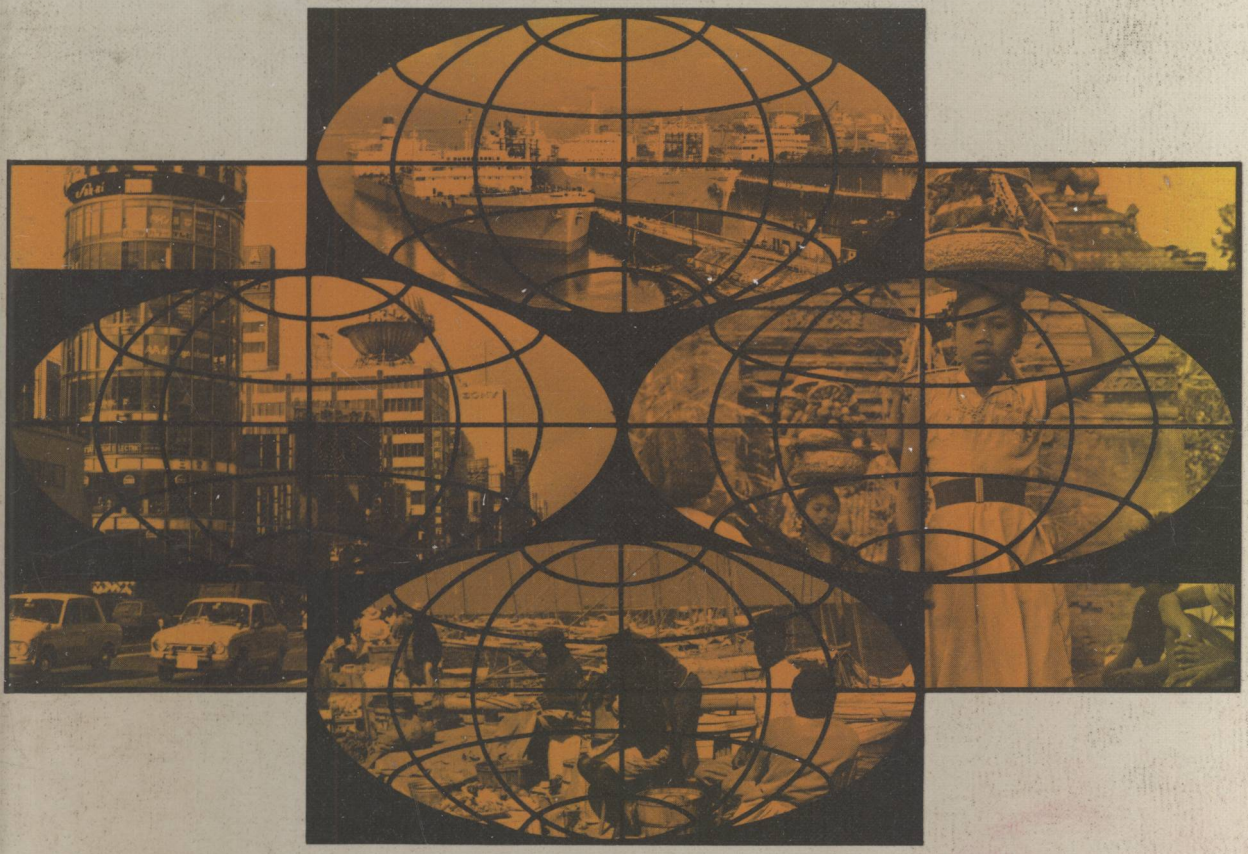

Culture, Resource, and Economic Activity

an introduction to economic geography

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preface

This book is an introduction to economic geography in particular and to social science in general, reflecting both an innovative approach and retention of well-established core materials. It is designed to provide the reader with an analytical and meaningful understanding of his environment.

Economic geography truly entails a broad scope, involving not only an interplay of the many variables compartmentalized in the various academic disciplines, but also an integration of these variables into a meaningful approach to the study of man's activities. Based on this conception, economic activities are presented through a system or model approach that depicts man as a vibrant force influencing the type and level of economic activities in the context of a space-time continuum. The system is broken into five different but interrelated frameworks—material, economic, political, social, and technological—which are analyzed and related to the dynamics of economic activity location.

