional geography text hardly scores at all. We have always left that sort of thing (in most cases, with relief) to the literary aces. The ten-scorers have been novelists, and a few painters and poets. When we wanted vivid description, we have borrowed from them. But now, timidly, we are beginning to try our hand at imitating them, for what is the point of studying people's perceptions if, after we have done so, we cannot render them into words?

To perceptual geographers, needless to say, the idea of a normative behavior, and so of a normative geography, is a denial of the very thing in which they are interested. So today's regional geographers are being pulled in these two, opposite directions (and half-a-dozen others besides, for I have not even mentioned here other current direction-giving words, like "welfare" and "relevance"). On the one hand, they are being urged to contribute to the development of geography as a formal science and, on the other, they are asked to help give geography a soul. Meanwhile, they themselves may wish to give priority to their traditional role—that of holding together this subject, geography, which threatens to fall apart for, if they are not going to provide the crossties, who else will?

Anyone for tennis?

So much for structure: what about content? Here there must necessarily be changes as time goes by, and not merely through updating information or statistics. The content of any geography book must change because the content of geography itself has altered almost out of recognition since this geographer first entered the field in the 1940s. And *that* alteration, in its turn, has mirrored a change in the nature—in the developed world at least—of human life and work. Let me explain.

Once upon a time, all societies were made up of *producers*—hunters, collectors, diggers, fisherfolk. To be a nonproducer was a privilege reserved for a very few, such as priests and chieftains. Even the very young were expected to contribute to production: the children hauled the coal wagons that their parents filled. Nonproducers starved.

With this millennia-long human tradition behind

them, geographers naturally concentrated their attention on production—on what was produced where, how it got to market, and who controlled the sources. Economic geography in those days was called “commercial,” and such transport geography as existed was concerned either with international trade or with control of strategic routes by sea and rail.

There are some societies in the world where production is still of overriding importance; where it occupies almost everyone from dawn to dusk. But the United States and Canada are not like that. The statistics show that, of their total work force, only about three workers out of ten actually produce anything tangible at all. Less than 30 percent are in farming, forestry, mining, manufacturing, or construction.

The rest of the nation either provides services or it *consumes*. And when this economic or social transformation of the late twentieth century is translated into geographical studies, then what we find is a falloff of interest in wheat growing, or smokestack industry, those staples of the old regional geography text, and a flood of books and papers on the geography of retailing, recreation, health services, poverty, or residential choice. Wheat is something that comes not from a field, or even a ship bringing a cargo from foreign parts, but from a supermarket, wrapped and labeled “bread,” and it is the geography of supermarket locations, not of wheat fields, that attracts our attention. Smokestack industries nowadays are, as often as not, derelict industries—which gladdens the hearts of environmentalists, though not of the unemployed. The industrial action today is in plants that look like clubhouses, where clever young people sit in front of computers.

Above all, the action is in the cities. In both Canada and the United States the population is classified as three-quarters urban: in California, the new “spacious society,” over 91 percent urban. Therefore, most people’s concerns arise from their urban environment and there, consequently, are today’s geographers, slaving away at their social area analysis or studying ghetto formation, in a field we call “social geography” of which no one had even heard when I started out on my professional life’s journey.

So, content mirrors concern, and concern mirrors the nature of our society. But, speaking for myself, only so far. If we followed this principle blindly, we

should end up with regional geography texts on developed countries that were concerned almost wholly with cities and their problems. As a matter of fact, there are a number of such books on the market, which is to say that, under these circumstances, Regional Geography equals Urban Geography.

I wish to resist this conclusion, logical although it may appear. That cities have problems, and that many geographers are drawn to study them, is too obvious to argue about. But geography is not, and never has been, purely and simply the study of *people*, no matter how numerous or how crowded. Geography has always been about *areas and their contents*, people naturally included. To a geographer, an area with a sparse population is, or should be, just as interesting, just as worthy of study, as an area covered with houses or shops. Otherwise, we have a geography of cores with no peripheries. Meanwhile, the geographer has become a sociologist or, more likely, a politician, and so has surrendered his claim to a separate existence. Do any of us really want to disappear like that down the drainhole of knowledge?

