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AN ANALYSIS OF SELECTED JUNIOR HIGH SCHOOL GEOGRAPHY

TEXTBOOKS IN RELATION TO THEIR TREATMENT

OF CERTAIN BASIC GEOGRAPHIC CONCEPTS

Dissertation

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

George Allen McFarren, B. A., M. Ed.

The Ohio State University
1962

Approved by

Robert E. Leavitt
Adviser
Department of Education
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CHAPTER I
INTRODUCTION

Whether the need for complete and accurate geographic understanding is more urgent now than in the past is only an arbitrary and academic question. However, it is probably safe to say that mistakes in judgment and action in dealing with peoples of other areas have more serious consequences now than at any earlier time. The accelerated pace of technological change and the rearrangement of the world political power-structure mean that decisions must be swift and accurate.¹

American horizons, in particular, have been greatly expanded during the past few decades. Millions of Americans have seen military service overseas and have actually lived in countries that before the war they did not know existed. What has been happening in the United States is reminiscent of what happened in Greece when Alexander's armies came home or what happened in the small countries of western Europe with the return of the crusaders. There has been a great increase of interest in how and why one place differs from another in the world.

World awareness has also been greatly increased by modern methods of mass communication. Radio and television bring the world

into the living room as was never possible before. It is no longer possible to escape the realization that the United States is just one country in the world community. But the reactions to this new awareness are not gratifying. Rather, there exists a state of anxiety and confusion. The world seems to be chaotic and unfriendly and not at all a safe place for democracy.²

The American educational system has, to varying degrees, recognized this need by including the subject of geography in its curriculum. Geography is a required subject in the majority of seventh-grade curriculums. As a required subject or as a part of the general education of the school, it is assumed that the study of geography can contribute or provide some basic knowledge, abilities, or understanding necessary to the basic education needed by all citizens in our democratic society and "ever-shrinking world."

Upon examination of junior high school geography textbooks and courses of study in different schools and classrooms, one immediately recognizes the great variety and diversity of learning experiences categorized under the title of geography. In the writer's opinion, this great diversity is directly related to the critical status of geography education at the junior high school level today.

For approximately the past twenty years, many people have

expressed rather serious concern regarding the generally poor geographical competence of American students, the great majority of whom, by and large, possess little knowledge about the world in which they live; much of that which they do possess is superficial and inadequate for the task of thinking about and making decisions on problems which are the concern of citizens of a democracy.

The first basic step in the solution of any problem is recognition of the problem itself. Accepting this thesis that geography instruction at the junior high school level in our country today is not satisfactory, the next logical problem for consideration is this: Why is our geography instruction not fulfilling its intended purpose of providing students with the needed abilities, knowledge, and understanding to live as worth-while, contributing members of our society? This question, being rather subjective in nature, can be answered in a number of ways, depending upon the interpretation given the facts of the situation or problem. It is the writer's belief that the fundamental reason for the poor caliber of geography instruction in our schools today is that the great majority of our geography teachers have very little or no training in their field. The writer's belief is substantiated and very clearly explained by Preston James who states:

A part of the problem is related to the fact that far too often geography is taught in the United States by untrained teachers. To the teacher unfamiliar with the concepts and methods of geography, the subject can easily become a memory exercise, a listing of things that occur together in an area. It is easy to list the cities of more than 100,000 inhabitants in a country, or the chief products, or the major mountain ranges and the larger rivers. But doing this has no meaning
until the causes and consequences of city location are clarified, or until the products are related to the broader aspects of the economic life, or until man's reaction to the mountains and rivers has been introduced. To make an inventory of the things that occur together in an area, without any concepts to show why such knowledge is important, is like making a list of the contents of a trash can. As John K. Wright points out, the things that happen together in the trash can do not normally justify encyclopedic description. To make the things that occur together within the boundaries of a country meaningful it is necessary to begin with a theme, a concept of wide application regarding the process that brought those things together. And when the concept is stated, all those features of an area that are irrelevant to the concept are omitted. This is the essence of "thinking geographically."³

Having arrived at a decision as to the cause of the situation or condition in geography education at the junior high school level, the next question for consideration is this: What is the best remedy for this condition? This is the general underlying theme of the problem and purpose of this study.

Statement of the Problem

Drawing upon the writer's experiences as a teacher of junior high school geography and as a student in geography courses at the graduate school level, it is evident to him that what is being taught in junior high school geography is not the subject matter that professional geographers consider to be most significant. On this basis, the writer sees the need for an attempt to determine some

subject matter areas or topics in geography that are significant to professional geographers and also appropriate for junior high school students.

The writer believes that if teachers could be supplied with appropriate subject matter, via geography textbooks, this would be the most practical and most expedient means to improve geography instruction at the junior high school level. The problem, then, in its most abbreviated form is this: What are some fundamental and significant topics and concepts in the field of geography that should be included in every junior high school geography textbook and course of study? What type of treatment do selected textbooks give to the designated subject matter topics and concepts?

The writer wishes to emphasize that this study will be concerned with only subject matter content. It will not consider teaching methods, curriculum organization, and other problems associated with geography education.

The Method

In order to establish or determine some basic geographic topics, the writer will examine the professional literature in the field of geography for the period of approximately the last sixteen years, 1945-1961. Drawing upon this survey and the writer's experiences as a junior high school geography teacher and a student in geography courses at the graduate school level, the writer will select some topics that are of major significance for a comprehensive geography education. After these topics are selected or determined, the next
step will be to review the literature in the field of geography and to "glean" the appropriate content and formulate concepts for each topic at the junior high school level.

Having determined and presented what the writer believes to be the appropriate type of subject matter content for junior high school geography, the next step will be to analyze selected textbooks in relation to their treatment of these major geographic topics and concepts. As a basis for selecting textbooks to analyze, the writer communicated with the Superintendent of Schools in the largest city of each state in the continental United States and the District of Columbia. These administrators were asked to indicate what geography textbook was used at the junior high school level in their school system and approximately how many students this involved. From the returns received, the writer learned that five textbooks were used by many more students than any of the other texts. On this basis, the writer selected the following textbooks for analysis:

- Cutright et al., *Living Together as World Neighbors*
- Glendinning, *Your Country and the World*
- Pounds and Jones, *Beyond the Oceans*
- Sorensen, *A World View*
- Stull and Hatch, *Our World Today: The Western Hemisphere*

In the final phase of this study, each of these texts will be analyzed in order to learn what materials it contains in relation to the major geographic topics and the concepts established for each topic. This subject matter analysis is to be primarily concerned with the type and quality of materials contained in each text which are relevant to each topic and its concepts. As a final step the writer
will present an over-all evaluation of each text, based upon its treat-
ment of the major topics.

Definition of Terms

In the preceding pages, in conjunction with the writer's ex-
planation and description of the problem and method of study, two
terms have been used repeatedly. These terms for the purpose of this
study can be defined as follows:

**Topic** is an area, phase, or specialized subdivision of a
subject or field of study. A topic has a relative degree of
homogeneity and cohesiveness in that it is a subdivision which can
be used for individual treatment. It is an area of subject matter
which is based upon a single aspect of the whole subject.

**Concept** is a single idea or thought which is a part or
component of a larger class or topic. Concepts are ideas which
have been generalized as a result of repeated presentation and/or
use. Concepts include more than subject matter. They are subject
matter and interpretation.

Assumptions Underlying the Study

In the course of making this study, it is necessary for the
writer to make certain specific assumptions. For the purposes of
clarity and comprehension, the writer presents those assumptions which
are relevant and significant to this study.

1. The topics and concepts which will be determined by the
writer are not intended as a "complete" list of the concepts
necessary for a junior high school geography textbook or a course of study.

2. Geography will be considered as a social science, and as such man is the central factor.

3. In the formulation of the topics and concepts presented in this study, it will be assumed that geography is to be taught as a separate subject at the junior high school level and not as one aspect of a social studies course which combines history and geography.

A Review of Related Studies

At the conception of the idea for this study, the writer had no knowledge of previous attempts to formulate topics and concepts appropriate for junior high school geography. From his research in the fields of education and geography, the writer discovered that several lists of areas, called by various names, had been formulated over the years. In the following paragraphs, the writer presents these lists in alphabetical order according to the last name of the author.

Preston E. James

Geography, which teaches about the world and the people in it, about the significance of the places where people live, and of the differences from place to place, has certain basic concepts to develop regarding man's relation to the earth. Five such basic concepts are:

1. That all human societies are necessarily forced to establish workable connections with the resources and conditions of the land in order to survive.

2. Simple cultures have a few direct connections with the earth resources of their immediate locality. The
more complex the culture — the greater the variety of connections and the more indirect they become. Connections with earth resources must exist on a permanently workable basis.

3. The industrial society (the most complex), is global in its scope and international in its needs.

4. The significance of the features of the physical earth is determined by man and not by nature.

5. The physical and human differences which exist from place to place on the earth are significant to us because the great economic, social, and political issues of our times are in part the direct result of these differences.4

Clyde F. Kohn

The following are six geographic axioms. They represent the fundamental working hypotheses of the geographer:

1. Regional differentiation
2. Interdependence of areas
3. Ecological relationships — Man is closely related to his natural and cultural conditions of the world in which he lives.

4. Changing geographic conditions — Man's reactions or his relationships to his habitat are constantly changing.

5. Conservation of resources

6. Relative location — Earth conditions are understandable only through the apprehension of their location with reference to other places on the earth.5

George T. Renner and E.L. Conrad

Five fundamental concepts necessary in secondary geography:

1. The concept of ecological relationship
2. The regional concept
3. The conservation concept


5Clyde F. Kohn, "Thinking Geographically," Social Education, IX (October, 1945), 252.
The concept of landscape and morphology
5. The space concept

Clarence W. Sorensen

Basic concepts important in geography in 1950:
1. Nature of geography (What is geography?)
2. Cartography
3. Urban geography
4. Historical geography
5. Conservation

The writer would like to call attention to the fact that Sorensen is also the author of one of the textbooks to be analyzed in the latter half of this study.

These above lists have been devised primarily by professional geographers and are proposed as criteria for complete courses in geography at the secondary school level. None of these lists in all probability will be identical with that of the writer. However, there may be varying degrees of similarity.

Organization of the Study

In this introductory chapter, the writer has defined and delimited the problem, explained the method to be used in this study, defined the significant terms, reviewed related studies, and provided other general information which will enable the reader to more fully comprehend this study. Chapters Two through Seven present the

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geography subject matter content and concepts for the topics which were chosen by the writer as being significant for junior high school geography. The six major geographic topics formulated (as a result of the writer's research) provide the framework for six of the chapters in this study. These chapters are organized as follows:

Chapter Two  -- The Nature of Geography
Chapter Three  -- Maps and Map Reading
Chapter Four  -- Regions and the Regional Approach
Chapter Five  -- Political Geography
Chapter Six  -- Urban Geography
Chapter Seven  -- Conservation

In Chapters Eight through Thirteen, the writer presents the results of his analysis of the five selected textbooks in relation to the six major geographic topics listed in the preceding paragraph. Chapter Fourteen is a summary of the results of this study in which the writer presents an over-all evaluation of the five selected textbooks and recommendations for further study in the area of geography education at the junior high school level.
CHAPTER II

THE NATURE OF GEOGRAPHY

The writer wishes to acknowledge Richard Hartshorne as the creator of the title of this chapter. Mr. Hartshorne's two books, *The Nature of Geography* and *Perspective on the Nature of Geography*, are two of the most outstanding works in the area of methodology in American geography. The writer must also acknowledge that many of the ideas and viewpoints, as well as the title of this chapter, are gained from these two books mentioned above.

American geographers reveal a paradoxical attitude toward questions concerning the nature of their field of work, its purposes, and general methods of procedure. Relatively few studies examining these questions have been published, but many substantive studies and almost all geography books express the individual author's concept of the nature of geography.¹

The writer's real concern is that junior high school students be "exposed" to some of the variety of ideas and viewpoints concerning the nature of the field of geography. By exposure to the more prevalent theories or "philosophies of geography," students should be encouraged to begin to decide what they believe about the nature of geography.

this field of study. In the writer's opinion, many junior high school students are, unfortunately, in a situation similar to that of the dog at the railroad station who had eaten his tag -- he was on his way, where or why he did not know.

Today in too many junior high school geography classrooms, there is geography "haze," and geography has become "a load on the memory, instead of a light in the mind." Geography, present and future, is very important for the following very simple reason: A democracy survives only on the basis of an educated electorate; when a democratic people must adopt basic policies, such a people must be able to think geographically or perish.

Based upon the concepts expressed above, it is the writer's belief that if junior high school students are to derive the maximum benefits from their experiences in the field of geography, the significance, the contributions, and the objectives of geography must be known to them. With this basic understanding, students can then study geography in a meaningful and worth-while manner. In the following sections of this chapter, the writer will present some of the significant concepts, in his opinion, which will help students comprehend the nature of geography.

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3 Preston E. James, "Developments in the Field of Geography and Their Implications for the Geography Curriculum," The Journal of Geography, XLVI (September, 1947), 221.
Geography: Definition and Delimitation

Geography was a Greek word, said to have been coined by Eratosthenes, used to identify a field of learning so obvious and so universally understood that no special definition was necessary. The term was created by combining two common Greek words — ἑάρ (the earth) and γράφειν (to write). The word "geography" thus literally means "to write concerning the earth," but it does not indicate specifically what is to be written. As a result, there has been through the centuries considerable difference of opinion regarding the real meaning of geography. Even geographers themselves have differed in their ideas as to when materials were geographic or non-geographic.

Alfred Korzybski, in his Science and Sanity, points out the desirability of dating certain words which may possess a sliding scale of meanings with the years. His argument is that although words may be utilized for generations, the precise or exact meanings of words may differ greatly from time to time. Of all such words, undated "geography" is a leading offender. For the man on the street or to the teacher in the classroom, who has not kept up with its development, the word "geography" means many things. The older connotations of the word imply a knowledge of the locations of places, rivers, and mountains and/or the ability to name states and capitals, bound countries, or

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recite lists of import or export products. There is a tremendous cultural lag between geography of pre-1920 and modern geography.  

Within the bounds of modern geography, there still exists a variety of viewpoints as to the true nature and meaning of geography. In the following paragraphs the writer presents a sample of the many definitions encountered in his research.

James and Jones define geography as follows: "Geography is the field that deals with the association of phenomena that give character to particular places and with the likenesses and differences among places."  

White and Renner state: "Geography is primarily human ecology and can be defined as the study of human society in relation to the earth background."  

Peattie states:

Geography has little that is particularly geography. Geographic data are selected from other fields of knowledge. What is geographic is the logic of relationships between facts. Geography is always the relationship between physical circumstances and human affairs or, the opposite, between human influences and physical conditions.

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Thralls explains geography as follows:

Geography is the physical-social science which describes, maps, and seeks to explain the interrelations between man and his physical environment. On the one hand, it deals with the natural setting or physical environment in which man lives. On the other hand, geography deals with man's occupation, his religion, art, science, music, literature, types of communities, his means of transportation and communication, and other elements resulting from man's efforts to utilize the materials of his physical environment. These two sets of elements, the physical and cultural, are interrelated, and the interpretation of that interrelationship gives distinctive character to the study of geography.9

Hartshorne states: "Geography is that discipline that seeks to describe and interpret the variable character from place to place of the earth as the world of man."10

Drawing upon the definitions presented above, the writer would emphasize several significant ideas included or derived from these definitions.

1. No one definition of geography will be satisfactory or correct for all people; rather the definition which is accepted is dependent upon definite basic assumptions.

2. Geography deals with places and the variable character of the earth from place to place.

3. Geography stresses the interrelationship of phenomena.

4. Man is a central factor in geography, and geography considers the earth as it serves as the home of man.

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5. Geography utilizes material and information from many areas or disciplines.

These "characteristics" of geography will be considered in more detail in the following section of this chapter. It is the writer's opinion that every geography course must provide its students with a definition of geography as the initial step in the process of gaining an understanding of the nature of geography. Hartshorne's definition, presented above, is the writer's personal selection and will undoubtedly be reflected in the following sections which present ideas which will better enable the junior high school student to comprehend the nature of geography.

Characteristics of the Field of Geography

Every person, place, or thing has some salient features which give it personality or distinguish it from other persons, places, or things. Geography, as a field of study, has some salient features or characteristics which give it a definite personality or "nature." In the writer's opinion, the following paragraphs present the most significant characteristics essential for the comprehension of the nature of geography at the junior high school level.

**Man-land relationships.** -- In the definitions of geography presented in the preceding section, the two factors which are quite prominent in the definitions are the physical world or natural features of the earth and man. The problem for consideration at this point is the relationship between these two factors. Whittlesey explains the relationship of these factors as follows:

To study geography is to learn about the world --
human societies in their habitats. This world includes the natural environment in which the human species breathes and moves, works, and plays. Climates, land and water surface, soils and minerals, native plants and animals, all differ from place to place and form a pattern of nature -- a grand design with a richly variegated texture. To this diversity mankind has more or less conformed. But human ingenuity is forever trying to modify or abolish nature's less exigent aspects to suit its own needs, whims, and ideals. From these efforts issue farms and towns, railroads and telephone lines, mines and factories, churches and temples, all combining to form a pattern of culture even more diversified than that of nature. The dovetailing and blending of natural and cultural patterns make the intricate design which may be called the geographic pattern.11

One essential difference between man and the lesser animals is that man strives to change his environment to meet his peculiar needs, whereas other forms of life in the course of time submissively adapt themselves to the whims of their surroundings. Lack of understanding and the inability to foresee the results of his actions have sometimes led man to make changes in his surroundings that were for the worse. Oftentimes modern man thinks he has conquered nature, only to find that the victory is temporary.

This explanation is based upon the geographical philosophy of "possibilism" which states that nature provides a certain framework for man and that within that framework, man has a choice.12 This philosophy, which is held by most professional geographers today, operates on the assumption that neither man nor the physical

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12Hartshorne, Perspective on the Nature of Geography, p. 57.
environment is supreme. Rather, each is very influential upon the other, and it is basically a reciprocal relationship. What man does affects the physical environment, and the physical environment influences the actions of man.

In geographical studies, these two factors can never be separated nor considered in isolation one from the other. If the mountains of the physical earth are considered by themselves, without any consideration for man, the study then becomes geology; likewise if man is studied without regard to his physical environment, the study is sociology or anthropology. Geography is when the two factors, man and physical environment, are considered together with the primary concern or interest being the influence or effect on man. "Geography is man's study of the earth as the planet of which he is the principal inhabitant."13

James lists the following principles concerning man-land relationships which, in the writer's opinion, seem appropriate for consideration at the junior high school level.

1. All human societies are necessarily forced to establish workable connections with the resources and conditions of the land in order to survive.
2. Simple cultures have a few direct connections with the earth resources of their immediate locality but that the more complex the culture the greater the variety of connections with the earth resources and the more indirect they become.

13 Ibid., p. 44.
3. The most complex culture of all -- the industrial society -- by its essential nature is global in its scope and international in its needs.

4. The significance of the features of the physical earth is determined by man and not by nature.

5. The physical and human differences which exist from place to place on the earth are significant to us because the great economic, social, and political issues of our time are in part the direct result of these differences.\(^4\)

Drawing upon the above explanation, the man-land relationship is a complex and many faceted aspect of geography which must be understood for comprehension of geographical studies. This "characteristic" will be further expanded and explained in the process of considering other characteristics of geography in the following paragraphs and in the following chapters.

**Interrelationship.** -- As explained in the preceding section, geography is concerned with the interrelation of man and the earth in all its complexity. "The distinctive character of geography is its concern with the integrated combinations of phenomena as interrelated among themselves at any one place and interrelated across space with those of other areas."\(^5\)

Geography starts with reality or existing conditions and bases its studies upon this point of reference. Few if any events or conditions are the result of one factor or influence but rather are the resultant of the interrelationship of many factors.

\(^4\)Preston E. James, "Developments in the Field of Geography and Their Implications for the Geography Curriculum," The Journal of Geography, XLVI (September, 1947), 222-223.

Bowman describes the characteristic of interrelationships in geography as follows:

The complex and diverse earth is one of the conditioning factors in that ceaseless unfolding of life that sprang out of it, lives in it, and is interactive with it. The goal of geographical knowledge or science, on the human side, like that of all social science, is to learn the interrelationships of some of the innumerable factors which constitute the regional and interregional complex of life in any area. The emphasis is not upon the accumulation of facts, however essential they may be, but upon the interplay of facts or conditions with respect to each other and with respect to man and his affairs, processes, and institutions. 15

It must be stressed that it is neither practical nor appropriate as a theoretical goal to attempt to make a complete analysis of the total complex of factors. The geographer must select only those factors significant for his particular purpose. Hartshorne excellently expresses this concept as follows:

Any phenomenon, whether of nature or of man, is significant in geography to the extent and degree to which its interrelations with other phenomena in the same place or its interconnections with phenomena in other places determine the areal variations of those phenomena and hence the totality of areal variation, measured in respect to significance to man. 17

It is the writer's opinion that comprehension of the concept of interrelation is one of the most important types of understanding for students at the junior high school level. In the following

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16 Isaiah Bowman, Geography in Relation to the Social Sciences (New York: Charles Scribner's Sons, 1943), p. 213.

17 Hartshorne, Perspective on the Nature of Geography, p. 46.
chapters, innumerable examples of interrelationship of factors will be stressed.

Unity of geography. -- In the past, the field of geography has been plagued by two basic kinds of duality or division — cultural geography as opposed to physical geography and regional geography as opposed to systematic geography. Today, most geographers recognize the unity of the field, but there are still many remnants and examples of these dichotomies.

As discussed in a previous section, the physical earth and man are completely intertwined. Their relationship is reciprocal, and the geographer can never separate the two factors, because the action of one affects the other. Also, as previously stated, man is the central factor or measure of significance in geography. Geography studies the earth as the home of man.

The dichotomy of regional geography as opposed to systematic geography is based upon contrasting methods of study and presentation. Systematic geography is the consideration of the differential character of the earth surface in terms of a single geographic factor. On the other hand, regional geography, which is explained in Chapter IV of this study, deals with the interrelationship of many factors in one place. When a single factor is considered over the entire earth or a large segment of the earth, it must first be examined in the individual place of occurrence, and there it is influenced by a number of other factors — unique to that location or region. In a regional study, which considers a large number of interrelated
factors, the knowledge of each factor must be considered individually, which is basically systematic in approach.

Hartshorne provides the best analysis, in the writer's opinion, of this false type of duality in geography and shows how geography is really a unified field of study. He states:

All studies in geography analyze the areal variations and connections of phenomena in integration. There is no dichotomy or dualism but rather a gradual range along a continuum from those which analyze the most elementary complexes in areal variation over the world to those which analyze the most complex integrations in areal variations within small areas. The former we may appropriately call "topical" studies, the latter, "regional" studies, provided we remember that every truly geographic study involves the use of both the topical and the regional approach.¹⁸

These two approaches are essential tools to the geographer, but they must never be allowed to divide the field according to their use. For complete geographic study and comprehension, both must be used.

The dynamic nature of geography. -- Geography is dynamic -- never static. Man's adjustments to his physical environment change from time to time because his adjustments are dependent upon his knowledge, techniques, skills, and attitudes. The physical earth itself also changes in a manner much more evolutionary than man. Even the location of a place or region on the earth's surface changes in its significance to man.¹⁹

¹⁸Hartshorne, Perspective on the Nature of Geography, pp. 121-22.

¹⁹Thralls, op. cit., p. 5.
Bowman presents the following four ways that the environment is constantly changing, apart from natural change, such as climate:

1. By man's growing sense of new potentialities in different habitats
2. By the cultural occupation and adaption of the land
3. By the employment of new instruments of power that reduce the effect of natural handicaps
4. By a continually changing relationship of production center to market, as new areas of production are developed or old ones are altered in use, and by progressive changes in transport systems and costs and world prices.

In our changing world, geographic information is constantly changing in value. From the writer's experience, it is lack of realization and comprehension of the dynamic nature of geography, plus outdated data, that sometimes handicaps or prevents junior high school students from deriving the maximum benefit from their geography study.

The role of "place" in geography. — One of the basic premises of geography is that everything in the social realm and every event in human history is tied to some specific location. Moreover, the primary assumption of geography is that social structures and events which are tied to specific locations must thereby be adjusted to and interrelated with the "attributes of place" possessed by such locations.

Too often events are considered aside from or without comprehension of the place of occurrence and its influence upon the resultant. The concept of place is included in Hartshorne's definition of geography,

20Bowman, op. cit., p. 218.
21White and Renner, op. cit., p. vi.
in a preceding section of this chapter, in the terms "variable character from place to place." It must be emphasized that place, as discussed here, means more than the ability to locate on a map or locate by verbal description. Instead it means the comprehension of the interrelationship of specific factors at a particular place and their influence upon the event or condition which is the end product of this combination of interrelation of factors.

The earth shell. — Writings in the field of geography always refer to the earth surface as that portion of the earth with which man is concerned. What does earth surface really mean in geography?

By common consent, geography has relinquished a part of its original field to astronomy and to geology. Today it is content to focus its attention on that part of the earth-body subject to occupancy or use by man. Man occupies only the surface of the earth. On the other hand, man uses not only the land surface but also other parts of the earth-body — its surface waters, the depths of sea and land, the heights of the air. 22

Hartshorne, in considering this problem, proposes the term "earth shell" as a more suitable term than earth surface. 23 The writer believes that consideration of this problem of terminology may help junior high school students more clearly recognize the nature of geography, and the use of "earth shell" may be more meaningful and


23Hartshorne, Perspective on the Nature of Geography, p. 25.
thought provoking than the traditional expression -- earth surface.

Through the examination of the preceding characteristics of geography, the junior high school student can discover what is the true nature of geography. Only when these salient features are recognized and understood can maximum learning in geography result.

The Function of Geography

Geography is a dynamic field of study dealing with the unique synthesis of the whole world in continuous evolution. A study of this unique synthesis of the earth in continuous evolution explores the relationship between the various factors concerned, how these factors affect each other, how all operating together make up the physical environment, and how they affect man, then in turn how he modifies this environment.24

The reasons for the necessity of geographic understanding of the world and its people are more evident with each passing day. Recent world affairs have created an awareness of this need if people are to understand the nations who turn to us for aid. What formerly might have been just natural curiosity about people and areas of the world has today become a quest for knowledge and understanding that is paramount to peaceful existence on this earth. This peaceful existence depends upon our accepting, respecting, and understanding other peoples' customs, problems, potentials, resources, and interrelations

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All this is basically within the scope of geography. There is no reason to suppose that the trend toward greater usefulness of the study of geography will change. Indeed, it appears that it will gather momentum as, increasingly in all walks of life, people become aware of the environmental bonds that tie humanity in a common tether. As in international relations described above, a solid grounding in geography is as necessary for the entrepreneur as it is for the educator and the military planner. The strategist who maps a campaign in ignorance of climate, terrain, material resources, and lines of transportation, to say nothing of the economy of its inhabitants, is unlikely to go very far. Likewise the corporation, the industry, and the government agency which similarly fail to take these environmental factors into consideration have no greater expectancy of life.

In the preceding paragraphs, the writer does not mean to imply that geography has all the answers or can solve all man's problems. Rather, the writer believes that it is important that students realize that geography applies to all aspects of everyday life of all people, of all ages, in all areas of the world, and in all walks of life and that geography can supply a context in which domestic and international problems involving man, space, and resources become more comprehensible and manageable.


The Nature of Geography at the Junior High School Level

Drawing upon the preceding sections in this chapter, without delving into the area of methods of teaching geography, the writer believes it is necessary to consider the problem: What is the nature of the goal of geography instruction at the junior high school level?

To some, geography is a study of location and the listing of products; to others, the accumulation of statistical data and the memorizing of unrelated facts. This type of mental fact stuffing neither enables the student to comprehend the true nature of geography nor does it enable him to apply this mass of factual information. Barrows has well said:

The chief end in teaching geography is not information but ability to think geographically. The outstanding educational objective of geography, in other words, is to help make purposeful thinkers and successful doers, not to create animated gazetteers. In order to think geographically, pupils need something suitable to think about, an inducement to think, and appropriate guidance in thinking.27

The writer is in full agreement with the above quotation of Barrows and believes that a necessary prerequisite for developing the ability to think geographically is an understanding of the nature of the field of geography. Once the nature of geography is understood, the student can then learn to use data to think geographically about specific problems.

The writer here presents the most significant concepts, in

27Villa B. Smith, "High School Geography and Geographic Thinking," The Journal of Geography, XLIV (September, 1945), 233.
his opinion, appropriate for the junior high school level on the
topic of the nature of geography. In the second part of this study,
the writer will analyze selected textbooks in order to discover what
content is presented which would give meaning to these concepts.

1. Geography puts primary emphasis upon place. It is concerned
with the interpretation of the variable character of different places
on the earth.

2. Geography emphasizes the interrelation of phenomena.

3. In geography, man is the central figure. Geography is the
study of the earth as the home of man.

4. Geography includes both cultural and natural phenomena.
These two are so intertwined that they cannot be separated. Neither
man nor nature is supreme in the relationship, but it is a reciprocal
relationship.

5. The most acceptable philosophy of geography is "possibilism,"
which is: Nature provides a framework, and man has a choice within
this framework.

6. Geography is a unified field of study. The dualisms,
Cultural -- Physical and Regional -- Systematic, stressed in the
past are false divisions.

7. Geography is a dynamic field of study and is constantly
changing.
8. Geography deals with the "earth shell" which includes the earth's crust and the atmospheric envelope.

9. Geography's objective at the junior high school level is to develop in students the ability to think geographically. The ability to think geographically is a necessary skill for citizens of a democratic society.
Maps, globes, and charts have been basic instructional materials in geography courses from time immemorial. Their presence and use, on the other hand, mean neither that these materials are being used correctly nor effectively. The writer believes that maps must play a most significant role in good geography instruction and that too much poor use and misunderstanding of maps is hindering a large portion of geography instruction at the junior high school level today.

The number, type, and quality of maps in junior high school geography textbooks will be among the writer's criteria in the second part of this study when selected textbooks are analyzed. It has been the writer's experience that pupils often think of maps and charts as a "bonus," a page that does not have to be read. The writer would like to make it quite clear at this point that he does not believe that the maps in textbooks are sufficient for effective geography teaching and learning. Globes and wall maps are essential components of every geography classroom.

K.T. Whittemore makes a very important point in relation to map use when he states: "It is important that teachers on all levels realize that map reading is not taught in any one year, month or week. With map-reading skills as with reading skills and arithmetic
skills, constant practice is necessary if they are to be retained and developed. In this chapter, the writer does not pretend to present a "complete" set of experiences in map use but rather will present some of the basic map knowledge, understanding, and skills needed for the successful study of junior high school geography.

The Nature of Maps

It is safe to assume that every junior high school student has had some previous experience with maps. In map reading as in many areas, such an acquaintance can often be a handicap in that pupils believe they know how to use maps when really they do not. In such cases the result can be misunderstanding, confusion, and a superficial reading of maps.

In order for students to comprehend maps completely, it is first essential for them to know the nature of maps. What are maps? Below, the writer presents selected definitions of maps to better determine their nature. James states: "The map is a device for reducing the size of the surface of the earth so that the differences we observe on it can be seen in one view." Raisz states that, "A map is, in its primary conception, a conventionalized picture of the Earth's

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2 Preston E. James, "Differences from Place to Place," The Journal of Geography, XLV (October, 1946), 284.
surface as seen from above, to which lettering is added for identification." Deetz presents the following definition: "A map is a plane-surface representation of a portion of the spherical surface of the earth."\(^4\)

Drawing on these definitions, the writer would like to emphasize two points which are in his opinion most significant. First, maps are plane-surface representations of the spherical earth. Secondly, maps are an attempt to give man an over-all or birds-eye view of areas ranging in size from a few acres to the entire earth.

Since all flat maps are plane representations of the earth, which is a sphere, they are all distorted or deformed to some degree or extent. A map showing a very small portion of the earth is distorted very slightly, but any map of considerable size which shows continents, hemispheres, or the world is only an approximation of the earth's features in their relative sizes, positions, and shapes. The globe is the most accurate representation of the earth. It is in a sense a spherical model of the earth, and as a sphere, is a nearly true to scale representation of all parts of the earth's surface. This is basically why every geography classroom must have both maps and a globe. Each has specific functions which will be discussed in another section of this chapter.


No man in his entire life can visit all the areas of the earth. Hence, to make up for his lack of firsthand knowledge of remote areas, and because he cannot see the entire world at one time in one panoramic view, he relies on maps. The common man has been led to believe that maps are infallible. In reality this is not true, and good maps are not as plentiful as one might suppose. No accurate map of the world has yet been made, and less than five percent of all the world's land area has been accurately mapped.5

John K. Wright offers a very enlightening reflection on this subject when he states:

The fact is that maps are drawn by men and not turned out automatically by machines and consequently are influenced by human shortcomings. A map may be like a person who talks clearly and convincingly on a subject of which his knowledge is imperfect. Every map is thus a reflection partly of objective realities and partly of subjective elements. No map can be wholly objective.6

Geography teachers must strive to help students realize that maps, like textbooks, can be wrong or contain incorrect information. Once these limitations are realized, the students can use maps, while always subjecting them to critical analysis for maximum benefit and comprehension.

Map reading or use is not to be confused with the area of

6John K. Wright, "Map Makers are Human," The Geographical Review, XXXII (October, 1942), 527.
cartography. Cartography is basically the science of making maps. Some of this type of information is certainly helpful to the professional geographer and may be used in its simplest form to aid junior high school students understand maps. Again, the main concern here is for the intelligent use and interpretation of maps, not the technical knowledge and skills for constructing maps.

The Function of Maps

The need for more and better maps appears to be somewhat in direct ratio to the rising complexities of life upon the earth. Even in the twentieth century, a "boom period" in map making, few people are keenly aware of the function and importance of maps. Although their value is practically beyond estimate, there are several salient functions which the writer feels deserve special emphasis. Maps are conventional pictures of areas, a type of geographical shorthand for presenting facts. They are tools intended to facilitate and clarify man's thinking and aid in his activities. They are important devices for putting things together, establishing relationships, and showing causal effects.7

Preston E. James makes an excellent analogy of man and his knowledge of the earth.

Like an ant upon a rug, he may know very exactly the nature of the fabric near-by, but the general design is beyond his range of vision. In order to reduce the larger

7Picklesimer, op. cit., p. 301.
patterns of the face of the Earth to such proportions that they can be comprehended in a single view, the geographer makes use of a map.\(^8\)

James here very ably states one of the very important functions of maps, to present the world or large portions of it to man in one view.

Maps can give not only a horizontal picture of the earth and its surface but also a vertical one, its heights and depths. Maps may show time as well as space, history as well as geography. They may show weather, past and future, to guide the farmer and pilot. They may show not only the works of man -- cities, canals, bridges, dams, and transmission lines but also the laws and beliefs or ideas of people. A political map, districited according to the way various sections of the public vote, tells the politician what to expect. Another type of map shows the business man the buying habits in different areas. There are maps which guide public health, charting the occurrence of disease, accidents, and other factors affecting man's physical and mental health. There is no walk of life without some kind of map to go by.\(^9\) At this point it must be noted that no one map will show or serve all the functions mentioned above. Nor is there a single all purpose map which is best for all functions; rather specific types of maps are most satisfactory for specific or particular functions.

\(^8\)Raisz, op. cit., p. 1.

Narrowing the scope to the field of geography, Williams categorizes map use in two general functions. First, it functions as a means of expression. There are many ideas which the geographer may wish to record which can be more clearly expressed as a map than in the written or spoken word. Imagine the task of writing as an essay what one sees on a 1:25,000 topographical sheet of an area with rugged topography and densely populated. The second general category for map use in geography is rather a reversal of the first. Maps function as sources of information. Someone else has visited or explored the country or has surveyed it; he expresses his knowledge of its topography on a map, and thus the geographer when reading it benefits from the experience. Junior high school geography would be more concerned with the second use or function of maps. In some particular situations students may express their knowledge via maps, but most of their efforts would be directed toward deriving information about man and the earth from maps.

A map is merely a means toward an end. Its purpose is to help man in dealing with his environment. The function of maps in geography is similar to the function of tools to any skilled craftsman. The more skillful the student is in using and interpreting maps, the more able he will be in dealing with and comprehending his environment.

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Types of Maps

A very romantic description of the scope of map use is presented by Peattie when he states:

A map is the beginning of adventure. Travel and treasure hunts, wars and explorations, all open with its unrolling. Even in your armchair a map is a magic carpet, taking the mind in a flash just where you want to go.  

This description of the breadth of map use vividly makes the point, emphasized in the preceding section, that maps are used for innumerable purposes. To attempt to catalog completely with precision the infinite number of kinds or types of maps is an impossible task. Anything that man can observe, tangible or otherwise, can be mapped.

Raisz presents the following four basic approaches to cartography and maps that, in the writer's opinion, would help junior high school students comprehend the great variety of maps by placing them in general categories:

1. The landform map is concerned with "physical" features such as mountains, plateaus, plains, shorelines, rivers, swamps, etc. and can be represented on large scale maps with contour lines and on small scale maps with "landform" symbols.

2. The landscape map represents the visible pattern of the earth and is as close to a colored airplane photograph as the scale allows. In small scale maps it uses symbols which in line and color resemble the actual feature of the earth.

3. The land-use approach will emphasize the human use and will show farming, manufacturing, mining, transportation, etc. using bold, distinctively-colored symbols.

4. The land-type map combines the three previous approaches. It will show relief by contours or symbols;

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it will select its colors and lines to resemble the visible pattern, but it will use the bold blacks, reds, and purples to more or less over-print the map for land-use patterns.¹²

This is only one of many methods which can be used to categorize map types. Maps are also often classified according to the projection used to construct the map, according to the scale of the map, according to content of the map, and via many other means too numerous to mention. The writer has found it a very motivating and enlightening activity at the junior high school level to have the class see how many different types of maps can be found in the geography textbook. The teacher and students can also supplement the variety provided by the text through making a collection of as many different types of maps as can be discovered.

In the preceding section dealing with map function, it was emphasized that no flat map can be completely accurate in all respects and that different functions, uses, or purposes require different types of maps. Again it must be stressed that there can be no single "ideal" map, but the type of map must be selected in accordance with the function it is to serve. Much misunderstanding, waste, and harm to mankind and to the earth have resulted from improper use, both intentional and unintentional, of maps. The type of map must always be matched to the function the map is to perform.

Characteristics of Maps

In the preceding sections of this chapter, several characteristics of maps have already been mentioned. It is the writer's purpose in this section to further analyze those general characteristics of maps already mentioned and to enumerate and analyze additional significant map characteristics.

As noted previously, maps cover an extremely wide range of subjects and are used for a great many purposes. To further complicate the problem, certain types are best suited for certain functions, and all maps have certain assets and certain shortcomings which must be recognized for intelligent and effective map use. Before categorizing the types of maps according to their individual assets and liabilities, the writer believes that it is appropriate to present two lists of "components" of every good map. The first list of necessary characteristics of a good map is:

1. Projection (grid)
2. Scale
3. Directions
4. Map Symbols
5. Key or Legend
6. Title and Date

A second set of criteria for evaluating maps is as follows:

1. Scale
2. The system of projection
3. The content of the map as expressed in symbols
4. The lettering
5. The title and border

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14 Raisz, General Cartography, p. 2.
These are the ingredients of every good map, but in the writer's opinion, such factors as projection, scale, grid, symbols, and directions are the basic fundamentals which need special consideration at the junior high school level.

Cartographers call any valuable asset a map has its "property," and it means the best aspects or features that a map possesses. It is what is proper to that map. The "ideal" map, if one could be devised, would include or have possession of what Fisher and Miller refer to as the "four virtues" which are as follows:

1. Equidistance — to have distance correctly represented
2. Conformality — to have shapes correctly represented
3. Equal area — to have areas correctly represented
4. To have great circles represented by straight lines

Unfortunately it is impossible to construct the ideal map. No map can be constructed that will yield all of the "four virtues" accurately at the same time. The reason for this is that the earth is a sphere, and when represented on a flat map, there is always distortion or deformation of some type and degree.

Globes. — Only a globe can present a valid picture of the earth as a whole. No other type of map can represent the true forms of the continents in the full as they fit into and indeed are part of the spherical shape of the earth. It is the most nearly true to scale of all maps in each and all of its areas and in its distances from any one point to every other point. On it can be seen, as on

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15 Greenhood, op. cit., p. 98.
no other map, the exact proportions and positions of oceans and land features in relation one to another as they are on the earth.\textsuperscript{17}

It is not an imitation of a sphere or ellipsoid (almost a sphere) but an actual sphere or ellipsoid itself; there need be no optical illusions to visualize the continents or coordinates or great circles. A globe does not need to simulate the physical relations of the earth we live on; it has them.

The above statements do not mean to imply that globes are best for all purposes or that maps are a poor substitute for globes. Each has a very important role or function in geography, and they should be considered as complementary and not competing representations of the earth. Some examples of the disadvantages of globes are these:

1. Good globes are very expensive.
2. Globes do not serve well as working maps.
3. On a globe, the viewer cannot see both sides (the entire world) at the same time.
4. Globes are not easily portable.
5. Globes cannot give large scale, detailed mapping of a small area.\textsuperscript{18}

It has been the writer's experience that the globe is the best starting point in studying the earth, maps, and their components. Its educational values are that it accustoms the student to look upon the earth as a spherical body and not as flat land, as a map may suggest. Here the student can see things as they really are and then is more able to make the transition to flat maps. Globes are also necessary to

\textsuperscript{17}Greenhood, \textit{op. cit.}, p. 98.

\textsuperscript{18}Fisher and Miller, \textit{op. cit.}, p. 13.
teach many fundamental principles as day and night, seasons, and climate. It is the writer's belief that in the consideration of such subjects as day and night, climate, and seasons the student must be guided by the teacher to gain a knowledge and understanding of the earth's shape and a working knowledge of directions. Every geography classroom must contain a globe, and every teacher must use the globe for effective learning.

Grid. -- At the junior high school level, it is a necessary first step that the teacher explain to the students that the grid system is a man-made device. Like the units of measure, foot and yard, or similar to political subdivisions as counties and townships, the grid system is a reference system devised by man in order that he can measure, locate, and travel more precisely on the earth's surface. These are imaginary lines drawn on maps, globes, and charts which in a sense have become a type of "international language" to aid man in communicating his knowledge of the earth.

The grid system of the earth is composed of two sets of co-ordinates with very different properties. The poles can be defined as points where the earth's axis of rotation pierces the earth's surface and are used as reference points in considering the grid system and its two sets of co-ordinates. The first set of co-ordinates is the parallels. The equator is almost a perfect circle cut out from the earth's surface by a perpendicular plane which bisects the earth's axis. Between the equator and each of the poles are ninety degree parallels of latitude which are small circles parallel to the
equator. Latitudes can be determined by measuring the height of the polar star or of the sun over the horizon. Parallels are used to measure distance and locate points north and south of the equator. Latitude is reckoned north or south along the meridians, and longitude is reckoned east or west along the parallels of latitude.