The book is divided into six parts. Part I analyzes man's perceptive process of recognizing resource, the meaning of culture and society, and the relationship between culture, economy, and economic activity.

Part II presents the five frameworks, their structure, and their theoretical influence on economic activity, in addition to a chapter on *Classification of Economic Activities* and one on *Location, Theory, and Practice.* The former indicates the need for classifying activities, and describes the functional rationale underlying the various schemes of classification; the latter briefly analyzes the contributions of Von Thünen, Weber, Christaller, and others, culminating in contemporary ideas and practice.

Parts III, IV, and V illustrate the topical and regional interplay of primary, secondary, and tertiary economic activities, respectively, reflecting the influence of the five frameworks and supported where possible by relevant case studies. Since this book is written primarily for the American student, the authors have intentionally placed greater emphasis on the United States, giving less weight to other parts of the world, such as Asia and the Far East, where reliable data is limited or unavailable.

Part VI is concerned with statistical inference as a reference for spatial analysis, and urban and regional planning. Chapter 30, on statistical inference, is so written as to permit its independence from the rest of the book, yet correlated to allow its study either at the beginning or the end. It provides an introduction for those who wish to acquire basic knowledge of the quantitative and statistical aspects of the field.

More than 200 maps, graphs, drawings, and photographs have been included to clarify concepts, systematize data, and enable the student to grasp difficult material.

We are indebted to all those who have supplied materials, ideas, and criticisms, and owe special thanks to the many colleagues who have contributed to the literature of economic geography and economics,

for the economic geographer must, of necessity, draw much of his data from both the natural and social sciences. We wish especially to thank the following geographers and economists who read the manuscript critically and contributed ideas that helped to improve the book: Fred Hirsch, who made several helpful suggestions regarding the basic organization of the material; James Gallagher, for his contributions on primary economic activities; Alfred Kuhn and Irving Morrisett, who offered many helpful suggestions on Part I; and Jay Vanderford, who was responsible for selecting and compiling all of the maps, graphs, drawings, and photographs. Finally, we wish to thank our students, who served as our patient critics.

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part I

Culture, Resource, Economic Activity

introduction

The overriding objective of all sciences, whether physically or socially oriented, is to analyze, interpret, and understand the vast system on the earth's surface composed of man and the environment. Since man developed the ability to think even before the occurrence of analytical patterns that could be properly called *science*, we[1] have directly and indirectly attempted to increase our understanding of this system. The system is indeed vast, and to the observant presents a complex assemblage containing many interrelated elements occurring with a multitude of forms and functions.

Since the phenomena of this system are too complex and numerous to permit simultaneous study of all, a division of labor has been effected among scientists, with each group directing its attention and effort to parts of the system. Within the major division (social and physical sciences) there are finer divisions, each of which is many times further subdivided, affording individuals the opportunity to specialize. Each of these general or specific divisions focuses its attention on an array of elements frequently called the *object of study*. The major criterion for differentiation among the divisions, however, is the *methods* that each employs in studying objects within the system. The significant difference between *method of study* and *object of study* is that the former represents an intellectual approach for analyzing and understanding the latter.

As one searches his mental image of the world's people and their activities, often perhaps the system appears too complex for rational understanding. However, by approaching with an analytical method the interrelated elements of this system, a sense of order, pattern, and regularity may be created. Economic geography represents one approach that offers a high degree of satisfaction toward understanding some of the characteristics of the economic phenomena of this system.

Geography

One may question the existence of an approach called *economic geography* when many of the same objects may also be examined in an approach called economics or history, etc. That is, historians, economists, political scientists, and other social scientists also examine "economic" components of man. However, as mentioned previously, the major difference among these disciplines is not *what* is examined but *how* things are examined. Therefore, prior to any specific analysis of the objects of economic geography, a statement on how and what will be considered is relevant.

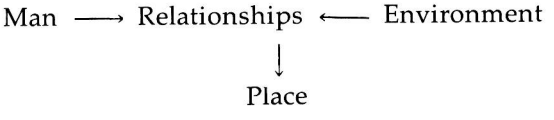
Geography, of which economic geography is a subdivision, may be defined in many ways. Within all the variations, however, there are four major recurrent concepts. Generally, these are *man, environment, place,*

[1]The term *we* is used in the generic sense and includes all of mankind (approximately 3.8 billion people). At various places the term will be used in the same way, as well as to refer to the authors, and the authors and students; the group referred to will be evident from the context.

and *relationships*. There are several ways in which these four concepts may be organized; in most of these ways, however, the organization will not indicate the major approach of geography.