So I have retained, for the eighth edition of this book, the descriptions of the peripheries of the continent as well as the core areas. I have rethought the prospects for peripheries that are filling up in, say, the Mountain West, as well as for the Canadian North, where there are probably as many arguments for keeping people out as for encouraging them to go in. Whether people are leaving or entering an area, be it a worked-out coalfield or the suburbs of a city, is a question of importance to that area, but to say that one is *more* important than the other in a study of this kind is something which I, for one, must decline to do.

The resemblance of the new edition of this book to the previous one is therefore deliberate. The only change I have made in form has been to drop the lists of Suggested Readings which, in the seventh edition, occupied no less than nineteen pages. Inquiries suggest that these pages were not, in fact, heavily used. More to the point for the author, the lists were becoming harder and harder to compile. Not only has the sheer volume of geographical literature enormously increased, but a lot of it is in the form of local serials or state/provincial/city reports which are hard to come by outside their area of origin. So I have given up the attempt to keep pace, but have offered some small compensation by in-

creasing the number of works cited in footnotes as a guide to the sources.

A number of North American colleagues have made helpful comments on the text, and saved me from errors of fact or emphasis. I am deeply grateful for all their guidance as I am also, once again, for

the unfailing support of Joyce Berry and her assistants at Oxford University Press.

Leicester
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J.H.P.

Contents

1. The Setting, 3
 - The Physical Divisions, 6
 - The Glaciation of North America, 16
 - The Climate of North America, 22
 - The Soils of North America, 30
 - The Vegetation of North America, 33
2. The People, 41
 - The Native Americans, 42
 - The Immigrants, 43
 - The Melting Pot—Or Not? 46
 - The Case of French Canada, 48
 - American Blacks, 50
 - Distribution of Population—Canada, 53
 - Distribution of Population—The United States, 56
3. The Cities, 61
 - City Building, 62
 - Counting the City Population, 65
 - In the City: Form, Function, and Quality, 67
 - Urban Problems and Urban Futures, 75
4. Government, National and Local, 81
 - The Nation-States, 82
 - A Federal Constitution, 87
 - The Lower Levels of Government, 90
5. Government, Land and Water, 93
 - Public Land and Private Land, 94
 - Land Disposal and Land Law, 97
 - The Control of Land Use, 102
 - Government, Land and Leisure, 104
 - Government and Water, 105
 - Conservation of Resources, 108
6. Government and Economic Activity, 115
 - Government, Transport and Freight Rates, 116
 - Government and Agriculture, 118
 - Government and Industry, 121
 - Government and Energy, 123
7. Agriculture, 129
 - The Formative Factors, 130
 - Agriculture and the Present, 137
 - Agriculture and the Future, 147
8. Industry, 151
 - The Distribution of Industry, 153
 - Coal, Iron, and Steel, 156
 - Petroleum and Natural Gas, 163
 - Electric Power and Nuclear Energy, 167
 - Change, Growth, and Decline in North American Industry, 170
 - Canadian Industry, 175
9. Transport, 177
 - Waterways and Ports, 180
 - Railroads, 185
 - Roads, 187
 - Airlines, 189
10. Regions and Regionalism, 193
 - Bases of Regional Diversity, 194
 - Government and Region, 198
 - A Regional Framework, 201
11. The Middle Atlantic Region, 209
 - Agriculture, 211
 - Industry, 217
 - Region and Nation, 218