The second set of co-ordinates of the earth consists of three hundred and sixty semi-circles radiating from the poles at equal angles and dividing the equator and the parallels into three hundred and sixty degrees of longitude. Since all meridians are equal, any one can be chosen as the starting point or prime meridian. Several prime meridians have been used in history, but today the Greenwich meridian is used by almost all nations of the world. The prime meridian is the number one meridian or the starting point in measuring distance or locating points east and west of the prime meridian. The determination of longitude is usually obtained by the determination of local time, from the position of the stars or the sun. This time is compared with the time on the prime meridian. The difference between local time and Greenwich time will give the longitude, considering that one hour difference equals fifteen degrees of longitude.¹⁹

The grid system is a somewhat complex concept for junior high school students to grasp and is the type of learning which requires much repetition, constant use or practice, and a gradual expansion toward complete comprehension. For example, the subdivision of degrees,

¹⁹Raisz, General Cartography, pp. 74-79.
minutes and seconds, the meaning, purpose, and function of the Arctic
Circle and the Tropic of Capricorn are ideas which will be learned
through use and gradual comprehension of the grid system. Robinson
suggests ten visual characteristics which the writer believes would
be helpful to junior high school students in comprehending the
earth's grid system:

1. Parallels are parallel.
2. Parallels are spaced equally on meridians.
3. Meridians and great circles are straight lines (if
   looked at perpendicular to the earth's surface, as is
   true on a map.)
4. Meridians converge toward the poles or diverge
toward the equator.
5. Meridians are equally spaced on the parallels,
   but their distance apart decreases from the equator to
   the pole.
6. Meridians at sixty degrees are half as far
   apart as parallels.
7. Meridians at the equator are spaced the same
   as parallels.
8. Parallels and meridians cross one another at
   right angles. (With number ten in this list, the compass
   rose is the same anywhere.)
9. The area of the surface bounded by any two
   parallels and two meridians (a given distance apart)
   is the same anywhere between the same two parallels.
10. The scale at each point is the same in any
direction.20

The activities, methods, and materials used by the teacher will
vary from class to class depending upon specific factors in the partic-
ular class. It is the writer's opinion that the best sequence for the
study of the grid system would be to begin with the globe, and then
apply it to maps. Parallels and meridians can be easily drawn and shown

20Arthur H. Robinson, "An Analytical Approach to Map Projec-
tion," The Annals of the Association of American Geographers, XXXIX
(December, 1949), 285.
upon a globe, but its application to a flat map is much more complex because the surface of a globe cannot be flattened without some kind of distortion, such as stretching or tearing. How this distortion is handled on flat maps leads into the next section of the chapter which deals with map projections.

**Map projections.** -- As was stated earlier in this chapter, maps and map projections are not to be considered as poor substitutes for a globe but as a valuable aid in addition or complementing the information that can be obtained from the globe in studying the earth. As Robinson states: "Any map projection is a triumph of ingenuity, and we ought to be proud of it." 21

Listed below are two of many definitions the writer found in his research of the word, "projection." Raisz states:

*A projection is any orderly system of parallels and meridians on which a map can be drawn.* 22

Greenhood states:

*Using a slang expression most literally, we might say a projection is a "take-off" on the globe -- a plane trying to imitate a sphere.* 23

Any projection is an attempt to portray the earth on a plane surface and at the same time preserve or keep intact, to the greatest degree possible, the qualities of conformality and equal area. The problem at the junior high school level is centered, to a

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21 I b i d ., pp. 283-284.
22 R a i z , General Cartography, p. 81.
certain extent, around the problem of the great number of types of
projections. There are hundreds of ways in which projections can be
constructed. Some are really projections, and others are the result
of complex mathematical computation. However there is no one
projection that is best or ideal for every map. The projection must
be selected according to the function or use of the map.

For any degree of comprehension and efficiency in map reading
and use, junior high school students must be "exposed" to a limited
number of projections, their properties or traits, and uses. The
writer uses the word "exposed" because from personal experience, junior
high school students will neither master nor completely survey all
map projections. It is not realistic at this level to expect students
to memorize map projections, their traits, and uses, but it is
realistic and necessary that they be acquainted or exposed to the
concept of map projections.

Greenhood presents the following fundamental classification as
a basic grouping for the comprehension of map projections:

I. Cylinders
   A. Mercator
      1. Traits
         a) Parallels and meridians are straight lines
            at right angles.
         b) Meridians are equally spaced, but the
            parallels are proportionally farther
            apart as the latitude increases.
      2. Properties
         a) Rhumb or true courses shown as straight
            lines
         b) Conformal
      3. Uses
         a) Navigational charts
         B. Gall's Stereographic
         C. Miller Cylindrical Projection
II. Conic
A. Traits
1. Straight line meridians, rays equally spaced and coming closer together as they go poleward
2. Parallels, concentric arcs equally spaced throughout

B. Properties
1. Compromise of shape
2. Area and scale neither perfect nor excessively wrong in any of these respects

C. Uses
1. Series of maps of world sections and countries as in atlases
2. Temperate zones

D. Types
1. Lambert's Conic Conformal Projection
2. Alber's Conic Equal Area Projection
3. Polyconic Projection
4. Transverse Polyconic Projection
5. Other Conic Cousins
   a) Bonne Projections
   b) Sinusoidal Projections
   c) Bipolar Oblique Conic Conformal Projection

III. Maps Projected Upon Planes
A. Azimuthal Equidistant Projection
1. Traits
   a) Polar Case -- Latitude rings equally spaced
   b) Equatorial Case and Oblique Case
   c) As difficult to describe as to compute, but the grid with its odd meridians clasping and encircling the poles is almost unmistakable.
   d) If only a part of the world is shown, as in a continental map, the net closely resembles that of the Simple Conic.

2. Properties
   a) True scale distances
   b) True scale azimuths from pole of projection

3. Uses
   a) Polar regions
   b) Hemispheres
   c) Continents of somewhat equal spread in all directions, like Asia
B. Lambert's Azimuthal Equal Area Projection
C. Orthographic Projection
D. Stereographic Projection
E. Gnomonic Projection
F. Globular Projection

IV. "Odd" Projections
A. Mollweide Homolographic
B. Denoyer's Semi-Elliptical Projection
C. Van der Grinten Projection
D. Boggs Eumorphic Projection

On page 50 in Table 1 is another summary type classification of the basic map projections.

It is the writer's belief that the two classifications could be duplicated by the teacher and given to the student to keep and to be used as a reference when specific map projection information is needed. At the time when such duplicated materials are introduced to the student, many examples or samples of the different projections should be presented to the student via maps, diagrams, slides, and films. Another very helpful change in existing practice which would greatly aid in the problem of recognition and understanding of map projections would be the inclusion of the name of projections on maps used in textbooks and workbooks. The subject of map projections appears to the writer to be an excellent area to deal with individual differences.

According to interests and abilities, there are an endless number of activities that could be carried on at various levels of difficulty. In some cases, according to the judgment of the classroom

24 Ibid., pp. 109-151.
### TABLE 1

Key to Projections

<table>
<thead>
<tr>
<th>Parallels</th>
<th>Meridians</th>
<th>Projection</th>
<th>Merit</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal, spaced equally at true distances</td>
<td>Vertical, spaced equally, true on standard parallel</td>
<td>Rectangular</td>
<td>Easy to construct less exact maps</td>
<td>City maps, orthomorphic charts, world straight maps, loxodromes</td>
</tr>
<tr>
<td>Horizontal, spaced closer near equator</td>
<td>Vertical, spaced equally, true on equator</td>
<td>Mercator</td>
<td>Orthomorphic, philic, world straight maps</td>
<td>Orthomorphic- philic, world maps, loxodromes</td>
</tr>
<tr>
<td>Horizontal, spaced equally at true distances</td>
<td>Sine curves, spaced equally, true on each parallel</td>
<td>Sinusoidal</td>
<td>Equal area maps, world maps</td>
<td>Orthomorphophic, world maps, hemispheres</td>
</tr>
<tr>
<td>Horizontal, spaced closer near poles</td>
<td>Ellipses, spaced equally, true on equator</td>
<td>Mollweide</td>
<td>Equal area maps</td>
<td>Orthomorphophic, world maps, hemispheres</td>
</tr>
<tr>
<td>Horizontal, spaced closer near poles (poles are lines ½ length of equator)</td>
<td>Ellipses, spaced equally, true on equator</td>
<td>Eckert IV</td>
<td>Equal area maps</td>
<td>Orthomorphophic, world maps, hemispheres</td>
</tr>
<tr>
<td>Concentric circles, spaced equally</td>
<td>Sine curves, spaced equally, true on equator</td>
<td>Eckert VI</td>
<td>Equal area maps</td>
<td>Orthomorphophic, world maps, hemispheres</td>
</tr>
<tr>
<td>Concentric circles, spaced closer at north and south ends</td>
<td>Radiating straight lines, spaced equally, true on one or two standard parallels</td>
<td>Conic</td>
<td>Small distortion maps, series</td>
<td>Orthomorphophic, maps of U.S.</td>
</tr>
<tr>
<td>Concentric circles, spaced wider at north and south ends</td>
<td>Radiating straight lines, spaced equally, true on one or two standard parallels</td>
<td>Alber's</td>
<td>Equal area maps of U.S.</td>
<td>Orthomorphophic, maps of U.S.</td>
</tr>
<tr>
<td>Concentric circles, spaced wider at north and south ends</td>
<td>Radiating straight lines, spaced equally, true on one or two standard parallels</td>
<td>Lambert's</td>
<td>Orthomorphophic, maps of U.S.</td>
<td>Orthomorphophic, maps of U.S.</td>
</tr>
</tbody>
</table>
TABLE 1 (Contd.)

<table>
<thead>
<tr>
<th>Parallels</th>
<th>Meridians</th>
<th>Projection</th>
<th>Merit</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentric circles, spaced</td>
<td>Curves, spaced equally, true on each parallel</td>
<td>Bonne</td>
<td>Equal area</td>
<td>Middle latitudes</td>
</tr>
<tr>
<td>equally at true distances</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-concentric circles, spaced</td>
<td>Curves, spaced equally, true on each parallel</td>
<td>Polyconic</td>
<td>Tables</td>
<td>Topographic</td>
</tr>
<tr>
<td>true on central meridian</td>
<td></td>
<td></td>
<td>available</td>
<td>sheets</td>
</tr>
<tr>
<td>Non-concentric circles, true</td>
<td>Circles spaced equally, true on equator</td>
<td>Globular</td>
<td>Easy to</td>
<td>Hemispheres</td>
</tr>
<tr>
<td>on central meridian,</td>
<td></td>
<td></td>
<td>construct</td>
<td></td>
</tr>
<tr>
<td>spaced equally on periphery</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-concentric circles, spaced</td>
<td>Circles spaced closer near center</td>
<td>Stereographic</td>
<td>Ortho-</td>
<td>Hemispheres</td>
</tr>
<tr>
<td>closer near center</td>
<td></td>
<td></td>
<td>morphic</td>
<td></td>
</tr>
<tr>
<td>Ellipses, spaced closer near</td>
<td>Ellipses, spaced closer near periphery</td>
<td>Ortho-</td>
<td>Visual</td>
<td>World,</td>
</tr>
<tr>
<td>periphery</td>
<td></td>
<td>graphic</td>
<td></td>
<td>continents</td>
</tr>
<tr>
<td>Curves, spaced closer near</td>
<td>Curves, at varying distances</td>
<td>Lambert's</td>
<td>Equal</td>
<td>World,</td>
</tr>
<tr>
<td>periphery</td>
<td></td>
<td>Azimuthal</td>
<td>area</td>
<td>continents</td>
</tr>
</tbody>
</table>

Note: Polar, interrupted, and rare projections are not included.

teacher, more "creative" map activities might be appropriate to meet
the needs of particular students, such as:

1. Creating a map from written description.
2. Mapping from observation.
3. Maps compiled from statistical data.25

For intelligent comprehension and application, the student must
realize that every map projection is an abstraction in which certain
qualities of truthful representation are sacrificed in order to preserve
others more relevant to the specific purpose of the particular map.

Map scales and symbols. -- Every picture has a proportional
relationship to the object it represents. Maps also have this same
proportional relationship, and this proportion is its scale. Strahler
defines scale as: "The ratio or proportion of size between the features
shown on the map and the corresponding real features."26 Since all
maps are many, many times smaller than the corresponding part of the
earth's surface, the relationship is beyond recognition, and there­
fore, the scale must be stated on the map. Scales may be stated or
represented in three different ways. They are as follows:

1. Numerical scale -- \[ \frac{1}{250,000} \] or 1:250,000
2. Verbal scale -- 1 inch to 4 miles
3. Graphic scale -- \[ \frac{0}{250 \text{ miles}} \]

These three methods of stating the scale are basically three ways of


26Arthur N. Strahler, Physical Geography (New York: Harcourt,
Brace and Co., 1951), p. 84.

27Raisz, General Cartography, pp. 71-72.
saying the same thing. Therefore, they serve the same purpose and provide the same information.

The selection of the scale to be employed depends upon the character of the country to be mapped and upon the function the map is to serve. Two very general categories or classifications of maps according to their scale are large scale maps and small scale maps. Large scale maps are those ranging from 1:250,000 up to 1:10,000 and larger. Small scale maps range from 1:250,000 down to 1:100,000,000. The larger the scale the smaller the area that can be shown. Hence, with the larger scale and smaller area it is possible to show greater detail. Again the criteria for selection of either large or small scale maps is basically function. No map can be meaningful unless it is drawn to scale and unless the scale is used by those who are reading and interpreting the map. Without a scale, a map is only a guess.

Another map characteristic directly related to scale is the map symbol. A good symbol is one which can be recognized without a legend. Such a symbol should be reminiscent of the features it represents or be sanctioned by centuries of use. The use of symbols differs depending upon the scale of the map. Wise choices must be made by the cartographer so that large scale symbols are used on large scale maps and small scale symbols are used on small scale maps. Otherwise, the maps become overburdened and difficult.

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to read. Raisz divides map symbols into the following four groups:

1. Man-made features or culture
2. Water features or hydrography
3. Relief features or hypsography (hachuring, contour lines hypsometric coloring, altitude tints)
4. Vegetation

Map symbols are a type of shorthand used on maps so that more information can be shown, and it also enables the map reader to interpret the map more easily and quickly.

At the junior high school level, map scales and symbols are to be considered from the standpoint of students learning to read and understand them and not from the standpoint of students drawing maps and using scale and symbols. Some of the latter may be possible in individual classes for certain students, but again the individual teacher is the only one qualified to make this judgment. As knowing words gives meaning to sentences, so knowing and understanding map scales and symbols gives meaning to maps.

Geography and Maps

Although maps are used in many lines of endeavor, they are an essential tool for the geographer no matter what his particular study may be. By means of maps, the geographer is able to broaden his vision beyond his immediate habitat to include the entire earth. Maps have, to the best of the writer's knowledge, been used in the teaching of geography as long as man has studied geography. In a sense, the map in the classroom forms the background for the teacher's...
explanation just as the scenery is the background for the actor in a play.

The writer is concerned in this chapter not only with the problem of map use and specific types of map knowledge but also with the manner or way which maps are used in geography instruction. In the writer's opinion, too often in the past the maximum benefit of maps has not been derived from junior high school geography instruction because maps were used in an improper manner. Peattie makes a most important point when he states: "Do not teach technicalities as an end in themselves. Develop a mastery of the tools by selecting the activities and problems that will help in an understanding of the geographic principles you intend to teach."^30 Too often maps are the end in themselves, and as a result are very boring and "busy work" type experiences for the student. "People do not study maps to understand maps. They study maps to understand the earth and its inhabitants."^31 In the second part of this study the writer will be evaluating textbooks on their "over-all" approach to map study and to see how their presentation compares with the ideas expressed by Peattie and Anderzhon.

In the preceding sections, the writer has presented the concepts that he believes are essential at the junior high school level for the

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comprehension and interpretation of maps. This is the information necessary to use maps to understand man and his home, the earth.

In the Introduction, the writer made it clear that the idea of selecting specific topics to improve geography instruction was neither an original idea nor a new practice. Clyde F. Kohn has also emphasized map reading as an important phase or concept of good geography instruction. Below is his list of necessary map skills and information:

1. The ability to orient the map and note directions
2. The ability to recognize the scale of a map and to compute distances
3. The ability to locate places on maps and globes
4. The ability to express relative location
5. The ability to read map symbols
6. The ability to compare maps and to make inferences

Kohn, as does the writer, emphasizes that such skills are not learned in a day, grading period, or year but are skills that can be improved or refined from kindergarten through college.

At the junior high school level, it is the writer's opinion that attention should be centered upon gaining the skills and knowledge mentioned in the preceding sections via using maps which have already been prepared rather than drawing or making their own maps.

Maps are a tool for the geographer, and his effectiveness and/or contributions will depend on how efficiently he uses his tools. Maps are a part or phase of all the topics and concepts discussed in this dissertation.

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Conclusion

Maps have long been an integral aspect of geography at all levels. Junior high school geography teachers and authors of geography textbooks have long recognized the importance of maps and have made them a part of the geography courses. The writer is concerned that map usage be improved in junior high school geography courses in order that the maximum benefit can be derived and for better geographical understanding.

To teach pupils to read and understand maps as well as they read and understand books is a basic need in junior high school geography classes. Maps and the type of thinking that is derived from maps are basic to an understanding of the many problems of policy on which the adult citizen in a democracy must formulate an opinion. The schools which claim to train people to live in a democracy cannot fail to accept this responsibility. 33

Contrary to popular belief, maps are not lifeless and unchanging geographic tools, limited to traditional frames, styles, or symbols. Rather they reflect the concepts and ideas of their makers and of the times, and as such, they show great variety and originality in design. In the years to come, it seems certain that the twentieth century will be designated as a "golden era" of cartography. The airplane, photogrammetry, air photo interpretation, sonic sounding, electronics, high speed reproduction, space travel, and many other

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developments, including two world wars, have contributed immeasurably to the growth of this field.34

Against these needs and the means or devices mentioned in the preceding pages of this chapter, the writer has listed below the salient concepts for junior high school geography in the area of maps and map reading.

1. Maps and globes are both necessary for satisfactory geography instruction. They are really complementary devices, not competing devices, to aid man understand the earth.

2. All flat maps are plane representations of the earth, a sphere, and therefore, they are distorted to some degree or extent.

3. Maps are not infallible. They are man-made and man-interpreted and therefore must be used critically.

4. Maps function in the capacity of broadening man's perspective beyond his own immediate environment. They provide a means for man to see the world or large segments of the world in one view.

5. Maps are a type of shorthand for the geographer to both gain and record knowledge. Maps are a means or a tool by which man can learn more about the earth. Is the "over-all" approach of the textbook that of using maps as a "means to an end" or as a tool, or are maps presented as ends in themselves?

6. There is no single ideal map. All maps have "properties" and the type of map selected must depend upon the function it is to serve.

7. The number of types of maps is almost endless. Students must gain a working knowledge of the basic standard types. How great a variety of map types are presented in the geography textbook?

8. The characteristics or components — projections, grid system, scale, and symbols — are all man-made devices to enable him to learn more about the earth. The geography student must have an understanding of all these components to use maps intelligently.

9. Maps are dynamic; technology and the times have greatly changed the need and function of maps. Man in order to keep pace with the ever-changing conditions of the earth has devised many new map techniques and types.

10. What types of "creative map activities" are suggested or provided for in the textbook?
CHAPTER IV

GEOGRAPHIC REGIONS AND THE REGIONAL APPROACH

Geographers are in agreement that regional study is an essential part of their craft. However, they do not claim their discipline has exclusive rights to the regional concept. The recognition of regional distinctions figures in all disciplines that deal with features which vary from place to place on the earth. History, while concerned primarily with tracing human events through time, finds those events occurring in particular areas. Each discipline that treats one kind of process or group of processes gives consideration to the resulting phenomena as they are associated in particular places.

Geography, the subject of investigation and presentation as discussed in Chapter II, is the areal variation of the face of the earth as the home of man. Geography also focuses on the variations among areas, on the interconnections and movements between areas, and on the order found in the space at or near the earth's surface. It utilizes the ecological contributions of other disciplines insofar as they aid in interpreting spatial distributions.¹

This chapter examines regions and the regional method from the geographic point of view. It is the primary purpose of the writer to

provide a framework in which junior high school students may have experiences which lead to a better understanding of the region and the regional method as an approach to understanding the earth as the home of man. Most students at this age have, consciously or unconsciously, been introduced and affected by the influence of regions. On the other hand, how many are aware of this concept and method of study?

The Nature and Scope of the "Region" in Junior High School Geography

From the very beginnings of modern geography late in the eighteenth century, geographers have been troubled by the nature of the areal units into which they divide the object of study -- the earth. Through the years, there have been many ideas and several very definite trends of thought concerning the nature and scope of regions and the regional method of study. Although the history of this approach is beyond the scope of this particular study, it should be noted that only since about 1920 has regional geography come into high favor in the United States. Through an analysis of the professional literature, for a period of approximately sixteen years, it is evident to the writer that it is an important and relatively permanent aspect or topic in the field of geography today.

Those who believe that the region constitutes the core of geography hold that the face of the earth can be marked off into areas of distinctive character; and that the complex patterns and associations

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of phenomena in particular places possess a legible meaning as an ensemble which, added to the meanings derived from a particular study of all the parts and processes separately, provides additional perspective and additional depth of understanding. This focus of attention on particular places for the purpose of seeking a more complete understanding of the earth as the home of man is the basic purpose or objective in establishing regions.

In the consideration of regions, as is true in many topics in the field of geography, there exists a variety of theories and concepts as to their nature and scope. The following are a few of the significant definitions which the writer has selected from his research. Ackerman states: "A region is a particular expression of the attributes and limitations of a culture, observable as they relate to the earth's space and physical composition." Hartshorne states: "A region is an area of specific location which is in some way distinctive from other areas and which extends as far as that distinction extends." Klimm et al. define regions as: "particular areas which possess significant

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characteristics that distinguish them from other areas."\(^6\) Lastly, James and Jones define region as: "a device for selecting and studying areal groupings of the complex phenomena found on the earth."\(^7\)

Drawing on the above definitions, the writer would emphasize at the junior high school level the concepts that regions are --

1. Unique. A particular or specific combination of natural and cultural factors have produced a region which has no exact duplicate anywhere in the world.

2. Homogeneous. It is homogeneous or has cohesion in relation to some specifically selected criteria. "The criteria used to set up regions are selected arbitrarily to suit the purposes and convenience of the regionalizers."\(^8\)

Junior high school students have been exposed to different types of regional geography, where the earth is divided into a number of sub-divisions for the purpose of facilitating study, but few, in the writer's experience, have been told on what basis or criteria the division was made or what was the nature of each division or subdivision.

In this chapter, the writer's objective is to provide material that


\(^7\)James and Jones, *op. cit.*, p. 30.

\(^8\)Klimm et al., *op. cit.*, p. 469.
could lead to true comprehension of the region. James and Jones provide the following explanation of regions:

Any segment or portion of the earth's surface can be a region if it is homogeneous in terms of such an areal grouping. Its homogeneity is determined by criteria formulated for the purpose of sorting from the whole range of earth phenomena the items required to express or illuminate a particular grouping, areally cohesive. So defined, a region is not an object, either self-determined or nature-given. It is an intellectual concept, an entity for the purposes of thought, created by the selection of certain features that are relevant to an areal interest or problem and by the disregard of all features that are considered to be irrelevant.9

On the basis of this excellent explanation, the student must be led to understand that, in addition to the previously mentioned points, the region is a man-created, intellectual entity which aids man in his study of the earth and the reciprocal nature of the interrelationship between man and the earth. For any region to be truly comprehended, the student must comprehend the criteria used in designating the region.

The Nature and Scope of the Regional Method

As discussed in Chapter II, American geographers have written relatively little on the methodological phase of the field of geography. This fact is certainly evident in the topic of regional method. In the preceding pages, the writer has defined and delimited the concept of region. Now the means or methods of applying this concept will be discussed at the appropriate level for junior high school students.

The initial step in any regional study is the clear statement of its basic purpose. Many objectives lead geographers to study regions

9James and Jones, op. cit., p. 30.
or to apply the regional method to the study of problems. Since the 
purpose of the study determines the type of region sought and the 
type of treatment given it, a precise statement at the start of the 
inquiry, as well as in the final report, is essential. For example, 
the purpose may be to satisfy curiosity about a particular region, 
to differentiate two or more unlike regions, or to compare similar 
regions. The underlying purpose in all cases is the same; to reach a 
more complete comprehension of the order of earth-space.\textsuperscript{10} In very 
general terms, the method used in the regional approach is best described 
by James and Jones as follows:

\begin{quote}
The observation and measurement of the phenomena 
brought to the fore, by specific criteria, from the diversified 
background, and the search for accordant areal relationships 
among these phenomena, constitute the regional method.\textsuperscript{11}
\end{quote}

James and Jones further expand the method by describing the two 
basic approaches to the regional method of study. These two approaches 
are described as follows:

\begin{quote}
The regional approach to regional study starts with 
the homogeneous area, which is accepted as a hypothesis. The area is then examined with a view to discovering its 
components and connections. The region is analyzed with 
respect to the various elements which in association give 
it character and is interpreted sagely against the 
investigator's background and grasp of topical geography. The region, seen as a complex association of features, 
guides the procedure.

The topical approach to regional study starts with 
a problem. There is a question of cause-and-effect to be
\end{quote}

\textsuperscript{10} Ibid., p. 55.

\textsuperscript{11} Ibid., p. 22.
answered or a question of policy to be clarified. The topics or features relevant to the problem are defined and their regional patterns brought out separately and compared. Accordant areal relations are identified by cartographic analysis. The complex association of features seems less important than do the component regional systems that make it up.12

The first group finds its challenge in the areal homogeneities that are apparent on the face of the earth and is concerned to examine these areas more closely with regard to the quality of homogeneity, the internal connections, and the external relations. The second group finds its challenge in unsolved questions of the relations between processes and phenomena, of the modifications of process in particular places, and the areal relations of phenomena.13

In both of these approaches, the region is central or basic. Upon close examination, these two approaches are neither opposite, nor do they form a dualism. Rather as explained in Chapter II, they form a gradational range along a continuum from those which analyze the most elementary complexes in areal variation over the world to those which analyze the most complex integrations in areal variations within small areas.14

Both approaches are necessary "tools" for the geographer and geography student. Both approaches should be demonstrated to the student and experiences provided where both can be employed in studying the reciprocal interrelationships between man and the earth.

12Ibid., p. 32.
13Ibid., p. 31.
14Hartshorne, Perspective on the Nature of Geography, p. 121.
Types or Categories of Regions

The region, as defined and delimited in the preceding sections of this chapter, is an area in which accordant areal relations produce some form of cohesion. The region is defined by specific criteria and is homogeneous only in terms of these criteria. Therefore, effective regional study is founded on the selection of meaningful criteria.

The regional method is a means of examining areal differentiation on the face of the earth, of finding similarities between areas, and of revealing the patterns of interconnection between areas. This method of study produces many different categories of regions. This idea is expressed in the following quotation by James:

There can be no such thing as a correct system of regions, or a system of "true regions;" no one system of regions is right and all others wrong: there are as many regional systems as there are problems worth studying.  

The region is basically a resultant of the geographer's purpose and the criteria established.

To provide a framework for junior high school students to use in analyzing the many categories of regions, the writer presents below the most appropriate, in his judgment, systems for the classification of categories of regions.

Whittlesey presents the following three major categories for the classification of regions:

1. Single-feature regions -- delineate an individual phenomenon that is examined in relation to other phenomena in the search for accordant relationships.

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15 James, op. cit., p. 200.
2. Multiple-feature regions — are differentiated on the basis of combinations or associations of features. Such regions fall into three subtypes:
   a) Associations of intimately connected features which are highly cohesive because they have been produced by one kind of process. Examples are: climate, soil type, and types of agriculture land use.
   b) Associations of features less intimately connected than those of the preceding subtype, because they have been produced by different kinds of processes. An economic region is an example of this type of region.
   c) Associations of features only very loosely connected. An example of this type is the commonly used natural region.

3. The third type of region is differentiated in terms of the entire content of human occupation of area. Such a region is an association of interrelated and societal features chosen from a still more complex totality because they are believed to be relevant to geographic study. This does not imply an obligation to sort regionally the entire content of earth space. The term "compage" has been proposed to describe this type of region.

James and Jones propose, in addition to those listed above, two additional categories or classifications which are applicable to all types of geographic regions. These two categories are as follows:

1. Uniform regions — Uniform regions are so throughout. The uniformity is not complete, for there is always a certain range of characteristics permitted by the criteria, and there are irrelevant differences which are disregarded. But within the limits set by the criteria, regions of this kind are uniform. A climate region is an example.

2. Nodal regions -- Nodal regions are homogeneous with respect to internal structure or organization. This structure includes a focus, or foci, and a surrounding area tied to the focus by lines of circulation. For example, an area of newspaper circulation is a single-feature nodal region. On the basis of the above classification of categories of regions, the writer believes that junior high school students can better comprehend the region and how it is determined. The discussion of categories should help to clarify the idea that a region, in a sense, is similar to a hypothesis, which is formulated in relation to a particular purpose and set of criteria.

Characteristics of Regions

Though there are an infinite number of possible or potential regions, depending upon the purpose, criteria, and approach selected by the geographer, there are also some characteristics or traits that can be found in all regions. Also, there are some specific or particular traits for the individual categories of regions. In the paragraphs that follow, the writer presents these "common characteristics" or traits found in his research. Again, the writer believes this information can serve the junior high school student in the capacity of a guide in striving toward better comprehension of the region as a geographic concept.

17 James and Jones, op. cit., pp. 36-37.
James and Jones present the following group of characteristics common to all regions:

1. The region is unique, in that it differs in location from all other regions in the same category.
2. The region enfolds a three-dimensional segment of earth-space. Regions may extend indefinitely above and below the hydrosphere. [This is what Hartshorne, as emphasized in Chapter II, refers to as the "earth shell."]
3. The region incorporates an association of coherent features.
4. The present character of the region is partly derived from conditions that existed and events that occurred in past times.
5. The region is defined by criteria inherent in the category to which it belongs, not by the traits that pertain to other categories of regions.
6. The region occupies a fixed position in a hierarchy of regions of the same category.

Peattie presents the following list of characteristics which are applicable to all regions:

1. It enfolds a cubic quantity of earth-space, above and below the earth's surface as the plane of prime significance.
2. It is defined in terms of its inherent traits, not by traits which pertain to other sorts of regions.
3. The regional core is more significant than the regional boundary. Boundaries are zonal in reality, and their function is to visualize a pattern of cores.
4. The order of magnitude of regions ranges from irreducible units to the entire earth, and may not be disregarded. No comparison is valid unless order of magnitude is kept in view.
5. Unique regions beget some degree of regional consciousness, ranging from neighborhood feeling to tenacious socio-political solidarity.

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A uniform region needs to be checked for two specific characteristics in addition to those applicable to all regions. These are:

1. The uniform region is homogeneous because all parts of its area contain the feature or features by which it is defined. No region is uniform in the absolute sense, for all regions are generalizations based on selected items.

2. The uniform region includes among the features by which it is defined a certain range of intensity or character permitted by the criteria.20

The nodal region also has some distinctive characteristics, in addition to those listed for all regions. These are:

1. The nodal region is homogeneous because the whole of its area coincides with an integrated design of internal circulation. This unity of organization, and not the spread of specific features throughout its whole area, differentiates it from other regions.

2. The nodal region contains a focus, occasionally more than one, that serves as a node of organization. The focus is likely to be a center of communication and is most often urban.

3. The nodal region is enmeshed by a pattern of circulation. This circulation may be an expression of mobility or communication, or it may involve force, as in government exercised from a focal political center.

4. The focus of a nodal region is linked to the remainder of the region by ties of different intensity and different character.21

Two ideas mentioned either directly or indirectly in the preceding quotations which, in the writer's opinion, need some additional explanation for comprehension at the junior high school level are:

1. Core of regions — In every region there is a core area that gives it personality and individuality. It is here that the regional characteristics are best exemplified. The core possesses two qualities which may be blurred in the periphery. These are:
   a) It differs noticeably from neighboring core areas.

20 James and Jones, op. cit., p. 39.
21 Ibid., pp. 39-40.
b) It exists as a recognizable and coherent segment of space defined by the criteria whereby it is selected.22

2. Dynamic nature of regions -- Geographic regions are not fixed, and instead of having hard and fast boundary lines, they have ever-changing ones. Man and the earth are dynamic as is their reciprocal inter-relationship. Regions must be re-evaluated frequently and be considered as a dynamic entity, capable of change.23

These lists of characteristics are those needed for complete comprehension of the topic of regions. In the writer's opinion, it is not realistic to expect junior high school students to completely master the regional approach to geography. At the junior high school level, students need to be introduced to as much of the preceding content as is appropriate. Only the classroom teacher can judge what is appropriate for the particular class. In accordance with the teacher's judgment, that content considered appropriate should be introduced and used as a foundation for the continuous development of a complete comprehension of regions and the regional approach through the school years.

Geographic Regions and the Regional Method as a Part of Junior High School Geography

A region is an area which is homogeneous in respect of some particular set of associated conditions, whether of the land or of the people. Regions are an intellectual entity created by man's mind


23 Ibid., pp. 5-6.
in relationship to a particular purpose and set of criteria. The regional analysis has virtue for junior high school students in that it concentrates attention on the "togetherness" or interrelation of things -- soils, climate, agriculture, manufacturing, transportation, buying, selling, and living -- all occurring at the same time and in the same neighborhood.

James explains in the following quotation the role of regions in the field of geography as a whole:

> When a geographer proposes a system of regional division to be used in the study of a problem, he is in fact proposing a hypothesis. In geographical study, the preliminary system of regional division is hypothetical; but after being confronted with evidence, after a successful demonstration of the validity of the system of area divisions, the regional system is advanced from the status of a hypothesis to that of a theory or concept. A system of demonstrated regional divisions provides the theoretical basis or the conceptual framework for geographic study.  

It is the writer's belief that if junior high school students would be provided with experiences which would enable them to comprehend regions and the regional approach, as outlined in this chapter, then they could comprehend the role of regions in the field of geography, as explained in the preceding quotation. Likewise, all of these concepts and understanding would enable the student to better comprehend the earth as the home of man.

Again the writer emphasizes that the junior high school student

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24 James, op. cit., p. 200.
can neither make a "complete regional study," nor can he be expected to master the regional approach to geography. Within the framework of these limitations, he can have many experiences which will better enable him to comprehend the reciprocal relationship between man and earth.

In the study of regions, as is true with any other topic in the field of geography, one of the surest procedures to induce student apathy and disinterest is to deal with regions in an encyclopedic manner. Here the writer refers to the technique which calls for rote treatment of location, relief, shape, climate, and the like, region after region, with no discrimination to the relative significance of these factors and with little or no regard for the interrelationship of factors. This type of treatment does not lead in the direction of comprehension of geography as outlined in Chapter II. Although this is very closely related to method, which is beyond the scope of this study, the writer will consider in the second part of this study what approach the textbooks use in relation to regional study. What example do they present via their own approach?

On the basis of the content, understanding, and attitude outlined in the preceding pages of this chapter, the writer lists below the most significant, in his opinion, concepts for junior high school students on the topic of regions and the regional approach to geography. In the second part of this study, the writer will examine the selected textbooks in order to learn what treatment is given to these concepts which follow:

1. Regions and the regional method are means to an end, not
an end in themselves. They are tools to help man better understand his home, the earth.

2. All regions possess some basic characteristics of which students must be aware for comprehension of regions. These characteristics are as follows:

a) Each region is unique.

b) Each region is homogeneous in relation to its criteria. A region is only as good as its criteria.

c) A region is an intellectual entity not a natural creation.

d) Each region has a nuclear core where the criteria are best exemplified.

e) Regions possess a relative degree of cohesion.

f) A region includes a three-dimensional aspect of the earth surface. This is what Hartshorne refers to as the "earth shell."

g) Regions are dynamic in nature. Both the natural and cultural features and their interrelation are always changing.

h) Each region is part of a hierarchy. Also, each region is not suspended alone in space but is part of a whole. Each region must be considered via its relationship of one region to another and to the whole.

i) Every regional study must have a purpose which is the basis for formulating criteria.
3. Regional study or method exemplifies interrelationships in geography and the reciprocal relationships between man and earth. In the writer's opinion, these two concepts are two of the most basic objectives for junior high school geography.

4. The topical approach to regional study and the regional approach to regional study do not form a dichotomy but are better described as points along a continuum.

5. The most important types of regions for junior high school students to be acquainted with are: single-feature, multiple-feature, compage, uniform, and nodal regions.

6. History of regions must be considered only to the extent necessary to explain the present region.

7. Neither "complete" regional study nor "complete" mastery of the regional approach are realistic at the junior high school level.

8. What type of regional division or regional approach is employed by the textbook?
CHAPTER V

POLITICAL GEOGRAPHY

Geography, as discussed in the preceding chapters, concerns itself with the areal arrangement of phenomena on the earth. The size and shape of areas and the location when distributed on a map make a pattern, whether of soils, crops, climates, or nations. Some areal patterns describe conditions: climate, land forms, and the natural resources. These earth conditions combine in infinite variety to constitute the natural environment of human society, the manifold human habitat. Man further diversifies the natural variety of the earth by tracing upon it areal patterns of his own divising: evidences of modes of settlement, whether clustered in cities or villages or disseminated over farm or in forest; mosaics of areas utilized to carry on economic pursuits -- agriculture, fishing, mining, manufacturing, trade; distributions of items in the landscape contrived for the social life of mankind -- areas devoted to temples and churches, theaters and playing fields, schools, and graveyards; and finally political patterns, intended to facilitate economic and social life by providing devices for regulating the interrelations of territorial groups and of individuals within such groups. 1

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The primary political pattern superposed on the earth is that of states. All students of geography are familiar with political maps, showing the sovereign states, colonies, and territories of the world, because among the criteria used to distinguish homogeneous areas on the earth, the one most widely used is that of political authority.

"Political geography is perhaps the oldest kind of geography."\(^2\) Although it has long been recognized as an essential part of geography, it remains one of the less developed parts. As a "backward child" of geography, political geography received relatively little emphasis by American geographers until approximately twenty-five years ago, but today its significance is well-recognized. Its importance is explained by James and Jones as follows:

Political authority, organized in a system of independent, sovereign states, each with unique characteristics, is a dominating force in the way people live and the way they make use of the earth's resources.\(^3\)

In this chapter, it is the writer's purpose to examine the topic and theories of political geography and to select and analyze those most significant and appropriate for junior high school geography, thus enabling the student, via comprehension of the political region, to better comprehend the earth as the home of man.

\(^2\)Ibid., p. iii.

The Nature and Scope of Political Geography

The theories or viewpoints as to the nature and scope of political geography vary greatly. This divergence is due to a variety of factors. First, there is the variety of theories in relation to the nature of geography and regions. Secondly, as a "backward" phase or part of geography, there exists neither an accepted approach nor consensus as to its content. Such diversity of ideas can be extremely confusing to the junior high school student and also presents a very difficult problem to teachers and textbook writers of geography.

In the preceding chapters, the writer has presented those definitions and concepts which he felt were most appropriate and significant in relation to the topics of The Nature of Geography and Regions. Drawing on this information, the writer will attempt in the following pages of this chapter to expand and extend this line of thought to the topic of political geography. Goblet describes the scope of political geography as follows:

"The most diverse and complicated organisms (political groupings, territories and states) form the substance of the science of political geography which embraces those fields in which man as a social animal has attained his maximum power and, whatever the strength and subtlety of those politico-geographical organisms, they are always composed of but two elements -- earth and man, and both are always present."

Political geography consists of the description and analysis of

the politically organized area. The land area of the earth is divided and subdivided into numerous political regions at varying levels of organization, including independent states, dependent areas, internal divisions which are components of either the independent or dependent national units. Almost every inhabitant of the modern world comes under the jurisdiction of one or more political systems. A typical American is affected by the laws of the governments of a municipality, county, state, and of the Federal government.\(^5\)

The national units of the world, whether independent or dependent, are the particular concern of the political geographer, although some attention has also been directed to political units at other levels. At the junior high school level, the basic emphasis should, in the writer's opinion, be placed on the independent, sovereign state.

In order that students may comprehend and utilize the knowledge, attitude, and skill of the topic of political geography, they must have a more precise definition of the topic. Below, the writer presents a few of the many definitions of political geography. Whittlesey defines political geography as "the differentiation of political phenomena from place to place over the earth."\(^6\)


\(^6\)Whittlesey, *op. cit.*, p. iii.
James and Jones state:

Political geography, then, may be defined as the study of areal differences and similarities in political character as an interrelated part of the total complex of areal differences and similarities. The interpretation of areal differences in political features involves the study of their interrelation with all other relevant areal variations, whether physical, biotic, or cultural in nature.7

Hartshorne states:

Political geography is the study of the variation of political phenomena from place to place in interconnection with variations in other features of the earth as the home of man.8

Lastly, Van Valkenburg and Stotz state:

As the name implies, political geography is concerned with the geography of political units . . . . Political geography is also concerned with the interplay between nations, insofar as geography influences it, and with the evaluation of areas of dispute or so called trouble zones.9

The one point of emphasis in all the above definitions is that political geography is the study of the relationships and correspondence between the patterns of natural environment and the political pattern of the world. These definitions also stress two of the "continuous points of emphasis" in this study; the significance of interrelation of many factors in geography and the reciprocal relationships between man and the earth.

7James and Jones, op. cit., p. 178.
All students at the junior high school level are aware that political units exist. The primary objective, in the writer's opinion, for the topic of political geography is to lead the student to discover that states are dynamic and complex entities, each with unique characteristics which are the result of the interrelation of man and earth. Also two of the major categories of factors for consideration in political geography are the internal and external relationships and influences. By analysis, the student can discover the "how" and "why" of countries which in turn should lead to better international understanding.

Geopolitics and Political Geography

Very closely related to the nature of political geography is the problem of whether or not "geopolitics" is a part of political geography. This problem arises in relation to the external relations of the state and is basically concerned with the international relations and foreign policy of states. The word "Geopolitik" was coined by a Swede named Rudolph Kjellen. Geopolitics is primarily concerned with a consideration of the political state in its geographical environment, but the objective study of either geography or political science alone is not sufficient for an understanding of geopolitics. The Geopolitical Institute at Munich defined geopolitics as: "The science which deals with the political organisms of space and their structure."  

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Strausz-Hupe states:

Geopolitics poses instability as the fundamental principle of international relations. Nations are viewed as collective beings which must grow or wither, expand or decline, but which cannot stand still.\(^{11}\)

Taylor states:

Geopolitics is the science of the earth relationships of political processes. It is based in Political Geography and views "space" from the standpoint of the state. In the extreme German form it considers the state as a necessarily expanding organism, in which the individual is entirely subordinated to this organic state, which is to be aided in its growth by all the powers of the military and civilian population.\(^{12}\)

The subject matter of geopolitics is derived chiefly from the same sources as those of political geography, but the focus of attention is markedly different. Geopolitics is essentially a body of thought developed in a given territory which seeks the maximum of its own ends. The geopolitician sees all other groups through the spectacles of national interest, and often becomes selfish to the point of greed, lust, and violence. The core of this discipline is power; the quest for power provides the guide to method. Geopolitics can never furnish the objective truth of political geography.

A state's existing geopolitical outlook will be rendered obsolete with each marked technological advance in the development of armaments. Mahan postulated geopolitics in an era of naval supremacy;

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later Mackinder's geopolitics displaced this system when land force and heartland were regarded as the vital and decisive military factors; Seversky developed geopolitics when it was apparent that air power was becoming the predominant factor in the power struggle.

Geopolitics, in short, is the name given to the prevailing thoughts, theories, and doctrines of a group who scheme to enhance the political organization of their choice. Such action usually occurs under the guise of labels such as Lebensraum, fulfillment or destiny. Initiative stems from the driving force, patriotism or nationalism.

At the junior high school level, the writer does not believe it appropriate to elaborate on the leaders or theories of geopolitics, nor to trace, historically, these ideas or theories. The primary objective here is to make students aware that there is such a thing as geopolitics and how it differs from political geography. This objective may be summarized as follows: The basic difference between political geography and geopolitics is in emphasis or focus of attention, rather than a difference in kind. Geopolitics is a biased use of geographical factors for the furtherance of the foreign policy and international relations of a particular country. Political geography is an objective analysis of the relation of earth and state.