Consider for a moment the following example. If we have these concepts —John, Lion, (to) Eat—we may organize them as: "The Lion eats John"; "John eats the Lion"; "The Lion and John eat." Each of these methods of arranging the same set of concepts results in a quite different situation. Each of these may be totally irrelevant unless, of course, you are John.

Now, in the four concepts associated with geography, you are part of *man* and consequently will be a part of the organization of these concepts. Specifically, a proper manner of organizing them diagrammatically is:



The concept **man** is used generically and includes all men, women, and children. It refers to *cultural man* (man within the context of culture and societal organization), and consequently includes all those characteristics of man that are components of culture and society. **Environment** is not limited to aspects of physical environment (such as soil, water, landforms, vegetation), but more importantly encompasses all phenomena that are part of the environment of any group of men. For example, if we wish to examine coffee production activities in Brazil we will need to know something of the consuming habits of people in the United States, because this latter group is part of the environment of the coffee producer. For reasons that will be developed in Chapter 1, the environment for one group (society) of men is not the same as for another group.

The concept **relationships** is placed in the central part of the diagram because it is considered to be the essential element. It includes all processes, interactions, and events that take place between man and environment; since these relationships, if they are to be understood, do not occur "any place" but "some place," they must be analyzed within the context of **place.** None of the four concepts is static. Man, environment, place, and relationships are constantly changing, as is evident from cursory examination of any one of the four. The "place" occupied by the principles of the Industrial Revolution (mass production techniques, for example) is not the same "place" today as five hundred years ago or even last year. The "relationships" of the hunting-gathering Bushman are not the same today as ten years ago, and "man" is not the same either. Not only do these concepts reflect change over time, but more important for the geographer, changes from place to place (across space) at the same time.

From this brief analysis we may attempt a conceptualization of geography: Geography is the study of the relationships between man and environment within the context of place. Thus we have added one other ingredient to this definition—the study of. As a peasant in southeast China plants rice, "geography" is not occurring! Also, mountains do not imply geography. Geography is the *study* or *analysis* of something—the relationships between man and environment within the context of place. Thus, it is only a perspective or method of analyzing some of the character-

istics of man, and it can be used by a historian, political scientist, or student. However, when the historian, political scientist, or student uses this method he is "doing" geography, and hence is a geographer.

Using this concept of geography we may now develop a concept of economic geography. Just as there are different ways of conceptualizing geography (or any discipline), there are various ways of conceptualizing its subdivisions. Apparent within the concept of economic geography, perhaps, is that it must have some relationship to geography, but deals with more specific elements and in a slightly different way. One of the major items of concern to economic geographers is the set of man's activities that are generally referred to as economic.