- The Seaboard Cities, 220
- The Problems of Megalopolis, 230
- 12. New England, 233
 - The New England Economy, 236
 - Rural New England, 237
 - Industrial New England, 241
- 13. The Canadian Heartland, 249
 - The Eastern Section: The Lower St. Lawrence Valley, 250
 - The Western Section: Southern Ontario, 261
 - One Core or Two? 264
- 14. The Interior, 267
 - The Agricultural Interior, 270
 - The Industrial Interior, 282
 - The Great Lakes and Their Cities, 287
 - The Inland Cities of the Interior, 300
- 15. The South, 309
 - The Old South, 310
 - From the Old South to the New: Elements of Change, 314
 - Workers and Industry in the South, 325
 - The New South in the Nation, 329
- 16. Appalachia, 335
 - Negative—Appalachia: A Problem Region, 336
 - Positive—Two Approaches to Regional Development, 341
 - TVA or Appalachian Commission—A Comparison, 350
- 17. The Southern Coasts and Texas, 353
 - The Physical Setting and Early Land Use, 354
 - Specialized Production of Subtropical Crops, 356
 - Sunshine, Vacations, and Retirement Living, 358
 - Commerce and Industry, 360
 - Texas, 364
- 18. The Great Plains and Prairies, 369
 - The Physical Circumstances, 371
 - Land Use in the Great Plains, 376
 - Present Problems, 380
- Present Regional and Urban Patterns, 387
- The Prairies of Canada, 391
- 19. Mountain and Desert, 399
 - The Region and Its Character, 400
 - Land and Livelihood, 401
 - Transportation and Cities, 412
 - Development or Preservation? 415
- 20. The Spanish and Indian Southwest, 417
 - Regional Identity, 418
 - Regional Boundaries, 420
 - Land and Livelihood, 424
 - Regional Mixture, 428
- 21. The Northern Atlantic Coastlands, 435
 - The Region, 436
 - Settlement and Economic Development, 438
 - The Character and Role of the Atlantic Provinces Region, 445
 - Choices and Chances, 449
- 22. The Northlands, 451
 - Physical Conditions, 453
 - Future Prospects, 455
 - Alaska, 468
- 23. California, 473
 - The Settlement of California, 476
 - California's Agriculture—Organization, 478
 - California's Agriculture—Crops and Regions, 481
 - California's Industry, 486
 - Central California—Cities and Industries, 488
 - Southern California—Cities and Industries, 491
 - The Future of Southern California, 495
- 24. Hawaii, 499
- 25. The Pacific Northwest, 503
 - The Region and Its Resources, 504
 - Agriculture in the Pacific Northwest, 506
 - Forests and Industries, 512
 - Basic Problems of the Pacific Northwest, 516
- Index, 521

North America

1

The Setting



Arizona landscape. *Jeffrey House*

This book is a study of the geography of Canada and the United States. Between them the two countries occupy much, but not all, of the continent of North America. To be perfectly consistent with the book's title, we should include in our consideration Mexico and its southern neighbors, for they all lie north of the Isthmus of Panama. Yet so distinctive has been the cultural divide formed over the past 140 years by the United States–Mexican border that most geographers have concurred with ordinary citizens in regarding the United States and Mexico as belonging to different worlds, their life-styles poles apart, and their proximity simply misleading. South of the border has lain Middle-America, its culture distinctively Indian and Hispanic. North of the border have been the two countries whose main culture source was revealed by the term often used to describe them: Anglo-America.

If we adhere to those terms, this book is about Anglo-America—the part of North America settled from, and later associated with, English-speaking Europe. But we shall use the term Anglo-America, if we use it at all, with some caution. For one thing, Canada is emphatically and legally not “Anglo” alone: it is also French. And for another, the sharpness of the divide between the English-influenced and the Hispanic spheres of culture has become blurred and weakened in recent years. Time was that “Hispanic” meant not only Spanish-speaking, but also poor, backward, and peasant-based: there was a profound economic divide as well as a cultural one. “Anglo-American” meant prosperous and efficient, a longer life-expectancy and a higher—a much higher—standard of living. But as we shall see in later chapters, things have been changing along the Rio Grande. In any number of places in the southwestern United States, the Spanish-speaking shoppers outnumber the English-speaking. The lure of “Anglo” prosperity has drawn

millions of “Hispanos” northward. And change in the Mexican economy has reduced the nature of the differentials between the two countries. The time may not yet have come when a geographer feels duty-bound to include Mexico in a study of North America, but he or she certainly is bound to notice and assess the changes along the border.

This book, then, concentrates on Canada and the United States. That the two of them together form an area that is distinctive and worthy of study can hardly be doubted. During the nineteenth century and, especially, the first half of the twentieth, these countries built up an awesome lead over all others as the most prosperous, the most productive places on earth. Nowhere was the average standard of living so high, and nowhere did such apparent miracles of technical achievement take place. When World War II ended in 1945, the world was divided, quite simply, into two: North America was rich, and everybody else was poor.