Approaches to the Study of Political Geography

Political geography, like many other academic disciplines, can be approached from several different avenues. Generally, the method

used to study political geography would depend, at least in part, upon what theory or philosophy for the whole field of geography was held by the geographer or student. In this study, designed to provide concepts for the junior high school level, the writer will present very briefly the major approaches for the purpose of helping see the "why," "what," and "how" of the political area or state. Junior high school students can neither be expected to master all these approaches nor should they be expected to select the one they believe to be most appropriate. Rather, an "exposure" to these approaches can provide some insight into the components of states and how the inter-relation of specific factors produces a particular type of state.

One of the distinctive characteristics of political geography arises from the fact that in practically all parts of the world today political organization represents not the organization of a particular kind or class of people but rather the organization of a particular area including, along with the other contents of the area, the people permanently residing within it. The type of political area described above considers the political unit or area as a region. The criterion is primarily homogeneous governmental control. In this region based upon homogeneous political organization, a comprehensive study is made to discover the factors and their relationship which had led to the existent state. Based upon the analysis of regions in Chapter IV

\[14\text{James and Jones, } op. cit., p. 179.\]
of this study, the political region would be classified as a functional or nodal type region.

In the field of geography, as a whole, the regional approach has a directly opposite counterpart -- the systematic approach. In political geography, these same two approaches, regional and systematic, are also opposite methods of study available to the geographer or student. In the systematic approach, particular political phenomena or component factors of states are considered generically as they occur in different parts of the world. Boundaries and capitals are the most obvious features in the political geography of any area and therefore have been the favored subjects of systematic studies.

As was stated earlier and as is true in all other branches of geography, the division or dichotomy between regional and systematic is false. It is really better described as two points along a continuum, and both approaches are necessary for a "complete" and realistic understanding of political units or states. At the junior high school level, in the writer's opinion, the major emphasis should be placed upon the regional approach. By this method, the student is able to gain a better comprehension of the state as the unique resultant of the interrelationship of a particular combination of factors.

The two general approaches described in the preceding paragraphs are applicable to many areas or phases of geography and are compatible with many theories or philosophies of geography. On the following pages the writer will present four of the most commonly used approaches.
to political geography. As mentioned earlier, these philosophies are related to the geographer's theory of the nature of geography, but it should be emphasized that these are specific approaches for the field of political geography.

I. Morphological Approach

In this approach the basic factor is structure. The two major types or categories of structural factors are physical and cultural. Below are the subdivisions of these two major categories.

A. Physical Features
1. Location
2. Size
3. Shape
4. Climate
5. Vegetation
6. Soil
7. Natural Resources
8. Water bodies
9. Topography

B. Cultural Features
1. Race
2. Language
3. Religion
4. Boundaries
5. Capitals
6. Economy
7. Ethnic
8. Transportation

In the morphological approach the political unit or state is analyzed on the basis of these cultural and physical features. This analysis may be made either by the regional or systematic approach. In the writer's opinion, oftentimes the morphological approach results in the treatment of isolated individual features with no attention placed on the interrelation of features and with little or no political implications.

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15 Van Walkenburg and Stotz, op. cit., pp. 41-328.
II. Genetic Approach

The genetic approach is concerned with answering the question: "What factors were important in the evolution and formation of a political state?" The state is analyzed from its inception through physical, cultural, and any other factors which are pertinent to explain the present political unit or state. The skills necessary to trace the evolution of a state, using the genetic approach, require a person highly skilled in both the areas of history and geography. To date, the outstanding contributions in the application of this approach have been those of Derwent Whittlesey, *The Earth and the State*. The main disadvantage of this theory, in the writer's opinion, is that the state's development is traced to the present, and then it stops with no recommendations or considerations for the immediate or distant future.

III. The Unified Field Theory of Political Geography

This theory simply states that "idea" and "state" are two ends of a chain. The complete chain consists of the following components: Political Idea -- Decision -- Movement -- Field -- Political Area. This chain should be visualized as a chain of lakes or basins not an iron chain of separate links. The basins interconnect at one level, so that whatever enters will spread to all the others. There is a general distinction, however, between flow from idea towards area and in the reverse direction. The former is essentially a process of
controlling or creating. The reverse spread is more correctly described as conditioning. 16

This theory, having had practically no actual application, does in the writer's opinion, offer some interesting possibilities. It can be applied to organized or unorganized areas and certainly emphasizes the role of the interrelationship of multiple factors in creating a state.

IV. The Functional Approach

The functional approach considers the state as a functional type region. Within this framework, all the factors are examined and analyzed to determine if the state is carrying out its function. In accordance with this approach, the function of a state is as follows: The function of a state is to bring about cohesion of the diverse parts of the state and to maintain favorable external relations with other states. 17

The state is analyzed, as to its function, via the criteria set forth in the following outline:

A. Internal Factors
   1. Centrifugal forces
      a) Physical features
      b) Size
      c) Shape


d) Empty areas
e) Zone of different or unfriendly people
f) Area of economic separation or isolation

2. Centripetal Forces
   a) Raison d’être — the "state idea" or justification of the state
   b) Nationhood — differentiates between state and nation. The state is an organized political unit. The nation is a feeling of unity among people.

B. External Relations
   1. Territorial
   2. Economic
   3. Political
   4. Strategic

This approach considers any and all factors that explain the functioning of the state. In the writer's opinion, this is the most satisfactory approach for the following reasons: First, it is based on the regional approach, and this places emphasis upon the interrelationship of the many factors. Secondly, it is a meaningful approach in that it considers all factors to evaluate the status of function for the state.

At the junior high school level, it is important, in the writer's opinion, that students be made aware of the variety of theories and approaches in existence. At the same time, students should be led to realize that all the approaches are basically concerned with the same factors but that emphasis, of varying degrees, is placed upon different factors. Again, at this age level, students should neither be expected to comprehend completely all the approaches nor to select the approach they believe is most appropriate. In the second part of this study,  

18 Ibid., pp. 95-130.
the writer will be concerned if the selected textbooks explain or are an example of any of the approaches explained in the preceding pages.

Characteristics and Features of the Political Unit

In the preceding sections of this chapter, the terms political unit, political region, and political area or state have been ubiquitous. There is no doubt that the kernel or heart of political geography is the political area or whatever name may be applied. Since this is the heart of the topic of political geography, the writer presents below a few of the most comprehensive definitions discovered in his research.

Alexander states that:

A political region may be defined as a portion of the earth's surface, throughout which a common type or types of political behavior takes place. The behavior most frequently cited in the delimitation of political regions is that of political control over territory by a particular government. 19

Goblet states:

The fundamental complex in political geography is the State, whose components are: first, a territory -- i.e. some fraction of the globe, either wholly land or land and sea, which has been politically delimited -- and secondly, the human society, organized under an independent government, occupying and having sovereignty over the territory. 20

Pearcy and Associates state:

A state may be defined as a portion of the earth's surface throughout which one government extends its jurisdiction. The human society organized under the government in turn occupies the state and controls its sovereignty. 21

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20 Goblet, op. cit., p. 87.

Drawing on the definitions cited in the preceding paragraphs
the writer would emphasize the following points as significant for
junior high school students:

1. The state is more than territory. It is a formally organized
portion of the earth's surface which is basically homogeneous in
governmental control and jurisdiction.

2. A state is the result of the interrelation of two large
categories -- physical and cultural.

Definitions without application or utilization usually become
mere verbalization. In order to enable students to apply the definitions
and to understand the concept of the state as a dynamic, unique, and
complex, man-made organization, they need some group of factors or
some framework to use in their analysis of the state. On the following
pages, the writer presents some classifications of features discovered
in his research.

Whittlesey suggests the following outline of elements for the
study of a political area or state:

I. Ecumene (often also the nuclear core)
   A. Natural environment, including size and shape,
      climate, land forms, and natural resources
   B. Cultural structure -- people, language,
      economic and social life
II. Components -- accretions to the ecumene or relict
    bits of territory once held
   A. Relation of natural environment of each to that
      of the ecumene
   B. Subordination of peripheral cultural structures
   C. Unitary or federal character of the aggregate
      components
III. Problem areas and friction zones
    A. Natural and cultural items in the problem or friction
    B. Relation of each district to the ecumene and to
       its immediate neighbors
IV. Capitals
A. Central — related to the whole area or to the ecumene
B. Peripheral — related to a defensive or offensive frontier or to relict position
C. Subcapitals — of constituent members of a federation and of administrative districts

V. Boundaries
A. Naturally marked or otherwise
B. Antecedent or subsequent to current occupance of the area
C. Density of settlement and degree of interpenetration along each distinct segment of the boundary
D. Strategic reaches and points

VI. Allied areas and dependencies
A. Contiguous or separated
B. Character of separation — land or water
C. Cultural structure and the degree of subordination to the dominant area

James and Jones state:

There are certain aspects or features of any political unit with which a geographer is concerned. These features can be listed under four headings as follows:

1. Morphology — The politically organized region has a definite size and shape. It has an internal nodal structure, consisting of a center or focus, lines of communication from the center to all parts of the region, and features established to mark and control its boundaries;

2. Dynamics — On the basis of its internal structure, the political organization maintains a constant flow of authority between the centers of government and the different parts of the region; and also, though often far less directly, between the people of different parts of the region and the political organization;

3. Location — the politically organized region occupies a particular position in a pattern of similar regions of the same rank;

4. External Relation — On the basis of its particular position in the pattern of similar regions, the political unit has relations, as a unit of operation, with other regions both near and far.\(^{23}\)

\(^{22}\)Whittlesey, op. cit., p. 587.

\(^{23}\)James and Jones, op. cit., p. 188.
Alexander presents the following five essential elements of political regions:

1. An expanse of territory delimited by boundaries — Territory includes: location, size, shape, climate, surface configuration, soils, natural vegetation, water features, and mineral resources.

2. A responsible government which controls the area — Associated with this are three topics: (a) the type of political control; (b) the degree of control; and (c) the effectiveness of control processes.

3. A resident population — Three major elements included in this factor are: size, distribution, and types of population.

4. An economic structure

5. A circulatory system of transportation and communication networks

One feature mentioned indirectly in the preceding quotations which, in the writer's opinion, needs more emphasis is the fact that states and the field of political geography are subject to change.

Boyd portrays this change in the following quotation:

"Today's map is changing fast. Every nine months, on the average, during this generation, a new sovereign state has come into being, vibrant with fresh nationalism. Among older states, some have been seeking to forge new links with one another; others have been swallowed up or truncated. A great clash of ideologies overlaps with the jarring readjustment of relations between races, between nations rich and poor, great and small, old and new. Rising populations press upon natural frontiers. Men armed with new techniques push back those frontiers in their search for the wealth hidden in polar wastes and tropical deserts."

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recognize examples of the role of change in political geography. This includes change in both the internal and external relations.

All the factors or components discussed in the preceding pages are significant for complete comprehension of the state as an entity. To what degree each is considered, or to what extent all are considered is a decision which can be made only by the classroom teacher. However, the writer believes that only through consideration of the features or components of states can there be any comprehension of political geography. In the second part of this study, the writer will be searching to discover what type of framework or outline of features is provided by the textbooks for junior high school students to aid in their study of political geography.

Political Geography at the Junior High School Level

The study of political geography began more than two thousand years ago, although only since the late nineteenth century has the subject been recognized as a separate discipline. Because of its youthfulness, political geography has neither an accepted method or approach nor an accepted collection of content. As stated previously, junior high school students should be "exposed" to the variety of theories and ideas but cannot be expected to completely comprehend them or make a selection as to which theory they believe is most appropriate.

It is the writer's belief that objectivity must be the guiding light in the consideration of political geography. Through objective analysis, the student can learn to see each state as an entity with
its characteristic features welded together by its internal relationships, but at the same time, he should see it as a part of a greater framework which is the world in which we live. In both the internal and external relations, the student must always bear in mind that these two types of relations are always the result of the reciprocal interrelationship of man and his home, the earth.

The writer now presents the salient concepts from the topic of political geography which he believes are appropriate for the junior high school level. In the second part of this study, the writer will analyze junior high school geography textbooks in terms of what treatment is given to these concepts.

1. In the topic of political geography, many theories have been set forth as to the appropriate approach and content. The regional and systematic, morphological, genetic, unified field theory, and functional are the most popular. Does the textbook present these theories to the students or does it provide examples of one or all by its own approach to the subject?

2. The independent sovereign state is the most appropriate organization for major emphasis in political geography. This would be based on the theory that political patterns vary in relation to variations in the human and physical or natural environment.

3. Political geography should emphasize the role of the reciprocal relationship between man and the earth. The state is basically a resultant of this interrelationship.

4. Geopolitics and political geography are not identical. Geopolitics is a biased, deterministic use of geographic information,
and political geography is an objective analysis of the state.

5. All states have "two sides." They have internal and external relations which are interrelated.

6. Through the study of the external relations of a state, the student should be better able to realize that a state cannot be completely self-sufficient nor isolated. Therefore, international cooperation and understanding are essential for security and prosperity in the future.

7. The state is an organized region of relative homogeneous governmental control. State and nation are not identical. Nation implies a common bond or feeling of unity.

8. The state has numerous component parts or features -- ecumene, nuclear core, capital, boundaries, population, economic structure, size, shape, and others, all of which are interrelated and need to be understood for comprehension of the state.

9. The interrelation referred to in the preceding concept is different for each individual state. The particular combination of interrelated factors is what makes each individual state unique.

10. States and political geography are both dynamic and are never static or fixed.

11. States are entities which are dynamic, unique, complex, and man-made. When comprehended in such a framework or manner, their activities, influence, and value can be properly evaluated.
CHAPTER VI

URBAN GEOGRAPHY

History tells us that for twenty-five to fifty thousand years men much like ourselves have been living on the earth. However, not until five or six thousand years ago was there anything which we could recognize as a city.

One of the most significant consequences of the industrialization of society is the extraordinary increase in the size and the organizational complexity of the aggregates in which men live. It has long been the practice to conceive this phenomenon in terms of the city, but the processes of centralization and expansion unleashed by the Industrial Revolution have refused to yield to the confines of corporation limits. Every advance in the efficiency of transportation and communication has further extended the radius of convenient daily movement, thereby diffusing the urban mode of life over a greatly expanded area. The result has been the emergence of an entirely new type of urban unit. The city is the creature of the nineteenth century; its successor in the twentieth century is the metropolitan community. This new urban unit is an extensive community composed of numerous territorially
specialized parts the functions of which are brought together through the agency of a central city. 2

Cities are expanding in size and relative importance in many parts of the world. In North America, particularly, since the advent of modern highways and automobile transportation, this growth has given rise to many new problems, and old problems have become increasingly difficult to solve. The 1960 Census of Population reported that approximately seven out of ten Americans live in urban areas, thus making the United States one of the most urbanized nations of the world. 3 Urban growth, influence, and problems have become so significant in our twentieth century way of life that the President of the United States asked Congress to create a new cabinet-level department of urban affairs to deal with this very important aspect of our national life. 4

In keeping with this tremendous growth of cities, the field of urban geography has increased in importance as an academic discipline. It also serves as one of the foundations for practical decision making in governmental, social, and business affairs.

The Nature and Scope of Urban Geography

The study of urban geography is largely a product of the


4 The Ohio State Lantern, January 10, 1962, p. 3.
twentieth century. Early writers devoted most of their attention to
the physical sites of urban places and to their situation. The
emphasis, as in other branches of geography, was on the relation
between the location and structure of specific cities and land they
occupied.

Today the urban geographer commonly approaches his study from
two different points of view. First, he considers cities as discrete
phenomena in the general fabric of settlement. As such, they can be
analyzed geographically in much the same way as any other phenomena
similarly distributed. Concepts and generalizations may be formed
regarding the distribution, size, function, or rates of growth of
cities. Areas served by urban places may be delimited, and the spatial
interactions between urban places inside or outside the delimited
tributary areas may be studied.

Secondly, the urban geographer studies cities in terms of their
morphology, that is, in terms of layout and build as expressions of
their origin, growth, and function. Studies using this approach have
given rise to concepts and generalizations related to the character
and intensity of land use within the city and to the spatial inter-
actions of one part of the city with another. These interactions
are reflected in the amount, direction, time, and character of move-
ment of persons and goods between the various functional areas that
together make up the urban agglomeration.5

5Harold M. Mayer and Clyde F. Kohn (eds.), Readings in Urban
Junior high school students have all had some experiences and acquaintances with cities and urban areas. The writer is very doubtful if students at this age level have given consideration to the "why," "where," and "how" of cities and the whole process of urbanization in the twentieth century. Based upon this assumption, the writer feels that complete consideration of either approach listed above would be impractical. The student's needs could best be fulfilled through a general survey treatment, eclectic in nature, which would select some aspects from both approaches.

In the writer's research, relatively few short, precise definitions of urban geography were encountered. Below are listed two definitions of urban geography, quite different in meaning and in date of origin. Mayer states:

Urban geography has a distinct focus. Its primary concern is the association of activities in urban areas, which are expressed in characteristic association of land use and occupancy features. Thus the center of interest of urban geography, as of all geography, is man and the reciprocal relationships between man, his work, and the earth. It is concerned with interpreting the patterns and relationships that exist within urban areas, on the one hand, and between urban areas and the non-urban areas that cities serve on the other.6

In contrast to the above statement, Thomas states:

Urban geography is the science of relationships between an urban community and its site and position. An urban community concerns the characteristics which are

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involved in the complex specialization and integration of its occupations and arts. Hence, urbanism is not necessarily a matter of size but of function. The site is the natural setting of the area occupied by the community. The position is the location with respect to the general natural and cultural environment.

The first definition above is the more recent in origin and is the most satisfactory in the writer's opinion. Using this definition and taking into consideration the scope outlined in the preceding portion of this section, the writer would introduce urban geography to junior high school students in the context or framework which follows.

The city or metropolitan area is the focal point of urban geography. Each city which is basically a man-made habitat is a dynamic, functional, and unique creation which represents the reciprocal relationship between man and his specific environment. The study of urban geography represents man's efforts to better understand the city and to more intelligently influence its role in the future. To accomplish this goal, the student must first be aware of certain knowledge, characteristics, and understanding of cities. Those concepts which the writer believes appropriate and significant for junior high school geography are presented in the sections that follow in this chapter.

Definition and Classification of Cities and Urban Areas

Although the term "city" and "urban" are generally understood,

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7 Lewis F. Thomas, "St. Louis: A Study in Urban Geography," *Education*, LVIII (January, 1938), 266.
the more precise definition of these terms and the delimitation of
what constitutes a city and urban area are important prerequisites to
understanding the concepts of urban geography. The difference between
"urban" and "rural" is relatively clear and is easily comprehended by
junior high school students. In former times and still in many parts
of the world, the delimitation of the city and its differentiation
from the "country" were fairly simple. Urban life was different in
many respects from rural life; cities were centers from which
cultural innovations and ideas, inventions, and organizational control
by state and church spread to the countryside.

Today it is not so easy to define the city. Urban living is not
vastly different from rural living, and with the almost universal
availability of radio and television, newspapers, and automobiles,
the two -- city and country -- have become a continuum rather than
a dichotomy. There are all degrees of urbanization intermediate
between the city and the country. The city has broken through its
former walls, real or figurative, and has spread itself throughout the
countryside. Tentacles of urbanization, in many areas, have reached
toward one another, and numerous cities have converged into larger
masses, conurbations or megalopolitan concentrations. In recent
decades, people have become more aware of the disappearance of the
formerly clear-cut distinctions between city and country. Much of the
population growth in the United States and in other countries has
been on the fringes of cities but beyond the municipal boundaries of
the central cities. Metropolitan areas are now the basic units in a real geographic sense.  

The nations of the world have not reached agreement as to the minimum population required to be considered either a city or an urban area. In the United States, the Census Bureau in 1960 used the following criteria in defining cities, urban areas, and metropolitan areas. An urban area has a population density of at least 1,500 persons per square mile in a densely settled city suburb or a town with more than 2,500 people. A standard metropolitan statistical area includes a city with 50,000 inhabitants or more and may include more than one city of such size. It also includes the surrounding closely settled urban fringe.  

The above classification defines and categorizes cities and urban areas strictly on the basis of population concentration and/or population totals. Is this the type of classification which is most meaningful to junior high school students? In the writer's opinion, it is this very idea of cities being masses of people and buildings that the topic or area of urban geography is trying to combat. Following are selected definitions of cities which do not mention population size. The writer believes that these can give some insight for other means of classifying cities and urban areas. According to Hallenbeck:

A city is a community consisting of a large concentration of population in a relatively limited geographical

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9 U.S. Census Bureau, United States Summary, pp. viii-ix.
area, activated by the production of manufactured goods and/or the distribution of various kinds of goods and services, involving a high degree of specialization and complicated social and political organization. 10

Park et al. state:

The city is something more than a congeries of individual men and social conveniences -- streets, buildings, electric lights, tramways, and telegraphs, etc.; something more, also, than a mere constellation of institutions and administrative devices -- courts, hospitals, schools, police and civil functionaries of various sorts. The city is, rather, a state of mind, a body of customs and traditions and of the organized attitudes and sentiments that inhere in these customs and are transmitted with this tradition. The city is not, in other words, merely a physical mechanism and an artificial construction. It is involved in the vital processes of the people who compose it; it is a product of nature, and particularly of human nature. 11

Lastly, Mayer states:

A city cannot be considered as an isolated physical or social unit. It must be considered primarily as a focal area for activities -- expressed in physical forms such as buildings, streets, and parks, and in social forms such as institutions, customs, and mores -- for a much larger area, the size and extent of which vary for each urban function. 12

The definitions above, although not similar, certainly emphasize the breadth of the meaning of the term "city" and could lead in the direction of helping junior high school students enlarge their own ideas as to the nature of cities.


Cities may be considered as the focal points in the occupation and utilization of the earth by man. As such, they are both a product of and an influence on surrounding regions and develop in definite patterns in response to specific needs. Cities, like individuals and regions, are unique and multifaceted, but there are some factors or characteristics that are alike. On the basis of these similarities, cities have been classified for convenience of study. Gist and Halbert present the following criteria for classifying cities:

1. Density of population — How close together must people live to establish city life?
2. Numerical size — How many persons are required to make a city?
3. Territorial limits — How may one determine where the city ends and the country begins?
4. Legal status — What acts of government are required to give a community legal recognition as a city?
5. Occupations — Is every agricultural community rural and every non-agricultural community urban?
6. Organization — What is the difference, if any, between the ways in which people are organized in the city and in the country?  

The criteria and questions presented above emphasize what a complex problem it is to define and classify cities and urban areas. The difficulty arises because, as stated previously, each city is unique and complex in nature and because the terms "cities," "urban areas," and "metropolitan areas" are arbitrary, man-made classifications or divisions for the convenience of man in his dealings with his environment. Through the students' previous experiences with cities

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and through consideration of the definitions and questions presented above, the writer believes the teacher should guide his students to formulate a set of criteria or a system of classification to facilitate the study and understanding of the many types of areas of concentrated population.

Below are suggested criteria for classification in junior high school geography which are derived from the writer's research and experience.

1. Size
2. Function
3. Internal structure
4. Location

These are arbitrary criteria of classification, but in the writer's opinion, they are appropriate for the purpose of helping junior high school students comprehend cities as dynamic factors in man's environment. Through such a classification, students can discover the "real" meaning, influence, and functions of population concentrations. In the following sections these four characteristics or factors plus additional characteristics of cities will be explained and analyzed in more detail.

The Nature of Cities

It is with great cities as with atoms. Once they were thought of as inert lumps that did nothing but be. Now we perceive that they are dynamic centers of force which draw people to them. Once people built walls around their cities to make them safe from marauders.
They forbade settlement just outside the wall because it weakened its defensive strength. However, through the years, the restriction was disregarded, and suburbs appeared, evidently because people wanted to be as near as possible, if not within. Desire for protection was a powerful centripetal force in those days. Over the years, the centripetal forces of cities have changed in order to keep pace with the needs of man. In this section, the writer presents information on the characteristics of cities so that students may understand them as the dynamic, functioning units they are and the influence and the services they provide for man.

**Location.** — Geography has long been concerned with place geography or the ability or knowledge of where a city or any place or thing was located. The real significance is, of course, not only in "where" but in the "why." The reasons why cities are present in specific locations is one of the matters of concern in urban geography.

To understand the reasons for the location and growth of cities, it is necessary to know something of the social and economic organization of the region, the geographic conditions of the area in which the city is located, the forms of transportation and communication, and in the political and social history of the city. Location is the result of the interaction of a great complex of factors. As J. Paul Goode states:

> All the great cities were born great. To be sure man helps make them what they are, but without a

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\[1\] Gist and Halbert, *op. cit.*, p. 52.
Favorable endowment to begin with, man alone could not make them great; their importance rests on factors far behind man's puny story.\textsuperscript{15}

Location depends upon natural endowment and man—never can it be only one. The location of cities is related to many of the characteristics of cities to be discussed in the following pages of this chapter. This will further explain both the natural and human factors involved.

One extremely useful means of classifying the location of cities is as follows:

1. Cities performing comprehensive services for the tributary area
2. Cities performing bulk-breaking services along transportation routes
3. Cities engaged in specific functions, such as mining, government administration, etc.\textsuperscript{16}

These classifications are closely related to function, since function and location are inseparable. Also, it should be emphasized that the function of a city, at the location, may change over a period of years. Hence, in some cases, location cannot be completely comprehended without some historical background.

In summary, location may be explained as the result of a favorable combination of natural and social conditions which results in the formation of an economic pattern sufficient to meet the needs of the population concentrated there.


\textsuperscript{16}Ibid., p. 12.
Site and situation. — Closely related to the location of the city are the factors of site and situation. Basically, these two factors are concerned with the areal relations of a city, examined from two different points of view. The site embraces the precise features of the terrain on which the settlement began and over which it has spread. This could be seen on a large scale map where the relation between the internal pattern of the city and the features of the terrain are analyzed. The situation is usually taken to mean the physical conditions (as for site) over a much wider area around the settlement. This could be seen on a small scale map where for a much larger area (than for site) the external relations of the city as a whole are analyzed. In the consideration of situation, there would be an interrelation of some of the concepts considered in certain aspects of regional geography as explained in Chapter IV.

Function, similar to its relation to location, is influential and interrelated with site and situation. For an intelligent understanding of the significance of site and situation of a particular city, historical information is often necessary because of the rapid changes which are due to transportation, economic development, and functions of a city.

In years past, much effort has been devoted to site and situation studies by geographers. Although it is no longer the central

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or entire focus of many studies, it is still a significant aspect of urban geography and in the writer's opinion an appropriate concept for consideration in junior high school geography courses.

**Size.** — The factor of size has already been mentioned in this chapter in relation to defining cities, urban areas, and metropolitan areas and as a means of classifying cities for convenience of study. Size is one of the types of relatively common knowledge about cities and is a fact which gives people a "general idea" of the city and can be used as a basis of comparison. Cities of like size are not identical nor even similar, but they do share some common properties or aspects.

Since size is a commonly used classification of cities, and since certain terms are used to describe particular types of population centers or concentrations, the geography student should be acquainted with these ideas in order to comprehend and communicate intelligently. Below, the writer presents, as a result of his research, a classification of cities based upon numerical size and population density.

1. Hamlet and/or Village -- 500 to 2,500 people
2. Town or City -- 2,500 to 100,000 people
3. Metropolis -- several cities grow together.\(^1\)
4. Standard metropolitan statistical area -- 50,000 or more people\(^2\)
5. Megalopolis -- the density of great cities along the coast from Boston to Washington, D.C. It is an area of continuous metropolitan economy for six

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\(^2\)U.S. Census Bureau, *United States Summary*, p. ix.
hundred miles and in 1950 had a population of some thirty million people.\textsuperscript{20}

6. Urban area -- has a population density of at least 1,500 per square mile in a densely settled city suburb or a town with more than 2,500 people.\textsuperscript{21}

From these different sources, there is not complete agreement on definition of the size classifications. This lack of agreement plus the lack of understanding given by size alone are the reasons the writer believes that junior high school geography should not emphasize the memorization of population of cities but should acquaint students with terms giving general descriptions of size. In reality, size is affected or influenced by all the other characteristics of cities discussed in this chapter. Here again interrelation as an overall concept in geography can be demonstrated.

The internal structure of cities. -- As the increasingly complex sources of support for cities have been reflected in the expansion of urban areas, the internal forms and patterns have become increasingly complex. Until the Industrial Revolution, the great majority of cities were small and compact. Within their boundaries, structures and land uses for the most part were functionally undifferentiated. Businesses and residences were usually in the same structure, and except for the market places or public squares and a few "special purpose" buildings


\textsuperscript{21}U.S. Census Bureau, United States Summary, viii.
or areas as cathedrals, churches, and administrative buildings, there
was little to distinguish one section of a city from another. With
industrialization and increased specialization, it was no longer
possible to carry on the urban functions without separation of places
of work from places of residence, and as cities expanded, the
separation has become more marked. 22

American cities today are undergoing a revolutionary change in
their patterns and physical forms as a result of the current acceler­
ated program of highway construction. The new expressways, it appears,
will affect the growth and pattern of American cities in the mid­
twentieth century to an extent comparable to the effect of the rail­
roads during the nineteenth century. 23

Although the internal pattern of each city is unique in its
particular combination of details, most American cities have business,
industrial, and residential districts. Below the writer presents
three general theories of city structure.

I. Concentric Zone Theory
   A. The central business district
      1. This is the core of the city around which the
         other zones are formed.
      2. It is the focus of commercial, social, and
         civic life and of transportation.
   B. The zone of transition
      1. It is an area of residential deterioration.

22 James and Jones, op. cit., p. 151.

23 Mayer and Kohn, Readings in Urban Geography, p. 325.
2. Business and light manufacturing encroach on residential areas, characterized particularly by rooming houses.

3. This is the area of principal slums.

4. In many American cities, it has been inhabited largely by colonies of recent immigrants.

C. The zone of independent workingmen's homes

D. The zone of better residences
   1. This is made up of single-family dwellings.
   2. It includes exclusive "restricted districts."
   3. It is also an area of high-class apartment buildings.

E. The commuter's zone
   1. This area is located beyond the city limits in suburban areas.
   2. This is a zone of spotty development of high-class residences along lines of rapid travel.

II. The Wedge or Sector Theory
   A. This is a theory of axial development, according to which growth takes place along main transportation routes or along lines of least resistance to form a star or diamond, depending upon the number of major radiating routes, shaped city.

   B. Growth along a particular axis of transportation usually consists of similar types of land use.

   C. The entire city is considered as a series of sectors radiating out from the center or core of the city.

   D. Similar types of land use originate near the center of the circle and migrate outward toward the periphery.

III. The Multiple Nuclei Theory
   A. In many cities the land use is built not around a single center but around several discrete nuclei.

   B. In some cities these nuclei have existed from the very origins of the city.

   C. In others they have developed as the growth of the city stimulated migration and specialization.

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D. The rise of separate nuclei and differentiated districts reflects a combination of the following four factors:

1. Certain activities require specialized facilities.
2. Certain like activities group together because they profit from cohesion.
3. Certain unlike activities are detrimental to each other. The antagonism between factory development and high-class residential development is well-known.
4. Certain activities are unable to afford the high rents of the most desirable sites.

E. The number of nuclei which result varies from city to city.
F. The larger the city, the more numerous and specialized are the nuclei.

All of these theories of urban internal structure depict the growth of cities as a gradual expansion of functional areas from the center toward the periphery. Hence, the size and form of cities may be regarded as the result of two opposite forces -- centrifugal forces and centripetal forces.

Centrifugal forces are derived from the attraction of the periphery and the repulsion of or from the central area. The centripetal forces are derived from the convenience or attraction of proximity to the central area. Below are listed examples of both centrifugal and centripetal forces:

I. Centrifugal
   A. Uprooting conditions in the central zone
      1. Increasing land and property values and high tax rates
      2. Traffic congestion and high cost of transportation
      3. Difficulty in securing space for expansion, etc.
      4. Desire to avoid nuisance complaints
      5. Impossibility of securing a special type site -- water frontage
      6. Irksome legal restrictions

26Harris and Ullman, op. cit., pp. 14-15.
B. Attractive qualities of the peripheral zone
1. Spatial force -- large parcels of unoccupied land
2. Site force -- near rail and highway trunk lines
3. Situation force -- level land, water frontage, good drainage
4. Force of social evaluation -- more freedom from restrictions
5. The status and organization of occupancy -- pattern of land use more satisfactory and efficient in peripheral (new) area.
6. Human equation -- man's choice

II. Centripetal
A. Site attraction
B. Functional convenience
C. Functional magnetism
D. Functional prestige
E. Human equation

These two opposing forces are in constant struggle in all cities. In recent years, there has been a great increase in centrifugal forces which has greatly altered our American cities. However, generally speaking, the centripetal forces are stronger as evidenced by the existence of many cities.

For the junior high school student it would, in the writer's opinion, be helpful to have a graphic representation of urban land use. Below is a chart showing the many different types of urban land use which are a result of all the factors, location, function, site and situation, and internal structure. Internal structure and land use, like the three characteristics of cities discussed in the

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preceding sections of the chapter, must always be considered or analyzed in relationship to the function of the city, because they are all dependent either directly or indirectly upon the functions the city performs.

**CHART I**

**USES OF URBAN LAND**

<table>
<thead>
<tr>
<th>Total Area</th>
<th>Developed Area</th>
<th>Vacant Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Privately Developed Area</td>
<td>Publicly Developed Property</td>
</tr>
<tr>
<td></td>
<td>Single-Family Dwellings</td>
<td>Streets</td>
</tr>
<tr>
<td></td>
<td>Two-Family Dwellings</td>
<td>Railroad Property</td>
</tr>
<tr>
<td></td>
<td>Multi-Family Dwellings</td>
<td>Parks and Playgrounds</td>
</tr>
<tr>
<td></td>
<td>Commercial</td>
<td>Public and Semi-Public Property</td>
</tr>
<tr>
<td></td>
<td>Light Industry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heavy Industry</td>
<td></td>
</tr>
</tbody>
</table>


**Urban functions.** -- In the preceding sections, some of the characteristics of cities were considered, and in every case, mention was made of the relationship of that characteristic to the function or functions of the city. Cities serve many functions in the economy and culture of a people. All cities have some functions in common; all
cities have some functions that are peculiar to their site and situation, to the people whom they serve; and all cities have some functions peculiar to their development and history. Despite the great variety and differences, cities may be classified relatively effectively on the basis of their predominant functions.

A major concern of the urban geographer has been and is the reason why cities exist. People gather in mutual proximity in urban agglomerations in order to carry on certain activities and satisfy certain needs which cannot be performed or satisfied without such proximity. The activities and needs may be social, religious, or others not directly related to the process of making a living. Most cities, however, are in existence and grow primarily because they provide opportunities for making a living. Employment opportunities in cities are greater in number and in variety than in non-urban situations. Most cities depend primarily upon their economic base.\(^{29}\)

Since urban functions are so varied and numerous, geographers have presented numerous concepts or ideas pertaining to urban function which serve as the basis of methods for classifying urban functions. The writer will now present some of these concepts.

The support of a city depends on the services it performs not for itself but for a tributary area. The services by which the city earns its livelihood depends on the nature of the economy and of the hinterland or umland. The support of cities as suppliers of urban

\(^{29}\)Mayer and Kohn, Readings in Urban Geography, p. 27.
services for the earth are classified in three categories which are as follows:

1. Cities as central places performing comprehensive services for a surrounding area
2. Cities as transport foci and break of bulk points
3. Cities as concentration points for specialized services

Two other concepts which are also based upon the idea that some services are for the residents of the city themselves and others are for the benefit of the area surrounding the city are presented below. Alexander classifies these two major areas of city functions as:

1. City-serving production -- production for the city's own inhabitants
2. City-forming industries -- produce for a market outside the city

Alexander classifies urban economic functions as follows:

1. Basic -- services to satisfy non-local demands
2. Non-basic -- services to satisfy local demands

A concept completely different from those preceding is the "Law of the Primate City." This concept, set forth by Mark Jefferson, is based upon function and size. The largest city of a country exerts a disproportionate influence upon the economy and all other aspects

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30 Harris and Ullman, op. cit., pp. 7-11.
31 Gunnar Alexandersson, "City-Forming and City-Serving Production," Readings in Urban Geography, pp. 110-111.
of national life. Size runs parallel to its great power and influence.\textsuperscript{33}

Based upon the concepts and classifications of urban function, many geographers have devised systems of classifying cities according to their primary or principal economic activity. These classifications are functional categories and based upon occupation figures and employment figures.

Nelson presents the following ten functional categories or classes:

1. Manufacturing
2. Retail trade
3. Professional service (University)
4. Transportation and communication
5. Personal service (Resorts)
6. Public administration
7. Wholesale trade
8. Finance, insurance, and real estate
9. Mining
10. Diversified\textsuperscript{34}

Harris has devised a system of classification based upon nine functional categories which are the following:

1. Manufacturing Cities
   a) Retail centers
   b) Diversified cities
2. Wholesale Centers
3. Transportation Centers
4. Mining Towns
5. University Towns


7. Other types of cities -- regional capitals, army garrison towns, professional centers, etc.\textsuperscript{35}

It is very difficult to find "pure" or true examples of the types or classes outlined above. Most cities are diversified to varying degrees and really combine several of these functions. Again the writer emphasizes that function is so closely interrelated with the other characteristics of cities that they cannot be separated.

Through consideration of the topics discussed in the preceding sections of this chapter, the junior high school student should be better able to understand cities and their relationship to man. Men and cities definitely have a reciprocal relationship which must be recognized for complete comprehension of urban geography.

Conclusion: Urban Geography as One Aspect of Junior High School Geography

As stated at the beginning of this chapter, it is the goal at the junior high school level to help students gain an understanding that cities are more than a mass of people and buildings. Instead they are dynamic institutions which serve man in his adjustment to the earth. Likewise, cities as names alone have little meaning. Only when the nature and characteristics of cities are understood can students comprehend cities in their proper perspective and can "place geography" have meaning.

As mentioned in several other chapters, both geography and urban geography stress the interrelation of factors or components. In urban geography, emphasis must be placed upon the resultant of the interrelation of all the characteristics and components of cities. Specialists in many related fields describe and interpret the component factors of cities, but only the geographer is concerned with all the interrelationships among them.

All of the above concepts and conclusions are important knowledge to the student of urban geography. Urbanization is a most important trend or development in our times. As stated by Brunhes:

"There is doubtless no human fact which has more quickly and powerfully changed the face of the earth than the prodigious growth of cities."36 Since urbanization and cities are so very influential upon the lives of all men, the student of today who will be the citizen of tomorrow needs to comprehend cities in order that he and his fellow citizens can make cities a better place to live. This is basically finding the solution as to how the advantages of urban concentration can be preserved and the disadvantages minimized in order to attain a better urban way of life. Also students should consider new locations and sites for the cities of the future.

In all junior high school geography classes the writer believes the following significant concepts of urban geography could be considered profitably. Hence, in the second part of this study, textbooks

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will be analyzed to learn what content they contain which gives meaning to these concepts.

1. Students must be led to recognize the continuously increasing trend toward urbanization and recognition of the fact that the United States is one of the most highly urbanized nations in the world.

2. Cities are more than masses of people and buildings. Cities represent the result of the reciprocal relationship between man and the earth. A city is a man-made habitat.

3. Each city, like each human being or region, is unique and is the result of many forces and factors -- location, site and situation, function, and internal structure.

4. Cities are created by man to facilitate his life and adjustment to the earth. Cities provide services and benefits for the satisfaction of man's needs. These needs and services may be economic, social, political, religious, or cultural in nature.

5. Cities are not self-sufficient islands complete unto themselves but are dependent upon and responsive to their surrounding area or hinterland.

6. Today, in the age of suburbs, freeways, and decentralization of industry, students must be aware of the centrifugal forces and centripetal forces which influence every city.

7. Urban geography provides many examples of the "basic theme" of geography -- interrelation. Cities and urban geography are the result of many interrelated factors and influences.

8. Urban geography should lend its knowledge, skill, and understanding to provide a better urban way of life.
CHAPTER VII

CONSERVATION

Never before has civilized man been confronted with problems more paramount than that of effecting continuing peace among divergent peoples and that of establishing harmonious relations between man and his life sustaining resources. Actions leading toward the resolution of one of these problems will greatly aid the resolution of the other. For survival, then, man must concern himself with the vital issue of the wise use of his resources.¹

In more specific but rather shocking terms for many, the significance of the whole problem has been summarized by Dasman as follows:

The importance of our having a knowledge of the principles of conservation of natural resources is simply this: how we treat our natural resources will determine the future of mankind. It is within our power today to take a course of action toward our resources and our human populations which will force us in the future to live at a mere subsistence level if we survive at all. It is also within our power to take those steps which will help to guarantee a future of abundance for all. We cannot postpone the decision.²


The Nature and Scope of Conservation

Conservation is certainly not a new concept to geography teachers or to junior high school students. Recognition of a term does not, on the other hand, guarantee understanding of the concept nor application of the principles or ideas contained or implied by the term.

Coyle states:

Conservation has come to be a good word like "democracy," and as in the case of democracy, there is a tendency for its enemies to twist the meaning so as to confuse the public. There is also a tendency to recall a long abandoned forerunner of modern conservation, the nineteenth century belief that the only way to save the forest was to make the woodsmen spare the trees. This notion, sometimes called "hair-shirt conservation," is still dragged forth as a bogey by people who do not want any interference with profitable kinds of waste.3

It is the writer's opinion that much confusion and misunderstanding still exists as to the real meaning and true function of conservation for our nation and the world in the twentieth century. In an attempt at clarification for the following consideration of conservation as an important topic to be included in junior high school geography courses, the author offers a few of the most acceptable definitions encountered in his research. Coyle defines conservation as: "The use of the natural resources for the greatest good of the greatest number for the longest time."4 W.A. DePuy stated

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4Ibid., p. vii.
that "Conservation means wise use . . . . for the proper purpose at the right time." Renner states that "Conservation is the effort to insure to society the maximum present and future benefit from the use of natural resources."

All of these definitions tend to be very general and indefinite in nature, but the significant points that the writer would emphasize are as follows:

1. The concern of conservation is to eliminate waste for the benefit of a few -- "greatest good for the greatest number."

2. Natural resources are gifts to mankind in toto -- not just one generation.

On the basis of these definitions and their interpretation, the author will next delimit the field of conservation and its activities which can be considered in a junior high school geography course. Here the scope of conservation and the nature of the activities, past and present, included under conservation will be examined to further clarify exactly what this topic entails for teaching and for intelligent citizenship in the twentieth century.

Americans young and old need really to learn that it is man who wastes resources and that in this destruction he is impoverishing himself. Man impoverishes himself and the generations to come.

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6Ibid., p. 22.
Fortunately it is not too late. There still remains much of our original endowment, and much can be restored by modern methods of agriculture and by better use of all resources. Greed and waste are being very closely checked, but they must be stopped in their tracks.\textsuperscript{7}

Present-day conservation seeks to insure to society at least as great a future benefit from the exploitation of natural resources as is now enjoyed. The heart of the conservation concept is the problem of guaranteeing for future generations as well as for ourselves an adequate natural resource bank account. To know what resources still exist intact, to preserve them where essential, to use them efficiently, to renew and restore whenever possible, to substitute renewable for the non-renewable resources and the plentiful for the less plentiful -- these are some of the varied activities included in a conservation program.\textsuperscript{8}

Another essential aspect of present-day conservation programs is most ably explained by Charles Van Hise, in his reply to the following question: "What is the purpose of conservation?"

It is for man. Its purpose is to keep the resources of the world in sufficient abundance so that man may have a happy, fruitful life, free from suffering -- a relative easy existence.