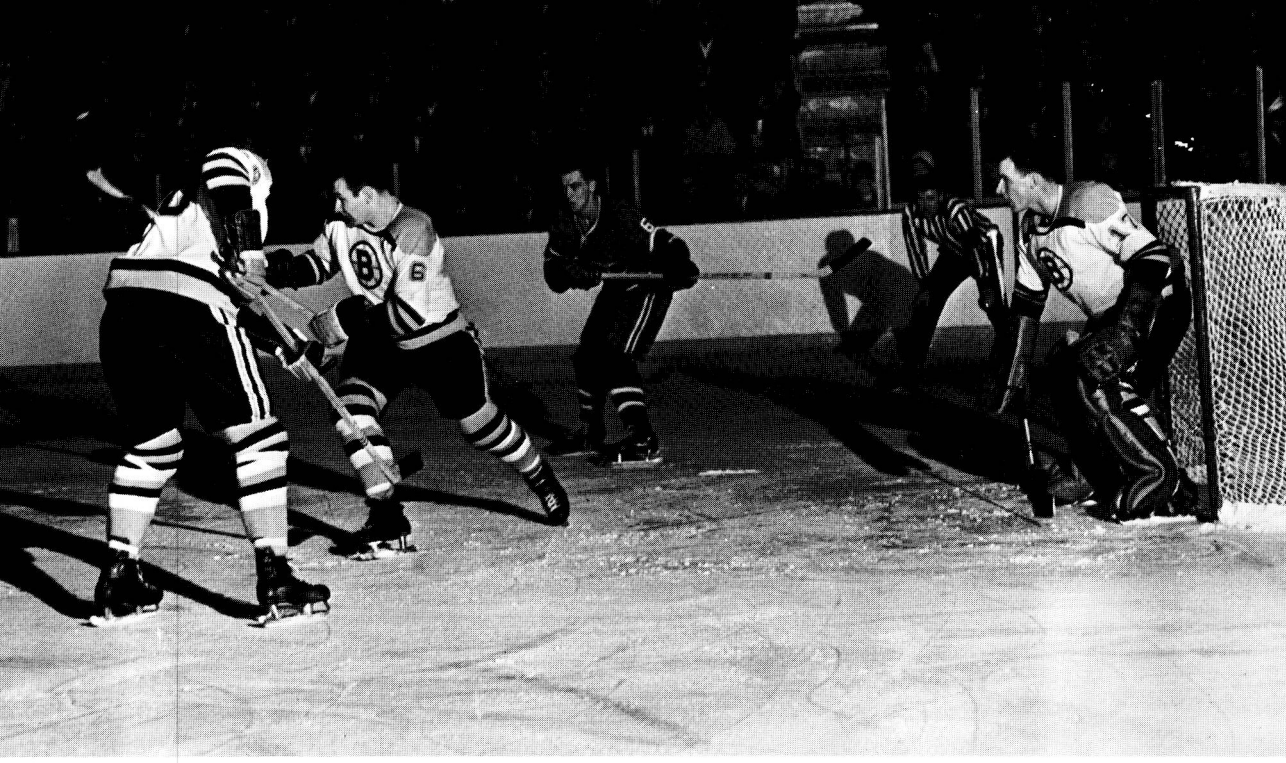
Economic Activity

It is commonly assumed that man has social, political, economic, religious, and other types of activities and motivations. But what is an *economic* activity and how does it differ from other activities? Consider the following examples. Is casting a vote in an election a political activity, if the vote is cast for a candidate whose economic philosophy is in agreement with the voter? What if the election of the candidate results in the voter's acquiring a better job, a larger farm subsidy, or a government contract to construct a building? We may conclude that if the voting is indeed a political activity it was partly motivated by an economic consideration. Thus, how do we distinguish between the two? Also, is the individual who receives money for counting the ballots engaged in an economic or political activity?

Does the nationalization of foreign investments within a sovereign state constitute a political or economic act? If an entrepreneur decides not to invest in a particular manufacturing operation due to the political instability of the area, is this an economic or political decision? Is the priest, rabbi, or minister who receives money for his livelihood for participating in religious services engaged in an economic or religious activity? In the United States most weddings are performed by clergymen. Hence, may we conclude that weddings are religious activities even though some political entity must first issue a license?

Within the traditional Burmese village, the societal beliefs and values associated with attaining a desirable "life after death" (a religious idea?) necessitated that one give all that was possible to another member of the village.[2] Indeed, many individuals would devote a great deal of labor to such ventures as hunting, gathering, agriculture, and manufacturing, simply for the purpose of producing items to be given away during these regularly occurring events. These events, multiplied many times by many individuals, had a significant influence on the production, distribution, and consumption of materials among the villagers. Did the processes of producing these items constitute economic or religious activities? Did the actual giving away of the materials constitute an economic, social, religious, or some other activity?

[2]Margaret Mead, ed., *Cultural Patterns and Technical Change* (from the Tensions and Technology Series originally published by the United Nations Educational, Scientific, and Cultural Organization), reprinted as a Mentor Book (New York: New American Library, 1955), p. 26.



Are these people engaged in an economic activity? Are they in the process of consuming, exchanging, or producing a good or service? (Canadian Government Travel Bureau)

Perhaps as you are reading this section you are readily classifying each of these activities. However you may classify them, the major points emphasized here are:

1. All activities are interdependent with other activities.
2. Whatever classification you use for each activity is based on your prior experiences and ideas of what constitutes an economic, political, religious, etc. activity—which is not necessarily the same as what the people engaged in the activity think about it.
3. Any classification you use is arbitrary and selected because you feel most comfortable with it.