To the geographer, as to any other thinking person viewing the situation, the question that presented itself was this: What had brought about this astonishing contrast? For the geographer, the question took a more specific form: Was it the natural wealth of the continent that held the secret? Was it because North American soils were more fertile, North American minerals more plentiful, North American forests more productive than those of other lands? Or was it the way in which the continent had been settled, developed, or organized? If the causes were natural, there was little or nothing that other countries could do about it: nature had simply played favorites. But if they were organizational, then there was something that others might learn or imitate. Either way, North America at mid-century was a unique and fascinating area for study.

We now know that the cause was not nature alone: it was mainly organization, or education, or

know-how. We know this because, since 1945, a number of other countries have caught up with and overtaken the North American giants. And, most striking, they are not countries with great natural endowments of iron, or coal, or timber. On the contrary, they are countries notorious for the lack of these things, cramped for lack of space and soil. But Switzerland today has a higher income per person than the United States, and Japanese cars and cameras flood the American market.

Needless to say, to have once held a long lead over all others and then to have lost it does not make North America less interesting to geographers but rather more so. We shall want to ask why these changes took place; we shall also want to speculate (although only time will tell) as to whether the lead can be regained. In certain respects, of course, it has never been lost. North America is the greatest supplier of food to the rest of the world. It has put on the moon the only men who have so far been there. The United States is, by a wide margin, the dominant power of the non-Communist world. How has all this happened? With such questions in mind we can begin our survey of North America.

The whole continent of North America has an area of some 8.3 million sq mi (21.5 million sq km). The

area with which this book is chiefly concerned is, however, less than that, for it excludes Mexico and the countries bordering the Caribbean, and virtually ignores the Arctic Archipelago—the almost uninhabited islands that lie within the Canadian sector of the Arctic. If we deduct those two parts of the continent from the whole, we are left with an area of 6.7 million sq mi (17.35 million sq km), of which Canada occupies 3.1 million sq mi (8.03 million sq km) and the United States, including the huge outlying state of Alaska, accounts for the remainder.

Translated into distances, these dimensions mean that the part of the continent we are considering stretches across almost 50° of latitude, from the Florida Keys to the northern tip of mainland Canada, and across 115° of longitude, from the east coast of Newfoundland to the Bering Strait. The railway distance from Halifax in the east to Prince Rupert in the west of Canada is more than 3750 mi (6000 km); from New York to San Francisco some 3000 mi (4800 km), and from Brownsville, on the United States–Mexican border to the 49th parallel that marks the boundary between Canada and the United States, 1600 mi (2560 km). Thus, Prince Rupert is as far from Halifax as the mouth of the Congo is from London, and New York is as far from San Francisco as it is from Ireland (Fig. 1-1).

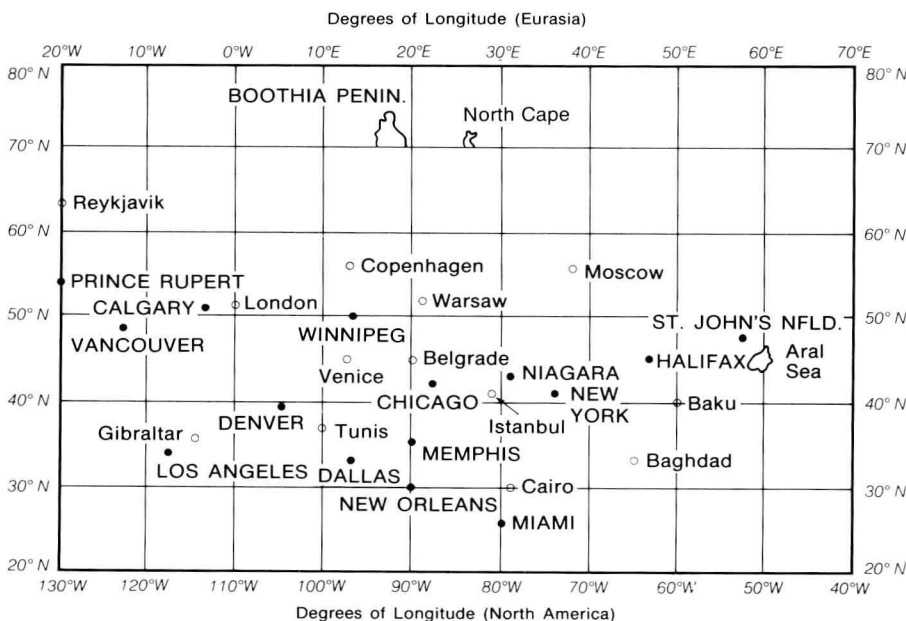


Fig. 1-1. North America and Eurasia: Comparative locations. North American locations are marked in capital letters; Eurasian locations, in lower case.