It is the aim of conservation to reduce the intensity of struggle for existence, to make the situation more favorable, to reduce mere subsistence to a subordinate place, and thus give an opportunity for development to a higher intellectual and spiritual level.


But if the conservation of the natural resources is for man, it is an obvious suggestion that man himself should be conserved. The conservation of man is one of the main purposes of government, of remedial legislation, of innumerable organizations. The science of medicine, political economy, politics, and sociology are largely directed to this end. The problem of conservation of mankind involves the lengthening of human life and increasing its healthfulness.\(^9\)

The inclusion of man as a factor or ingredient in the conservation concept greatly broadens the scope of the problem, its activities, and application. The inclusion of man as part of the conservation concept is basically an additional example of the idea, stated in the preceding pages, of geography as a social science, or in other terms as man being the central factor or core of geography.

For a long time, the term "conservation" carried only the limited connotation of preservation. Through the years, it has been expanded by some to include restoration. Plants and animals which are desirable from the human viewpoint have been re-established in some areas. Some species have been introduced and wisely cultured. More desirable species have replaced less valuable ones. The further development of conservation attitudes and knowledge has led to more adequate conservation management. Currently, most conservationists recognize all three viewpoints; some resources are best preserved, others are best restored or properly developed in the light of present knowledge, and still others need only proper management to assure the

continuation of the foundations upon which our society is based. Instead of locking up resources, the positive effect of these "newer" doctrines or viewpoints in opening up larger opportunities is plain to see. It can be seen in the permanent yield of well-managed forests, in heavier crops on the farms, and perhaps best of all in the rise of general prosperity in an area such as the Tennessee Valley where conservation has been applied in a most comprehensive form.

In more specific terms, Renner sets forth the scope of a complete course in conservation. The course would include the following eleven minimal elements:

I. The Natural Resources
   A. Physical
      1. Soils
      2. Waters
      3. Minerals
   B. Biotic
      4. Forest
      5. Range grassland
      6. Fisheries
      7. Wildlife
         a) Animal
         b) Plant
   C. Physical, biotic, and esthetic
      8. Recreational and scenic resources

II. The Human Resources
   9. Manpower - number, health, welfare
   10. Leadership - ability, talent, genius

III. Conservation Planning
   11. An understanding of our technology, social forces and needs, and the process of planning for resource use within the framework of our democracy

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11 Renner, Conservation of Natural Resources, p. 37.
By way of comparison or explanation, Renner also offers a more limited framework for considering conservation under the title, "Resource Problem Categories." These categories are as follows:

1. Inexhaustible
   a) Immutable
   b) Misusable

2. Exhaustible or depletable
   a) Maintaining
      1) renewable
      2) non-renewable
   b) Non-maintainable
      1) reusable
      2) non-reusable

These breakdowns or topics are only two of many that can be found in the literature on conservation but are representative and inclusive of all the important ideas presented.

In conservation, there exists, as in the whole field of geography, a type of unity, but there are also many specific or specialized problem areas, each demanding special consideration and treatment. The above discussion clearly demonstrates the different categories or problem areas to be considered and enumerates some of the general plans of action for efficient and effective conservation.

Conservation is not the mere hoarding or saving of natural wealth, natural and human resources. It implies development as much as it does protection. It calls for farsighted, wise use of resources with all possible elimination of waste. It calls for renewal or restoration of renewable resources rather than the philosophy of

\[12\text{Ibid.}, \text{p. 49.}\]
"get when the getting is good." Briefly, conservation means the wisest possible use of all of our resources for the permanent good of all the people.

A Brief Historical Sketch of Conservation in the United States

It may be reasonably stated that in the past and at the present time for many people, unfortunately, Occidental society's conservation philosophy is approximately as follows:

Resources should be enjoyed to the utmost; we should often protect flow resources from irreversible reduction in flow; we should make a reasonable effort to keep stock resources from becoming unavailable in the future but not at the expense of depriving large numbers of people of their use; we are hopeful that technology will so broaden our resource base that we will not have to worry about depletion of our present resources; generally we prefer enjoying our luxuries while they last to sharing them with our descendants.13

In appraising the past attitudes toward conservation in our society, White and Foscue make the following statement:

The flowering of civilization in Anglo-America is partly a reflection of the degree to which man has levied tribute against the natural resources. From the Atlantic to the Pacific and from the Arctic to the Gulf, the white man has been a destroyer. Pioneers could not think about the distant future; but the day of the pioneer is past. Today no more good virgin land, well located or potentially productive, stands ready for the plow.14


These general statements, quoted above, present a very dismal and disappointing picture of American conservation attitudes and activities. Granted, although it has been neither ideal nor satisfactory, there have been numerous influential leaders from all walks of life who have been successful in establishing beneficial conservation programs for our nation. It is also very encouraging to note that the conservation program and its influence on the everyday life of all citizens is ever increasing in scope and significance.

As stated earlier, conservation is not a new idea. "As early as 1681 William Penn issued an order requiring that one acre in five should be left in timber by those who cleared new land in Pennsylvania."\(^{15}\) This action is typical of the earliest actions and attitudes toward conservation. It was in a word the concept of preservation—keeping intact a portion of the resources found in the landscape by the settlers. Generally speaking, this was the principal type of conservation in our nation until the latter half of the nineteenth century.

President John Q. Adams, expanding the above theory of William Penn, for the national scene said:

The public lands are the richest inheritance ever bestowed by a bountiful Creator upon any national community. The wise use of these lands and of all that lies above and below them, rests in your hands. It is the highest form of

\(^{15}\) Renner, *Conservation of Natural Resources*, p. 21.
patriotism for you to do your part to insure the wisest use of these resources "of the people, by the people, and for the people."16

Even during the last half of the nineteenth century, a period of unparalleled exploitation, some men attempted programs designed to advance the cause of conservation for national well-being. Among them were such writers as George P. Marsh, Men and Nature, 1863; N.S. Shaler, Man and Earth, 1891; and teachers such as Louis Agassiz, Harvard, and Arnold Guyot, Yale. All sought to create an interest and awareness, on the national scale, in the diminishing national resources.17

Some of the major legislation passed during the latter half of the nineteenth century which contributed to the conservation movement were: Homestead Acts -- 1862; Mineral Lands Acts -- 1872; Timber and Stone Act -- 1878; Geological Survey -- 1879, and Forest Reserve Act -- 1891.18 This legislation was important in that it covered various aspects or phases of conservation and that it set a precedent for conservation on the national scale.

"Economy of natural resources" preceded the more popular term, "conservation of natural resources." The latter came into general usage during the administration of Theodore Roosevelt. The suggestion of the term conservation is said to have come from English


18Ibid., p. 4.
visitors to the United States who had long used the title "conservation" in managing the resources of India. 19

The policy of conserving all vital natural resources for the best interest of the people, as a unified national program, was first conceived by Gifford Pinchot when Theodore Roosevelt was President and Pinchot was head of the Forest Service. 20 This was the starting point for a new era in conservation. The scope of the conservation program was greatly increased as was the scope of responsibility for conservation. At this time, many of these developments were primarily in theory, and only a few reached the stage of application. Under Theodore Roosevelt, a tremendous enthusiasm was aroused, but most of the results were not very permanent. The program of that day, as were many aspects of the "Progressive Movement," was based upon a great deal of moral crusading with a great emotional appeal.

The period from 1909-1933, as far as conservation activity is concerned, was characterized by slow but steady progress in the acquisition of forest lands and the establishment of the principle of federal, state, and private cooperative attack on forest fires, increased interest in protection and development of wild animal resources, water power, mineral resources on public lands, and by recognition of the value of the scenic and inspirational resources


20 Coyle, op. cit., p. vii.
of the country. Just as apparent was the failure to see clearly in human powers the greatest natural resource of all. 21

After the "golden era of conservation" during the first decade of the twentieth century, the United States had to wait until the 1930's for a renaissance in the conservation movement. Franklin D. Roosevelt was a conservation-minded Chief Executive, and his administration came at a time when the public reaction to conservation measures was on the whole sympathetic. Some of the legislation, governmental organizations, and programs enacted during the 1930's which furthered the conservation program of our country are as follows: Soil Conservation Act -- 1933; National Resources Committee -- 1934; Taylor Grazing Control Act -- 1934; Resettlement Administration -- 1935; Civilian Conservation Corps -- 1933; Flood Control Act -- 1937, and Tennessee Valley Authority -- 1933. 22

Again, via the above programs, the scope of conservation was broadened, and at this time, human resources or human powers were definitely recognized as an important aspect of conservation. Some of the above examples, and others not listed, were the types of action taken to remedy the wasteful and potentially explosive conditions. Here we see conservation on the grandest scale heretofore never known to the citizens of the United States.

21 Allen, op. cit., p. 12.
World War II, the Korean Conflict, and the "cold war" have taken a heavy toll on our resources. In a concise phrase -- War is a waster of resources. Today the United States can be proud though that the conservation principles begun during the Great Depression have basically been continued and expanded, with the exception of the emergency situations mentioned above, to meet the ever-changing conditions of our dynamic world.

The writer does not mean to mislead the reader in the sense that each and every conservation program and theory of the 1930's were successful and are still operative. Some programs were discontinued, some programs were shifted from one level of government responsibility to another, and there were struggles or differences in philosophy as to the proper responsibilities of state and federal government and between government and private enterprise. Despite these changes and alterations, the basic philosophy has remained intact.

Responsibility for Conservation

Alfred J. White points out in his chapter of Conservation of Natural Resources an important factor, which has been true for many years but has gained wider acceptance since 1952, that conservation is not completely a governmental function. As evidence to support this statement, Wright offers the following list of organizations which are quite actively engaged in conservation work: The Natural Resources Council of America; Wilderness Society; National Audubon Society; Friends of the Land; Wildlife Management Institute; American Wildlife Foundation; American Nature Association; Ecological
Society of America, and Izaak Walton League of America. These voluntary organizations carry on educational programs and specific type conservation activities in their particular areas of interest.

Another development which, although not new, has been emphasized by writers in the field of conservation in recent years is the concept that every individual citizen has responsibilities in the area of conservation. The following quotations are representative of many articles giving expression to this concept:

Conservation of natural resources is not the responsibility of a few specialists, government officials, or militant enthusiasts, but every individual, company, or organization must share in the task of preserving the resource base upon which the American economy has been built.

One of the main points in the new meaning of conservation is that all of us are responsible for the future of our nation.

After all, the effectiveness of all conservation effort hangs largely on the attitudes of the everyday citizen.

The Role of Education in Conservation

A companion theory to the one expressed in the quotations in the preceding section is that of the role of education in conservation.

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24 Smith, op. cit., p. ix.

25 Renner and Hartley, op. cit., p. 29.

Education via the public schools, governmental agencies, and private voluntary organizations is being given a larger role in the program of developing in every citizen the feeling of responsibility for conservation in his everyday life. The following quotations are representative of the expression being given this concept in the literature:

Our schools have no greater responsibility than that of giving youth some understanding of our resources, of the way in which they have been and are being wasted, and of the problems connected with their conservation and constructive use, and above all, a vision of the good life which these resources make possible.\(^\text{27}\)

To bring about the prudent use of natural resources in a democracy, large dependence must fall on education. This is not something to be accomplished by fiat or decree. Instead, children now in school and grownups in the world of business and industry must learn the true importance of natural resources and acquire both the incentive and the "know-how" to use them wisely.\(^\text{28}\)

The people as a whole must want things done or they will not be done. Public opinion in the last analysis rules in a democracy, and it is the task of the schools to help insure that we have an intelligent, enlightened public opinion. We will conserve our resources when the schools present the facts which show its necessity, for then when our children become voters, they will demand conservation legislation.\(^\text{29}\)

Present-day leaders in conservation are emphasizing the importance of education as the means of developing in individual

\(^{27}\text{Renner and Hartley, op. cit., p. ix.}\)


\(^{29}\text{Renner, Conservation of Natural Resources, p. 68.}\)
citizens the concern and responsibility for conservation. It should be pointed out here that education alone cannot solve the problem of resource waste. As Kazeck states: "By education, the problem can be identified and publicized, but the final solution will always depend upon planned research that is followed by constructive action on the land." In these last two areas, research and action, the government on all levels and the private voluntary organizations appear, to the writer, to be best suited for their accomplishment. Nevertheless, they are basically dependent upon citizen support which is in part gained or achieved through education.

Conservation Principles and Objectives for Education

Much emphasis has been placed upon the theory that conservation education is most important to develop individual responsibility for conservation in everyday life. The next problem in the sequence is logically what type of educational concepts will achieve this goal or objective. As was stated in the Introduction, the writer is primarily concerned with content as opposed to method, although it is impossible to completely divorce the two. It is the writer's belief that the teaching methods, even more than content, need to be selected in relation to the teacher, students, and community. These factors are certainly influential in the selection of content too, but through his research, the writer has discovered lists of principles and objectives.

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for conservation education via geography. These principles and objectives are flexible enough so that adjustments could be made to meet the specific situations and needs of students, teachers, and communities.

Listed below are some of the best lists, in the writer's opinion, of concepts which are most significant for teaching the topic of conservation by means of geography. For the sake of identification, each of the lists will be titled by the author's name and are presented in random order.

American Association of School Administrators, Conservation Education in American Schools.

1. Conservation of natural resources means the wise use of natural resources for the greatest good of the greatest number of people.

2. The broad categories of natural resources commonly used include: (a) renewable resources, and (b) non-renewable resources. Each of these terms, however, carries numerous shades of meaning, and for the various resources there are varying degrees of renewability or non-renewability.

3. The most serious problem related to natural resources is how to conserve the remaining good natural soils that exist on the earth, together with the complementary resources of forests and other plants, water, and myriads of beneficial forms of animal life.

4. Natural resources must be thought of as having an essential unity rather than as separate categories. They are interrelated and interdependent. This unity, the closely linked interdependence of soil, water, minerals, plants, animals, and man, constitutes the seamless web of life and matter.

5. In planning for the wise use of natural resources, one cannot think of man apart from either his social environment, or culture, or his natural environment. Each culture develops its own way of using natural resources.

6. In its broadest sense, conservation is a way of life, involving processes that are social and ethical as well as material. It is not alone something to do; it is something to feel, to live.
7. No conservation program can succeed unless those who control natural resources accept the obligations of trusteeship for the general good. Posterity is entitled to a share of the resource heritage to which we have become heir.

8. The tide of the earth's population is rising and that of the earth's natural resource base is falling. No one yet knows the ultimate efficiency of man's resource use or therefore the eventual population-supporting capacity of the earth or any of its parts. Nevertheless, unless ways can be found to provide subsistence for rapidly increasing populations, we face a dark future.

9. At the present rate of resource use, neither the United States nor most of the other nations can support even their present populations indefinitely on a high plane of civilized living.

10. Conservation applies to all people, rural and urban, and to be most effective must be practiced universally.

11. The wealth of a nation depends upon both its available natural resources and upon the courage and resourcefulness of its people.

12. A given civilization, with its institutions and order, rests upon certain natural resources. Destroy these resources, and you destroy that civilization.

13. The seeds of resource destruction are present in every manner of resource use.

14. Our existence depends basically upon the living matter, whether plant or animal, that is produced by the earth's fertility, including the products of inland waters and the oceans.

15. Our energy and well-being, physical and mental, are dependent in the main upon the composition of quality of the diet. All of it, except fish and other food taken from the oceans and inland waters, is derived from the soil.

16. Man must know and respect nature.

17. Science can aid and abet natural processes, but it cannot replace them. However, dependence upon the process of nature does not, in any sense, exclude science and its vast benefits.

18. An important objective in all conservation efforts should be to bring about the maximum integration among such pursuits as farming, ranching, fishing, mining, manufacturing, and lumbering. Until the efforts to integrate these activities become more extensive and more effective, there will be dust bowls, silted reservoirs,
polluted streams, and other consequences of exploitation and waste.\textsuperscript{31}

Weaver, \textit{Handbook for Teaching Conservation and Resource-Use}

1. People need to understand that man is a part of the natural world in which are many valuable materials that he has learned to utilize for human sustenance and for human betterment. These materials, or resources, are not man made. They are the result of natural processes.

2. Natural resources are of two types, renewable and non-renewable.

3. Man's understanding of diminishing resources is limited by the brevity of the individual human life.

4. Young people need help in establishing their own position in the calendar of the earth's history. They cannot fail to observe these features of their environment, but they need help in understanding that natural conditions change just as man's modes of communication and transportation change.

5. Perhaps the most distinctive characteristic of both the living and the inanimate world is change.

6. It is desirable that young people explore the close relationships between soil, water, plant cover, and animal life, including man. This points up the importance of the ecological aspects of conservation.

7. Young people should know that the world's rapidly increasing population will continue to levy an ever greater demand upon natural resources. (Technology can preserve standard of living without destroying resources.)

8. It is essential that young people become alert to the problems arising from resource-use. It is likewise essential that they become acquainted with the activities of private, state, and national agencies dealing with the control and other consequences of exploitation and waste.\textsuperscript{32}

Allen, \textit{Conserving Natural Resources}

1. Beneficial Use -- Natural resources are for the benefit of society, and any control of such resources places

\textsuperscript{31}American Association of School Administrators, \textit{Conservation Education in American Schools}, p. 72.

\textsuperscript{32}Weaver, \textit{op. cit.}, pp. 20-22.
upon the "owner" an obligation to use them beneficially and with minimum waste.

2. Variability of Waste -- Waste varies in production and consumption -- deliberate waste for profit is not justifiable.

3. Substitution -- The substitution of replaceable for irreplaceable and plentiful for scarce is sound practice.

4. Harmonious Property Relations -- Pooling of ownership and operation of adjoining natural resource properties to any extent practicable and with safeguards against predatory monopoly tend to assure opportunity for most effective conservation.

5. Providential Functions of Government -- Governments by their very nature must do things for their people which private enterprise cannot or will not do because such services are marginal as profit producers. In many situations conservation can be achieved only under public control.

6. Productive Powers -- Productive powers of natural resources are subject to maintenance and increase through proper direction.

7. Individual Responsibility for Conservation.\(^{33}\)

Renner, Conservation of Natural Resources

1. To develop a popular understanding of natural resources
2. To create geographical habits of thinking
3. To sensitize the individual to evidence of resource waste
4. To correct the belief that resources are inexhaustible
5. To promote the idea of trusteeship in place of ownership
6. To dispel the notion that science is a substitute for resources
7. To explode the idea that foreign trade can compensate for exhausted resources
8. To create a new evaluation of ownership
9. To teach an appreciation of alternative land uses
10. To build a new social philosophy of rights
11. To evolve and employ a new biological premise in education and social reward
12. To obtain new laws and regulations
13. To develop new customs and practices
14. To cultivate a new community ambition\(^{34}\)


\(^{34}\)Renner, Conservation of Natural Resources, pp. 62-68.
1. To teach the history of natural resource depletion
   (This involves teaching what resources are.)
2. To destroy the ideology of America's inexhaustibility
   (Must recognize waste and stop it)
3. To teach the interrelation of people, animals, plants, and earth
4. To present the idea of stewardship of natural resources
5. To clarify the rights of society as they conflict with the desire of the individual to exploit
6. To examine the claim that the world market can supply us when our own resources are exhausted
7. To study the relation of science and conservation
   (Science is not magic.)
8. To examine local resources in relation to community living standards
9. To familiarize pupils with the conservation work being done
10. To guide the growth of pupil philosophy of conservation

Since conservation is only one of the topics to be taught in the junior high school geography program, the teacher must be very selective in choosing the best content or material to achieve the objectives or principles of good conservation education. Under these conditions, in the writer's opinion, it will be necessary to select the most basic and significant principles from the lists above. This "core" of concepts would be the minimum requirements needed to achieve the desired knowledge and attitudes toward conservation. In some geography classes, additional concepts could be considered, but this decision would need to be made on the basis of a specific class. Listed

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below is the basic "core" of concepts which the writer believes are essential for proper understanding of the topic of conservation:

1. We should have an acquaintance with what our resources are. This would include exploring the idea of human resources and natural resources. Recognition of resources is essential before conservation can be considered intelligently. While learning what resources are, students must also recognize how resources are being wasted.

2. Resources must be used for the maximum benefit of mankind -- present and future generations. The attitude of trusteeship must govern resource use.

3. Not all resources are identical in nature. The two major categories, renewable and non-renewable, require different treatment in actual practice.

4. There is a certain unity to all resources, because all are interdependent and interrelated. This unity must be conceived for proper understanding of conservation.

5. Resources and conservation cannot be understood apart from the society and culture in which they exist. Conservation, in its broadest sense, is a way of life involving both social and ethical considerations.

6. There needs to be cooperative action between all groups, organizations, areas, and levels of government in the direction of over-all planning for a meaningful conservation program. This entails the theory that every citizen must be interested and participate in conservation and that conscious planning must replace the hit or miss resource use of the past.
7. Like most all aspects of our modern world, conservation and resource values are dynamic -- ever changing. Resources or materials which are of little value today may in the future be of prime importance to our civilization, and others valued highly today may decrease in importance.

8. Students should be acquainted with the conservation work that is being carried on. Projects and activities of all the different organizations concerned with conservation must be brought to the attention of the student.

9. Conservation education must destroy the idea that resources are inexhaustible. Man must learn to know nature and respect it.

10. An area only indirectly suggested in the above lists, but found to be quite significant in the writer's research, is the area of resource management. This concept will be examined in greater detail in the following section.

Resource Management

Resources exist only within the framework of a society, and consideration of resource management apart from the society in which the resources exist is unrealistic. By definition, a resource must be something that a society can use for attaining its ends. A thing is not a resource until some society recognizes its actual or potential utility for achieving some social end. However, the idea of utility is a cultural concept not a physical concept. Attention has been focused on the technological aspects of resource management, with little or no emphasis upon the cultural aspects. Part of the
problem, the technological aspect, has been mistaken for the whole problem. One of the fundamental cultural or social problems of resource management involves the question of what the state should be able to enforce with respect to the ownership and management of a natural resource. 36

Within the framework outlined above, resources considered within a cultural pattern or in relation to a specific society, the next area for consideration is what should be the nature of the information presented and the understanding sought in relation to resource management in junior high school geography. The age old way of meeting the problem in any region has been to move, but that solution is no longer possible. The "somewhere else" to which men formerly might expect to move when they could no longer make a living where they were has also been occupied and its resources depleted. Most of the lands of the world not yet closely settled are all areas with severe climatic limitations. 37

To replace the "bad practices" of management or lack of management, conservationists are setting forth measures or systems of resource management. Listed below are just a few lists of

systems of management which would be satisfactory for our modern day society:

Renner and Associates, Global Geography

1. Preservation
2. Restoration
3. Benefication -- improving upon productivity possible via nature alone
4. Efficient production and use
5. Recovery and reuse
6. Substitution
7. Resource investigation -- an exhaustive knowledge of the extent, characteristics, and origin of the resource

Beard, Teaching Conservation

1. Inventory
2. Utilization
3. Protection
4. Substitution
5. Restoration

To the five primary activities listed above, there are three contributory activities:

1. Research
2. Cooperation
3. Planning

Since each major class or type of resource has its own set or combination of the above techniques, and since it is not, in the writer's opinion, practical to consider all resources, the classroom teacher will need to select those resources and techniques of management, applicable to the resources, best suited to their particular geography class. However, in no good program can this

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38 Ibid., p. 254.
pragmatic aspect of how to put the concepts of conservation into action be neglected.

Geography and Conservation

Regardless of how traditional or progressive their educational philosophy or regardless of what philosophy or theory of geography that they feel is best, geography teachers have long been concerned with the resources, both human and natural, in their appraisal, survey, or analysis of the many nations or countries of the world. The emphasis has been, in most cases, on how people and natural resources are related or responsible for certain existing conditions, industries, and economic activities in a nation or area. The writer is now suggesting that geography courses should also be concerned with conserving the resources which are so vital to the particular situation in each and every country. Geography has long recognized the importance of resources, and in the future it must lend its efforts, knowledge, and methods to the conservation of these resources.

The writer's experience and research have led him to believe that professional geographers, college teachers particularly, have for some time supported the topic of conservation as a proper endeavor in the area of geography. Price, in The Annals of the Association of American Geographers, makes the following statement:

Geographers in the United States seem to have committed their profession to a shepherding of natural resources. It is fitting that students of the earth's
surface should keep tab on its riches, take part in planning its management, and appraise the coming generation of its potentialities.\footnote{40}

If this quotation and the author's opinion are correct, then geography teachers seem to be the "weak link" in the chain of conservation education.

An analysis of items pertinent to the problems of conservation and the study of the interaction of these items in relation to areal and cultural differences are essentially the same as the scope of interest of conservation-minded geographers. In both theory and practice, there are significant contributions which the field of geography can make to conservation. In theory some examples are these:

1. Areal differentiation of environmental conditions -- differences in slope, rainfall, climate, vegetation cover, forms of precipitation, etc. . . .
2. Areal differentiation in terms of cultural phenomena
3. Interrelationship of environmental and cultural conditions as they function to specific regions\footnote{41}

These are just a few of the phases or areas of geography and conservation which are interrelated. How these theories would or could be applied to everyday life would vary from area to area, but throughout our nation, these geographical theories provide a means of working \textit{via} education for the solution of the conservation problem.

\textsuperscript{40} Price, \textit{op. cit.}, p. 64.

Again, which approach would be most appropriate would depend upon the specific situation. The writer believes these are only a few of the possible approaches, and the individual teacher may use others or combinations of several to meet the needs of a specific class. Although the methods used are beyond the scope of this study, it is appropriate, in the writer's opinion, to emphasize that the approaches are only a means to an end which is to transmit in junior high school geography courses the concepts of conservation discussed in the preceding sections of this chapter. Geography teachers must eliminate the "lag" in conservation. Geographers and conservationists, plus many interested citizens, are aware of the need for a sound conservation program, and geography teachers must add the knowledge, methods, and understanding of their subject for the conservation of our resources.

Conclusion

In solving the problem of conservation of resources, as is true in many problem areas, the first step toward remedy must be the recognition that a problem exists. In this area, much has been done by a limited number of people and organizations, but the school, via geography courses, can render a great service to mankind by making our citizens, present and future, aware of the waste and rapid depletion of our resources and how this waste will affect the lives of themselves and future generations.

Among the major difficulties which hamper the adoption and
execution of an adequate conservation program are public apathy, "rugged individualism," fear of socialism, government ineptitude, and personal greed. Again, education appears to be the best means of overcoming these ideas and replacing them with an earnest concern and the knowledge necessary to enact intelligent conservation programs.

"Conservation is an old theme that has been played many times before, but usually in a somber and depressing key." Today the general purpose of conservation education is not to frighten persons into believing that all is lost or that our resources have been wasted beyond recognition but rather to develop a realization of the need for a constructive conservation program and a desire to meet this need by the adoption of a planned, self-perpetuating program of resource use.

The concepts which follow are those which, in the writer's opinion, are most significant for the development of the proper attitude, understanding, and knowledge concerning the topic of conservation via junior high school geography.

1. Conservation of resources includes all resources -- natural and human. Acquaintance leads to recognition of what are our resources.

2. Resource use must be understood or seen in the sense of stewardship or trusteeship. Resources are for the benefit of all the people and for all generations.

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3. As resources must be recognized, so must the waste of resources. Elimination of waste must be a major goal.

4. Man's place in conservation, as in the whole field of geography, is central. Conservation of resources must be considered in relation to the cultural or social framework in which they exist. Conservation in a democratic society is our problem.

5. Today, conservation is more than preserving or hoarding. It includes restoration, substitution, recovery, reuse, and other means of scientific management as well as preservation.

6. Not all resources are alike. The two basic categories, renewable and non-renewable, serve to clarify the nature of resources. Resources are also dynamic in their relationship to man and his needs.

7. All resources are interrelated and interdependent. Since they are interrelated, intelligent conservation action calls for comprehensive, broad scope planning.

8. Each and every individual must assume responsibility for conservation if it is to be successful. Conservation is not solely a government function. Only through education can the understanding and desire to assume responsibility be achieved in our society.

9. Students must be made aware of all the varied conservation programs, projects, and activities that are in existence today.

10. Man must learn to know and respect nature. Through knowledge and respect, the idea of the inexhaustibility of our resources will be destroyed.
CHAPTER VIII

TEXTBOOK ANALYSIS ON THE TOPIC OF
THE NATURE OF GEOGRAPHY

As explained in the Introduction, in this chapter and the five succeeding chapters, the writer will present the material "gleaned" via the subject matter analysis of the five selected junior high school geography textbooks. The textbooks selected are the following:

Outright et al., Living Together as World Neighbors
Glendinning, Your Country and the World
Pounds and Jones, Beyond the Oceans
Sorensen, A World View
Stull and Hatch, Our World Today: The Western Hemisphere

The writer's evaluation and analysis are not based solely upon the number of times the topic or concepts are treated but rather on the quality of content used in the presentation of these topics and concepts.

In each chapter dealing with textbook analysis, the writer will first present the concepts derived from the chapter dealing with the topic in the first part of this study and then under each concept will list the materials found in each textbook and present an evaluation and interpretation of the findings. Whenever feasible the writer will present direct quotations, and when direct quotations are not feasible because of length, the writer will present a summary of the material found in the textbooks.

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1. Geography puts primary emphasis upon place. It is concerned with the interpretation of the variable character of different places on the earth.

2. Geography emphasizes the interrelation of phenomena.

3. In geography, man is the central figure. It is the study of the earth as the home of man.

4. Geography includes both cultural and natural phenomena. These two are so intertwined that they cannot be separated. Neither man nor nature is supreme in the relationship, but it is a reciprocal relationship.

5. The most acceptable philosophy of geography is "possibilism" which is: Nature provides a framework, and man has a choice within this framework.

6. Geography is a unified field of study. The dualisms, Cultural -- Physical and Regional -- Systematic, stressed in the past are false divisions.

7. Geography is a dynamic field of study and is constantly changing.

8. Geography deals with the "earth shell" which includes the earth's crust and the atmospheric envelope.

9. Geography's objective at the junior high school level is to develop in students the ability to think geographically. The ability to think geographically is a necessary skill for citizens of a democratic society.
The remainder of this chapter will be devoted to presenting the materials which are relevant to these concepts in each of the textbooks and to an evaluation of the adequacy of the material in clarifying the meaning of the concepts.

1. Geography puts primary emphasis upon place. It is concerned with the interpretation of the variable character of different places on the earth.

Before the writer presents any quotations found in the analysis of the textbooks, he believes it necessary to attempt to explain what is meant by the term "place." The term, as used in geography, has no specific characteristics as to size, qualities, or function. Below, the writer presents one of the very few references encountered in his research which may help to define the term "place."

The goal of the chorological point of view is to know the character of regions and places through the comprehension of the existence together and interrelations among the different realms of reality and their varied manifestation, and to comprehend the earth surface as a whole in its actual arrangement in continents, larger and smaller regions, and places.¹

Drawing on the quotation presented above and the explanation of "place" presented in Chapter II, the writer believes that "place" must be defined in very flexible terms. In his analysis, the writer assumed that "place" meant a city, town, or a very small uniform region.

The need for stopping places along various air routes has brought a new importance to some places which

otherwise would be almost insignificant. Consider the bleak bit of rock in the Atlantic called Ascension Island, and Wake Island in the Pacific, and the interior city called Kano, in Africa. The air age has given these places a new and valuable resource in their location.  

Sorensen provides another example of the meaning of the term "place" in his text when he presents the "story" of a community named Sunbury. This community and its upland are described in terms of their location, history, function, economic activities, resources, and relationship to other places and regions. In these two examples cited above, place is more than a mere location or name. It is a specific and unique location which is explained as the resultant of the interaction of specific factors. In the analysis of the five textbooks, the writer found innumerable references to specific cities, countries, areas, and regions, but these were not places as explained in Chapter II and therefore are not included here.

In the analysis of the five textbooks, the writer found neither a definition of place nor any explanation of the role or significance of place in the study of geography. In general, this concept was grossly neglected in the five textbooks analyzed.

2. Geography emphasizes the interrelation of phenomena.

The writer's analysis of the textbooks produced numerous examples, of varying quality, which demonstrate the concept of the

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3 Ibid., pp. 16-24.
interrelationship of phenomena in geography. These examples are presented below under the author and title of the textbook in which they were found.

Cutright et al., Living Together as World Neighbors

The earliest villages apparently began along river valleys where the climate was favorable. People settled in these valleys after they had learned how to grow grain. With a sure food supply, they no longer had to live as nomads. They could stay in one place.

To be near the river and its life giving water, the early farmers found themselves living close to one another. They became members of a settled group, just as they had been members of a roving tribe. In their small villages, they began improving upon the customs known to tribesmen.

As a valley community developed, new laws were needed. Someone in the community had to see that the laws were obeyed. Laws and obedience to laws thus became part of an orderly plan under which men could live in a community. The name for such a system of laws is government.

Our air view of Boston would also show us that the area for miles around is one of continuous city area. Here as in many parts of the Northeast, life has always centered in towns and cities. Factories run by water power were built in this area very early. Because workers were needed, people came to live near the factories. As the factories grew, churches, schools, libraries, stores, and office buildings became part of each community.

There are several reasons why Toronto has grown to its present importance. It has a fine harbor on Lake Ontario. It is served by many railroads. It lies in the center of a fine farming district. It received cheap electric power from the power plant at Niagara Falls.

One reason for western Europe's large population is the temperate climate which makes it pleasant to live there . . . .

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5 Ibid., p. 47.
6 Ibid., p. 87.
Why does this region have so mild a climate? Warm winds from the west blow from the Atlantic Ocean across much of Europe. These winds are warm because they pass over a warm current of water in the Atlantic, called the North Atlantic Drift.\(^7\)

Switzerland has no coal or iron ore to run factories. It has no metals for use as raw materials in its factories. But to make the products in which they specialize, the Swiss require only small amounts of raw materials. For example, Switzerland makes more watches than any other country in Europe. A watch, which is a small article, needs only a small amount of metal. But the making of a watch requires more than materials. Skilled workmanship is the most important ingredient, for the value of the finished watch lies mainly in the way it is made.\(^8\)

Singapore is the largest city in Malaya. It is located on Singapore Island, a British colony just off the southern tip of the Malay Peninsula and the continent of Asia. Singapore is a great crossroads on the sea routes. Every vessel sailing south of Asia passes by or stops at its docks.

Singapore is a free port. Because of its location and because it is a free port, Singapore is one of the busiest seaports in the world.\(^9\)

In the islands, people usually build near the shore to be near the fishing areas. But the volcanic islands sometimes have island villages. The houses are built on stilts a few feet off the ground. This kind of location protects the family from high water and from many crawling insects and land animals.\(^10\)

Glendinning, Your Country and the World

The soils of the United States feed us and our animals. Our millions of city dwellers, many of whom seldom see or think of the soil, are fed by its products, whether these

\(^7\)Ibid., p. 102.
\(^8\)Ibid., p. 139.
\(^9\)Ibid., p. 300.
\(^10\)Ibid., p. 338.
products be wheat, milk, vegetables, or fruits. Many of our great factories use the products of our soil. Paper mills and furniture factories use the wood of our trees which grow in the soil. Paint and varnish factories use vegetable oils from such soil-born crops as soybeans and flax. Cotton mills are fed by the bounty from the soil of our Cotton Belt.\textsuperscript{11}

The inhabitants of the earth eat many foods in order to live and grow. They eat grains, vegetables, fruits, nuts, meat, and fish. Many things determine what food people eat. Climate plays a part. So does soil. In addition, there are many other factors which play their part, such as the amount of money and the amount of crop land.\textsuperscript{12}

The idea that meat is obtained from the world's useful soils and climates may at first seem strange. Certainly meat is not a crop. However, animals eat the grasses and the hays of the fields, which in turn depend upon the soil and the climate. Without products of soil and climate there would be no animals.

Only where the population is sparse or relatively sparse can people afford to use enough land to raise meat. Where population is dense and the need for food is very urgent, man must eat plant food directly without waiting for it to be transformed into meat.\textsuperscript{13}

Strange as it may seem, India has far more cattle than any other land. It has more than the United States, Argentina, and Australia combined; yet it has no dairy or beef industry. The answer lies partly in the religion of the people. To many of the millions of people who live in the peninsula of India, cattle are sacred, and so their meat cannot be eaten.\textsuperscript{14}

It would make a great difference, for example, if a hot and rainy region like the Congo Basin produced abundant and cheap hydroelectric power. Perhaps then the inhabitants


\textsuperscript{12}Ibid., p. 109.

\textsuperscript{13}Ibid., p. 152.

\textsuperscript{14}Ibid., p. 160.
could have electric refrigerators to keep their food from spoiling so quickly. They might live in air-conditioned homes and thus obtain relief from the tropical rainforest climate. They might even be able to raise dairy cattle in air-conditioned stables and thus have milk and butter.15

Glendinning has entitled a subdivision of one of the chapters in his text "The automobile has changed the American way of life." Here he explains the many complex interrelationships of our way of life and economy that revolve around the gasoline combustion engine and its many uses. Glendinning provides many excellent examples of how interrelation is an important concept in geography.16

In the eastern part of the Yangtze Valley a prodigious number of eggs are produced. In some years, China has sold from three to four billion eggs. China cannot afford to use farm land to raise cattle for meat and dairy products; but it can raise chickens because they take up little room and can find most of their own food. It also raises many hogs, which like chickens, are scavengers. The hogs furnish bristles, which China sells for the manufacture of many types of brushes.17

Pounds and Jones, Beyond the Oceans

The Portuguese have always been interested in the sea especially since their land is not very fertile. In the middle of the fifteenth century, many Portuguese were good fishermen and good sailors. Their harbor at Lisbon was one of the best in Europe.

The Portuguese, as you can see from the map, were well located to explore the coast of Africa. Year after year bold Portuguese sailors pushed southward on the sea . . . Then in the year 1488, one of them, Bartholomew Dias, rounded the southernmost coast of Africa.18

15 Ibid., p. 245.
16 Ibid., pp. 326-334.
17 Ibid., p. 404.
A new spinning machine and a new weaving machine were invented which were too heavy to be worked by hand. Steam engines were really necessary to drive them. Using them meant, of course, that there was no longer any need for the spinning wheel in the kitchen and the loom somewhere in the house. Spinning and weaving machines had to be grouped in factories so that steam engines could be built to drive them. Textile factories began to appear in towns and cities, and people moved to the towns and cities to make a living in the new jobs the factories offered.

It was the steam engine that made steam locomotives, the steamboats, and the new spinning and weaving machines go. It took coal to boil the water that made the steam.19

The movement of people to the cities caused the cities to grow rapidly. Then quite a problem arose. How could so many workers obtain food? As long as people were tilling the soil, they were growing their own food. When they became city dwellers, they ceased to produce what they ate and had to buy their food from others. The problem of supplying food to the city workers was solved in two ways . . . One way to solve the food problem was for the remaining farmers to improve their farming methods. But improvement in farming alone could not solve the European food problem. Food had to be imported from abroad.20

Bergen grew fast in the Middle Ages. Viking fishermen made large catches of herring and codfish in the ocean water nearby. Traders on ships from ports in southwestern Europe began stopping at Bergen to exchange wine and olive oil for fish. Other European traders bought fish at Bergen too.

Fish was not the only thing that attracted traders to Bergen. At Bergen traders could get timber, pitch, and pine tar, all coming from the dense cone-bearing forests that grew on the mountainous land.21

Pounds and Jones entitled a section in one chapter of their text as: "Israel -- The Youngest Nation of the Middle East." A

19 Ibid., p. 105.
20 Ibid., pp. 107-108.
21 Ibid., p. 1149.
brief historical account of events leading to the establishment of the nation in 1948 demonstrates the role of interrelationship in geography. Such factors as persecution of Jews, Zionism, British encouragement, and American support, political and financial, all were interrelated in the establishment of the state of Israel.  

Farmers of India have always been affected by winds which blow over their lands at certain seasons of the year. The winds are called monsoons.

In summer the monsoon winds blow from the sea to the land. As these winds strike the Western Ghats and the Himalaya Mountains, they rise, become cool, and drop rain in the areas you can see on the map.

In the winter the monsoons blow off the land. These winds bring moisture, and for this reason, winter is the dry time in India and Pakistan.  

Sorensen, A World View

It is clear that no workers in a community live by themselves and for themselves alone. While each man is making a living, he is helping someone else make a living, who, in turn, helps another. In other words, all workers and all groups of workers are interdependent. Not only are all the people interdependent, but they all depend in one way or another on the natural resources.  

At that time, in England particularly, men began to use new kinds of machines which made it possible to produce many things by machinery instead of by hand. Steam power began to do some of the work previously done by men and animals. Factories sprang up one after another. This meant that there was a greatly increased demand for coal and iron ore. This led to great changes in men's way of living.

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22 Ibid., pp. 224-226.
23 Ibid., p. 270.
25 Ibid., p. 40.
You may ask, "Why is most of the world's commercial fishing done in these areas?" There are many reasons. To begin with, valuable fish are especially plentiful in these areas. Fish must have food, and there is an abundance of food for them in the Pacific and in the north Atlantic. Warm and cool ocean currents meet there, and many of the best fish prefer the temperature of the water found in these areas.

In some countries which face the great fishing areas, the land is poor. It is natural that men in these countries have turned to the sea for a living, especially since the waters are rich in fish. The long, irregular coast lines near these areas provide excellent harbors. And last, but not least in importance, is the fact that three of these fishing grounds are next door to some of the most thickly settled lands in the world.26

The forest has always been the friend of man. Forests help to prevent water from washing away the soil. Because they slow up the flow of water, they help to prevent floods in the lowlands. They shelter fur-bearing animals and other wildlife. Lumber, paper, and other forest products of one kind or another find their way to almost every home in the world. Many thousands of people make a living by working in the forests. Many thousands more go to the forest for rest and recreation.27

In 1800, these would have had no business, for a filling station depends on trucks and automobiles, just as much as they, in turn, depend on the filling station. This is another reminder that great changes rarely stand alone. Almost always, they are closely related to other changes.28

If all trade stopped suddenly now, the extra food produced by farmers would rot. The livestock on ranches would in time die. Workshops and factories would close their doors, for their supply of raw materials would run out, and there would be no market for their products. Cities and towns would be abandoned, because food and other needed supplies

26 Ibid., p. 50.
27 Ibid., p. 140.
28 Ibid., pp. 174-175.
would no longer be found in the markets. Trains, ships, airplanes, and automobiles would stop for lack of fuel.29

Travel by land is little-developed in most tropical forests. The heavy rainfall makes the ground soft most of the time. The high temperature and heavy rainfall help trees and brush grow so rapidly that, even after a path has been cut through the thick undergrowth, men must work constantly to keep it open. Various insects which thrive in this climate are dangerous to both man and beast.30

As you have read, a grain farmer in 1950, using power driven machinery, could do fifteen times as much work as a grain farmer in 1820. It is this revolution in farming that now enables less than one-tenth of our people to produce enough food for themselves and for the other nine-tenths of the people in the nation.31

Stull and Hatch, Our World Today: The Western Hemisphere

There are two reasons for this coastal area being a desert in both Peru and northern Chile. One is that the winds in this latitude are mainly from the southeast. Having already passed over a wide land area, they have lost part of their moisture before they reach Peru. As they pass up and over the mountains, they are chilled and drop their moisture on the eastern slopes and the higher parts of the mountains so they have none left for this western coastal region by the time they reach it. In fact, there they are really drying winds for as they descend the mountains, they become warmer and tend to take up rather than give up moisture.