Still, we have not answered the question, "What is an economic activity and how does it differ from other human activities?" The major difficulty in arriving at a satisfactory answer is a consequence of the interdependence of all aspects of human behavior. Man's total activity (i.e., his behavioral patterns and entire way of life) is not a series of fractional parts, but is a whole or unit. Thus, when the concept economic or political is used to refer to some aspect of human behavior, it is not used in reference to something that stands alone, independent, and totally isolated from other aspects of human behavior. Rather, it is only a mentally contrived separation accomplished solely for the purpose of better understanding the wide array of interdependent and complex variables that constitute human behavior. The manifestation of human behavior is not the result of a single motivation, nor can it be characterized by a single act (such as "politically motivated economic activity"). The manifestation

of the behavior and the motive are invariably results of man operating within the total characteristics of himself and his environment.

However, in attempting to examine human behavior, since it is highly complex, we must devise some system of classification for purposes of analysis and communication. Even with the overriding problems and implications discussed above, we will here define one aspect of human behavior. *Economic activity is any manifestation of human behavior associated with the production, exchange, and/or consumption of goods and services.*

The term *good* includes any material (tangible) object that man has acquired for some use. Iron ore, automobiles, buttons, houses, shoes, hoes, slingshots, buildings, potatoes, wheat, and even human excrement (usually for medical analysis or fertilizer) are examples of goods. *Service* refers to the work done by one or several people for others. A teacher, for example, does not deal in goods but services, as does a lawyer, doctor, plumber, carpenter, taxi driver, or hairdresser. However, all of these use goods—whether the good is a map, stethoscope, wrench, hammer, automobile, or comb—as they perform their services.

Production refers to the process of making or creating a good or service. However, we are not referring to the "creation" of matter, for matter is not made by man. Nevertheless, he does move, change the form of, or combine various types of matter to form goods. Man also produces (provides) services. As a barber manipulates the comb, clippers, and scissors he is engaged in producing a service, namely, that of cutting hair.

Exchange, also a process, refers to the obtaining of a good or service and includes buying, selling, and bartering, as well as the transportation of goods and services from one place to another and the transfer of ownership of goods or services. The process of *consumption* includes the employment of goods and services for the purpose of either producing or acquiring other goods and services, as well as satisfying an end want or need. For example, an automobile is considered a consumer's good if it is used in the traditional manner of a typical United States family. However, it is a producer's good when used by a taxi driver. In the first instance we are assuming that the automobile will not be used for producing any other good or service except to satisfy a desire to ride. In the latter we are assuming the owner will employ the automobile to produce a service of transporting people from place to place.

Economic Geography

Having previously discussed geography as the study of the relationships between man and environment within the context of place, and economic activity as any activity in which man engages in the production, exchange, and consumption of goods and services, we may now attempt a conceptualization of economic geography. Summarily, we are here considering economic geography as the study of economic activity. Since economic activity is a subdivision of man's behavior, *economic geography is a study of the relationships between economic activity and environment within the context of place.*

The study would be much simplified if all economic activities, all environments, all places and relationships were exactly alike. If such

were the case, we could then study only one set of concepts and interpret the rest of mankind in terms of our conclusions. However, such simplicity is not the case and in order to acquire some comprehension of the economic activities of man it is necessary to analyze many different sets.

As may be apparent from this brief discussion of human behavior and economic activity, the number of variables that are of some significance is quite large. However, if we can construct a mental approach that enables us to reduce the number of variables, then the task of analyzing economic activities becomes easier.

Consider the following example. Given the set of fractions,

1/6 3/8 1/2 3/4 2/3

how can they be manipulated so as to give meaning to their relationships? With even elementary knowledge of arithmetic the task is simple—search for the common denominator, which is 24. Thus, we can rearrange the fractions in this manner:

4/24 9/24 12/24 18/24 16/24

and we have not changed their value or relationships. However, we have produced a situation in which the relationships are more apparent and perhaps more meaningful and useful. And, although we are looking (visually) at the set of fractions, the manipulations were accomplished mentally and not with a typewriter.