The Physical Divisions

For ease of reference the North American continent may be divided, north of the United States–Mexican border, into seven main physical provinces, as shown in Figure 1-2.¹

THE ATLANTIC AND GULF COAST PLAINS

From southern Texas to New York, the North American continent is bordered by coastal plains. In Texas, these plains are as much as 300 mi (480 km) wide; northeastward from the Florida peninsula they gradually narrow or, more accurately, an increasing proportion of them lies submerged beneath the sea. In the neighborhood of New York, the plains come to an end, reappearing north of the Hudson only in parts of Cape Cod and the islands off the coast of southern New England.

The coastal plains are formed by a series of beds of geologically young materials, dipping gently away from the older rocks of the interior toward the coast. The oldest beds forming the plains are Cretaceous, and lie at the inland margin. The successive layers form belts with low scarp edges facing inland, but the general slope of the plains' surface is so gentle that no true coastline can be formed. Swamps, lagoons, and bars, fronted by almost continuous sand reefs, characterize a transition zone between land and sea. Through it wind rivers that are highly liable to flood.

Not only is this southeastern margin of the continent especially subject to year-by-year changes in its present detail, but it also evidently has a long history of changes in level. These are indicated, on the one hand, by the terraces of former shorelines, recognizable more than 250 ft (76 m) above the present sea level, and, on the other hand, by the drowned valleys of Chesapeake Bay and the Virginia shore.

Midway along the coastal plains and separating the waters of the Atlantic from the Gulf of Mexico is the peninsula of Florida, projecting southward for some 350 mi (560 km). It is surrounded by shallow seas underlain by the continental shelf that have probably existed since Tertiary times; Florida itself,

however, became part of the continental landmass only in recent geological times. Like the plains, Florida is flat (the highest point in the state is only 325 ft [99 m] above sea level), lake strewn, and swampy. In the south, an area of over 5000 sq mi (12,900 sq km), known as the Everglades, is composed of marsh and swamp only a few feet above sea level. Much of the peninsula is underlain by limestone formations, and on its surface, solution hollows and sinkholes, often containing lakes, are common features. Sandbars and lagoons line the coast, and in the extreme south, coral reefs have formed in the warm waters of the Gulf.

Near their western end, the coastal plains spread inland to include the Mississippi Valley south of Cairo. The telltale scarps of the belted plains swing north in a great inverted V to embrace the valley, a structural depression that has been deepened by erosion. The valley bottom is wide, flat, and easily flooded, and through it meanders the Mississippi, carrying the vast silt load that year by year builds its delta further out into the shallow coastal waters of the Gulf of Mexico.

THE APPALACHIAN SYSTEM

In eastern North America, mountain-building processes went on at intervals throughout Ordovician, Devonian, and Permian times. The area affected by these processes forms a wide belt, with a marked northeast to southwest trend, from Newfoundland to central Alabama. This area, diverse in present character, but unified by its physical history, may be called the Appalachian System. It falls into three sections: a southern section, stretching from Alabama to the valley of the Hudson and including the Appalachian Mountains proper; a New England section, from the Hudson to central Maine; and a northeastern section, covering northern Maine and the Maritime Provinces of Canada.

The Southern Section

In the south, the system is formed by two parallel belts. On the east is that of the "old" Appalachians, made up of Precambrian igneous and metamorphic rocks. On the west is a "new" belt, formed by the upthrust edge of the great Paleozoic floor that underlies the central lowlands of North America. Each of these belts has an eastern edge different in form from the western, and this further subdivision gives the system four provinces (Fig. 1-3).

¹Some basic references are: W. D. Thornbury, *Regional Geomorphology of the United States* (New York, 1965); C. B. Hunt, *Physiography of the United States* (San Francisco, 1967), and *Natural Regions of the United States and Canada* (San Francisco, 1974); J. B. Bird, *The Natural Landscapes of Canada* (Toronto, 1980).