The other reason is the presence of a cold ocean current which flows northward along the coast of Chile and Peru. Winds blowing over the cold current are chilled, but when they reach the land they become warmer and do not drop the moisture they are carrying.32

The hot, humid climate of the eastern lowlands, the dense forests and jungles, swamps, and insect pests, as well as

29 Ibid., p. 193.
30 Ibid., p. 204.
31 Ibid., p. 212.
the mountains, have all hindered development in these Central American countries. Trees desired by the lumberman are scattered among other trees in the rain forests. The hardwood trees are harder to cut than the pines and other soft woods of temperate lands. Then, too, men do not feel like working in a hot, humid climate as they do in cooler climates.\textsuperscript{33}

This is a dry region, though there is a fair amount of rainfall during the summer. The dryness is due to a porous soil which allows the water to sink through it into a limestone rock underneath, leaving the surface dry. Few streams are found in this region, but water is obtained from wells. This is a "land of windmills" for northeast winds blow quite steadily over this region, and windmills are used to pump water from the wells.\textsuperscript{34}

The abundance of fish thus provided food for the colonists of this region, furnished a product for export, and resulted in the start and growth of shipbuilding. The colonists used fish for food and fertilizer, and from cod livers they secured oil, which was used for medicinal purposes and for curing leather.\textsuperscript{35}

The writer found examples and/or materials pertaining to the concept of the interrelation of phenomena in all of the five texts analyzed. These examples were of varying quality, ranging from those which emphasized the factors significant in the interrelationship to those which presented only a partial explanation of the interrelationship of phenomena and with no emphasis upon the interrelationship. The writer believes that these partial explanations of the interrelationship of phenomena often lead to misleading information and false conclusions.

Not one of the texts had a section or paragraph which explained

\textsuperscript{33} Ib id., p. 110.
\textsuperscript{34} Ib id., p. 129.
\textsuperscript{35} Ib id., p. 238.
to the reader the vital significance of the concept of interrelation in geography. The books of Glendinning and Sorensen had the best quality of examples of interrelationship. These two texts went to some effort to explain the major phenomena or factors involved. Of these two texts, the writer would evaluate Sorensen as the best, because in this book more emphasis was given to explaining the interrelationship of the many factors involved.

Since the writer believes this concept to be one of the most important objectives to be gained via the study of junior high school geography, a text to be evaluated as satisfactory in relation to this concept must contain both explanatory materials and good examples. None of the texts met these criteria and therefore are evaluated unsatisfactory in their treatment of this concept.

3. In geography, man is the central figure. Geography is the study of the earth as the home of man.

The writer examined very closely the introduction and preface of the five texts in search of some explanation by the authors as to the role of significance of man in the study of geography. In only two of the texts did the writer discover any such explanation. These are as follows:

Living Together as World Neighbors is a social studies textbook that is designed to give pupils a broad and thorough knowledge of world geography. The book is a cultural as well as a physical geography, covering the story of man's relationship to the earth and to his fellow man.36

36 Cutright et al., op. cit., p. v.
Geography is no mere dull history of people, places, and products. It is alive, rich, and colorful, dealing with real people living on a real earth.\(^{37}\)

Geography is treated as one of the social studies which touches all the others. The authors draw upon the field of history, government, or economics whenever it will best help to further the main object, namely to show how man adapts himself to his environment.\(^{38}\)

The writer also analyzed the selected texts in search of a stated definition of geography on the assumption that such a definition would clarify the author's position on the role of significance of man in geography. The quotation listed above from Our World Today is defining geography and showing man's place in geographical studies.

The only other definition encountered in the writer's analysis is as follows: "The study of geography provides knowledge of the various regions of the world."\(^{39}\)

The third method utilized by the writer was to consider the over-all approach and content of the texts to discover what was the significance of man in the study of geography. The writer's findings, as a result of applying this method, were that the texts neither state nor explain the significance of man in geography. However, in the content of these texts, much emphasis is placed upon man or cultural geography.

It is the writer's opinion that the authors of these particular

\(^{37}\)Stull and Hatch, op. cit., p. iv.

\(^{38}\)Ibid., p. iv.

\(^{39}\)Cutright et al., op. cit., pp. v-vi.
texts have taken too much for granted. At the junior high school level, texts should explain and provide many specific examples which would demonstrate that man is the central figure in geography and that geography is the study of the earth as the home of man. In addition to such explanations and examples, the writer believes the student should be presented materials that could lead to the formulation of a definition of geography. Also the author should state the definition of geography upon which the book is based.

Again the writer finds that it is necessary to state that his analysis would reveal that the treatment of this concept is unsatisfactory in the selected textbooks.

1. Geography includes both cultural and natural phenomena. These two are so intertwined that they cannot be separated. Neither man nor nature is su preme in the relationship but it is a reciprocal relationship.

In the writer's analysis of the five selected textbooks a number of examples of man-nature relationship were found in each text. Below the writer will present the quotations exemplifying this concept under the heading of the author and title of each text.

Outright et al., Living Together as World Neighbors

Chemists combine coal, air, and water to give us nylon, a material that resembles silk. They use wood pulp and cotton to produce rayon. We call the new textiles synthetic because the threads from which they have been woven have been made in a laboratory.\textsuperscript{40}

\textsuperscript{40} Ibid., p. 11.
People around the world today occupy many different kinds of shelters. The shelters differ greatly in the material with which they are built, in appearance, and in comfort.41

Some of the world's people enjoy a high standard of living. Education and training help them to use their resources fully.

Where there is a high standard of living, people can obtain more than food, clothing, and shelter. They can also develop useful community institutions. They can have good schools, hospitals, parks and playgrounds, libraries, and museums. They can make their communities both comfortable and attractive.

Where people lack the skills to use their resources well, the living standard is low. This means that the people suffer for want of adequate food, clothing, and shelter. It also means that they lack many other advantages found in a modern community.42

Early man did not quickly invent weapons and tools or discover the secrets of nature. The struggle to make life easier and more comfortable was long and hard.43 [Text presents brief narrative of man's discovery of fire, the wheel, cultivation of seeds, and many others.]

There the waters of the Niagara River drop over the edges of steep limestone cliffs and dissolve in a great thundering spray. Behind the falls are steep tunnels that carry water to great turbines or rotary engines. These turbines run generators that make electricity. The electricity generated by the falls is used to light cities and supply power for factories more than two hundred miles away.44

New Orleans spent many millions of dollars building a canal from the river to a large lake nearby. Midway in this canal a basin that is one thousand feet square has been dug, where ocean steamers may be turned around. Docks, warehouses, and factories have been built along the canal and the basin.45

41 Ibid., p. 15.
42 Ibid., p. 32.
43 Ibid., p. 37.
44 Ibid., p. 49.
San Francisco and Los Angeles obtain their water in part from the Sierras by bringing it through long pipes and ditches. Hoover Dam, on the Colorado River below the Grand Canyon, produces electricity. It also stores water used in irrigating farms in southern Arizona and southeastern California and shipped in pipes and ditches to coastal cities. The government has built many other dams on the rivers of the Far West. The dams all produce electricity for homes and factories and store water for city use and for irrigating farm lands.\(^6\)

There is not much rain, but rivers bring water down from the mountains. Dams have been built to catch and hold the water for use in irrigation during the dry months of July and August.\(^7\)

Grand Coulee Dam, on the Columbia River in Washington, is one of the largest dams in the world. This great engineering project was designed and constructed by the United States government. It provides water to irrigate thousands of acres of dry land. Power from Grand Coulee is sent to the cities of the Northwest over wires.\(^8\)

The lakes are connected by rivers some of which have rapids. Because of the rapids, the rivers are not navigable. For this reason canals, with locks, have been built so that ships can go around the rapids. The canals make it possible for ships to go from Lake Superior through the other Great Lakes and out through the St. Lawrence to the Atlantic. Recently the United States and Canadian governments have cooperated to deepen and widen the seaway so that it can be used by ocean-going vessels.\(^9\)

The plains of western Europe offer easy routes for transportation. Many navigable rivers permit boats to travel far inland. The Rhine, for example, is one of the most heavily traveled rivers in the world.

Thousands of miles of railroads, highways, and canals cross western Europe. The canals connect one navigable river

\(^6\)Ibid., p. 68.
\(^7\)Ibid., p. 70.
\(^8\)Ibid., p. 75.
\(^9\)Ibid., p. 91.
with another and extend to the sea. Many of the large cities are also connected by canals.\textsuperscript{50}

The mountainous parts of western Europe are well served by the power of falling water. Electricity is generated, or made, from the water of swiftly flowing mountain streams. It turns the wheel in many factories.

Europe is surrounded by water on three sides. No part of the land area of western Europe is more than a day's journey from salt water. The long coast line of western Europe is a great advantage to its people.

The ocean and the seas produce much food for western Europe. Thousands of people make their living as fishermen. Every coast has its fishing villages and towns. The greatest fishing areas are in the North Sea between Great Britain and the Netherlands and in the Atlantic Ocean near the coast of Norway. But fishing is an important occupation from the Arctic Ocean to the eastern end of the Mediterranean.\textsuperscript{51}

Many of the streams of Norway have been dammed to produce electricity from the power of falling water. Factories use this "white coal," as it is sometimes called, to run the machines.\textsuperscript{52}

A canal crosses Sweden from one coast to the other. Göteborg, the chief seaport on the western coast, is the place where the canal reaches the straits that connect with the Atlantic.\textsuperscript{53}

The Dutch have built great dikes to keep the North Sea from flooding the land. About one-fourth of the country lies below sea level on land that has been reclaimed from the sea. Windmills and gasoline engines are at work constantly pumping water to help keep the reclaimed land dry. Much of the sea called Zuider Zee has been drained and is now used as farm land.\textsuperscript{54}

Today the Panama Canal, which unites the waters of the Atlantic and Pacific Oceans, is one of the most important

\begin{thebibliography}{54}
\bibitem{50}Ibid., p. 105.
\bibitem{51}Ibid., p. 106.
\bibitem{52}Ibid., p. 117.
\bibitem{53}Ibid., p. 118.
\bibitem{54}Ibid., p. 133.
\end{thebibliography}
waterways of the world. It brings the west coast of South America closer to the east coast of the United States by sea. It permits shiploads of goods to be sent directly from one ocean to the other.\(^{55}\)

On the way into the city we learn that the new irrigation works were built by the government. Now enough water is supplied to grow food crops and large amounts of cotton.\(^{56}\)

Let us imagine that we can go back in history to a time nearly one hundred years ago. We are in Egypt, in November, 1869. Today an important event is to take place, and a large crowd has gathered. The Suez Canal, a waterway across the isthmus connecting Africa and Asia, is to be opened today.\(^{57}\)

In a rainless land irrigation must be practiced if crops are raised. The oldest way to irrigate is to dip the water from the river with a pail or a bag made of skin and to carry it to the fields. To lift the water, a shadoof is often used. Today farmers who irrigate their land in this way have a donkey or ox to help them. Troughs have been dug which carry the water to the fields.\(^{58}\)

If a farmer does not own flat rice land, he farms the hillsides by means of terraces, which extend like steps up the hill. Some terraces in Java rise for hundreds of feet above the valleys. Water is brought to the terraces from ditches around the hill. Or men may carry it up in buckets which they have filled in the stream from the valley below.\(^{59}\)

South China has many canals. The canals carry water to the thirsty rice fields. They also serve as highways on which boats loaded with goods move up and down.

The Grand Canal connects South and North China. It provides an inland water route between Shanghai, in the south, and Tientsin, in the north.\(^{60}\)

\(^{55}\)Ibid., p. 177.
\(^{56}\)Ibid., pp. 230-231.
\(^{57}\)Ibid., p. 240.
\(^{58}\)Ibid., p. 253.
\(^{59}\)Ibid., p. 283.
\(^{60}\)Ibid., p. 307.
Because Japan does not have enough farm land to support its people, space is saved in every way possible. Houses are built on dikes or on waste land in order to save the more valuable land for rice fields. Some farm villages are built along the base of hills so that all flat land can be used to grow rice.61

South Island, and the hilly interior of North Island, are the great sheep lands. Sheep ranches containing thousands of acres extend into the Alps from the hills of South Island. Refrigeration ships carry lamb and mutton to Britain. Large amounts of wool are also shipped to British factories.62

Gardens and some farm lands in the Murray-Darling Plain are watered from artesian wells. An artesian well is made by boring into the earth until water is reached that spurts or flows naturally. The water comes from the rainfall on the mountains. It flows, under pressure, beneath the plains. The Murray-Darling Plain constitutes the largest area of artesian wells, called an artesian basin, in the world. Sheep drink at water troughs which are kept full by water from artesian wells.63

Glendinning, Your Country and the World

At the same time that our country was growing in area and population, our people were learning to live and make a living in a brand-new land. They carved a great nation from a wilderness inhabited by only a few small Indian tribes.64

The book narrates the story of our national development. Numerous examples of man-land relationships are presented and demonstrate how some were successful and how some were very detrimental.

Deserts or rainy lands, hot lands or cold lands, winters or no winters, warm summers or no summers -- what a difference they make in the way men live! Climate determines what clothing is necessary and whether people need to build warm tight houses

61Ibid., p. 317.
62Ibid., p. 351.
63Ibid., pp. 359-360.
64Glendinning, op. cit., p. 45.
or can live in lightly built houses or in tents. Climate largely decides what crops man can grow.65

From what we have learned, we might get the impression that the climate of the earth's higher and rougher lands is of no use at all. Such is not the case. Large forests grow on the lower mountain slopes, and rich summer grasses often grow for a short distance above the line where trees cannot grow. Man can use the trees for fuel and lumber; his animals can use the summer grasses for food. Furthermore, mountain scenery is perhaps the most beautiful in the world.

Mountains are also useful in other ways. Their deep snows and heavy summer rains feed many streams, which leap and tumble down the steep slopes to the plains below. These streams furnish water to irrigate dry soils. Also, such falling water has a great deal of power to do work. Men in many different parts of the earth have harnessed this power to turn mill wheels or to spin the great turbines, which turn the dynamos, which generate electricity.66

Without the products of the soil most of the people of the world would starve. Certainly we and the bulk of the world's inhabitants should give thanks for the useful soil, which spreads its mantle over most of the earth's rocky crust. It is a most valuable resource. Soil, together with many useful climates, makes much of man's way of life possible.67

There are so many millions of mouths to feed in China that the farmers take the greatest care to make every bit of lowland produce all it possibly can. In addition, they terrace large areas of the land on hillsides, so that the abundant rains cannot wash the precious soil away.68

Many of the soils of the dry lands are very rich. All that most of them need in order to grow a green blanket of crops is water. Where man has brought the water to them in pipes and troughs and ditches, the soils have rewarded him with useful products.69

65 Ibid., p. 65.
66 Ibid., p. 78.
67 Ibid., p. 95.
68 Ibid., pp. 90-100.
69 Ibid., p. 104.
In many rice-growing districts there is little level land. Since the farmer cannot level off the hills and fill in the valleys, he makes staircases on the steep slopes. The top of each stair then becomes a small area of level land.\(^{70}\)

The soils there are good for cotton, but the climate is too dry. The Russians, like the people of northwestern India, must therefore bring in life-giving irrigation water from the mountains.\(^{71}\)

Yet if we were to fly over the North German Plain today, we should see a very productive land. The climate, of course, has not changed; it is still the cold, damp marine west coast type. But most other things have changed a great deal. The German people drained many of the swamps. They fertilized the sandy soils. They chose hardy crops which would produce food for people and farm animals. They made use of the forests, and they planted new and even better forests on lands which could not be used for crops and pastures. As a result of all this planning and hard work, the poor land of the plain became a land of fine forests, broad fields and pastures, and prosperous farms.\(^{72}\)

Germany did an excellent job of developing its homeland, or the fatherland, as the Germans call their country. Its soil resources were used to the fullest extent. Where the soils were of low quality, as in the northern plain, they were improved. Its forests were cared for as though they were gardens. Where land could not be used for anything else, forests were planted. Rivers were dredged, and canals were dug across the land to connect one river with another. Great deposits of high-grade coal were mined. Crops were carefully selected and improved, and only those were grown which would yield bountifully in the soils and climates of Germany.\(^{73}\)

To help in the transport of materials and goods, France has laced much of its land with canals. Therefore, in addition to the bordering oceans and its rivers, France has scores of canals which connect its various river systems.\(^{74}\)

\(^{70}\)Ibid., p. 111.
\(^{71}\)Ibid., p. 166.
\(^{72}\)Ibid., p. 295.
\(^{73}\)Ibid., p. 298.
\(^{74}\)Ibid., p. 311.
Honshu, for example, is about eighty-five percent hilly or mountainous; only about fifteen percent of its territory is relatively level land. Yet on this mountainous island, in an area slightly smaller than our own state of Oregon, live nearly ninety million people -- about half as many as in the United States! One can readily understand why the Japanese turned to harvesting the fish and the weeds of the sea, as well as to the factory and foreign trade, to help to support themselves.

To run these mills, Japan developed hydro-electric power from its many mountain streams.\(^7^5\)

South of the Ural Mountains and south of the western part of Siberia is a huge desert land. Until recently it was a land of a few nomads and their herds of sheep and goats. The nomads and their herds are still there, but in some places the land has been irrigated. There may be seen broad fields of green crops where only desert grass and brush grew before.\(^7^6\)

Pounds and Jones, Beyond the Oceans

The Egyptians soon learned that they could grow more than one crop a year. They took water from the Nile by means of simple pumps and lifts, led it to the fields, and irrigated the wheat and barley.\(^7^7\)

The Netherlands, located entirely on the Northern European Plain, has no natural boundaries and can be easily overrun by neighbors. Also, it would be flooded by the North Sea if the Dutch had not built dikes to keep the water out.\(^7^8\)

Pounds and Jones have included a subheading, entitled "Men Develop New Machines and New Forms of Power," in which they discuss

\(^7^5\)Ibid., pp. 390-392.
\(^7^6\)Ibid., p. 415.
\(^7^7\)Pounds and Jones, op. cit., p. 32.
\(^7^8\)Ibid., p. 93.
man's steady progress in developing machines and sources of power to
do his work. These ten pages include many examples of man-land
relationships. 79

In the Middle Ages much of the flat land of the Netherlands was made up of only small, marshy islands. Between them were the branches of the river Rhine and its tributaries. The tide flowed up these waterways, and at high tide many of the islands were covered. But people built banks of earth around some of them. The water was kept out, and gradually the fields were drained and farming started. Then more land was added; islands were joined together. The areas of water were reduced. 80

Today the people along this coast do not depend on farming for a living. They have built factories, which are run by the abundant and cheap electric power provided by the mountain streams. 81

Iraq is a very dry country. The rainfall alone is not enough to make crops grow. But the two great rivers have plenty of water, brought down from the snow fields in the high mountains. So the skill of engineers has been brought in to help the farmers. Dams have been built across the rivers, and the water is stored until it is most needed for the land. In this way, much more farm land has been created. 82

The Suez Canal was opened in 1869. For hundreds of years before there was comparatively little shipping on the Mediterranean Sea. Although ships could enter this sea from the west, they could not sail out of it at the eastern end.

The opening of the Suez Canal changed all this. It shortened the route between western European ports and India by several thousand miles. It increased shipments of goods from England to the East and from the East to Europe. 83

A number of dams have been built in Morocco, and more are being built to provide water for irrigation and also electric power. 84

79 Ibid., pp. 101-111.
80 Ibid., p. 130.
81 Ibid., p. 153.
82 Ibid., p. 216.
83 Ibid., p. 235.
84 Ibid., p. 241.
The first large dam built in North Africa was built in Tunisia to provide water for Tunis. It was finished in 1928. Other dams have been built in Tunisia, chiefly to provide irrigation for the arid lowlands along the east coast.

We have spoken of the dams on the Nile that store the water when there is plenty and release it to the fields in the dry season. The best-known one is the Aswan Dam.

Farmers of India have always been affected by winds which blow over their land at certain seasons of the year. These winds are called monsoon winds, or simply monsoons. [The authors devote three pages and two maps to explain the monsoons and to the resultant man-land relationships.]

The Indians had relied on their storage tanks and on the water they could pump up from the rivers to irrigate their land. The British built dams to store water during the wet season until it was needed during the following dry season. Many such dams were built.

At last, after a long climb up through the hills, we reach Bandung. This is a hill city where the people of Djakarta sometimes go when the heat of the lowlands becomes too great. From Bandung we can look out over the mountains and valleys toward the Java Sea, away to the north. On our way to Bandung, we noticed how almost every hillside was cut into terraces.

In 1822 an old sailing ship called the Dunedin was fitted with a freezing chamber and carried a cargo of mutton to England. This mutton was sold very profitably, and other ships were soon equipped with freezing chambers.

Sorensen, A World View

85 Ibid., p. 249.
86 Ibid., p. 257.
87 Ibid., p. 270.
88 Ibid., p. 280.
89 Ibid., p. 310.
90 Ibid., p. 443.
Sorensen has organized the text, *A World View*, around topics and regions. Below, the writer lists a few of the titles of the topical and regional divisions:

- Ranchers and Herders
- Land, Weather, and the Farmer
- Farmers in the Americas
- Farmers in the Old World
- Forest Workers
- Living in North America
- Living in South America

Under each of these topical and regional headings are innumerable examples of man-land relationships. The writer presents on the following pages what he believes to be a representative sample of quotations from this text dealing with the concept of man-land relationships.

Probably every farmer in the India-Pakistan Peninsula knows about the monsoon winds of southern and eastern Asia. Most farmers must keep them in mind in planning their crops and their work.\(^2\)

There are many methods of irrigation. Wells are always important. . . . Two other kinds of irrigation are also common in the peninsula -- irrigation from rivers and from tanks.\(^3\)

Rice is planted in seedbeds and then transplanted to the fields as early in the spring as the temperature will permit. Southern China is a monsoon land, with heavy rainfall in summer and little rainfall in winter. During the summer, at Lu-t'sun, there is an abundant supply of water for the rice crop. The rice is harvested and threshed in October, when there is little danger of damage from heavy rains.\(^4\)

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\(^1\) Sorensen, op. cit., pp. vi-vii.

\(^2\) Ibid., p. 127.

\(^3\) Ibid., p. 128.

\(^4\) Ibid., p. 131.
Logging or the cutting down of trees is the work done by the larger part of the world's forest workers. Many people, however, depend for their living on other uses of trees. For example, men gather cork and rubber from forests. Other products that are collected include maple syrup, turpentine, Brazil nuts, chewing gum, quinine, palm oil, and coconuts. 95

Coal is a giant in the work it does. It is estimated that far more than half of the world's work is done by energy released from coal. In the United States alone, it would require hundreds of millions of human beings to do the work done by coal. The use of coal for power is well known. Equally well known is the use of coal for heat in homes, stores, and factories. Much coal, too, is used in making coke, which is very important in making iron from iron ore. As a raw material coal is perhaps less well known. As such it is used in making an amazing number of useful things, including nylon, plastics, dyes, aspirin, drugs, perfumes, and paint. Thousands of other products could be added to this list. 96

To connect one waterway with another, men have built canals or have deepened existing waterways so that they could be used for water traffic. Perhaps the most famous canal in our country was the busy Erie Canal, connecting the Hudson River with Lake Erie.

In a class by themselves are two canals which join oceans. When the Panama Canal was completed, a great doorway had been opened between the Atlantic and Pacific Oceans. The Suez Canal links the Mediterranean Sea with the Red Sea, thereby connecting the Atlantic Ocean and the Indian Ocean. By providing shorter routes, these two canals have aided ocean shipping tremendously. 97

Sorensen presents the following outline or plan for the student to use in studying his own state.

95 Ibid., p. 147.
96 Ibid., p. 157.
97 Ibid., p. 208.
A. Natural Setting
B. How Men Use the Natural Resources in Your State
C. How Men Make a Living in Your State
D. The Transportation Network
E. How the State Where You Live Diffs from Other States

Again this type of treatment is based primarily on the man-
land relationship concept, and produces examples too numerous to list
in the study.

The ports of the Great Lakes handle more tons of
freight each year than all the ocean ports of the nation.
More tons of freight pass between Lake Superior and Lake
Huron each year than through the Panama Canal. By means of
rivers and canals, the lakes are connected with each other
and with the ocean. [98]

In many ways, transportation is related to the land.
Builders of railroads or highways must consider the land --
whether it is level or mountainous, sandy or rocky. Canals
cannot be dug easily through mountains. Waterfalls and rapids
limit the use of some rivers as highways. Ocean ships can best
unload their cargoes in quiet harbors. Even air routes are
earth-bound in that they must depend on adequate landing fields.
Weather, too, may help or hinder transportation. Storms
at sea, fog in the air, ice on lakes and rivers, and snow and
ice on the ground, all present problems. [100]

Calcutta is a new city. A century ago, the land around
it was little more than a swamp. But early British traders built
a trading post at a place on the river bank which they found
was above the level of floods. There the city grew, and as it
spread, men reclaimed much of the water soaked land that
almost surrounded it. [101]

This kind of coastline has been a substantial advantage
to Europe during much of its history. Along the irregular coast
there are many harbors. These harbors encourage shipping and trade.  

The Industrial Revolution, in turn, depended on iron ore and coal for making the machines and running them. In these resources, Europe was rich.

Coal is the great fuel within the industrial heart of Europe. There are many cities, however, which depend more on hydroelectric power, that is, electricity made by the force of falling water.

The ocean itself is another outstanding highway for trade from nation to nation in Europe. Notice how far the long arms of the sea reach into Europe from the north, the west, and the south. No other land of similar size is fortunately arranged for ocean transportation. No other land makes as great use of it.

Nature offers few great barriers to trade in Europe today. It is true there are many mountains. But in most of these mountains there are passes, many of them fairly low. Furthermore, for centuries the people have been working to overcome the barriers that nature set up. They have been building bridges and viaducts. They have cut away the rock to make some of the slopes less steep. In many places they have dug tunnels through the mountains.

Stull and Hatch, Our World Today: The Western Hemisphere

Agricultural products in this long country are of many kinds, varying from semi-tropical products in the north to hardy grains in the south. Irrigation is much practiced, from the far north, south through central valley, which is one of the richest farming areas in South America.

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102 Ibid., p. 310.
103 Ibid., p. 314.
104 Ibid., p. 322.
105 Ibid., p. 326.
106 Ibid., pp. 326-327.
107 Stull and Hatch, op. cit., p. 12.
Even though surface streams may be lacking, water may usually be found by sinking wells. Windmills which pump the water from wells are a common sight in this land.\(^{108}\)

The differences in the Guianas are due more to the ways in which the land has been used by the ruling classes than in the land itself. Bordering the coast is a low coastal plain. In British Guiana and Surinam, much of this would be flooded were it not for the dikes and drainage canals first built by the Dutch when they controlled both areas. These are now kept in repair by both the British and the Dutch.\(^{109}\)

Good homes, with pure water, electricity, screens, and sanitary services are supplied to the workers on these plantations. Houses are sprayed to keep them free from insects. Hospitals have been built and special attention given to the prevention and cure of tropical diseases, such as malaria, yellow fever, and hookworm. Swamps have been drained and other efforts made to destroy the disease carrying mosquitoes.\(^{110}\)

In recent years, the government has been carrying out plans to increase irrigation. A number of big dams have been built. These not only store up water for irrigation, but furnish water power for the production of electricity.\(^{111}\)

The climate just east of the Rocky Mountains is milder than it is farther east in the interior. Winds descending the mountain slopes grow warmer as they come down. They also take up rather than give up moisture, so this is, in general, a rather dry region. But the soil is unusually fertile, and it pays to make use of this land in spite of the lack of rain. This is done principally by irrigation. Streams from the Rocky Mountains furnish water for this purpose. Irrigated land costs more, but crops are sure and the yield per acre is large.\(^{112}\)

Before artificial refrigeration was introduced in 1870, the preparation of meat was a seasonal industry. Slaughtering

\(^{108}\) Ibid., p. 27.
\(^{109}\) Ibid., p. 91.
\(^{110}\) Ibid., p. 110.
\(^{111}\) Ibid., p. 124.
\(^{112}\) Ibid., p. 176.
had to be done in the cold winter months and even then much meat was lost through spoilage. Fresh meat could be kept only long enough to market it nearby; the rest had to be preserved by canning, drying, smoking, or pickling. Refrigeration has changed this; slaughtering can be done at any time; the principal way of preserving is by cold storage; storage can be for long periods of time; marketing of the meat is done all over the world.\textsuperscript{113}

The manufacture of chemical products has come to be one of our biggest and most important industries.\ldots The soap you use to wash your hands is made by a chemical process and probably scented with a synthetic perfume made from coal tar. If you live in a city, the water you drink is probably purified with chlorine, a chemical product.\ldots Chemistry has made it possible for us to have many excellent substitutes for natural products, which are scarce or expensive. Instead of ivory, we have beautiful plastics, synthetic rubber, rayon and nylon in place of silk, paper made from abundant wood pulp instead of scarce rags.

Chemistry has enabled us to increase our production of food crops and to destroy harmful insects without harming ourselves, our pets, or the wild birds.\textsuperscript{114}

During the present century, however, great improvements have been made in our inland waterways, especially in the rivers. Many dams with locks have been built in some of our main river valleys. These raise the water level where needed to overcome rapids, store up water, and regulate the flow so that it is possible to use the rivers for transportation throughout the year.\textsuperscript{115}

Based upon the number of quotations presented, the reader may conclude that this concept has been treated in a very thorough manner. Certainly both cultural and natural phenomena, and the combination of these two are presented in all five textbooks. Unfortunately, in the

\textsuperscript{113}Ibid., p. 310.

\textsuperscript{114}Ibid., pp. 320-321.

\textsuperscript{115}Ibid., p. 329.
writer's analysis, he could discover neither an explanation of the role of these two types of phenomena nor of the reciprocal relationship that exists between cultural and natural phenomena. Similarly, the writer found many examples but no explanations as to how man changes the earth shell via human or cultural development.

The authors of these five textbooks have presented the cultural and natural phenomena as they are found in the world in a survey manner but have not explained the "how" and "why" of the status and interrelationship of these phenomena. They have done only part of the job, and students using these texts as a source of information would probably obtain only a partial understanding. The writer evaluates the treatment of this concept as unsatisfactory in all of the textbooks.

5. The most acceptable philosophy of geography is "possibilism" which is: Nature provides a framework, and man has a choice within this framework.

In only one textbook, Your Country and the World, could the writer discover any materials that might by the broadest stretch of the imagination be interpreted as being examples of the geographical philosophy "possibilism." Glendinning has the following two subheadings in a section dealing with polar climates:

"The Eskimos live in the lands of tundra climate by hunting and fishing."¹¹⁶

¹¹⁶Glendinning, op. cit., p. 88.
"The tundra dwellers of Europe and Asia are herdsmen." 117

Under the second subheading the following statement appears:

The little group of people who live in the lands of tundra climate in the Eastern Hemisphere, such as the Lapps of northern Norway, Sweden, and Finland, and the Samoyeds of northern Russia, pay little attention to the sea. They support themselves by herding bands of reindeer, moving about from one pasture to another. 118

In a discussion of the Spring Wheat Belt in the United States the following statements appear:

In the last few years such new crops as sugar beets, sunflowers, clover, barley, rye, and oats have been appearing in the region. These are called "insurance crops" because they give the wheat farmer something to fall back on if the wheat crop fails. Because many of these new crops are good for animals to eat, more cattle and other farm animals are now being raised in the Spring Wheat Belt. 119

The west coast marine climate is a bit too damp and cloudy, and the soils there are not as rich as those in the grassland regions. It has been said that the farmer in western Europe raises wheat in spite of conditions, not because of them. . . . He makes up in hard work for what he lacks in resources. 120

The writer does not consider the preceding quotations as excellent examples of possibilism, but they can be broadly interpreted as explaining man's choice in nature's framework. Since the writer could find not a single reference to possibilism and could not distinguish this philosophy as being applied in any of the five

117 Ibid., p. 89.
118 Ibid., p. 89.
119 Ibid., p. 121.
120 Ibid., p. 124.
books, he must conclude that their treatment of this concept was completely unsatisfactory.

6. Geography is a unified field of study. The dualisms, Cultural -- Physical and Regional -- Systematic, stressed in the past are false divisions.

"The book is a cultural as well as physical geography, covering the story of man's relationship to the earth and to his fellow man."121 This single sentence is the only example of any type of statement on the unity of geography found by the writer in the five selected textbooks.

The content of all the textbooks deals with both the Cultural -- Physical phenomena and utilizes both the Regional and Systematic approaches, but the unity of the field of geography is never explained. Likewise, the writer could find no real evidence of the application of these dualistic approaches. In summary, the whole concept of the unity of geography has been completely ignored in these textbooks.

7. Geography is a dynamic field of study and is constantly changing.

Through his analysis the writer found numerous examples and statements that demonstrate the dynamic nature of geography. Again, as in a preceding section of this chapter, the writer will list the quotations under the heading of the author and title of the textbook containing appropriate material.

121 Cutright et al., op. cit., p. v.
Cutright et al., Living Together as World Neighbors

The people of Colorado, where much of the land is dry, also store water and irrigate their land. Great tracts that were once covered with sagebrush are now thriving farms.122

Greece is not as important a nation as it once was. Because it is relatively poor in natural resources, most of its people today earn their living directly from the soil and the sea. But ships owned by Greeks carry many products for other countries from seaport to seaport on the Mediterranean and around the world.123

The narrow Isthmus of Panama has been important in transportation since the time of the early explorers. In those early days goods were carried across the isthmus on horseback or in wagons. During the 1850's a railroad was built across it. Then a French company tried to build a canal there. . . . The United States started to build the Panama Canal in 1904. Today the Panama Canal, which unites the waters of the Atlantic and Pacific oceans, is one of the most important waterways of the world.124

The Tigris and the Euphrates still water fields along their courses. Wheat, barley, rice, and cotton are grown in the irrigated lands along these rivers. But throughout the years these rivers have brought mud and silt from the mountains of Turkey. A delta, like that of the Nile, now extends far out into the Persian Gulf. A man of ancient Ur, if he could return today, would not recognize the shore line.125

If a farmer does not own flat rice land, he farms the hillside by means of terraces, which extend like steps up the hill. Some terraces in Java rise for hundreds of feet above the hill. Water is brought to the ditches from around the hill. Or men carry it up in buckets which have been filled in the stream from the valley below.126

122 Cutright et al., op. cit., p. 70.
123 Ibid., p. 155.
124 Ibid., pp. 176-177.
125 Ibid., p. 268.
126 Ibid., p. 283.
When Japan decided to modernize itself, it did so rapidly. Fine highways were built. Dams constructed on the many short mountain streams produce electricity. The electricity is sent by wire to the plains near by.  

Glendinning, *Your Country and the World*

Unit One of this text is entitled: "The Changing World and Our Country." The Introduction to the text is entitled: "Man's Ever-Changing World."  

Below the writer presents some quotations found in the sections cited above of this textbook.

Everything that lives changes. It has often been said that "change is the order of the universe." Certainly this is largely true not only for plants, animals, human beings, but also for nearly everything else that has to do with the world and all that goes on in it.

The text then presents the following as the means or ways in which the world changes: Earthquakes, volcanoes, glaciers, erosion, and the devices, knowledge, skills, and ways of living of the earth's inhabitants -- man. Through the process of analysis, the writer discovered the following examples which further explain this introductory section of Glendinning's book.

When bedrock is exposed to the air, it weathers, or "goes to pieces." Moisture and changing temperatures slowly soften it and break it up. In time there is a layer of loose material where once there was only solid rock. As soon as this layer is broken up fine enough, plants begin to grow, and other living things, such as ants and earthworms, come to inhabit it. Soil has been created.

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127 Ibid., p. 315.
129 Ibid., p. 25.
130 Ibid., p. 95.
As in so many other regions of the earth, life is changing; the wheat country is no longer a land of wheat alone. The map below shows some of the other crops grown by a wheat rancher.  

Some years ago, New Zealand was able to produce an abundance of dairy products, but was unable to sell them. There were big markets for butter and cheese in western Europe, especially in Great Britain. But Great Britain is in the Northern Hemisphere, halfway around the globe from New Zealand. The butter and cheese often spoiled before the long journey was completed, especially since a large part of the journey was through the hot tropics. Fortunately, the "traveling icebox," or refrigerator ship, was invented, and soon great fleets of such vessels were able to carry New Zealand's products safely to market.

Before the days of refrigerator ships, Australia's beef cattle could not be shipped to England in the form of beef. In those days cattle were raised mainly for hides and tallow. But since the invention of the refrigerator ship, Australian beef has become common in the butcher shops of the British Isles.

A man might labor all day, but by the time the sun went down, he had removed the seeds from only a small pile of cotton. Whitney's cotton gin changed this. The cotton fibers, seeds and all, were fed into the gin; and when the fibers emerged, they were free from seeds. Thus a single machine did the work of many men.

As a part of its awakening, the Cotton Belt not only learned to solve its farming problems, but also turned to other activities. Of these newer activities, manufacturing is most important. At and around Birmingham, Alabama, is one of the important iron-and-steel-manufacturing districts of the nation. In many other sections of the Cotton Belt

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131 Ibid., p. 121.
132 Ibid., pp. 148-149.
133 Ibid., pp. 159-160.
134 Ibid., p. 164.
are lumber mills and pulp and paper mills. But most important of all are the scores of cotton mills, which turn the cotton into many kinds of cotton cloth.\footnote{135}

Glendinning devotes one chapter to trace the "Pathways of the World's Business." Here he traces man's means of transportation from the cave man following a path through the forests to the modern day means of transportation by land, sea, and air. There are many examples of change present in this chapter.\footnote{136}

At one time most of the people of Britain were farmers, living in their farm houses and tending their fields and their flocks. Now most of them are city dwellers, crowded into city homes and busy streets, earning their living in factories. Their new life brought many changes.\footnote{137}

Yet if we were to fly over the North German Plain today, we should see a very productive land. The climate, of course, has not changed; it is still the cool, damp marine west coast type. But most other things changed a great deal. The German people drained many of the swamps. They fertilized the sandy soils. They chose hardy crops which would produce food for people and farm animals. They made use of the forests, and they planted new and even better forests on land which could not be used for crops and pastures. As a result of all this planning and hard work, the poor land of the plain became a land of fine forests, broad fields and pastures, and prosperous farms.\footnote{138}

Glendinning presents a very concise narrative for numerous countries under such headings as: "France Became a Republic." Here he provides the reader of the text with a short historical sketch of the

\footnote{135}Ibid., p. 171.  
\footnote{136}Ibid., pp. 261-271.  
\footnote{137}Ibid., p. 287.  
\footnote{138}Ibid., p. 295.
changes in the government of the different nations under consideration.\(^{139}\)

Like other parts of the world, we too have changed, with the passage of time. When we see dark smoke pouring from tall factory chimneys, when we see long, heavily laden freight trains moving across the land, or we watch the spinning dynamos at Hoover Dam, it is difficult to realize that there was a time when none of these things existed.\(^{140}\)

Before large numbers of our farmers and city dwellers had automobiles, they hardly knew each other. Even with the help of trains and interurban streetcars, they lived in a different world. When the farmer found that he could drive to town in minutes, whereas it had formerly taken him hours, the situation changed. He found that he could market many of his products more quickly and efficiently. Then, too, he was able to go to the city to visit and to attend movies, concerts, and conventions.\(^{141}\)

An important manufacturing region in Siberia is something that was not even imagined a few years ago. One reason for the march of factories toward the east lies in the plans of the Soviet Union to develop all parts of the country as much as possible. Another reason was the Second World War.\(^{142}\)

Pounds and Jones, *Beyond the Oceans*

The authors discuss the differences between modern and medieval times and trace the changes along two major lines. The first is utilization of power, animal, water, steam, and atomic, and the second is the development of the prevalent political

\(^{139}\)Ibid., p. 310.

\(^{140}\)Ibid., p. 322.

\(^{141}\)Ibid., p. 328.

\(^{142}\)Ibid., pp. 417-418.
organizations. In developing these two topics, which reoccur repeatedly throughout the text, the authors present numerous examples of change. In the Middle Ages much of the flat land of the Netherlands was made up of only small, marshy islands. Between them were the branches of the river Rhine and its tributaries. The tide flowed up these waterways, and at high tide many of the islands were covered. But people built banks of earth around some of them. The water was kept out, and gradually the fields were drained and farming started. Then more land was added; islands were joined together. The areas of water were reduced.

In Italy itself, attempts have been made to increase the amount of farmland by reclaiming such lands as the Pontine Marshes. But this has not provided enough farmland. Another measure has been undertaken. In Southern Italy the land was formerly divided into very large estates rented to tenant farmers. Each estate was owned by a wealthy landowner who often lived far away and took little interest in his lands or the welfare of his tenants. The Italian government has divided much of the land of these great estates into small holdings and has given them to people to live on and cultivate.

Many of the most important events in the early history of man took place on the banks of these rivers. The most ancient cities have disappeared. The geography of the Tigris-Euphrates Valley has changed also since ancient times.

The oil brings in a very large income. The Iraq Development Board was set up in 1950 to handle the money and supervise projects for the good of the country. Dams and bridges, roads and public buildings, hospitals, schools, and airports are being paid for out of the income from oil. Also, projects to improve farming, industry and mining have been started by the Board.

\[1\] Pounds and Jones, op. cit., p. 85.
\[2\] Ibid., p. 130.
\[3\] Ibid., p. 142.
\[4\] Ibid., p. 215.
\[5\] Ibid., p. 217.
The Suez Canal was opened in 1869. For hundreds of years before, there was comparatively little shipping on the Mediterranean Sea. Although ships could enter this sea from the west, they could not sail out of it at the eastern end.

The opening of the Suez Canal changed all this. It shortened the route between western European ports and India by several thousand miles. It increased shipments of goods from Europe to the East and from the East to Europe. Again, as in ancient times, the Mediterranean Sea became an important shipping highway, this time a highway for the ships of nations of the modern world.148

The hundreds of islands formed by the silt laid down by the river cannot easily rise much above the level of the river. However, trees, bushes, and rushes grow and die on these islands, and their remains help to make a soil.149

We are entering the Ganges Delta where Calcutta lies. This delta is always growing in size. The great river brings down huge quantities of mud, especially during the summer. This has been going on for millions of years, until now a great delta has been formed.150

Sorensen, *A World View*

Sorensen has included a subdivision, entitled "The Changing Earth," in Chapter One of his text. In this section, the author places emphasis upon the fact that the physical earth is constantly changing. Numerous examples of erosion, by water and ice, and of changes in rock formations are provided to demonstrate the dynamic nature of the physical earth.151

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151 Sorensen, *op. cit.*, pp. 8-11.
Tools and markets have changed much since that time. The farmer's burdens were eased when they could use plows and harvesters pulled by horses. Now, on the farms of the community, trucks and tractors have taken the place of the horse. 152

The story of man's use of natural resources is a story of change. As men learned to make and use better tools, they came to use natural resources in different ways. Also, as they learned more about natural resources, they discovered new ways in which these resources could be used. Men learned for example, that petroleum, when refined, could be used to produce power. They learned enough about the building of machines to make a gasoline engine. As a result, one of the natural resources of the world could be used in a new way, and much of men's work could be done more easily and more quickly.

Not only do men's ways of using natural resources change, but the resources themselves change with the passing of time. Soils may wear out or be washed away. They may be improved by careful cultivation and fertilization. Forests may be burned or new forests may grow. New minerals may be discovered or old ones may be abandoned. 153

In the long and complicated story of man's progress, it is not easy to find exactly why certain ways of working changed. But, in the story as a whole, three important developments help most to explain changes in the use of natural resources -- increased knowledge, better tools, and new kinds of power. 154

The Industrial Revolution made great changes in work with livestock, as well as in other types of work. With the growth of factories, more and more people lived and worked in cities needing food which they did not produce themselves. The machines of the Industrial Revolution helped to bring them the food they required. New, fast ships sailed the seas. Railroads and highways spread out across the continents, bringing food from even the most remote grasslands. 155

152 Ibid., p. 19.
153 Ibid., p. 39.
154 Ibid., p. 11.
155 Ibid., p. 58.
Sorensen presents a chronological development of the changes in herding and ranching and in farming. The author traces the change through the years and demonstrates how these changes are related to man's increased knowledge, better tools, and new kinds of power.  