If there are common denominators, that is, characteristics of economic activity that are present in all economic activities, analysis of these common characteristics will enable us to better understand all economic activity as well as any one specific economic activity. Are there, for example, any characteristics common to the hunting–gathering Bushman, to you, to the individuals mining ore in northern Minnesota, and to the cattle rancher in Australia? Are there characteristics of industrial economic activities that are also present in pre-industrial economic activities? The resounding answers are yes, indeed!

The most important characteristic common to all economic activity is *man* who, in operating upon a set of elements (which may be referred to as resources), *creates economic activity*. Economic activity exists as a consequence of man's efforts to employ resources to achieve a set of objectives —a generalization that applies to all forms of economic activity. These efforts, however, are not random, but occur at specific places for specific reasons (although we may not be able to state all those reasons with specificity). The efforts and reasons for being are themselves consequences of other processes, particularly cultural processes. In commencing our investigation of economic geography, therefore, it is logical to start with the integral and functional elements that are responsible for economic activity: culture and man's concept of resource.

chapter 1

Culture and Society

The term culture refers to the learned ways of living that people have created. More specifically, *culture* is the integrated system of learned behavioral traits that are characteristics of man and are not the result of genetic inheritance. Since we are presently concerned with all of mankind, we may generalize within a global context that there is only one culture. However, as a consequence of the variations perceived within this global culture, social scientists have contrived many divisions, each of which also is referred to as *a culture*. In this context, culture refers to the integrated system of learned behavior traits that are characteristic of the members of a society and are not results of genetic inheritance.

A *trait* is a specific way of thinking, believing, or doing something, and includes customs, habits, roles, values, use of a specific language, religion, or tool. Since by definition and conceptual base, culture is not genetically or "naturally" induced, it does not occur in nature and is not an attribute of other animals.[1] It is totally a result of social invention, maintained, promoted, and transmitted exclusively through communication and learning.

The characteristics and processes of culture are quite distinct from those associated with inherited biological characteristics or other natural processes. To illustrate the distinction between a natural process and a cultural process, consider the following. One of the natural characteristics of *all* forms of life is the necessity to ingest food. This is applicable to plants, ants, and people. The processes involved in eating, whether

[1]For many centuries man very jealously clung to the "fact," based almost exclusively on teleological beliefs, that man alone possesses the ability to learn through communication. We have, however, discovered that many species of animals learn some of their behavior traits, and according to the concept of culture possess "culture." However, to distinguish between man's and other animals' learning via communication, the concept of protoculture has been developed. Thus, we are still "separate" from animals.

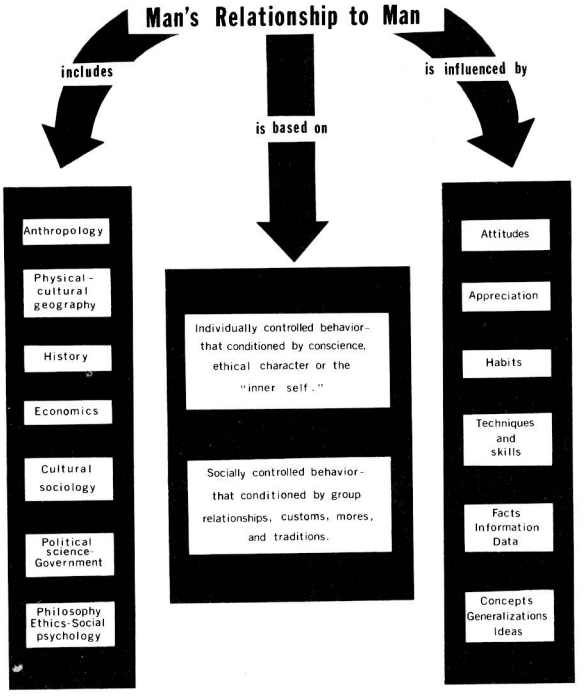


FIGURE 1.1 *The meaning of culture. (General Media Corporation)*

employing chopsticks, twigs, highly refined silver flatware, or no implements at all, are culturally induced. That is, through the medium of one's culture one makes decisions as to *how* to eat. The same principle applies to *what* is eaten. Eating eggs for breakfast (or corn flakes) is no more natural than partaking of a tasty meal of alligator tails and tubers; both are culturally induced decisions. In Chapter 2, additional references will be made to differences between cultural and natural phenomena.