As long as man has lived on the earth, he has made some use of mineral resources. Before and during ancient times, he did not use the same group of minerals as today, nor did he use them in the same way.

New York City, like Baltimore, has changed tremendously in the past 150 years. From a small city New York has become one of the world's greatest cities. Like most modern cities, New York has changed in more than size. . . . From the two pictures, we can imagine the striking changes in power and transportation. Perhaps the sharpest is in buildings.

For a long time, nearly all the world's cloth and clothing were made by hand in individual households and workshops. Some people today, particularly in Asia, continue to make their clothing by hand. But in almost every country, there are also textile factories in which cloth is made, and clothing factories where suits, dresses, and other clothing are manufactured.

Sorensen devotes a chapter, numbering seventeen pages, to the subject of transportation throughout the world. In this chapter, many examples are presented of the changes through the years in the means of transportation utilized by man, as well as all of the

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156 Ibid., pp. 67-75.
158 Ibid., p. 174.
159 Ibid., pp. 185-186.
related factors which have changed as a result of the changes in transportation. 160

As the population grew in size, it also changed in character. In 1790, before the influence of the Industrial Revolution was felt, our nation, like most others was chiefly agricultural. Now, less than one-tenth of all the workers are engaged in agriculture. Manufacturing has become the chief work of the American people. 161

Though western Europe has remained a principal customer and source of supply, there have been great changes in the kinds of things that we trade. In 1821, more than two-thirds of our exports to all lands were raw materials, particularly cotton, wheat, lumber, and tobacco. Now, more than half of our exports are finished manufactured goods.

Similar changes have occurred in what the United States imports. In 1821, more than half of what we bought abroad was some kind of finished manufactured goods. Now, scarcely a fifth of all our imports belong in that class. 162

Spain and Portugal were once among the great and powerful nations of the world. They were leaders in world exploration. Spain's empire in the American continents was larger in area than all Europe. Now, the Spanish and Portuguese colonies are limited to some of the poorer lands in Africa. There is little to indicate that these two nations will soon again be world leaders. 163

Until a few hundred years ago, Siberia was little more than a blank spot on the map... Then Russian traders and soldiers began pushing into the land, attracted by the opportunity of getting furs and of adding territory to Russia. Then about 50 years ago, the Trans-Siberian Railroad was built, reaching from western Russia entirely across Siberia to Vladivostock on the Pacific... The population

160 Ibid., pp. 200-217.
161 Ibid., p. 242.
162 Ibid., p. 267.
163 Ibid., p. 333.
of Siberia increased by more than 15 million in less than twenty years.164

It was impossible for the African Negro civilization to remain entirely as it was after the arrival of people from Europe. In came the government officials, traders, missionaries, and settlers. In some places, the Europeans set up entirely new systems of government, ruling the people directly. Elsewhere, particularly in British territory, there was much indirect rule, that is, the European officials influenced the local tribal chiefs. In both cases there were many changes, such as new taxes and new laws.

The Europeans brought new farm tools and weapons. The natives were eager to get them. Plows did better work than hoes. Guns were more efficient than spears. . . . The work that people did changed somewhat with the coming of the Europeans. . . . Some new occupations were created.165

Following the pattern you saw in southeastern Asia, many Africans look forward to more self-government. In this they have made considerable progress. Ghana, Nigeria, and the Union of South Africa are fully self-governing members of the Commonwealth of Nations. Since 1945, most of the colonies have become independent, self-governing nations.166

Stull and Hatch, Our World Today: The Western Hemisphere

During the first World War, there was quite a demand for Chilean nitrate for the use in explosives and various chemical products. Since then, other countries have begun to manufacture synthetic nitrogen which can be made for less money than the cost of Chilean nitrate, the natural source of nitrogen.167

Stull and Hatch have organized their text around political divisions -- nations. One type of information presented for each

164 Ibid., pp. 338-339.
165 Ibid., p. 343.
166 Ibid., pp. 353-354.
167 Stull and Hatch, op. cit., p. 11.
country is a brief sketch of its political history, which provides many examples of change.\textsuperscript{168}

In recent years, the government of Uruguay has been encouraging the people in Uruguay to grow more farm crops and change from raising beef cattle on large ranches to dairy farming. The government now has the right to divide the large estates and sell the land to farmers for cultivating crops.\textsuperscript{169}

Bolivia, like its neighbor Paraguay, is an inland country. Its land once included some of the territory now included in Chile and reached to the Pacific Ocean. But there were valuable nitrate deposits in this region, and a dispute arose between Bolivia and Peru on one side and Chile on the other, over the mining of the deposits. This led to war in which Peru and Bolivia were defeated and Bolivia lost her frontage on the Pacific.\textsuperscript{170}

This new port, Matarani, is built where a small inlet from the ocean makes a sheltered harbor so that ocean vessels can come to dock. At Mollendo, boats have had to anchor far off shore and passengers and goods transferred by smaller boats to shore.\textsuperscript{171}

Until long after the beginning of this century, Guayaquil was one of the most dreaded cities in the world, because of yellow fever and other tropical diseases found there.

Now, however, thanks to knowledge gained by Colonel Gorgas at Panama and elsewhere in controlling diseases and in sanitation, all has been changed and Guayaquil has been cleaned up and made into an attractive and healthful city.\textsuperscript{172}

The leading city in this region is Maracaibo. From an Indian village with grass huts set on stilts in the shallow

\textsuperscript{168}Ibid., pp. 18-20.

\textsuperscript{169}Ibid., p. 36.

\textsuperscript{170}Ibid., p. 48.

\textsuperscript{171}Ibid., p. 65.

\textsuperscript{172}Ibid., p. 71.
waters of the lake, it has grown into a modern city, a busy port for shipments of products from the surrounding country, and a center for the oil industry. The lake channel leading to the city was dredged, made deeper, so that ocean going vessels could come to the city docks.\footnote{173}

"Manufacturing industries are rapidly growing in Mexico.\footnote{174}

"The horse has been replaced by the tractor, truck, and automobile.\footnote{175}

Until 1793, when the cotton gin invented by Eli Whitney came into general use, the work of separating the fiber from the seed made cotton a very expensive fiber. From one to two pounds of cotton was all that one person could clean in a whole day's work.\footnote{176}

Until 1859 linen and cotton rags were the principal materials for paper making in the United States. With the steady increase of population and the rise of newspapers and magazines, there came an enormous demand for cheap paper. Out of this search for materials, pulp from wood was found to be the solution to the problem. From a small beginning in the sixties, the use of wood has expanded until now it is the source of over 90 percent of the paper used in our country.\footnote{177}

All five of the textbooks analyzed in this study contained examples of the concept that geography is a very dynamic field of study. Two of the textbooks contained special sections in which change was emphasized as a significant factor. Glendinning, in Your Country and the World, presents an excellent explanation of how both cultural

\begin{itemize}
  \item \footnote{173}{Ibid., p. 97.}
  \item \footnote{174}{Ibid., p. 130.}
  \item \footnote{175}{Ibid., p. 227.}
  \item \footnote{176}{Ibid., p. 230.}
  \item \footnote{177}{Ibid., p. 254.}
\end{itemize}
and physical phenomena change in geography. Sorensen, in _A World View_, presents a section in which change in the physical world is explained, and throughout the text, excellent examples are provided and emphasized of change in geography _via_ both cultural and physical phenomena.

The writer would evaluate the books of Glendinning and Sorensen as satisfactory and the other three as unsatisfactory in their treatment of this concept. In order to be considered satisfactory, in the writer's opinion, there must be an explanation of the significance of change and a good quality of examples, with a special effort being made by the text to emphasize these examples. The books of Glendinning _and_ Sorensen meet the above qualifications, but in the writer's opinion, the other three do not.

8. Geography deals with the "earth shell" which includes the earth's crust and the atmospheric envelope.

The writer's analysis produced only one reference to the terminology "earth shell" and only very limited reference, explanation, or examples of the concept that man is concerned with more than literally the earth surface.

The spinning globe which is the earth is wrapped in a blanket. It is a blanket which we cannot see and can only partly feel. It is a blanket of air, which we call the atmosphere. Without the atmosphere no person could breathe, no crops could grow, and there could be no rain or snow. The earth would be much like the moon, barren and rocky, burning hot by day and bitterly cold by night.

The atmosphere is about five hundred miles deep. We live in its lowest layer, and the changes that take place there have important effects in the life of each
of us. These changes affect our work, our play, our clothing, and our food.\textsuperscript{178}

Our life on earth is affected in many ways by what is inside the earth, what is on its surface, and what is happening in the ocean of air above the surface. Our life is also affected by the way the earth moves in space and by what goes on in other parts of the universe.\textsuperscript{179}

"The outer layer of the earth is the shell or crust on which man lives."\textsuperscript{180}

The preceding quotations, taken from the textbooks of Glen-dinning and Sorensen, respectively, were the only direct references to the concept of the earth shell. The writer must state that all texts deal with the minerals found beneath the earth's surface and with the weather and winds which are a part of the envelope of air above the earth surface.

It is the writer's opinion that these textbooks take too much for granted and miss an excellent opportunity to aid in the clarification of the nature of geography. The writer would not evaluate any of the five texts as satisfactory in its treatment of the concept of the earth shell.

9. Geography's objective at the junior high school level is to develop in the students the ability to think geographically. The ability to think geographically is a necessary skill for citizens of a democratic society.

\textsuperscript{178}Glen-dinning, \textit{op. cit.}, p. 62.
\textsuperscript{179}Sorensen, \textit{op. cit.}, p. 1.
\textsuperscript{180}\textit{Ibid.}, p. 6.
The writer's analysis produced very few direct references to the concept of the ability to think geographically.

This all-world geography will help pupils to understand what is happening day by day in the world. This means not only being able to visualize where on the earth's surface significant events take place, but also to understand the people in the lands affected, their life, and their outlook.  

... the main objective of all geography work, which is to teach pupils to see how to see things with geographical eyes and how to think in geographical terms.

These quotations represent all the writer could discover as relating directly to this concept. Both of the quotations cited above are found in the Preface or Forward of the texts and no further references are made to this concept in the remainder of the book. Again the writer would evaluate the treatment of this concept by the five selected textbooks as unsatisfactory.

Conclusion

If geography, as a field of study at the junior high school level, is to meet the objectives outlined in the first portion of this study, it is necessary, in the writer's opinion, that the topic of "The Nature of Geography" receives special emphasis. This topic provides the framework and understanding necessary for intelligent comprehension and application of geographical information.

The writer's analysis of the textbooks on this topic reveals

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181 Ibid., p. v.
182 Stull and Hatch, op. cit., p. iv.
a general neglect and lack of emphasis on the concepts used as a basis of evaluation. The texts contained the most information on the concepts dealing with: interrelation of phenomena; Cultural and Natural phenomena in geography; and geography as a dynamic field of study, which are really overlapping or interrelated as can be seen by the repetition of some quotations. In the case of these three concepts, like the other six concepts, the writer found content and examples of the concepts, but in most all cases, the explanations and emphasis were not satisfactory. Only two textbooks, Glendinning, Your Country and the World and Sorensen, A World View, can be considered satisfactory in the treatment of any concept. The writer believes these two texts can be evaluated as satisfactory, but not excellent, in their presentation of the concept of geography as a dynamic field of study.

Not one textbook can be evaluated as satisfactory by the writer on the topic of "The Nature of Geography." It is also the writer's opinion that all the texts would be improved and of more value to junior high school students if they contained more and better material on this topic.
Maps are an integral part of all aspects of the study of geography and are likewise essential tools to many other areas of study. In Chapter III, the writer presented the content necessary, in his opinion, for junior high school students to derive the maximum benefit and understanding from maps. The following are the concepts set forth in Chapter III and are the basis of analysis and evaluation of the selected textbooks in this chapter on the topic of Maps and Map Reading.

1. Maps and globes are both necessary for satisfactory geography instruction. They are really complementary devices, not competing devices, to aid man to understand the earth.

2. All flat maps are plane representations of the earth, a sphere, and therefore, they are distorted to some degree or extent.

3. Maps are not infallible. They are man-made and man-interpreted and therefore must be used critically.

4. Maps function in the capacity of broadening man's perspective beyond his own immediate environment. They provide a means for man to see the world or large segments of the world in one view.

5. Maps are a type of shorthand for the geographer to both
gain and record knowledge. Maps are a means or a tool by which man can learn more about the earth. Is the "over-all approach of the textbook that of using maps as a "means to an end" or as a tool, or are maps presented as ends in themselves?

6. There is no single ideal map. All maps have "properties," and the type of map selected must depend upon the function it is to serve.

7. The number of types of maps is almost endless. Students must gain working knowledge of the basic standard types. How great a variety of map types are presented in the geography textbook?

8. The characteristics or components -- projections, grid systems, scale, and symbols -- are all man-made devices to enable him to learn more about the earth. The geography student must have an understanding of all these components to use maps intelligently.

9. Maps are dynamic; technology and the times have greatly changed the need and function of maps. Man, in order to keep pace with the ever-changing conditions of the earth, has devised many new map techniques and types.

10. What type of "creative map activities" are suggested or provided for in the textbook?

In the following pages of this chapter are materials found in the five selected textbooks which are pertinent to the topic and concepts and the writer's analysis and evaluation of these materials.
Maps and globes are both necessary for satisfactory geography instruction. They are really complementary devices, not competing devices, to aid man understand the earth.

The writer found materials applicable to this concept in all five of the textbooks analyzed, and these findings are presented below under the author and title of each text respectively.

Cutright et al., Living Together as World Neighbors

"Find the International Date Line (the 180th Meridian) on the map on page 344 or on the globe."

"There are three main routes a ship can take between Melbourne and London. Use the globe to find these and measure each."

Cutright et al. have included two maps which are really made from photographs of a globe, and the writer assumes this can be interpreted as recognizing the need for both maps and globes.

Glendinning, Your Country and the World

If you use a globe and a piece of string, as we have done before, and stretch the string across the globe from Seattle to Yokohama, you will see about where the route lies.

Glendinning has also included in his textbook maps based on photographs of a globe.


2Ibid., p. 367.

3Ibid., pp. 8, 9, 446.


5Ibid., pp. 29, 39, 359.
"A globe should be used for the study of distances and directions on the earth."

Try placing a globe on a table, with the North Pole tilted toward a light. Place light in such a way that it shines directly on the Tropic of Cancer. The globe is then in the position of the earth on June 21.

Sorensen, A World View

Sorensen includes maps made from globe photographs, as did Cutright et al. and Glendinning.

The following four suggestions will help you get all the information you can out of the maps you use: (1) look at the legend; (2) study the scale; (3) watch the direction lines; (4) compare the map with the globe.

Our purpose in reading maps is to get a correct view of the world. To succeed in this, we must have in mind how each land we study actually looks on the globe. We all know why this is so. This ball-map, the globe, is the only map which has the true shape of the earth.

Air travel has made it more necessary than ever to use a globe, for airplanes need not follow land or ocean highways. Only on a globe can one tell, at a glance, which would be the most direct air routes connecting different parts of the world.

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7 Ibid., p. 176.
9 Ibid., p. 30.
10 Ibid., p. 34.
"Using the classroom globe, find out which is nearest to Sidney, Australia — San Francisco, New York, or London."\(^{11}\)

Stull and Hatch, *Our World Today: The Western Hemisphere*

"You can do this best on a globe or map of the western hemisphere showing both continents."\(^{12}\)

Look at a north polar projection map or look down on the globe with the north pole in the center and you will see that the greater part of the land masses of the world are in this northern hemisphere.\(^{13}\)

Although all the texts recognize the globe as important, by referring to ways that it can be used or by suggesting specific activities or exercises which require the use of the globe, only Sorensen makes any specific statements as to the necessity of using the globe in a geography class. The writer believes that more explanations and elaboration, accompanied by suggested uses and exercises, than found in these five texts is necessary for satisfactory treatment of this concept. All the texts fail to provide sufficient and satisfactory material for this concept.

2. All flat maps are plane representations of the earth, a sphere, and therefore, they are distorted to some degree or extent.

By his analysis the writer discovered materials dealing with this concept in only two of the five texts.

\(^{11}\)Ibid., p. 359.


\(^{13}\)Ibid., p. 156.
The route will seem broken, because when the map maker tried to represent accurately the surface of the round earth on a flat map, he ran into trouble. He had to make some breaks somewhere, and he chose to make them in the oceans rather than in land areas. That is why the map shows some blank spaces. ... One continent suffered -- Antarctica. 14

Map makers know they cannot make any flat map of the world exactly like a globe. But they do try to keep some good features of the globe in flat maps. They would like, for example, to show the continents in correct shape and correct size. They also would like to show direction and distance correctly. They have learned, however, that they cannot get all of these good features in a single map. They must decide which they want to keep, and which they are willing to lose. 15

Our purpose in reading maps is to get a correct view of the world. To succeed in this, we must have in mind how each land we study actually looks on the globe. We all know why this is so. This ball-map, the globe, is the only map which has the true shape of the earth. 16

The example cited from the book of Pounds and Jones merely explains why certain maps appear as they do and does not really elaborate on the concept of distortion in all flat maps. The quotations from Sorensen's book, in the writer's opinion, satisfactorily explains the concept, but more specific examples, sample maps, and graphic demonstrations would improve the book's presentation in respect to this concept. Only Sorensen's book could be evaluated as satisfactory in relation to this concept.

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14 Pounds and Jones, op. cit., p. 5.
15 Sorensen, op. cit., p. 28.
16 Ibid., p. 34.
3. Maps are not infallible. They are man-made and man-interpreted and therefore must be used critically.

The writer discovered no materials in any of the five text-books which were related or gave expression to this concept.

4. Maps function in the capacity of broadening man's perspective beyond his own immediate environment. They provide a means for man to see the world or large segments of the world in one view.

It is the writer's opinion that all of the texts analyzed demonstrate this concept to some degree, because all have included many maps in their books and use them to help the students "see" those portions of the earth beyond his immediate environment. Only two of the textbooks give direct expression to this concept. Pounds and Jones state:

On this flat map you can see at a glance what you would see on a globe only if you looked at it steadily as you turned it completely around. Actually, this map looks as if the map maker had peeled the covering off the globe and laid it out flat.

Because you can see all the continents at one time on this map, you can easily compare their sizes and positions. You can see how their shapes differ.\(^\text{17}\)

The need to see world relationships at a glance is the reason for flat maps of the whole earth. Only on a map of the world can all the continents be in view at the same time.\(^\text{18}\)

Sorensen, not nearly so explicit as Pounds and Jones, touches upon this concept as follows:

\(^{17}\text{Pounds and Jones, op. cit., p. 5.}\)^

\(^{18}\text{Ibid., p. 7.}\)
A map is a special kind of drawing made to represent some part of the world. It shows a part of the earth's surface. And it uses signs to show what you really would see, if you were on the scene.\(^{19}\)

The writer believes that it is absolutely necessary for geography texts to explain the general function of the flat maps and that the inclusion of maps in the text does not fulfill the need of this concept. Just the inclusion of maps is taking too much for granted.

Of the texts which explained the function and role of flat maps, only *Beyond the Oceans*, in the writer's opinion, could be evaluated as satisfactory. Also, the writer believes more emphasis on this concept in *Beyond the Oceans* would improve this book's effectiveness in providing an excellent presentation of this concept.

5. Maps are a type of shorthand for the geographers to both gain and record knowledge. Maps are a means or a tool by which man can learn more about the earth. Is the "over-all" approach of the textbook that of using maps as a "means to an end" or as a tool, or are maps presented as ends in themselves?

The five selected textbooks all contain material which, to some degree, is applicable to this concept. In most cases, the organization or "approach" of the text demonstrated this concept, rather than any direct statements by the authors in relation to the concept. In the following paragraphs, the writer presents his findings under the author and title of the textbook.

\(^{19}\)Sorensen, *op. cit.*, p. 25.
Cutright et al., *Living Together as World Neighbors*

At the end of each unit, the authors have included a section, entitled "Using Maps," which includes exercises dealing with the content contained in that unit. Below are some samples of the suggested exercises:

1. On the map, pages 24-25, find the four cradles of civilization. Give two reasons why the people of each valley probably did not know of the existence of the other communities.

2. Compare the world population map with the rainfall map, on pages 12-13. How does the amount of rainfall in an area influence its population density?

3. On the global map, page 9, find the four river valleys. In what temperature region do they lie?20

Cutright et al. have placed maps throughout the book, at appropriate places, in relation to the subject matter content. Such placement certainly enables a student to gain much information from a single map, and it makes the map a tool of the accompanying written material. Also, this text constantly refers the reader to the appropriate map, for a specific purpose or type of information, in the following manner:

"Denmark lies south of the Scandinavian peninsula. It occupies its own small peninsula and surrounding islands (see the map, page 104)."21

*Glendinning, Your Country and the World*

At the end of each chapter in this text, the writer found

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20 *Cutright et al., op. cit.*, p. 42.

numerous exercises under such headings as: "Things to Do;" "Map Questions;" "Use Your Map," and "Some Map Questions." All of these contain questions or suggested activities which entail using maps.

Some samples of the type of exercises included under these headings are:

- Make a sketch map of Brazil. Color the parts which have a tropical rain forest climate. What other kind of climate covers most of the remainder of the country?^{22}

- Use the maps on pages 21 and 39 to help you in answering the following questions:
  1. What large bodies of salt water border the main part of the United States?
  2. What five lakes make up the world's greatest waterway?^{23}


  1. What symbols are used to show where the people are?
  2. Each symbol stands for how many persons?
  3. What continent contains the most people?^{24}

Glendinning has an "atlas" at the beginning of the text and has very liberally placed special purpose maps throughout the book, at the appropriate places, as they deal with the subject content being discussed. This arrangement certainly makes the maps a "means" of comprehending the subject matter of the text. Also, Glendinning constantly makes references to specific maps as follows:

There are a few other important corn regions. The map on page 132 shows you that two of them are in northern India,

^{22}Glendinning, op. cit., p. 92.

^{23}Ibid., p. 58.

^{24}Ibid., p. 319.
at the base of the towering mountain wall of the Himalayas. 25

Pounds and Jones, Beyond the Oceans

Pounds and Jones have placed at the beginning of each chapter a section entitled "Getting Ready to Study" and at the end of each chapter a section entitled "What Are You Learning About Geography?"

These two sections of each chapter deal, in part, with maps. Following are some examples from these sections:

On our trip we shall be traveling farther north and south than east and west. Notice that the Arctic Circle is a line which is drawn on maps and globes at 66\(^\circ\) north latitude.

Look at the map on pages 10-11. What parallel of latitude crosses near the northernmost point of the Scandinavian Peninsula? Near the southernmost point of Greece?

Use the world map on pages 6-7 to see what parts of North America are crossed by these same parallels of latitude. 26

Look back at the map of Europe on page 87 to see again how the population of Europe is distributed. Now look at page 310 to get the same information about the populations of India and Pakistan. 27

Pounds and Jones do not have a number of maps grouped together in one section, or in an atlas, but rather have them placed throughout the text. Through excellent placement and constant reference to the appropriate map, these maps are truly a tool for the reader to use in comprehending the subject matter. The following is an example of the technique used in referring to specific maps:

"If you look at the map on pages 266-267, you will find the

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26 Pounds and Jones, op. cit., p. 150.
27 Ibid., pp. 294-295.
city of Tashkent and the Tien Shan, a mountain range to the east of
the Caspian."

Sorensen, A World View

Sorensen has entitled Chapter Three of his text as "Tools."
Maps, of course, are one of the geographic tools discussed in this
chapter. Reference to the chapter entitled "Tools" will be made in
later sections of this chapter. Sorensen introduces this chapter as
follows:

Before starting out to get a world view, let us lay
out the tools we will use and look at them. What are the
tools of geography? In general, anything that helps us
learn about lands and people is a geographic tool. In
learning about Sunbury, for example, we made use of pictures,
maps, and the written text. We may expect in our study,
also, to use globes, statistics, and graphs. All together,
these tools of geography help us see and understand the
world."

At the end of each chapter, Sorensen has included a section,
entitled "Remembering, Thinking, and Discussing," which includes
varied types of suggested map exercises. The following is an
example of the type of map exercises found in these sections:

Look at the map on pages 56-57. Find the areas of
ranching and herding in western United States and in
Argentina. Find these same areas on the rainfall map,
pages 364-365, and the population map, pages 362-363. Are
these lands of heavy or light rainfall? Many or few
people?

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28 Ibid., p. 190.
29 Sorensen, op. cit., p. 25.
30 Ibid., p. 58.
Sorensen has included a chapter or section at the end of the book, entitled "Maps and Statistics," which includes a large number of maps. In addition, the author has included a large number of special purpose maps at the appropriate places. Constant references are made to specific maps to help the reader better comprehend the material. An example of these references is as follows:

The grazing lands of South America are not in one large area, as those in western North America. Instead, they are widely scattered, as shown by the maps on pages 56-57.\textsuperscript{31}

Sorensen, in the writer's opinion, certainly uses and explains maps as geographic tools.

Stull and Hatch, \textit{Our World Today: The Western Hemisphere}

At the end of each chapter, Stull and Hatch have a section, entitled "Questions and Activities," which oftentimes includes map questions and activities. An example is as follows:

"If there is a local fish market, find out the names of the different fish offered for sale. Locate on the map the place from which each comes."\textsuperscript{32}

The authors have placed ten sections, at different places throughout the text, entitled "Map Questions and Activities," which presented the following type of suggestions:

Keeping in mind that temperature depends on altitude as well as latitude, suggest a reason for the small population

\textsuperscript{31}Ibid., p. 62.

\textsuperscript{32}Stull and Hatch, \textit{op. cit.}, p. 246.
of Patagonia after comparing this map with the physical-political map of South America.

Name the two largest cities of South America. How can you tell this from the map?\[^{33}\]

Stull and Hatch have no section comprised exclusively of maps, but the maps, relatively few in number compared to the other four texts, are distributed throughout the book. References are made in numerous places for the reader to refer to a map in the following manner:

"Note on the map that Paraguay is crossed by the Tropic of Capricorn."\[^{34}\]

Only one of the textbooks, *A World View*, explains and emphasizes the concept that maps are a tool or a means to an end. The others are completely void of any explanation of this concept.

All of the textbooks, except Stull and Hatch, *Our World Today: The Western Hemisphere*, satisfactorily demonstrate, in the writer's opinion, this concept by the way maps are used and organized in the book itself.

The writer, being of the opinion that a text must explain as well as demonstrate this concept, can evaluate only Sorensen, *A World View*, as satisfactory in relationship to this concept.

6. There is no single ideal map. All maps have "properties," and the type of map selected must depend upon the function it is to serve.

\[^{33}\text{Ibid.},~p.~65.\]

\[^{34}\text{Ibid.},~p.~40.\]
The writer's analysis revealed that all five of the texts supported and/or exemplified this concept through their use of a variety of maps. Each was used according to its properties and in accordance with the function it was to serve.

On the other hand, only two of the texts contained any explanation of this concept. The explanatory material discovered via the writer's analysis is as follows:

We cannot expect to see much detail on a map covering so much area within a small space. The actual equatorial distance on the earth is about $120,000,000$ times the length of the equator on this map. When we want to see any continent in detail, we shall look at a map of that particular continent, such as the map of Europe on pages 10-11.

Sorensen discusses the properties, assets and liabilities, of the globe, globe photograph, Mercator map, polar map, and an equal area map and makes the following statement:

These are only a few ways in which the round earth may be shown on flat paper. No one way is the best way. Each of the different flat maps has advantages and disadvantages. We must choose the map that is best for our use.

The explanation of this concept, in the writer's opinion, is just as necessary as the exemplification through use. On this basis, the writer could evaluate only Sorensen, A World View, as satisfactory in its treatment of this concept.

7. The number of types of maps is almost endless. Students must gain working knowledge of the basic standard types. How

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35 Pounds and Jones, op. cit., p. 8.
36 Sorensen, op. cit., p. 29.
great a variety of map types are presented in the geography textbook?

An analysis of the five selected books revealed that only one of the texts contained any explanatory material on the great variety of maps in existence today. The following are the writer's findings:

"In the world today there are thousands of different maps."37

Today, the map makers of the world have gone far beyond the marking of coast lines and continents. Men make many different kinds of maps to show different things about land and people.

One familiar type of map uses color to show differences in elevation above sea level. The maps on pages 246-247, 381, 383, 386-387, 391, and 393 are of this kind.

A much newer kind of map is also used in this book. For example, turn to the map of the United States on pages 240-241. Similar maps of all the continents appear between pages 380-392, in the back of the book. These maps show what the land looks like when you fly over it on a bright summer day. The colors on the map are the colors you would see. Sometimes these are called landscape maps.

Dot distribution maps, such as the one on pages 362-363, may be used to show how people, or perhaps cattle, or fruit farms are distributed over a given area. On rainfall maps -- for example, those on pages 364-365 -- different shadings are used to show how much rain there is in an average year in certain lands. Road maps are in use the world around. One could go on naming others, for men have learned to make and to use many different kinds of maps. Each has its own story to tell.38

Each map of the United States has its own story to tell. The map on pages 240-241 is excellent for showing the "look of the land." But you should turn to the map on pages 246-247 to learn about differences in elevation of land, number of railroads, and large cities in the states between Canada and Mexico.39

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37 Ibid., p. 25.
38 Ibid., p. 30.
39 Ibid., p. 245.
The three textbooks, *Your Country and the World*, *Beyond the Oceans*, and *A World View*, all have an excellent variety of maps and provide good explanations of the function of the map and the type of information that can be gained from its use. The book, *Living Together as World Neighbors*, has a satisfactory variety of maps but not the equivalent of the three texts mentioned above. The explanations accompanying these maps are very satisfactory.

*Our World Today: The Western Hemisphere*, in the writer's opinion, has neither a satisfactory variety nor number of maps. The maps do not clearly show or provide the needed information in many cases. Also, in many instances, maps are needed for information but have not been provided. In most cases, the explanations of the individual maps are satisfactory, but no emphasis is placed upon variety of maps.

Again, as was stated in relation to some of the preceding concepts, the writer believes that explanation and emphasis, as well as demonstration via use and example, are necessary for satisfactory fulfillment of this concept. On this basis, the writer can evaluate as satisfactory only one text --- *A World View*.

8. The characteristics or components -- projections, grid system, scale, and symbols -- are all man-made devices to enable him to learn more about the earth. The geography student must have an understanding of all these components to use maps intelligently.

The writer's analysis of the selected textbooks revealed numerous references to and explanations of the components of maps.
In the following paragraphs, the writer will present his findings under the heading of the individual components.

**Grid system.** — Outright et al. have no section explaining the grid system but make reference to it at various places in the text.

"On the map on page 104 you will see that the Arctic Circle cuts across the north of Norway."\(^{40}\)

"On the map of western Europe, page 104, find Great Britain. What is the latitude of London? What is its longitude?"\(^{41}\)

On the map, page 9, find the parallel of latitude that passes through the northernmost part of the Soviet Union. Find the parallel that passes through the southernmost area. Now refer to the map on page 8 and find where these parallels pass through the Western Hemisphere. Near what parallel of latitude does Moscow lie? Through what part of North America does this parallel pass?\(^{42}\)

Find the International Date Line (the 180th Meridian) on the map on page 344 or on the globe. On which side of the line does Hawaii lie? On which side are the Philippine Islands? When the date is September 6 in your community, what is the date in New Zealand? When the date is January 10 in Guam, what is the date in Alaska?\(^{43}\)

In the text, *Your Country and the World*, by Glendinning, the writer could discover only one reference to the grid system. This is a section entitled "Latitude and Longitude," and in this section the author explains what longitude and latitude are and how to use them to locate places. There are no accompanying maps or diagrams to help explain this concept.\(^{44}\)

\(^{40}\)Outright et al., *op. cit.*, p. 113.
\(^{41}\)Ibid., p. 159.
\(^{42}\)Ibid., p. 238.
\(^{43}\)Ibid., p. 366.
\(^{44}\)Glendinning, *op. cit.*, pp. 91-92.
Pounds and Jones have included a section, entitled "Locating Ourselves," in their text in which longitude and latitude and their use are explained. Although the text contained no accompanying maps or diagrams to explain the grid system, the writer found the following type of references at various places in the book:

On the map of Europe find the locations listed in the next column. Where a wide area is involved, the location of the center point has been given.

Cities
About 49° north, 2° east
About 41° north, 29° east
Island
35° north, 25° east
Sea
43° north, 35° east

On our trip we shall be traveling farther north and south than east and west. Notice the Arctic Circle crosses the Scandinavian Peninsula. The Arctic Circle is a line which is drawn on maps and globes at 66° north latitude.

Look at the map on pages 10-11. What parallel of latitude crosses near the northernmost point of the Scandinavian Peninsula? Near the southernmost point of Greece?

Use the world map on pages 6-7 to see what parts of North America are crossed by these same parallels of latitude.

As we approach the Hawaiian Islands, we cross the International Date Line. This is an imaginary line drawn on some maps and globes from North to South Pole. As we cross it we alter our calendars, not our watches.

Sorensen, A World View, presents an excellent explanation of meridians, parallels, longitude and latitude, and discusses their use.

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45 Pounds and Jones, op. cit., pp. 8-9.
46 Ibid., p. 24.
47 Ibid., p. 150.
48 Ibid., pp. 449-450.
and role in the study of geography. Again, the writer could find no accompanying maps or diagrams to help the reader comprehend this concept. The writer discovered only one reference to the grid system, other than the sections discussed above, and that was as follows:

"You can use the numbered east-west lines on this map to find out whether you are right. Find the east-west line which is 40° north of the equator."  

Stull and Hatch have included in the Appendix of their text a section explaining longitude and latitude and its use in geography. There are no accompanying maps, but there is one diagram included to help explain this concept.  

At various points in the text, the following types of references to the grid system are made:

Note on the map that Paraguay is crossed by the Tropic of Capricorn. This throws northern Paraguay into the tropics and the southern part into the middle latitudes.  

Note the meridian which passes through western Peru and Ecuador. How many degrees west longitude does it indicate? Now turn to the map of the United States and see through what section of our country this same meridian passes. Name two large cities along this meridian in the United States.  

Between what two parallels of latitude does most of

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49 Sorensen, op. cit., pp. 6, 33-34.  
50 Ibid., p. 277.  
51 Stull and Hatch, op. cit., pp. 353-354.  
52 Ibid., p. 40.  
53 Ibid., p. 65.
continental United States lie? Between what meridians of longitude does most of our country lie?54

The grid system is used in the majority of the maps in all five of the selected textbooks. The writer believes that it is included in all maps where it can be of value and use.

Projection. — Only two texts, A World View and Living Together as World Neighbors, make any reference or provide any explanation of map projections. Sorensen presents the advantages and disadvantages of the globe, globe photograph, Mercator map, polar maps, and equal area maps. Accompanying the discussion is an example of each.55 Cutright et al. present the following explanation accompanying a map:

A map like this, which is centered on the North Pole, is a special kind of polar projection. It shows clearly the northern lands of the world and their geographical relationships.56

All the texts, with the exceptions just cited, include maps using the different projections, but the projections of the maps are neither labeled nor explained.

Scale. — All the five textbooks include some explanation or example of map scale. In the following paragraphs are presented the results of the writer’s analysis in relation to the map component — scale.

Cutright et al., Living Together as World Neighbors, include

54 Ibid., p. 255.
55Sorensen, op. cit., pp. 28-29.
56Cutright et al., op. cit., p. 16.
no section or explanation of map scale but refer to this map component at several places in the following manner:

"How wide is this country at its widest point? Use the scale of miles to measure the distance."

Use a ruler on the map of Asia, page 280, to measure India at its greatest width. Use the scale of miles to find India's width in miles. In the same way, measure India from north to south. What is the distance in miles? Next turn to the map of the United States, page 57, and use the scale of miles to find the greatest east-west and north-south distance of our country. Be sure to look at the scale of miles on this map before doing your multiplying. How do these measurements of India compare with those of the United States?

Glendinning, Your Country and the World, contains no explanation of the use or meaning of map scale and makes only one reference to this map component. This reference is as follows:

Somewhere at the bottom of the map place a straight line marked to show distance. This line is known as a scale. Ask your teacher to help you with this and to explain why the scale is helpful in using the map.

The text, Beyond the Oceans by Pounds and Jones, makes only the following reference to map scale:

A map maker never shows any part of the earth in its exact size. He uses a scale -- that is, he lets a very small distance on a map equal miles on the earth. Look at the scale the map maker used when he made the map of France on page 119. Then look at the scale of the map on page 130. What is the difference? What did the map maker accomplish by changing the scale?

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58 Ibid., pp. 325-326.
59 Glendinning, op. cit., p. 162.
60 Sorensen, op. cit., pp. 31-32.
Sorensen, *A World View*, includes a section, entitled "Study the Scale," in which the author explains the use and need for map scale. Sorensen cites different maps in the text to illustrate his explanation of map scales. 61

Also, at various places in the text, Sorensen refers to map scale in the following manner:

"Using the scale of miles on the map on pages 240-241, measure the distance across your state at its widest part."62

Stull and Hatch do not provide any explanation of the value or use of map scale but make several references to this map component in the following manner:

With your ruler or a slip of paper, measure the distance across the map from Cape St. Rogue to Talara on the west coast. Compare with the scale of miles and find the distance in miles which it represents.63

All five of the textbooks include the scale on the majority of maps included, and the writer believes that scales are included on all maps where they are necessary. The graphic method of representing map scale is the method used most frequently and is oftentimes accompanied by a verbal statement of the scale.

Symbols. -- The writer has included here all references and explanations of map symbols, legends, and keys. The writer's analysis of the five selected textbooks revealed that all of the texts have

61 Sorensen, *op. cit.*, pp. 31-32.
62 Ibid., pp. 315-316.
63 Stull and Hatch, *op. cit.*, p. 65.
either explanations or references to symbols and that all utilized symbols on the maps included in the texts.

Outright et al., Living Together as World Neighbors, have no explanation of map symbols but make reference to this map component in the following manner: "Look at the map of western Europe on page 104. Study the key in the upper left hand corner and answer the following questions: . . . ." 64

Your Country and the World by Glendinning contains no explanation of map symbols but refers to this map component as follows: "What symbols are used to show where the people are? Each symbol stands for how many persons?" 65

Pounds and Jones explain the color keys which appear on the maps in their text, Beyond the Oceans. They also explain in a section, entitled "The Lay of the Land," how the map maker portrays or shows mountains and highlands. 66 The authors also make reference to symbols in their text in the following manner: "Find the natural water passage at its western end. What is its name? What symbol tells something about this passage?" 67

Sorensen, A World View, includes a section, entitled "Look at the Legend," which explains the use and value of symbols and the need

64 Outright et al., op. cit., p. 158.
65 Glendinning, op. cit., p. 319.
66 Pounds and Jones, op. cit., p. 8.
67 Ibid., p. 262.
to consult the legend on each map for the specific meaning of each symbol. Sorensen suggests certain maps to illustrate the ideas present in this discussion. Reference is made to symbols in this text as follows: "Whenever you use these, or any other maps, it is important always to look at the legend, as was suggested in an earlier chapter." 69

Stull and Hatch present no explanation of map symbols, but the writer's analysis revealed that map symbols were referred to by the authors in the following way: "By what symbols are state capitals shown on this map?" 70

As stated previously, it is the writer's opinion that a book must contain both explanatory material and examples via use to be evaluated as satisfactory. In relation to this concept, to be evaluated satisfactory, the text must provide explanatory material on the grid system, map projections, map scales, and map symbols as well as provide examples on the maps used in the text. Only one text, Sorensen, A World View, included explanations and examples of all four map components. In the writer's opinion, this text can be evaluated as satisfactory, but not excellent, in relation to this concept.

9. Maps are dynamic; technology and the times have greatly changed the need and function of maps. Man in order to keep pace

69 Ibid., p. 83.
70 Stull and Hatch, op. cit., p. 315.
with the ever-changing conditions of the earth has devised many new map techniques and types.

Only one of the textbooks analyzed by the writer contains any material dealing with the dynamic nature of maps and map use. Sorensen, *A World View*, traces man's progress in map making and use through the following steps or stages:

1. First maps -- made by hunters and farmers
2. Maps by Ptolemy
3. Early Chinese maps
4. "After Columbus sailed West" maps
5. Modern day maps

Sorensen concludes the discussion of the dynamic nature of maps by stating:

In spite of all the maps and globes which we have today, the work of mapping the world is not yet finished, and it probably never will be. Many things in many lands are not yet shown on maps, and the world is changing. Every year new highways are built, trees are planted or forests cut down, and rivers may cut new channels. As the world changes, so maps must be changed if we are to "see" the world as it really is.72

The writer believes that Sorensen's treatment of this concept is satisfactory but that it could be improved by the addition of some specific examples of the ideas expressed.

10. What type of "creative map activities" are suggested or provided for in the textbook?

Several examples of "creative map activities" were presented

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72 Ibid., p. 28.
on page 52 of this study. For the purpose of his analysis, the writer interpreted creative very broadly to mean any type of map activity where students could exercise some originality.

Glendinning, *Your Country and the World*, presents the following suggestions:

"Make a sketch map of Brazil. Color the parts which have a tropical rain forest climate."^73

Directions are given on the proper procedure of making wall maps via the use of lantern slides being projected on a large sheet of cardboard or paper. The directions are specific as to procedure, but there is sufficient flexibility for some "creative" or original thinking.^74

Sorensen, *A World View*, presents the following suggestions:

"Make a simple map of part or all of your school yard. Be sure to make a legend showing what the signs stand for."^75

Make a set of simple maps of North America, showing one of the features on each map. For example, by referring to the atlas in this book, you can show on one map the average annual rainfall; on another, July temperatures or January temperatures; on another, big cities or air routes; and so on.^76

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^73 Glendinning, op. cit., p. 92.

^74 Ibid., p. 162.

^75 Sorensen, op. cit., p. 37.

^76 Ibid., p. 238.
Make an outline map of Africa. On it show the boundaries of ten countries that in recent years have become independent nations. Name these nations on your map.

Use the statistics on pages 397-398 to give the area, population, and capital city of the ten nations you have chosen."

The writer would evaluate only Sorensen, A World View, as satisfactory in relation to this concept. It is his opinion that this text too could be greatly improved by more suggestions and by more activities that would encourage really original and creative ideas.

Conclusion

Maps are essential tools in the study of geography at all levels. For students to derive the maximum benefit from the maps which are a part of every geography textbook, a certain amount of explanatory material, such as that set forth in Chapter III of this study, must accompany these maps. It is the explanatory materials that enable students to derive the maximum benefit from maps.

From the writer's analysis of the five selected textbooks, it is evident that all include and use maps as a part of geography. The writer evaluated the number and quality as satisfactory in all but one — Stull and Hatch, Our World Today: The Western Hemisphere. The texts as a group could be evaluated best in relation to the concepts dealing with maps as a means to an end, maps are a means of broadening man's perspective, and the great variety of maps available for man's use. In relation to these three concepts just

77Ibid., p. 355.
mentioned, as was true in relation to some of the others, the books put the concept into practice in its own maps and mentioned the concept in the text material. However, the texts did not explain the "how" and "why" of the concept. It is the writer's opinion that the textbook authors take too much for granted by assuming that the application of such concepts is sufficient without any explanation.

In the writer's opinion, not one of the textbooks can be evaluated as satisfactory in relation to all of the concepts. Different texts were satisfactory in respect to individual concepts but none was satisfactory for all the concepts. Sorensen, *A World View*, is the text which the writer evaluated as satisfactory for the largest number of concepts. This text was judged satisfactory for seven of the ten concepts.
CHAPTER X

TEXTBOOK ANALYSIS ON THE TOPIC OF GEOGRAPHIC REGIONS AND THE REGIONAL APPROACH

Regions and the regional method are basic tools of the professional geographer. Surprisingly, as a basic tool, the region has not been clearly defined, comprehended, or utilized by geography students and citizens. All people have come into contact, consciously or unconsciously, with the topic of regions, but relatively few, in the writer's experience, have any degree of complete comprehension of the region, its function, and role in geography.

In Chapter IV, the writer presented the materials necessary, in his opinion, to enable junior high school students to comprehend regions. Following are the concepts formulated in that chapter which are used as the basis of the analysis of the selected textbooks in this chapter.

1. Regions and the regional method are means to an end, not an end in themselves. They are tools to help man better understand his home, the earth.

2. All regions possess some basic characteristics of which students must be aware for comprehension of regions. These characteristics are as follows:

   a) Each region is unique.

   b) Each region is homogeneous in relation to its criteria.
A region is only as good as its criteria.

c) A region is an intellectual entity not a natural creation.

d) Each region has a nuclear core where the criteria are best exemplified.

e) Regions possess a relative degree of cohesion.

f) A region includes a three-dimensional aspect of the earth surface. This is what Hartshorne refers to as the "earth shell."

g) Regions are dynamic in nature. Both the natural and cultural features and their interrelation are always changing.

h) Each region is part of a hierarchy. Also, each region is not suspended alone in space but is part of a whole. Each region must be considered via its relationship of one region to another and to the whole.

i) Every regional study must have a purpose which is the basis for formulating criteria.

3. Regional study or method exemplifies interrelationships in geography and the reciprocal relationships between man and earth. In the writer's opinion, these two concepts are two of the most basic objectives for junior high school geography.

4. The topical approach to regional study and the regional approach to regional study do not form a dichotomy but are better described as points along a continuum.

5. The most important types of regions for junior high school
students to be acquainted with are: single-feature, multiple-
feature, compage, uniform, and nodal regions.

6. History of regions must be considered only to the extent
necessary to explain the present region.

7. Neither "complete" regional study nor "complete" mastery of
the regional approach are realistic at the junior high school level.

8. What type of regional division or regional approach is
employed by the textbook?

The writer believes it appropriate to state at this point that
not one of the five selected textbooks analyzed in this study contained
any explanations of the nature of regions or their function in the
study of geography. Therefore, all the examples cited in the following
pages of this chapter are materials that the writer interpreted to be
examples which are applicable to the topic of regions and the regional
approach.

1. Regions and the regional method are means to an end, not
an end in themselves. They are tools to help man better understand
his home, the earth.

The writer's analysis discovered no direct statements that are
applicable to this concept. Although none of the texts explained
regions as "tools" or as a means, they did, in the writer's opinion,
demonstrate this concept through the use of regions in the organization
of the textbooks. Under the author and title of each text are
presented the results of the writer's analysis.

Cutright et al., Living Together as World Neighbors
In Units 2 through 9, the themes developed in Unit 1 are applied to the regions discussed. Here we learn about the resources of each region, the way of living of the people, and how they used their resources.\(^1\)

In this unit we shall take a quick trip across the United States. We shall make stops in the six different regions of our country to see what our land and its people are like. These sections are the Northeast, the Southeast, the North Central states, the Southwest, the Far West, and the Northwest.\(^2\)

For the purposes of our study, Canada may be divided into the Atlantic Provinces, the St. Lawrence Lowland, the Prairie Provinces, British Columbia, and the Far North.\(^3\)

Bolivia contains two natural regions. One of these is a high and wide plateau among the ranges of the Andes. Most of the people live on this plateau.

Bolivia's second natural region is in the east. This region is a tropical lowland. In 1938, following a war with Paraguay, Bolivia lost part of this lowland.\(^4\)

For the purposes of our study we shall divide the Far East into five large regions: India and Pakistan, southeast Asia, China, Japan, and Korea, and the East Indies.\(^5\)

Glendinning, *Your Country and the World*

In the part of our country stretching westward from central Ohio into Nebraska and northward into Minnesota is the most important corn growing region of the entire globe... Along the extreme southern edge of the Corn Belt is the Corn and Winter Wheat Belt, which extends south into the region of humid subtropical climate and merges with the Cotton Belt.\(^6\)

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\(^2\) Ibid., p. 46.

\(^3\) Ibid., p. 82.

\(^4\) Ibid., p. 188.

\(^5\) Ibid., p. 279.

If we search the earth for soils much like those of our Cotton Belt and the regions close by, we shall find the largest area of them in South China.7

"Two regions furnish us with most of our coal."8

"The fertile pampa is divided into rather definite regions, each of which is particularly noted for a certain product or products."9

Two major regions cover most of Brazil. In spite of its size and great local variety, Brazil may be divided into two huge areas. One of these is Eastern Brazil and the Brazilian Upland... The other major region of Brazil is the Amazon Basin.10

Pounds and Jones, Beyond the Oceans

The authors use nations, a functional or nodal region, as a basic factor in the organization of their text.11

"We have seen only a small part of the industrial regions of the United Kingdom."12

A subdivision of a chapter in this text is entitled "Peoples Who Live in the Danube Valley," the Danube Valley being designated as a region of Europe.13

7Ibid., p. 98.
8Ibid., p. 201.
9Ibid., p. 360.
10Ibid., p. 363.
12Ibid., p. 127.
13Ibid., p. 160.
All the lands bordering the Mediterranean Sea are similar in several ways. For this reason we say that these lands form parts of a region. We call it the Mediterranean region because the Mediterranean Sea is the most important part of it.14

In their text, Pounds and Jones have organized the materials dealing with Africa primarily upon the different natural vegetation regions of Africa. A map outlining these regions is shown and the materials are presented under such headings as: desert, the savanna, tropical rain forest, and others.15

Sorensen, A World View

This text very definitely avoids using the word "region." Examples of regions being used as a tool are very few.

Sorensen devotes one chapter, entitled "Looking at One Community," to the investigation of life in a small community. This community is in reality a region, although not explained as such by the author.16

Chapter Nine of A World View is entitled "Farmers in the Americas." Here Sorensen presents materials on the Corn Belt, Dairy Belt, Wheat Belt, Cotton Belt, and others which again are all a type of region.17

14 Ibid., p. 236.
15 Ibid., pp. 366-373.
17 Ibid., pp. 90-102.
Three areas stand out as regions of very heavy rainfall: southeastern Asia and the islands of the East Indies; Middle America and the northern half of South America; and west central Africa.  

Throughout the text, Sorensen uses nations or countries as a means of organizing the content material. As stated previously, nations are a functional type region.

Stull and Hatch, Our World Today: The Western Hemisphere

Stull and Hatch have used the political subdivision -- the nation -- as the primary means of organizing their material in this text. Again, the nation is a functional type region.

For each nation, this text contains a subdivision dealing with the natural regions of that nation. The following is an example:

Peru is divided into four natural regions: a dry zone between the coast and the foothills of the Andes; the mountainous highland which makes up a large part of the country; the montana of the eastern mountain slopes; and a small section of the Amazon Plain in the northeastern part of the country.

Southern Mexico, especially in the narrower part and northward along the eastern coast for some distance, is a humid, tropical region with rainfall all year.

According to the nature of the land, the climate, and the leading crop, our country is divided into a number of

18 Ibid., p. 364.
19 Ibid., p. 336.
21 Ibid., pp. 56-58.
22 Ibid., p. 123.
agricultural regions like the cotton belt, the wheat belt, and the corn belt.²³

The forests of the United States have been divided into five regions. They are as follows:

1. The Northern Forest
2. The Central Hardwood Forest
3. The Southern Forest
4. The Rocky Mountain Forest
5. The Pacific Coast Forest²⁴

Since none of the five selected texts, as stated previously, explained regions as a tool or means to an end, the only way the writer could demonstrate the way regions were used in the texts was by examples. The writer believes that these quotations cited in the preceding pages clearly show that the selected texts do use regions as a means or a tool to help man better comprehend his home, the earth.

It is the writer's opinion that both explanatory material and examples are necessary to satisfactorily fulfill this concept. Since none of the five texts meet these two requirements, the writer evaluates all of the books as unsatisfactory in relation to this concept.

2. All regions possess some basic characteristics of which students must be aware for comprehension of regions.

The selected textbooks contained no explanatory material concerning the characteristics of regions. Of the nine basic characteristics selected by the writer as being essential for the comprehension of

²³Ibid., p. 207.
²⁴Ibid., pp. 249-252.
region, only one, regions are homogeneous in relation to their criteria, was demonstrated in the five textbooks. The following are examples of the application made by the texts of the concept of homogeneity of regions.

Outright et al., Living Together as World Neighbors

Italy has three natural regions. One region is the Alps mountains in the north. A second region is the flat plain of the Po River valley. ... The third region is the mountainous peninsula and the mountainous islands.

The Soviet Union has six large natural regions. Each region has its own kind of vegetation. At the north is the tundra, or region of level, treeless plains which extends all along the shore of the Arctic Ocean. ... South of the tundra, where the arctic winds are not so cold, is a great forest region, called the taiga. ... To the south where the summers are longer, the forests are less thick. In this region the forests are broken by wide, grassy areas or steppes. Thus, the third great natural region is called the forest steppe. ... The southern part of Soviet Europe is a steppe region. On the steppes, which are much like our prairies in the Missouri River valley, trees grow only along the streams. ... South of Siberia, near the Caspian Sea and the Aral Sea, is an area that receives little rain. This part in Soviet Central Asia is a dry-land area. ... East of the Black Sea is a warm region in which grow subtropical trees and plants.

Glendinning, Your Country and the World

This text has selected some basic agricultural crops, rice, wheat, corn, and cotton and discusses the world in relation to the production of these crops. Areas raising these crops are part of a region, homogeneous in that they all produce primarily this one crop.

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25 Outright et al., op. cit., p. 152.
26 Ibid., p. 207.
Many kinds of regions make up Asia. . . . In the far north are vast arctic tundras, the lands of the "long cold" and the reindeer. . . . Far to the south, in the tropics, are densely peopled regions of great warmth and heavy rains. . . . Much of interior Asia, such as the area around the Caspian Sea or the Gobi of western China, is parched, thirsty, and windswept. . . . In the east -- along the coast and in many islands which dot the sea -- are fruitful lands with many peoples, who raise products which range from silk and spices to wheat and soy beans. . . . Much of Asia is mountainous.28

Pounds and Jones, Beyond the Oceans

"We have seen only a small part of the industrial regions of the United Kingdom."29

All the lands bordering the Mediterranean Sea are similar in several ways. For this region we say that these lands form parts of a region. We call it the Mediterranean region, because the Mediterranean Sea is the most important part of it. All lands in the Mediterranean region share this sea.30

This textbook has organized its materials dealing with Africa on the basis of the following natural vegetation regions: deserts, savanna, tropical forests, and the Mediterranean region.31

Sorensen, A World View

The picture on these pages and the "corn map" on page 92 tell about the Corn Belt in north central United States. There, corn is king. It is planted on more land and brings farmers more money than any other crop, although there are, of course, other kinds of farms and crops.32

28Ibid., pp. 388-389.
29Pounds and Jones, op. cit., p. 127.
30Ibid., p. 236.
31Ibid., pp. 366-373.
32Sorensen, op. cit., p. 90.
Though the work of mining is widespread in the world, several areas are outstanding. One of the chief mining regions is in the United States and southwestern Canada. Another follows the Andes in South America. Still another is in southern Africa, where there are great resources of gold, copper, and diamonds. 33

Stull and Hatch, Our World Today: The Western Hemisphere

Peru is divided into four natural regions: a dry zone between the coast and the foothills of the Andes; the mountainous highland which makes up a large part of the country; the montana of the eastern mountain slopes; and a small section of the Amazon Plain in the northeastern part of the country. 34

The United States has not only a great variety of land surfaces and different kinds of soil, but also a wide range of climates in different parts of the country. According to the nature of the land, the climate, and the leading crops, our country is divided into a number of agricultural regions like the cotton belt, the wheat belt, and the corn belt. 35

The forests of the United States have been divided into five regions as follows:

1. The Northern Forest
2. The Central Hardwood Forest
3. The Southern Forest
4. The Rocky Mountain Forest
5. The Pacific Coast Forest 36

In all five of the textbooks, the authors utilized the political region, nation, as a type of homogeneous region. Since no explanation of the characteristics of regions was presented in the five texts, and only one characteristic was exemplified by the text materials, the

33 Ibid., p. 165.
34 Stull and Hatch, op. cit., pp. 56-58.
36 Ibid., pp. 249-252.
writer must evaluate all of the textbooks as unsatisfactory in relation to this concept.

3. Regional study or method exemplifies interrelationships in geography and the reciprocal relationships between man and earth.

Again, the five selected texts provide no explanation of either the role of interrelationship in geography or the reciprocal relationships between man and earth in the regional approach to geography. Likewise, no emphasis is placed upon the examples which demonstrate this concept.

In the five textbooks, examples of the description of interrelationships of phenomena within a region were found, but the reciprocal relationships between man and land were ignored. The following are examples of the materials applicable to this concept found in the selected textbooks.

Cutright et al., *Living Together as World Neighbors*

The region of the Tigris and Euphrates rivers was one of the four fertile valleys in the world where early men began to farm... Each of the four valleys had good soil, river water to irrigate crops during dry periods, and a favorable climate. These were necessary conditions for farming. As a result, the valleys became the homes of early men who gave up the roaming to settle down and tend crops. Later, as we shall see, the people who inhabited the river valleys learned to work together in many ways.37

The Po Valley is a plain. Its fertile soil and the rain it receives in the summer make this region the best farming land in Italy. Some of the wheat grown there is used for bread, but much of it is made into macaroni and spaghetti, which are favorite foods of the Italians. Dairy cows in this

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37 Cutright et al., *op. cit.*, p. 5.
region provide milk. Some of the milk is made into cheese. The Italians eat much cheese. The Po Valley farmers also grow rice. If it were not for the productive Po Valley, Italy would fall far short in its food supply. Many farmers of this region raise silkworms. The raw silk is woven into shining silk cloth in the textile factories of the region. Italian silk is of very fine quality. The cities of the Po Plain do most of Italy's manufacturing. . . . What is manufactured in these Italian cities? Many factories process foods. Others make fine silks and leather goods. Both Milan and Turin have large plants which make machines, engines, electrical goods, chemicals, and automobiles. Turin has iron and steel plants. Some of the power for the factories is furnished by electricity generated from waterfalls of the Alps. 38

Glendinning, Your Country and the World

If you compare the world map of corn production with the world map of hog production you will see that many of the regions which grow much corn also raise many hogs. This is especially true in the United States, in much of South America, and in much of Southern Europe. 39

Different regions produce different products. The northern plain is low, hot, and damp. Most of it has a tropical savanna climate, with a little tropical rain forest in the western part. . . . Because of the climate and the rich, damp soils, the chief crops are sugar cane, bananas, cacao, and some cotton and tobacco. 40

Pounds and Jones, Beyond the Oceans

You will notice on the map on page 197 that there is a large industrial area in the Ural Mountains, where much iron is found, and some coal. Other industrial areas have been developed where coal and iron could be brought together. In some places power for running factories has been supplied by hydro-electricity. 41

38 Ibid., pp. 152-153.
39 Glendinning, op. cit., p. 131.
40 Ibid., p. 380.
41 Pounds and Jones, op. cit., p. 198.
This text, in the materials dealing with Africa, has divided it into regions such as deserts, savannas, and tropical forests. In relation to each region, climate, soil, topography, and man's economic activities are discussed as are the interrelationships between these phenomena.12

Sorensen, A World View

The only example applicable to this concept discovered by the writer was in Sorensen's chapter dealing with the community, Sunbury. In the region, Sunbury and its umland, location, natural resources, economic activities, and other phenomena are considered in their complex interrelationship.13

Stull and Hatch, Our World Today: The Western Hemisphere

The Maracaibo Basin -- The lowland is almost surrounded by the bordering Andean mountain ranges. These mountains shut off the cooling winds so that the lowlands around the lake are very hot and humid. Swamps and lakes are found in the southwestern part of the lowland and the region is full of mosquitoes. The southern part of the basin has a heavier rainfall than the northern section, and tropical rain forests grow there.

Cacao, sugar cane, and coconuts are grown on the lowlands. Coffee, the leading money crop, is grown on the slopes of the bordering mountains and is brought down to port on the lake for shipment. Fishing in Lake Maracaibo is another industry.14

The great grain-growing areas are in the Mississippi Valley, where both the soil and the climate are fitted for

12 Ibid., pp. 366-373.
14 Stull and Hatch, op. cit., pp. 96-97.
growing grain. Great stretches of level or gently rolling land make it possible to use agricultural machines to prepare the ground, to plant the seed, and finally to harvest the crop.45

The Rocky Mountain Forest is located on the Rocky Mountain ranges from New Mexico and Arizona northward to Canada. Trees are found wherever the land is high enough to chill the air and force it to give up sufficient moisture for tree growth. This causes much of the forest to be in scattered areas, many of which are difficult to reach. Because of this fact and the distance from the great centers of population, a large part of the forest remains.46

The textbooks gave no explanatory materials dealing with this concept, presented examples of only one-half of the concept, interrelationship of phenomena, and did not emphasize those examples presented. On this basis, the writer must evaluate all of the five textbooks as unsatisfactory in relation to this concept.

4. The topical approach to regional study and the regional approach to regional study do not form a dichotomy but are better described as points along a continuum.

In the preceding pages of this chapter are numerous examples from each of the five textbooks of the regional approach to regional study. Here the region is analyzed with respect to the various elements which in association give it character.

On the other hand, only two of the five textbooks utilize the topical approach to regional study. In this approach, there is a

46Ibid., p. 251.
question of cause-and-effect to be answered or a question of policy to be clarified. The topics or features relevant to the problem are defined and their regional patterns brought out separately and compared. The following are examples of this approach.

Glendinning, *Your Country and the World*

This book has utilized the topical approach by selecting some basic "resources." The significance of these resources is discussed, and then their regional patterns are analyzed and compared. These resources referred to by Glendinning, are: Soil, Rice, Wheat, Corn, Cattle, Cotton, Trees, Coal, Iron, Oil, and Water.47

Sorensen, *A World View*

This book utilizes the topical approach in much the same manner as Glendinning's book. Sorensen has five major topics centered around natural resources and how men use these resources. These five topics are: Hunters and Fishermen, Ranchers and Herders, Farmers, Forest Workers, and Miners. The resources and their relation to man are examined and then the regional patterns analyzed and compared.48

All five of the textbooks completely neglect to explain either of these approaches to regional study. They also neglect to explain the basic unity of the approaches and to state that there is no dichotomy between the two.


48 Sorensen, *op. cit.*, pp. 144-166.
In the writer's opinion, the application of either or both of these approaches without any explanation at the junior high school level is of little value to the student. Since explanatory material is lacking in all five books, the writer evaluated all of them as unsatisfactory in relation to this concept.

5. The most important types of regions for junior high school students to be acquainted with are: single-feature, multiple-feature, compage, uniform, and nodal regions.

The writer's analysis of the five selected textbooks revealed that none of the textbooks explained, defined, or presented examples of the different types of regions. Through his analysis, the writer discovered that all of the texts contained examples of the five types of regions listed in this concept. In the following paragraphs, the writer presents for each text an example of the five types of regions.

Cutright et al., Living Together as World Neighbors

1. Single-feature -- A section in this text is entitled "The Sugar Islands." The title refers to the West Indies which are grouped into a single-feature region, based on the production of this one crop -- sugar.49

2. Multiple-feature -- There are seven large natural regions in Africa south of the Sahara. These regions are: Sudan, tropical forests, grasslands, Kalahari Desert, Veld, temperate lands, and tropical upland and mountain area.50

49 Cutright et al., op. cit., p. 178.
50 Ibid., p. 376.
3. Composite -- A chapter in this text is entitled "Western Europe." This is the unit or region then considered in the text.\textsuperscript{51}

4. Uniform region -- "Nearly all of Latin America lies in the tropical region of the world."\textsuperscript{52}

5. Nodal region -- The text has a section, entitled "Living in Australia," which uses the nation as a regional division.\textsuperscript{53}

Glendinning, Your Country and the World

1. Single-feature -- The fertile Pampa is divided into rather definite regions each of which is particularly noted for a certain product or products. In the northern portion is grown the corn which gives Argentina first rank among all the nations of the earth in the export of that product.\textsuperscript{54}

2. Multiple-feature -- The northern plain is low, hot, and damp. Most of it has a tropical savanna climate, with a little tropical forest climate in the western part.\textsuperscript{55} [Natural region of Colombia]

3. Composite -- A chapter of this text deals with Latin America. Latin America is the region used to facilitate the study of geography.\textsuperscript{56}

4. Uniform region -- A subdivision of a chapter is entitled "The humid continental climate is another of our useful climates."\textsuperscript{57} The climatic zone is an example of a uniform region.

\textsuperscript{51}Ibid., pp. 102-110.
\textsuperscript{52}Ibid., p. 162.
\textsuperscript{53}Ibid., p. 353.
\textsuperscript{54}Glendinning, op. cit., p. 360.
\textsuperscript{55}Ibid., p. 380.
\textsuperscript{56}Ibid., pp. 356-359.
\textsuperscript{57}Ibid., p. 69.
5. Nodal region -- The text has a section entitled "Australia is the Island Continent." Here the nation is the regional division.

Pounds and Jones, Beyond the Oceans

1. Single-feature -- You will notice on the map on page 197 that there is a large industrial region in the Ural Mountains, where much iron is found, and some coal. 59

2. Multiple-feature -- This text contains a subdivision, entitled "Peoples Who Live in the Danube Valley." This river valley is a natural region, used for the study of geography. 60

3. Compage -- The text contains a chapter, entitled "Western European Lands and Peoples." Western Europe is the regional division. 61

4. Uniform region -- Climatic regions are a type of uniform region utilized in this text. A subdivision of a chapter is entitled "A Mediterranean Region." 62

5. Nodal region -- "Iran: An Old Nation with a New Name" is a subheading in this text. The nation is a nodal region. 63

Sorensen, A World View

1. Single-feature -- Chapter Nine of this text discusses the

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58 Ibid., p. 422.
59 Pounds and Jones, op. cit., p. 198.
60 Ibid., pp. 160-162.
61 Ibid., p. 115.
62 Ibid., p. 237.
63 Ibid., p. 226.
"Corn Belt." This is a single-feature region, based on the production of this one crop, above all others, within certain bounds. 64

2. Multiple-feature -- A section, "The Natural Foundations," is included in a chapter dealing with Africa. This section is basically outlining the natural regions of Africa. 65 These natural regions are examples of multiple-feature regions.

3. Compage -- A chapter in this text is entitled "Living in Africa." 66 This continent size region is an example of a compage.

4. Uniform region -- "Other parts of tropical Africa" is a subheading in a chapter of this text. 67 Here the tropical climatic zone is an example of a uniform region.

5. Nodal region -- "Britain, An Island Nation" is the title of a section in this text. 68 Here the nation is an example of a nodal region.

Stull and Hatch, Our World Today: The Western Hemisphere

1. Single-feature -- "The Corn Belt" is a subdivision used in this text and is based upon the single feature -- corn and the region in which it is the predominant agricultural crop. 69

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64 Sorensen, op. cit., p. 90.
65 Ibid., pp. 344-345.
66 Ibid., p. 343.
67 Ibid., p. 136.
68 Ibid., p. 330.
69 Stull and Hatch, op. cit., p. 209.
2. Multiple-feature -- There are four natural regions in Venezuela: the mountainous region in the northwest; Maracaibo Basin; the llanos, and the Guiana Highlands. This Natural regions are a type of multiple-feature region.

3. Compage -- The title of a chapter in this text is "Central America." This type of division of the earth, for the purpose of geographical study, is an example of a compage.

4. Uniform region -- "The northern part of Mexico lies in the lower middle latitudes; the southern part is within the tropics." Tropics, a climatic region, is an example of a uniform region.

5. Nodal region -- "Puerto Rico" is a subheading in a chapter of this textbook. This nation is the regional division for purposes of study. Nations are a type of nodal region.

Although all the texts contain examples of the five types of regions, the writer must evaluate the textbooks as unsatisfactory in relation to this concept. Examples, which are neither named nor explained, as is true in all five books, will be of little or no value to junior high school students in comprehending the different types of regions.

6. History of regions must be considered only to the extent necessary to explain the present region.

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70 Ibid., p. 95.
71 Ibid., p. 108.
72 Ibid., p. 123.
73 Ibid., p. 142.
The role of historical information as a means of understanding the present-day region is not explained in any of the five selected texts. Different types of historical information are presented in the textbooks for specific cities, places, and nations. Since neither the regional approach to geography nor the different types of regions are explained in any of the books analyzed, it seems impossible, in the writer's opinion, to try to relate the historical information discovered to regions and the regional approach. The writer, because of complete absence of material, must evaluate all of the textbooks as unsatisfactory in relation to this concept.

7. Neither "complete" regional study nor "complete" mastery of the regional approach are realistic at the junior high school level.

The writer's analysis of the five selected textbooks produced no evidence of any reference to this concept. On the basis of complete absence of material, the writer evaluated all the texts as unsatisfactory in relation to this concept.

8. What type of regional division or regional approach is employed by the textbook?

Drawing upon the information set forth in the preceding pages of this chapter, it is quite evident that none of the textbooks designated or explained the regional division or approach used in the respective textbooks. As stated previously, all of the texts contain examples of the five basic types of regions, and all employ the regional approach to regional study, while only two, Glendinning,
Your Country and the World and Sorensen, A World View, employed the topical approach to regional study.

On the basis of the information gained via analysis of the texts, and the evaluations made in the preceding sections of this chapter, the writer will classify, according to his interpretation, each text in relation to the type of regional division and regional approach utilized.

Cutright et al., Living Together as World Neighbors

Type of regional division is basically political divisions or nations -- nodal regions. The approach utilized is the regional approach to regional study.

Glendinning, Your Country and the World

This text uses both the topical and regional approaches to regional study. The type of regional division is nations or nodal regions.

Pounds and Jones, Beyond the Oceans

Nations or nodal regions are the basic type of regional division. The regional approach to regional study is the primary method.

Sorensen, A World View

Both the topical and regional approaches to regional study are used in this book. The predominant type of regional division used is the political division -- nation, a nodal region.

Stull and Hatch, Our World Today: The Western Hemisphere

In this textbook, the nation -- a nodal region -- is the type
of regional division employed. The approach utilized is the regional approach to regional study.

On the basis of the lack of designation and explanation by the textbooks in relation to this concept, the writer evaluates all the texts unsatisfactory.

Conclusion

From the writer's experience in the field of geography, it is evident that professional geographers have definitely realized the significance of a precise definition and comprehensive understanding of the topic of regions. As stated previously, regions are a tool, as are maps, to be used by the geographer to enable him to better comprehend the earth as the home of man.

It is the writer's opinion, as a result of his analysis, that these five textbooks are definitely perpetuating the "mystery" that has shrouded the topic of regions in the eyes of junior high school students and laymen. All of the textbooks use different types of regions and the regional approach but none provide any explanatory materials that would enable the junior high school student to comprehend regions and their role in the study of geography.

The writer evaluates all of the five selected textbooks as unsatisfactory in relation to all of the concepts. It is the writer's opinion that these texts could all be improved by including materials that would define and delimit regions and their use in the study of geography.
CHAPTER XI

TEXTBOOK ANALYSIS ON THE TOPIC
OF POLITICAL GEOGRAPHY

As stated in Chapter V, political geography is one of the oldest types of geography but not one of the most highly developed. The writer is positive that political divisions of the world and political maps are a part of every geography textbook. In this analysis, however, the writer is looking for more than these aspects of political geography. The question under consideration here is: Do the five selected textbooks present political geography as an objective analysis of the state -- a man-made entity -- and its relation to the variations from place to place on the earth?

The following are the concepts used by the writer as the basis of his analysis:

1. In the topic of political geography, many theories have been set forth as to the appropriate approach and content. The regional and systematic, morphological, genetic, unified field theory, and functional are the most popular. Does the textbook present these theories to the students or does it provide examples of one or all by its own approach to the subject?

2. The independent sovereign state is the most appropriate organization for major emphasis in political geography. This would
be based on the theory that political patterns vary in relation to variations in the cultural and physical or natural environment.

3. Political geography should emphasize the role of the reciprocal relationship between man and the earth. The state is basically a resultant of this interrelationship.

4. Geopolitics and political geography are not identical. Geopolitics is a biased, deterministic use of geographic information, and political geography is an objective analysis of the state.

5. All states have "two sides." They have internal and external relations which are interrelated.

6. Through the study of the external relations of a state, the student should be better able to realize that a state cannot be completely self-sufficient nor isolated. Therefore, international cooperation and understanding are essential for security and prosperity in the future.

7. The state is an organized region of relative homogeneous governmental control. State and nation are not identical. Nation implies a common bond or feeling of unity.

8. The state has numerous component parts or features -- ecumene, nuclear core, capital, boundaries, population, economic structure, size, shape, and others, all of which are interrelated and need to be understood for comprehension of the state.

9. The interrelation referred to in the preceding concept is different for each individual state. The particular combination of interrelated factors is what makes each individual state unique.
10. States and political geography are both dynamic and are never static or fixed.

11. States are entities which are dynamic, unique, complex, and man-made. When comprehended in such a framework or manner, their activities, influence, and value can be properly evaluated.

The writer's analysis revealed that none of the five textbooks contained a separate chapter or subdivision of a chapter dealing with the topic of political geography. Likewise, the writer discovered no use of the terminology "political geography" in any of the text material.

1. In the topic of political geography, many theories have been set forth as to the appropriate approach and content. The regional and systematic, morphological, genetic, unified field theory, and functional are the most popular. Does the textbook present these theories to the student or does it provide examples of one or all by its own approach to the subject?

The writer's analysis revealed no reference to or explanation of the formal theories of political geography. The writer discovered many types of information which were applicable to the different theories but could not discern any positive application of the theories — morphological, genetic, unified field theory, and functional — in any of the five textbooks.

The more general approaches to political geography, regional and systematic, were found applied, but again neither was named nor explained. The following, under the author and title of the five
texts, are the examples revealed as a result of the writer's analysis.

Cutright et al., *Living Together as World Neighbors*

This text is organized around large regional areas, compages, such as "Western Europe" and "Far East." These regions are then subdivided according to the nations contained in these regions. A partial regional analysis of the individual countries is then presented, providing information on such topics as: economic activities, government, cities, and others.¹

Glendinning, *Your Country and the World*

Both the regional and systematic approaches to political geography are employed in this text. Regional divisions based upon political divisions -- nations -- are used to study the geography of certain areas of the world. An example is Chapter 24, entitled "The Soviet Union: A New World Power."²

The systematic approach is employed via the consideration of factors or topics which are significant to all nations throughout the world. Such topics are considered as they occur in the nations of the world, and their relations to the individual nations are emphasized. Examples of the topics considered are climate, natural resources, and specific agricultural products -- cotton, rice, wheat, and others.³


³Ibid., p. 5.
The authors of this text employ the regional approach by dividing the world into large regions, of the compage type, and then subdividing these into smaller regions based upon the political division -- nation. A partial regional analysis is made of each nation. 4

Sorensen, A World View
Examples of both the regional and systematic approaches are found in this text. Topics such as transportation, trade, and various natural resources are considered as they occur in the nations of the world. Their importance to specific countries is also emphasized. 5

In the second part of this text, the world is divided into regions based upon the seven continents of the world. These continents are subdivided according to nations, and a partial regional analysis is provided for each nation. 6

Stull and Hatch, Our World Today: The Western Hemisphere
This text is organized according to the regional divisions of nations. For each nation a partial regional analysis is presented. 7

The concept of the theories of political geography is almost completely ignored by the five textbooks analyzed. Not one of the


6 Ibid., p. vii.

books either explained or gave examples of the formal theories of political geography. Even more distressing in the writer's opinion is the complete absence of any statement by the authors of the theory used in their textbook. Although the regional and systematic theories were used, they too were neither explained nor emphasized.

The theories of political geography must be explained and examples provided to fulfill satisfactorily this concept. Since this was lacking, as were any examples of the application of any of the formal theories in the texts themselves, the writer evaluates all the books as unsatisfactory in relation to this concept.

2. The independent sovereign state is the most appropriate organization for major emphasis in political geography. This would be based on the theory that political patterns vary in relation to variations in the cultural and physical or natural environment.

The writer's analysis revealed only one very sketchy, direct reference to this concept in the five selected texts. Pounds and Jones state:

Today European peoples are grouped into separate nations or countries. They live in France, Portugal, Greece, and other countries. These peoples differ not only in the language they speak but also in laws and customs. In each country the people try to build up their own industry, plan for their own defense, and decide how to act toward other peoples of the world.®

As stated in the materials cited for the preceding concept, all of the five books use the independent sovereign state as a means of organizing the materials, but none explain the "why" of this approach.

®Pounds and Jones, op. cit., p. 85.
On the basis of almost complete lack of explanatory materials in the textbooks, the writer evaluates all of the books as unsatisfactory in relation to this concept.

3. Political geography should emphasize the role of the reciprocal relationship between man and the earth. The state is basically a resultant of this relationship.

The five selected textbooks contain no chapter or sections in which the state and political geography are explained as the resultant of the reciprocal relationship between man and his home, the earth. The writer's analysis did reveal some references, although rather indirect and incomplete, to this concept in four of the selected textbooks.

Cutright et al., *Living Together as World Neighbors*

The authors trace the development of government and the state from its simplest form -- the tribe -- to the complex governmental organizations of modern times. The evolution of government is demonstrated by some more specific examples from the nations of Egypt, Mesopotamia, China, India, Greece, Rome, and England. 9

Glendinning, *Your Country and the World*

The combination of deserts, steaming forests, and savannas covers so much of Africa that there is little of the continent in which it is easy to live except the lands along the Mediterranean and in the far south. . . . Such conditions do not favor the development of civilization. The small numbers of widely scattered native peoples of Africa did little to better their condition, and those who became strong made war on one another and enslaved the members of weaker tribes. Wars and slavery do not build a continent.

9Cutright et al., op. cit., pp. 22-32.
The nations which took over Africa were interested only in the foods, raw materials, and slaves which Africa might furnish them. 10

Pounds and Jones, Beyond the Oceans

It was difficult to cross the wild hills of the interior of Greece. A result was that the cities around the coast were independent of one another. Greece, it has been said, was "born divided." There was no single country of Greece in ancient times. Instead, there were many separate city-states. A city-state was a city with some territory about it. People living in a city-state thought of it as we think of our country. 11

The mountains play a large part in the lives of the Swiss people. The Swiss owe their independence in part to the mountains. Once Austrians ruled over the Swiss. Mountaineers in the Alps rebelled against their rulers and were able to win their independence because it was difficult to attack them in their rugged and pathless country. 12

Sorensen, A World View

Every person in the world is concerned with government. It may be simple government, as among the Sakai. Their life is simple and their occupations few, so a simple government takes care of their needs. You will recall that one of the older men decides where the group shall make camp. Or the government may be exceedingly complex, like that of the United States. Our kinds of work are innumerable, our output of products is enormous, and our way of life is complex. We have many problems which can be solved only by government action... 13

As mentioned at the beginning of the discussion of this concept, the examples cited are indirect and incomplete in nature. In fact, the textbooks seem to circle the periphery but never strike directly on the issue of the reciprocal relationship between man and the earth in political geography. On the basis of the caliber or quality of references made to this concept and the lack of explanatory materials, the writer

11Pounds and Jones, op. cit., p. 36.
12Ibid., pp. 138-139.
evaluates all of the five textbooks as unsatisfactory in relation to this concept.

4. Geopolitics and political geography are not identical. Geopolitics is a biased, deterministic use of geographic information, and political geography is an objective analysis of the state.

The writer's analysis revealed no references or explanations of the differences between geopolitics and political geography. Also, there were no examples, distinguishable to the writer, of geopolitics in the subject content of the textbook. Since there was an omission of this concept by the five selected texts, the writer evaluates all of them unsatisfactory in relation to this concept.

5. All states have "two sides." They have internal and external relations which are interrelated.

None of the five selected textbooks make any specific references to the "two sides" -- internal and external -- of each state. The writer's analysis revealed neither an explanation of these two aspects of every state nor the interrelationship that exists between the two. In all the texts, there are innumerable examples of both internal and external relations, although they are not labelled as such. In the following paragraphs, the writer will cite, under the author and title of each book, representative examples of the references made to internal and external relations.

Cutright et al., *Living Together as World Neighbors*

A. Internal

In 1917 the Mexican government began to take over the estates of the large landowners and to divide the land among
the workers. Under the government plan a family might buy a small piece of land. Or a group of families might join together and obtain a larger plot of land which they farmed on the ejido plan. On some ejidos the farmers share all the work and the crops. On others each farmer has his own piece of land to work. Ejido farmers do not own the land. They have it only so long as they farm it. The government helps supply seeds, fertilizers, and farm machinery to the ejidos. It also develops irrigation projects where these are needed. 14

A large part of the money from oil is paid to the government of Venezuela. It uses the money to build roads, parks, and plazas, government buildings, and schools. Venezuela now has the best highway system of any nation in Latin America. 15

B. External

During World War II, as we know, Soviet Russia seized control of a number of countries in central Europe. After the war it's strength grew until it threatened to extend its power over a number of countries in western Europe. Under the leadership of the United States, fifteen nations joined together for purposes of defense. This group of nations is called the North Atlantic Treaty Organization (NATO). Fifteen nations, including the United States and Canada, belong to NATO. The United States has sent money and trained men to provide for the defense of our freedoms. 16

Three European nations still have colonies in Latin America. One colony is in Central America, three are on the continent of South America, and several are in the West Indies. British Honduras is in Central America and borders Mexico and Guatemala. It has been a British possession since 1838. Belize is the capital of this densely forested land. British Guiana, Dutch Guiana (also called Surinam), and French Guiana lie on the north coast of South America. 17

14 Cutright et al., op. cit., p. 173.
15 Ibid., p. 182.
16 Ibid., p. 157.
17 Ibid., p. 163.
Glendinning, Your Country and the World

A. Internal

As a republic, Brazil has become an important nation. Its products are known in many lands, and many of its citizens are world-famous teachers, doctors, and engineers. Yet Brazil has much left to do. There is the great interior to develop and to "lace together" with railroads, highways, and airlines. There is the serious problem of ignorance, disease, and poverty, which affects the bulk of the population. 18

The Mexican government of recent years has done much to help Mexico and its people. Many of the large estates have been broken up so that the poor people may have land. The government still owns such lands, but poor families can live on them and use them as their own. Education has made great progress at the same time; it is free and compulsory up to the age of fifteen years. Many agricultural and technical schools have been established. 19

B. External

At the present time about two thirds of the South's cotton is manufactured into cloth in the mills of the South. Much of the remainder travels all the way to the Manchester district in England. Here it joins cotton from India, Brazil, and other regions to keep the machinery of the great cotton mills humming. The cotton from our South is so vital to Great Britain that, if we stopped shipping it, the majority of the cotton mills there would have to close down. Our cotton helps both us and the people of Britain to make a living. 20

In 1914, the Panama Canal was opened for business, and New York was brought thousands of miles closer to our west-coast ports. A new and safer and faster route for freight ships and passenger liners and warships was thus available. Because of its location on the route, Central America became significant,
especially to the United States, for more than bananas and
coffee. It became a valuable transportation link and a
vital factor in our national defense. 21

Pounds and Jones, Beyond the Oceans

A. Internal

In Italy itself, attempts have been made to increase
the amount of farm land by reclaiming such lands as the Pontine
Marshes. But this has not provided enough land.

Another measure has been undertaken. In southern Italy
the land was formerly divided into very large estates rented to
tenant farmers. Each estate was owned by a wealthy landowner
who often lived far away and took little interest in his lands
or the welfare of his tenants.

The Italian government has divided much of the land of
these great estates into small holdings and has given them to
people to live on and cultivate. 22

Today in China farmers and their families are being
organized into large groups called communes. The small fields
are being put together to make large ones. The fields belong
to the government. The farmers and their families receive
food, clothing, and housing. In return, the families must
work very hard with little time for themselves. They must
also live with others in the commune. 23

B. External

The Hungarians were free of the Turks, but not of the
Austrians. Not until 1919 did Hungary become a separate,
independent country.

This independence did not last long. Hungary became
an ally of Germany in World War II. Toward the end of that
war, Russian soldiers entered Hungary and occupied it.

Today the Hungarians are not yet independent. The
Russians have kept control over Hungary, as they have over
Poland and Czechoslovakia. The Russians control the govern-
ment of all of these countries, and these governments, in
turn, control the people. 24

21 Ibid., p. 378.

22 Pounds and Jones, op. cit., p. 142.

23 Ibid., p. 335.

24 Ibid., p. 168.
Later, in the nineteenth century, some French missionaries were murdered in Indochina. The French used the murders as reason to send soldiers to occupy the southern tip of Indochina in 1859. This rich delta land of the Mekong River was called Cochin China, and it became a French colony.  

Sorensen, A World View  

A. Internal  

Then about 50 years ago, the Trans-Siberian Railroad was built, reaching from western Russia entirely across Siberia to Vladivostock on the Pacific. This helped greatly to open up the country. The Russians discovered undreamed-of wealth, not only in the forests but in the soil, and in coal, iron, gold, and other minerals. Soon there was a great flood of pioneer settlements. The population of Siberia increased by more than 15 million in less than twenty years.

The people of the United States have helped to pay the cost of railroad transportation in another way. In the days when the railroads were being built, the government wished to help the railroad builders. So, great grants of public lands were made to the railroad companies. These lands given to the railroads by all of the people, through their government, helped in developing the greatest railroad system in the world. Without land grants, the development of our railroads would have been slower.

B. External  

The years following World War II saw also the breaking down of some restrictions to trade in Europe. Belgium, the Netherlands, and Luxemburg entered into an agreement which gave them the name Benelux countries. The new word is a combination of the first letters of each country's name. To begin with, these three countries agreed to reduce somewhat the tariff barriers between them.

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25 Ibid., p. 322.  
28 Ibid., p. 328.
Both Australia and New Zealand are self-governing countries within the Commonwealth of Nations. This gives them close political ties with such lands as India, South Africa, Canada, and of course, Britain. Australia also has its own so-called colonial territory, part of the huge undeveloped island of New Guinea. New Zealand has a number of small island dependencies in the Pacific. Each has claims in Antarctica.29

Stull and Hatch, *Our World Today: The Western Hemisphere*

A. Internal

In recent years, the government has been carrying out plans to increase irrigation. A number of big dams have been built. These not only store up water for irrigation, but furnish water power for production of electricity. Another big project carried out by the Mexican government in recent times has been the division of the large estates and the dividing of land among the farmers who work it. Generally, a tract of land is given to a group of farmers who live in a village and work together in cultivating money crops which are marketed for them by the government. Each farmer is also given an acre or so of land for his own use. About one-sixth of the workable land has been taken over by the government and divided among the farm workers.30

B. External

The Virgin Islands were purchased by the United States from Denmark in 1917 for $25,000,000 because they were on the direct line between European ports and the Panama Canal and between the Atlantic ports of North and South America. They are also near Puerto Rico.

One of the islands, St. Thomas, has on its south side a fine harbor where the United States has a Marine air base. On a narrow lowland at the head of the bay which forms its harbor is the capital of the islands, Charlotte Amalie, which is a fueling base for ocean vessels as well as an important seaport and air center. The United States Navy has a radio station on both St. Thomas and St. Croix.31

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29 Ibid., p. 359.