SOCIETY

The concepts of society and culture are intimately interwoven and both are susceptible to a variety of interpretations. A culture is always borne by and is the reflection of a group; no one individual knows or manifests all the traits of his culture. However, society and culture are not the same. A society is considered to be a people, whereas a culture is not people but something that people have and do (behavior which is learned). An individual belongs to a society, but not to a culture.

More specifically, *society* may be defined as a group of people interrelated by a sense or awareness of belonging together and who share social and economic interdependence—they possess a conscious awareness of belonging together. The direction and control of a society is through the medium of its culture.

Almost any set of behavioral traits may be manifest in many societies. Also, at a very general level, many different societies may have similar learned behavioral traits. However, in attempting to classify societies we invariably emphasize one set of traits at the expense of others. Democracy, industrialism, even farming, for example, are behavioral traits, but there are many democratic societies, industrial societies, and farming societies. Within the context of Western culture we may recognize such democratic societies as the United States, Canada, and Costa Rica. However, a category based on Western industrial societies would exclude Costa Rica.

Within all societies there are numerous processes that are implemented through a variety of interrelated frameworks. All societies have constructed sets of behavioral frameworks, which may be referred to as political, social, economic, and technological frameworks. As mentioned in the Introduction, however, these sets are so interdependent within the total societal milieu that we can separate them only mentally. For example, political framework does not refer to political parties or to the concept of "state." The political framework of a society is that part of the society's culture whose prime function is to direct the activities of its members in realizing societal goals. Government and state are thus only parts of the political framework. Social frame-

work refers to the ways in which individuals of a society are organized in relation to other sets of individuals within the same society.

Each individual in a society is also a part of many different aspects of the society. For example, one may be a member of a student body, a religious organization, a book club, a fraternity or sorority, a political organization, and be employed by a grocery store. And, since the members of each of these organizations usually possess a sense of belonging and interrelatedness, each organization may be referred to as a society. Thus, every individual within any society has a wide array of interdependent relationships (either direct or indirect) with all other members of the society as well as with the culture traits that characterize it. Obviously, our main concern here is with the economic activities of society and those characteristics of society that are responsible for these activities.

SOME OVERRIDING CHARACTERISTICS OF CULTURE, SOCIETY, AND ECONOMIC ACTIVITY

Whatever diversity may be perceived among different societies, they all share several significant characteristics, which include: (1) being earth-bound, (2) having spatial distributions, and (3) spatial interactions; and they possess other sets of characteristics that may be referred to as (4) contents, (5) arrangements, (6) functions, (7) methods of preservation or maintenance, (8) objectives, and (9) change; in addition to these (10) each society has its own environment.[2] Following is a general discussion of each of these characteristics.

[2]This list is not meant to be exhaustive in terms of characteristics common to all men (and their culture, societies, and economic activities), but rather is a set of general categories that includes such characteristics as kinship systems, property, housing, child care, etc.

Earth-bound

All men, and hence all cultures, societies, and economic activities, are earth-bound. It is on the elements of the physical, as well as through the elements of the man-made environment, that man operates to provide himself with the means and commodities for living. Of all the various elements that he uses, including soil, ores, water, air, plants, animals, etc., only one—the sun—is not found at or near the surface of the earth. Consequently, the continued existence of man is dependent on his involvement in a series of processes for the acquisition of goods, especially food, from the earth. Not even the explorers of outer space are exempt from this relationship, for without sustenance produced from earth they would not only be unable to travel but also unable to sustain life.

Spatial Distribution

Culture is a result of the ability of human beings to communicate among themselves through the use of symbols. When people appear to act and think in a similar fashion, they do so because they live, talk, and work together; learn from the same individuals or organizations; talk about similar events, ideas, places, and people; and perceive similar meanings in objects of the environment. Conversely, significant differences in learning, thinking, and acting are usually consequences of the absence of common symbols of communication and the absence of shared experiences. Since continual and habitual sharing of ideas is more likely to occur among people who occupy a common area, *cultures are invariably spatially distributed.* Thus, at particular times common sets of behavior traits occupy distinct places on the earth's surface.

A group of people sharing the same cultural traits may exist in a single isolated village, in which all the members are in