30 Stull and Hatch, *op. cit.*, pp. 124-128.

31 Ibid., p. 147.
Stretching across the Pacific Ocean are a number of islands which either belong to the United States, or which have been placed in trusteeship of our country by the United Nations. This trusteeship means that we have been given the duty of supervising the affairs of these islands. The islands are responsible to us for their conduct, and we in turn are responsible to the United Nations.32

Drawing on the materials cited in the preceding pages, the writer concludes that all of the texts present examples of the internal and external relations. However, not one emphasizes these two types of relationships. On the basis of this lack of emphasis, plus the lack of explanatory materials, the writer evaluates all five textbooks as unsatisfactory in relation to this concept.

6. Through the study of the external relations of a state, the student should be better able to realize that a state cannot be completely self-sufficient nor isolated. Therefore, international cooperation and understanding are essential for security and prosperity in the future.

This concept, as is interpreted by the writer, has two major components which are international cooperation for defense and security and international cooperation via trade and special services. Both aspects can be found in varying quantities and qualities in the selected textbooks, as demonstrated by the following examples:

Outright et al., Living Together as World Neighbors

The people of the United States have many ties with Latin America. In 1889, in Washington, D.C., representatives

32 Ibid., p. 337.
of all the Latin American republics met with representatives of the United States. At this conference the Pan American Union was organized. The purpose of the union was to promote trade among the member nations.

Since the organization of the Pan American Union, many conferences have been held in various Latin American cities. In 1948, at a conference at Bogotá, Columbia, the twenty-one nations belonging to the Pan American Union then became a part of the new organization. The Organization of American States has as its chief purpose the maintenance of peace and the defense of the Western Hemisphere.33

From this we see that people in the work they do depend on each other. Nations are interdependent, too. No one nation has all of the natural resources it needs for its people to live well. The nations of the world have to trade. Exchange is necessary in the modern world.34

In addition to the type of examples cited above, this text includes a unit, entitled "Sharing Our World." In this unit, both aspects of the concept are emphasized and explained. International trade, transportation, tariffs, seaways, weather reporting services, the World Bank, and the United Nations with all its agencies and services are explained, and their contributions to international understanding are expressed.35

Glendinning, Your Country and the World

Can a modern nation live by itself? There are people even today who say that each nation should live within itself and have little to do with the people of other nations. They feel that if this idea were carried out, there would be no quarrels or wars among nations. Such people fail to recognize,
however, that the earth is now shrinking rapidly, largely because of the airplane, and that as a result our ideas about the earth are undergoing rapid changes.\(^36\)

Each part of the world has grown to depend on other parts of the world, usually on many other parts. Take time to think of the things that you use and the food you eat. Are they all made or grown in the United States? How about the sugar that you put on your breakfast food, the coffee that your parents drink, the cinnamon that your mother puts in apple pie? How about the tin used for the can that the pineapple comes in? Where did the heavy rope for your swing come from? How about the set of fine china of which your mother is so proud? When you have answered these and many more questions, ask yourself, "Can any modern nation get along without doing business with other nations?"\(^37\)

Glendinning has included a chapter in this text which traces the development of the United Nations and explains its operation and significance in world affairs today. Much emphasis is placed upon the need for international cooperation in this chapter.\(^38\)

Pounds and Jones, *Beyond the Oceans*

"Today people realize that it is wrong for a country to use force in order to get more land or power. The United Nations was established to stop such action."\(^39\)

Sorensen, *A World View*

If each country in the world tried to make itself entirely self-sufficient, all countries would be less well

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\(^{37}\)Ibid., p. 259.

\(^{38}\)Ibid., pp. 475-487.

\(^{39}\)Pounds and Jones, *op. cit.*, p. 179.
off. In every country, people would either be wasting time and money in producing things for which their land was not suited, or they would be compelled to do without certain things which they could not produce in their own land. It is fortunate, then, that the people of different countries have learned not only to make things for themselves but to trade back and forth across the face of the earth.  

Stull and Hatch, Our World Today: The Western Hemisphere

In the spring of 1948, a group of men representing the twenty Latin American Republics and our United States met in Bogota, Colombia, and formed a union called the Organization of American States. The purpose of this organization is to promote friendship and trade among the American countries, help them keep their independence, defend themselves in case of attack by a foreign power, and provide for the peaceful settlement of disputes.  

This text includes a unit, entitled "World Relationships of the United States," in which both aspects of this concept are explained and emphasized. The United Nations and its activities in promoting international cooperation are also explained.  

Materials dealing with this concept have been included in all of the five textbooks. The two texts, Living Together as World Neighbors and Your Country and the World, provide excellent examples and explanatory materials for both aspects of this concept. Our World Today: The Western Hemisphere also provides materials dealing with both aspects of this concept. The writer evaluates these three texts as satisfactory in relation to this concept.

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40 Sorensen, op. cit., p. 268.
41 Stull and Hatch, op. cit., p. 3.
42 Ibid., pp. 346-352.
Beyond the Oceans and A World View fail to provide sufficient materials for both aspects of the concept. Therefore, the writer evaluates them as unsatisfactory in relation to this concept.

7. The state is an organized region of relative homogeneous governmental control. State and nation are not identical. Nation implies a common bond or feeling of unity.

The writer's analysis of the five selected textbooks revealed very few references to this concept. In fact, only two of the five texts contained any materials related to this concept. These two texts contained only references to the concept, not a complete explanation.

Glendinning, Your Country and the World

Man's viewpoint became broader. He was no longer just a member of a small tribe living in a small district. He was a member of a nation, which controlled much territory. He began to think nationally rather than tribally.43

Europe was not reorganized just to punish the losers. Its reorganization was an attempt to restore nations to their own peoples. Finland was a part of Russia, for example, and yet the Finnish people were different from the Russians in many ways. Therefore the boundaries were redrawn to separate the Finns from the Russians.44

Pounds and Jones, Beyond the Oceans

Today European peoples are grouped into separate nations or countries. They live in France, Portugal, Greece, and other countries. These peoples differ not only in the languages they speak but also in laws and customs. In each country, the people try to build up their own industry, plan for their own defense, and decide how to act toward other peoples of the world.45

43 Glendinning, op. cit., p. 249.
44 Ibid., p. 450.
45 Pounds and Jones, op. cit., p. 85.
All of us belong to the country, or nation, called the United States. We have a flag which is flown from our public buildings; we have a national anthem. We have a national capital and a national government with officials whom the people help choose. We are proud of George Washington and our other great presidents, of our frontiersmen, and all who helped to explore and settle this land. Above all, we have a feeling that we belong together -- a feeling which people who have a nation share.\(^6\)

The writer believes that to be judged satisfactory in relation to this concept, a text must explain in detail the ideas of state and nation and then must apply these ideas as each country is considered. Since none of the five books analyzed fulfilled these requirements, the writer evaluates them all as unsatisfactory in relation to this concept.

8. The state has numerous component parts or features -- ecumene, nuclear core, capital, boundaries, population, economic structure, size, shape, and others, all of which are interrelated and need to be understood for comprehension of the state.

The writer's analysis revealed that none of the five texts explained the significance of the component parts of a state, and likewise, none explained the interrelationship between the components. Examples of the various components can be found in all of the five texts. The following quotations demonstrate the treatment given the components of a state by the five textbooks.

**Cutright et al., Living Together as World Neighbors**

1. Ecumene -- Today Paris has nearly 3,000,000 persons. All the main railroads and highways of France lead to Paris. The network of canals in western Europe leads into the Seine River on which Paris is located.\(^7\)


\(^{47}\) *Cutright et al.*, op. cit., p. 141.
2. Nuclear core -- During this early period, Paris was a little town on an island in the Seine River. The kings of this region gradually became more powerful. Eventually, France emerged as a nation with Paris as its capital.48

3. Capital -- "London, the capital, is one of the largest cities in the world and a great cultural center."49

4. Boundaries -- This component is not discussed but is shown on the various maps contained in the text.

5. Population -- "About 100,000 people live in Alaska."50

6. Economic structure -- Half of the Swiss people work in manufacturing. About one in five makes a living in the tourist business. These two activities together help support many workers in transportation. Most of the rest of the people engage in farming.51

7. Size -- "Mexico, our closest neighbor, is mainly a highland country. It is about one-fourth the size of the United States."52

8. Shape -- "Sweden is about 1,000 miles in length from north to south."53 Shapes of countries are also shown on the various maps in the text.

Glendinning, Your Country and the World

1. Ecumene -- When an Argentine citizen travels in his own land, he thinks of first going to Buenos Aires. This

48 Ibid., p. 111.
49 Ibid., p. 121.
50 Ibid., p. 95.
51 Ibid., p. 138.
52 Ibid., p. 170.
53 Ibid., p. 117.
great and modern metropolis is the hub of Argentine life
and is the center of its government, education, recreation,
and commerce. One out of every six persons in Argentina
lives in Buenos Aires.54

2. Nuclear core -- The writer discovered no references to
this component.

3. Capital -- "In that year the newly-built city of Brasília,
in the highlands of the interior, became the capital."55

4. Boundaries -- This component is shown on the various maps
in the text.

5. Population -- "The population of the United States as a
whole is about 180,000,000."56

6. Economic structure -- More than half of our workers live
by manufacturing, transporting, and trading goods. More people
are engaged in manufacturing than in any other occupation.57

7. Size -- The map shows forty-eight of our states and the
District of Columbia, which together occupy slightly more
than 3,000,000 square miles of the earth's surface. This huge
area extends from the Atlantic Ocean on the east to the Pacific
Ocean on the west, a distance of about 3,000 miles; and from
the southern border of Canada on the north to the northern
border of Mexico on the south, a distance of about 1,600
miles.58

8. Shape -- This component is shown on the maps included
in the text.

Founds and Jones, Beyond the Oceans

54Glendinning, op. cit., p. 360.
55Ibid., p. 363.
56Ibid., p. 37.
57Ibid., p. 37.
58Ibid., p. 34.
1. Ecumene — Oslo is the largest port of Norway and its capital. The city lies in the one region of Norway which is not mountainous. In the valley of the river Glomma and its tributaries, the lower and gently sloping land is used for farming. Both Oslo and the region around it are highly industrialized. . . . Most of the people of Norway live in this southeastern part.  

2. Nuclear core — One of the new settlements was made in the valley of the Oka River, a branch of the Volga. There Russians built a strong fort. In time the settlement grew larger. By the middle of the twelfth century it was known as Moscow. The fort became the Kremlin today.  

3. Capital — "Oslo is the largest port of Norway and its capital."  

4. Boundaries — When we reach North Cape, we have come to the northernmost point of Norway. The map on pages 10-11 shows us that south of us lie two boundaries. One separates Norway from Sweden. It follows a belt of very high land, and for a long way on each side are only barren mountains. The other separates Norway from Finland.  

5. Population — Population for all nations of the world is given on the charts at the end of the text.  

6. Economic structure — "All parts of New Zealand began to prosper. South Island developed its sheep stations; North Island, its dairy farms."  

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59 Pounds and Jones, op. cit., p. 153.
60 Ibid., p. 186.
61 Ibid., p. 153.
63 Ibid., pp. 159-160.
64 Ibid., p. 444.
7. Size — "The islands of New Zealand are a little larger than the British Isles." 65

8. Shape — "North Island is irregular in shape, with a long peninsula stretching to the northwest." 66

Sorensen, A World View

1. Ecumene — This component can be seen on the large population map provided in this text. 67

2. Nuclear core — The writer discovered no references to this component.

3. Capital — The capitals of the nations of the world are listed in a table, entitled "Statistics," at the end of the text.

4. Boundaries — A few of the national boundaries follow natural features. The boundary line between Spain and France follows the Pyrenees. Rumania is set off from her neighbors by a line which in places follows a river. For the most part, however, the present boundaries are an inheritance from the tangled and troubled affairs of the past. 69

5. Population — The story of Brazil is therefore a big and important story. It concerns half a continent and more than 65 million people who live in it. 70

6. Economic structure — In an average group of one hundred workers, only about ten are engaged in agriculture.

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65 Ibid., p. 443.
66 Ibid., p. 443.
68 Ibid., pp. 396-398.
69 Ibid., p. 313.
70 Ibid., p. 282.
generally, which includes both farming and ranching. About twenty-eight are engaged in manufacturing, twenty in trade, five in transportation, and one in mining. Nearly all the rest are special-service workers.\textsuperscript{71}

7. Size -- "Brazil is big. In area and population, it accounts for almost half of the continent. As you have discovered, it is nearly as big as the United States."\textsuperscript{72}

8. Shape -- This component is shown on the maps of the textbook.

Stull and Hatch, \textit{Our World Today: The Western Hemisphere}

1. Ecumene -- Most railroads and roads are found on the pampas, which is the most densely populated region of the country. From Buenos Aires as a center, they spread out like a fan toward the north, west, and south.\textsuperscript{73}

2. Nuclear core -- "The first permanent settlement in Paraguay was made at Asuncion in 1537."\textsuperscript{74}

3. Capital -- "Montevideo, the capital and center of almost all activities in Uruguay, is one of the beautiful cities of South America."\textsuperscript{75}

4. Boundaries -- "Paraguay has been called 'the land between the rivers.' Except in the Chaco where it borders on Bolivia, rivers form most of its boundaries."\textsuperscript{76}

\begin{thebibliography}{9}
\bibitem{71} \textit{Ibid.}, p. 242.
\bibitem{72} \textit{Ibid.}, p. 282.
\bibitem{73} Stull and Hatch, \textit{op. cit.}, p. 29.
\bibitem{74} \textit{Ibid.}, p. 39.
\bibitem{75} \textit{Ibid.}, p. 37.
\bibitem{76} \textit{Ibid.}, p. 39.
\end{thebibliography}
5. Population — "Uruguay is the smallest and most densely populated of the South American countries." 77

6. Economic structure — "Coffee is Brazil's main money crop. About half of the world's coffee is grown in Brazil." 78

7. Size — "Uruguay is the smallest and the most densely populated of the South American countries." 79

8. Shape — "Like Chile, Argentina is a large country from north to south, but it is wider and over three times as large in area." 80

The writer's analysis revealed that information related to all of the components of each state considered was not provided in any of the texts. Each had information for some of the components, but none provided information for all the components. Also, some of the information provided was not complete and specific.

The writer also discovered that these components and their significance to the state were not emphasized. Likewise, the interrelationship of the phenomena was not emphasized. On the basis of the results of the writer's analysis presented in the preceding pages, the writer evaluates all of the textbooks as unsatisfactory in relation to this concept.

77 Ibid., p. 34.
78 Ibid., p. 83.
79 Ibid., p. 34.
80 Ibid., p. 18.
9. The interrelation referred to in the preceding concept is different for each individual state. The particular combination of interrelated factors is what makes each individual state unique.

The writer's analysis revealed only one reference in one of the five textbooks to this concept. Cutright et al. have included the following statement in their text:

Today the stern rule of the U.S.S.R. and the principles of communism hold the many peoples together. Soviet Russia has a way of life of its own. This vast nation lies between western Europe with its democratic ways and the Far East with its Oriental ways. It belongs to neither of these but is a world in itself. It is the Soviet world.

On the basis of almost complete lack of material dealing with this concept and with an equal lack of explanation and emphasis on the concept, the writer evaluates all of the texts as unsatisfactory in relation to this concept.

10. States and political geography are both dynamic and are never static nor fixed.

The concept dealing with the dynamic nature of political geography is treated to some degree or extent in all five of the textbooks. The writer discovered this concept found expression via two approaches which are: the evolutionary change of states through the years and the creation of new states. In the following paragraphs are examples of the material dealing with this concept found in the five selected textbooks.

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81 Cutright et al., op. cit., p. 237.
Cutright, et al., Living Together as World Neighbors

The first settlements in Alaska were made by the Russians who crossed Bering Strait in their hunt for game. Fur-bearing animals were plentiful there. The Russians built towns on Kodiak Island and at Sitka. They trapped and traded with the Eskimos, but they did nothing to develop the land.

In 1867 the United States bought Alaska from Russia for $7,200,000. When gold was found in Alaska in 1896, many persons flocked into the region. Some of them stayed as settlers. Others have gone to Alaska to live in recent times. But Alaska is still a frontier land.

Alaska became a territory in 1912. A territory is a part of the United States that may become a state when it has enough people and meets certain other requirements.

Alaska's population increased greatly after World War II. The airplane has helped to develop the country and has brought it into closer contact with the rest of the country.

Alaska was so eager to become a state that it drew up a state constitution in 1956. Two years later Congress passed a law admitting Alaska into the Union.82

Another free Negro republic in West Africa is Ghana. Ghana was called the Gold Coast for hundreds of years because the early explorers found gold there. It became a British colony in 1871. Under Great Britain's guidance, Ghana became self-governing -- with its own legislature and prime minister -- in 1957. It is a member of the Commonwealth of Nations.83

Glendinning, Your Country and the World

This text includes a section, entitled "The Soviet Union Was Born in Turmoil," in which the evolution of the modern day Soviet nation is traced. The overthrow of the Czar, the Revolution, and the establishment of the Communist government under the dictator Stalin are the basic steps of change in this state.84

82 Ibid., p. 95.
83 Ibid., p. 386.
84 Glendinning, op. cit., pp. 412-413.
Europe was not reorganized just to punish the losers. Its reorganization was an attempt to restore nations to their own people. Finland was a part of Russia, for example, and yet the Finnish people were different from the Russians in many ways. Therefore, the boundaries were redrawn to separate the Finns from the Russians. The Czechs were quite unlike the many other peoples of the Austro-Hungarian Empire, and the boundaries were redrawn to form a Czech nation.85

Pounds and Jones, Beyond the Oceans

The authors present a historical sketch tracing the events in France from the extravagant era of Louis XIV, The French Revolution, and Napoleon to the modern day republic of France. Here the dynamic nature of the political organization of this state is clearly demonstrated.86

The British prepared the people of the Gold Coast for self-government. In 1957 these people became completely independent. Their new nation, Ghana, belongs to the Commonwealth of Nations.87

Sorensen, A World View

Sorensen has included in this text a chapter, entitled "Living in North America," where the evolution of our country is traced from a land inhabited by Indians and a few European colonists to one of the leading nations of the world. Here rapid and radical change can be seen very clearly.88

85 Ibid., p. 450.
87 Ibid., p. 411.
88 Sorensen, op. cit., pp. 234-269.
Following the pattern you saw in southeastern Asia, many Africans look forward to more self-government. In this, they have made considerable progress. Ghana, Nigeria, and the Union of South Africa are fully self-governing members of the Commonwealth of Nations. Since 1945, most of the colonies have become independent, self-governing nations. 89

Stull and Hatch, Our World Today: The Western Hemisphere

The historical evolution of the modern nation of Argentina is traced from the sixteenth century explorations of Juan Diaz de Solis, through Spanish establishment of permanent settlements, to the achievement of independence in 1816. Here the dynamic nature of a particular state is demonstrated. 90

None of the five textbooks contained a specific section dealing with the dynamic nature of states and political geography. Also, there were no explanatory materials in any of the textbooks which dealt with this concept.

It is the writer's opinion that application of this concept without any explanation is not sufficient. Explanatory materials are necessary for maximum comprehension. Because of the lack of such explanatory materials, the writer evaluates all five of the textbooks as unsatisfactory in relation to this concept.

11. States are entities which are dynamic, unique, complex and man-made. When comprehended in such a framework or manner, their activities, influence, and value can be properly evaluated.

89 Ibid., pp. 353-354.

The writer's analysis revealed no references to this concept. On this basis, the writer evaluates all of the five texts as unsatisfactory in relation to this concept.

Conclusion

Political organizations, in the form of states or nations, play a most important role in the life of man today. The role of the struggle or clash between the two fundamental systems of political organization in the world today is very much in evidence. Since political organizations and their activities are so significant, it seems logical, in the writer's opinion, that education must play an important role in helping man, children and adults alike, to comprehend the whole area of political geography.

Unfortunately, the five selected textbooks analyzed by the writer did not place sufficient emphasis on the area of political geography. Not one of the textbooks provided a section or chapter which explained this aspect or topic in the study of geography. Evaluated on the basis of the eleven concepts formulated in Chapter V of this study, these five textbooks do not lend much aid to the junior high school student in comprehending the state or nation and its role in the life of man.

In relation to only one concept were any of the texts evaluated as satisfactory. Living Together as World Neighbors, Your Country and the World, and Our World Today: The Western Hemisphere were evaluated as satisfactory in relation to the concept (number six) dealing with
the need for international cooperation and the dependence of the
different areas of the world on each other.

The writer's analysis revealed that in many cases there were
many examples of the concept being applied in the textbook materials,
but there was no explanatory material or emphasis placed upon the
concept. In the writer's opinion, the textbook authors have taken
too much for granted and have made very few substantial contributions
to the better comprehension of the topic of political geography.
CHAPTER XII

TEXTBOOK ANALYSIS ON THE TOPIC
OF URBAN GEOGRAPHY

The city, of all sizes, is an ever increasingly influential factor in the life of all men in our times. Junior high school students have all been exposed to cities, and their lives have been influenced, to some degree, by the cities. Cities and urban geography have been an aspect of geography and geography textbooks for time immemorial. The writer's study in this chapter is designed to analyze the five selected textbooks to discover if these texts truly help students to comprehend cities as more than masses of people, buildings, streets, stores, and factories. Do these textbooks help students to comprehend cities as the man-made, dynamic institutions they are and how cities serve man in his adjustment to the earth?

The five selected textbooks were evaluated primarily on the basis of the concepts set forth in Chapter VI of this study. These concepts are as follows:

1. Students must be led to recognize the continuously increasing trend toward urbanization and recognition of the fact that the United States is one of the most highly urbanized nations of the world.

2. Cities are more than masses of people and buildings. Cities represent the result of the reciprocal relationship between man and the earth. A city is a man-made habitat.
3. Each city, like each human being or region, is unique and is the result of many forces and factors -- location, site and situation, function, and internal structure.

4. Cities are created by man to facilitate his life and adjustment to the earth. Cities provide services and benefits for the satisfaction of man's needs. These needs and services may be economic, social, political, religious, or cultural in nature.

5. Cities are not self-sufficient islands unto themselves but are dependent upon and responsive to their surrounding area or hinterland.

6. Today, in the age of suburbs, freeways, and decentralization of industry, students must be aware of the centrifugal forces and centripetal forces which influence every city.

7. Urban geography provides many examples of the "basic theme" of geography -- interrelation. Cities and urban geography are the result of many interrelated factors and influences.

8. Urban geography should lend its knowledge, skill, and understanding to provide a better urban way of life.

None of the five selected textbooks used the terminology "urban geography," but all of the texts contained information dealing with cities. Sorensen, A World View, has two chapters that present information about cities and communities or urban geography. The other texts, as will be seen in the following pages of this chapter, have no separate chapters dealing exclusively with urban geography but do present various types of information about cities.
Students must be led to recognize the continuously increasing trend toward urbanization and recognition of the fact that the United States is one of the most urbanized nations in the world.

Of the five selected textbooks analyzed, only three contained any materials applicable to this concept. The references of these three books are presented in the following paragraphs under the author and title of each text respectively.

**Outright et al., Living Together as World Neighbors**

"As a result of the Industrial Revolution, Great Britain changed from a land of farmers to a land of tradesmen and of factory and mine workers. It became a nation of cities and towns."

"Half of the people of Australia live in cities and towns. In spite of its great area, Australia is one of the most urbanized of all the continents."

**Glendinning, Your Country and the World**

This text contains a chart which portrays the per cent of the population of the United States living in urban and rural areas in the years 1790, 1840, 1890, 1950, and 1959. The steady increase of urban population in the United States is very evident.

At one time most of the people of Britain were farmers, living in their farmhouses and tending their fields and their

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2. Ibid., p. 357.
flocks. Now most of them are city dwellers, crowded into city homes, and busy streets, earning their living in factories.\(^4\)

The mention of Australia brings to mind such things as ranches devoted to sheep, cattle, and wheat. We think of the people as ranchers, as dwellers in the wide, open spaces. Yet about one-half of the people are city dwellers, living in one of five cities. . . . Thus, relatively speaking, Australia is as much a land of city dwellers as the United States. In fact, a greater proportion of its population lives in large cities than is the case in our own land.\(^5\)

Sorensen, *A World View*

"In the United States, for example, almost nine out of ten people live in towns or cities."\(^6\)

As the population grew in size, it also changed in character. In 1790, before the influence of the Industrial Revolution was felt, our nation, like most others, was chiefly agricultural. Manufacturing gained slightly as the years passed, and farming declined a little in relative importance. Now, as you have seen, less than one-tenth of all the workers are engaged in agriculture. Manufacturing has become the chief work of the American people. A rural nation has become a nation chiefly of urban dwellers and urban workers.\(^7\)

"During the last twenty years, the cities of Russia have grown by leaps and bounds."\(^8\)

None of the three textbooks containing materials relevant to

this concept state directly the significance of the trend toward urbanization. On the other hand, two of the texts, *Your Country and the World* and *A World View*, do state the fact that the United States is a highly urbanized nation.

None of the five books analyzed presented any comprehensive explanation of this concept, and none of these texts gave expression or provided materials for the two aspects of this concept. On this basis, the writer evaluates all five of the textbooks as unsatisfactory in relation to this concept.

2. Cities are more than masses of people and buildings. Cities represent the result of the reciprocal relationship between man and the earth. A city is a man-made habitat.

The writer's analysis revealed that none of the five textbooks directly states that cities represent a reciprocal relationship between man and nature. However, the writer discovered materials and examples which support this concept in all of the books. The following are the materials which the writer interpreted as evidence of this concept.

*Curtright et al.*, *Living Together as World Neighbors*

If we were to view Boston from the air, one of the first things we would notice would be the great harbor. . . . Here as in many parts of the Northeast, life has always centered in towns and cities. Factories run by water power were built in this area very early. Because workers were needed, people came to live near the factories.

There were other reasons, in addition to water power, why New England took an early lead in manufacturing. One was that it had men who were clever at inventing things. Another reason was that it developed many skilled workmen who made the things that had been invented. Thus great factories sprang up in and near Boston, and the city became a center of trade. 

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*Curtright et al.*, op. cit., p. 47.
Houston, Texas, the largest city in the Southwest, is the headquarters of many oil companies. Houston is a man-made seaport. Once a shallow, slow-moving river connected Houston with Galveston Bay and the Gulf of Mexico. In recent years the river was widened and deepened so that a canal stretched across the coastal plain to the city which is twenty-five miles inland. Now ocean-going vessels can reach Houston. Ships are loaded with oil for transport to the seaports of the Northeast. After the canal was built, Houston became a leading port.10

Today there are manufacturing cities and towns on nearly all the plains of England and of central Scotland. The reason is that the coal deposits of the British Isles lie beneath the plains.11

"Lima, the capital, is an old Spanish city. It lies in one of the irrigated valleys of the desert region."12

Glendinning, Your Country and the World

Thus the northern plain, with its large and old city of Paris, is a very important crossroad. Notice how canals and railroads connect Paris with the rest of France. In Paris the major roads and railways, the traffic of the river Seine and its many canals, and many goods and people meet. Paris is the hub of France; but it is the northern plain which supports it and makes trade and transportation easy.13

It is said that "coffee built Brazil." It could also be said that coffee built São Paulo State and the large city of São Paulo, and that it was money from coffee which enabled São Paulo City to get started in manufacturing and to become one of the major industrial centers of all Latin America.14

10 Ibid., p. 64.
11 Ibid., p. 127.
12 Ibid., p. 187.
14 Ibid., p. 367.
Canberra is located about two hundred miles southwest of Sydney, Australia's largest city. It is in a separate federal district similar to our own District of Columbia. The district occupies twelve hundred square miles of wooded, rolling hill land in a section of the Great Dividing Range. Its altitude of about two thousand feet above sea level makes it a little cooler and more comfortable than if it were in the lowlands along the coast.\(^{15}\)

**Pounds and Jones, Beyond the Oceans**

If you think back to the more highly civilized peoples of ancient history, you will realize that all of them built cities. The large number of cities in the Roman Empire is one of the signs that the Romans were highly civilized. You recall that these cities almost died out when the barbarians broke up the Empire in 410 A.D.\(^{16}\)

People in the farthest corners of the earth are stirred when they hear of something happening in Jerusalem. Three religious groups, the Jews, the Christians, and the Moslems have shrines in this city. Sometimes it is spoken of as the Holy City.

Jerusalem lies in hot, dry country, amid rolling hills. Its white buildings stand out against the brown soil and the dull gray-green of olive orchards. Jerusalem is not a large city. It is not a great center of trade and industry. But people from everywhere meet here and have been doing so for more than two thousand years.\(^{17}\)

**Madras is the chief port of the eastern side of the Deccan. Its harbor is artificial but large. Like Bombay, Madras developed from one of the trading posts of the East India Company.**\(^{18}\)

**Sorensen, A World View**

This text presents a detailed description of a small city, called

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\(^{15}\) Ibid., pp. 427-428.


\(^{17}\) Ibid., p. 203.

\(^{18}\) Ibid., p. 285.
Suhbury. In this description, the importance of reciprocal relationships between man and nature is demonstrated through the consideration of location and transportation, resources and industries.¹⁹

"The biggest thing that man has built is the city."²⁰

Washington, D.C. is located at the head of navigation on the Potomac River, but it is not an important port. Nor is much manufacturing carried on in this city. Washington was founded for one purpose -- to serve as our nation's capital. . . . Government work is the chief occupation of the city's people.²¹

Stull and Hatch, Our World Today: The Western Hemisphere

Cordoba is a thriving city center for one of the best agricultural and stock raising areas in the interior. In a beautiful mountain setting, where it is easily reached by rail, it is a favorite resort for people on vacation. A large dam in the mountain west of the city provides a good water supply for the city and for irrigated farming nearby. It also furnishes power for generating electricity.²²

La Guaira is one of Venezuela's most important and best known seaports. It does not have a natural harbor, so a long breakwater over 1,600 feet long has been built to protect the port and make it possible for large ships to come to the docks.²³

Monterey, in northern Mexico, is near to our country. Being easily reached, it is much visited by people from our country. With gas piped from Texas and water brought from a mountain reservoir, it has become a lively industrial city.²⁴

²⁰Ibid., p. 168.
²¹Ibid., p. 262.
²³Ibid., p. 100.
²⁴Ibid., p. 131.
Only one of the textbooks, A World View, made any statement that cities are man-made. None of the texts either explain or emphasize that cities are the result of the reciprocal relationship between man and nature. In view of the lack of emphasis and explanatory materials, the writer evaluates all of the five books as unsatisfactory in relation to this concept.

3. Each city, like each human being or region, is unique and is the result of many forces and factors -- location, site and situation, function, and internal structure.

The writer's analysis revealed that none of the textbooks directly stated that each city is unique. The concept of the interrelation of different factors or components likewise is not emphasized. By analysis of content, the writer discovered numerous materials dealing with the location, function, and other factors of cities. In the following paragraphs, the writer presents representative examples of the materials found in the five selected textbooks.

Cutright et al., Living Together as World Neighbors

. . . Buffalo, on Lake Erie, is located at the point where the New York State Barge Canal connects the Great Lakes with the Hudson River.

To Buffalo, from points farther west, come lake freighters, some of them hundreds of feet long, carrying grain, lumber, and iron ore. At Buffalo, some of this freight is transferred to canal barges or railroads and sent to Albany, New York City, and other places to the east and the south. In this city great quantities of wheat are milled into flour, and much iron ore is made into steel.

Near Buffalo is one of our nation's scenic wonders, Niagara Falls. . . . Behind the falls are steep tunnels
that carry water to great turbines, or rotating engines. These turbines run generators that make electricity. From these generators Buffalo receives abundant electric power to run its great mills.

Halifax is an important seaport during the winter, when the St. Lawrence River is frozen over and ships cannot reach Quebec and Montreal. In winter, the seaport of Saint John, New Brunswick, is also busy. During the cold weather cargoes are brought to these ice-free ports and shipped inland by rail.

The city of Quebec is built in two parts. One part is built high up on a great cliff. It is called the Upper Town. This part of the city has many old French churches. It also has many business buildings and offices.

Below, near the water's edge, is the part of Quebec called Lower Town. Its narrow cobblestone streets, little houses crowded together, and its old churches remind the traveler of France.

Alexandria, a seaport at the western end of the delta, has 1,105,000 inhabitants. It is an old city, for it was founded in 336 B.C. But it is also a modern city, with new office buildings and apartments. Alexandria's docks are busy mainly exporting cotton.

"Most of the people of Canberra make their living in government work, because Canberra is the capital of Australia."29

Glendinning, Your Country and the World

Notice how canals and railroads connect Paris with the rest of France. In Paris the major roads and railways, the traffic of the river Seine and its many canals, and many goods and people meet.30

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25 Cutright et al., op. cit., pp. 48-49.
26 Ibid., p. 84.
27 Ibid., p. 86.
28 Ibid., p. 254.
29 Ibid., p. 364.
30 Glendinning, op. cit., p. 306.
New York City handles about one-half of our foreign trade. Through it passes everything from automobiles and cotton cloth to bananas and silk. Not only is it our greatest port, but it is the greatest port of the world.

There are many reasons for the greatness of the port of New York. New York has one of the best and biggest harbors in the world. The harbor faces toward the second busiest area of the world, the British Isles and Western Europe. Connecting New York with that area is the busiest of all ocean trade routes, the route which crosses the North Atlantic. Looking inland from the port, we find that New York is in the eastern part of the earth's largest single manufacturing region. It is also near many productive farming districts. Furthermore, all the major railroads of the United States and many of our transcontinental highways connect with New York.

... Galveston is on the Gulf. It lies on a sandy island which is so low that the land must be protected from the sea waves by a great wall.

São Paulo coffee is shipped out of the country chiefly by way of the port of Santos, located down below the edge of the Brazilian Upland. Santos is the leading coffee-shipping port of the world.

Sydney is the queen city of Australia. Located in the mild, well watered region of the east coast, the metropolis of Sydney has grown up on the beautiful shores of a many fingered bay. If you study the picture on page 428, you will see the waters of this bay and the way in which Sydney has spread over its many peninsulas, islands, and beaches. Busy wharves handle the bustling sea trade, while roads and railroads connect the city with the north, the south, and the interior. Sydney handles many different products, whereas the ports of Perth and Adelaide are noted for their trade in wool and wheat.

Pounds and Jones, Beyond the Oceans

31 Ibid., p. 351.
32 Ibid., p. 353.
33 Ibid., p. 367.
34 Ibid., p. 427.
The Seine is not a wide river, but in Paris it divides and encloses a small island, the first part of Paris to be settled. This island is now covered with large buildings, and above them we can see the twin towers of the great cathedral of Notre Dame. Today the island is occupied by government buildings; the shopping and residential districts of Paris lie farther away from the river.35

People in the farthest corners of the earth are stirred when they hear of something happening in Jerusalem. Three religious groups, the Jews, the Christians, and the Moslems have shrines in this city. The wall encloses the old part of Jerusalem, which is called the Old City. In this part are some of the most sacred religious shrines. . . . This part of Jerusalem belongs to the country called Jordan. The newer part of Jerusalem, called the New City, contains modern buildings and streets. The New City covers a much larger area than the Old City. . . . It lies in the country Israel. The boundary line between Israel and Jordan runs through Jerusalem.36

We find that this ancient city is the largest seaport in Egypt today. The old harbor used in ancient times now serves mainly for fishing. An enlarged, modern harbor has been developed, from which Egypt exports most of its raw cotton. This raw cotton comes to Alexandria by a canal which connects with a branch of the Nile River.37

Sorensen, A World View

According to the map, Sunbury is on the east bank of the Susquehanna River. . . . Sunbury is in the lowland beside the river. The founders of Sunbury found several advantages in this location.

To begin with, it was easier to travel in the lowland than up on the mountain ridges. The river itself cut a kind of natural path through the mountains.

The map on this page shows another advantage. Two branches of the Susquehanna River meet at Sunbury. The city

35 Pounds and Jones, op. cit., p. 117.
36 Ibid., p. 203.
37 Ibid., p. 252.
has a natural crossroads location, where the travel routes of several valleys meet. For miles around, there is probably no better location for a city.\footnote{Sorensen, \textit{op. cit.}, pp. 16-17.}

Sorensen has included a section in one chapter, entitled "How Cities Differ." In this section, the author lists six basic ways or factors in which cities are different. The six factors are the following:

1. Natural setting
2. Size
3. History and people
4. Streets and building
5. Connections
6. Work\footnote{Ibid., pp. 176-168.}

It is the writer's interpretation that this section is really dealing with the concept that each city is unique, although it is not stated in those terms.

In nearly every American town and city, most of the work in trade and special services is concentrated along some main street. . . . No other city has exactly the same arrangement of buildings and businesses.\footnote{Ibid., pp. 244.}

In his text, Sorensen has included maps of twelve great urban areas of the United States. On these maps, location and site and situation can be seen. These maps can aid students to see that each city is unique.\footnote{Ibid., p. 256.}

"Washington was founded for one purpose -- to serve as our nation's capital."\footnote{Ibid., p. 262.}
Stull and Hatch, Our World Today: The Western Hemisphere

Valparaiso, Chile’s leading seaport, has for its harbor the wide deep Bay of Valparaiso. It was founded over 400 years ago by a Spaniard who gave it this name, which means "Vale of Paradise." A flat area from a few hundred feet to half a mile in width borders the bay. Back of this a series of hills rise steeply with homes and other buildings built on terraces, rising one above the other. Most of the business buildings are found on the lower level around the bay.43

Taking in order Brazil’s most important seaports from south to north, we begin with Porto Alegre, the "Happy port." It has a number of manufacturing industries and is an important shipping center for the farm and animal products of southern Brazil.44

Montreal, farther up the river at the head of ocean navigation, is Canada’s largest industrial and commercial city. Its name comes from Mount Royal, a hill in the center of the city.45

As stated previously, none of the textbooks directly state that each city is unique. Sorensen, A World View, "hints" at this concept in a number of ways, as seen in the preceding quotations, and provides materials supporting this concept. The writer evaluates, A World View as satisfactory in relation to this concept. This text could be improved, in the writer’s opinion, by a direct statement of the concept and by placing more emphasis on this concept. However, on the whole, because of the lack of emphasis and explanation of the concept, the writer evaluates the other four textbooks as unsatisfactory in relation to this concept.

43 Stull and Hatch, op. cit., p. 16.
44 Ibid., p. 87.
4. Cities are created by man to facilitate his life and adjustment to the earth. Cities provide services and benefits for the satisfaction of man's needs. These needs and services may be economic, social, political, religious, or cultural in nature.

From the analysis, the writer discovered that none of the five selected textbooks gave either direct statement or emphasis to the concept. On the other hand, all of the texts provide materials which demonstrate the services rendered to man by cities. In the following paragraphs, the writer presents selected examples of such materials from each text.

Cutright et al., Living Together as World Neighbors

Our air view of Boston would also show us that the area for miles around is one continuous city area. Here, as in many parts of the Northeast, life has always centered in towns and cities. Factories run by water power were built in this area very early. Because workers were needed, people came to live near the factories. As the factories grew, churches, schools, libraries, stores, and office buildings became part of each community. Each community needed teachers, lawyers, doctors, ministers, bankers, and city employees.46

Boston is also a great cultural center. That is, its people are interested in many worth-while activities, such as music, art, and books. Boston has a fine public library, many churches, and colleges.47

The cities of the prairie provinces serve as business centers for the farmers. Winnipeg, the largest city of this region, is the size of Tulsa. It has the largest railroad yards in Canada. Winnipeg is also the leading commercial center for the prairie section.48

46 Cutright et al., op. cit., p. 47.
48 Ibid., p. 91.
"Mexico City, the largest city and the capital, has 2,554,000 people." 49

"Saudi Arabia has two capitals, Riyadh and Mecca. Mecca is a holy city." 50

Glendinning, Your Country and the World

In this plain is the great city of Berlin, as well as many other great cities. When the independent German states finally united to form one nation, Berlin became the capital and the center of German life. 51

New York City handles about one-half of all our foreign trade. Through it passes everything from automobiles and cotton cloth to bananas and silk. Not only is it our greatest port, but it is the greatest port of the world. 52

When an Argentine citizen travels in his own land, he thinks first of going to Buenos Aires. This great and modern metropolis is the hub of Argentine life and is the center of its government, education, recreation, and commerce. 53

Pounds and Jones, Beyond the Oceans

We find that many people in Lyon make a living from manufacturing. Best known in and around Lyon is the manufacturing of silk and silk substitutes. The city's location on a waterway helps make it a center of trade and communication. 54

"Madrid and Barcelona are the largest cities. Madrid is the

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49 Ibid., p. 173.
50 Ibid., p. 266.
51 Ibid., p. 295.
52 Ibid., p. 351.
53 Ibid., p. 360.
54 Pounds and Jones, op. cit., p. 120.
capital, but Barcelona is the chief port, and small factories are located there.\textsuperscript{55}

Pilgrims come to Mecca by the thousands. Many are poor and have little money to spend. But even so, they bring some trade to the shops. The city of Mecca owes its size and its prosperity to the Pilgrims who bring money to the city.\textsuperscript{56}

"... This is New Delhi, now the capital of India. New Delhi is like Washington, D.C. It is a city that has no factories, and most of its people are government officials."\textsuperscript{57}

Sorensen, \textit{A World View}

The people in this small city, as well as those who live on farms near by speak of Sunbury as their "hometown." They do much of their shopping there. They may go to school or to church or to the movies in Sunbury.\textsuperscript{58}

"The manufacturing speciality of the New York urban area is clothing. The clothing industry alone employs about one-fourth of all factory workers in the area."\textsuperscript{59}

"As you can see by the map, Milan is a city of more than 1,000,000 inhabitants. It has many industries, light and heavy."\textsuperscript{60}

"The largest city is Moscow, the capital, with more than five million people."\textsuperscript{61}

\textsuperscript{55}Ibid., p. 145.
\textsuperscript{56}Ibid., p. 219.
\textsuperscript{57}Ibid., p. 288.
\textsuperscript{58}Sorensen, \textit{op. cit.}, p. 16.
\textsuperscript{59}Ibid., p. 260.
\textsuperscript{60}Ibid., p. 322.
\textsuperscript{61}Ibid., p. 336.
Buenos Aires, with its over 3,000,000 people, is the third largest city in the Americas. ... Tall grain elevators and large meat-packing plants are a prominent part of this city, which handles more foreign trade than any other American seaport except New York. More than a third of the country's manufacturing industries are located in its capital city. It is also the leading educational and publishing center. 62

Montevideo, the capital and center of almost all activities in Uruguay, is one of the beautiful cities of South America. It contains fully one-third of the population of the country and is the leading port with all modern shipping equipment. Most of the import and export trade passes through this city. 63

"... The leading state in its production is São Paulo, with its capital, São Paulo, as a business center for the industry, and Santos, the leading port for coffee exports." 64

For maximum comprehension of this concept, in the writer's opinion, explanatory materials which explain and emphasize the significance of this concept must accompany examples similar to those cited in the preceding paragraphs. On the basis of the lack of such explanatory materials in all of the texts, the writer evaluates the five textbooks as unsatisfactory in relation to this concept.

5. Cities are not self-sufficient islands unto themselves but are dependent upon and responsive to their surrounding area or hinterland.

62 Stull and Hatch, op. cit., p. 30.
63 Ibid., p. 37.
64 Ibid., p. 83.
Only one of the five textbooks, *A World View*, presented any statements applicable to this concept, and none of the five texts consistently emphasized this concept via examples. Sorensen, *A World View*, presented the following statements:

"The people in this small city, as well as those who live on farms near by, speak of Sunbury as their 'hometown.'"\(^{65}\)

Sorensen in presenting the idea that cities are very complex and difficult to understand, proposes a series of questions for the readers' consideration. One of the questions is: "How is life in the city related to life and work in the surrounding countryside?"\(^{66}\)

"People who lived in cities discovered that they were not only dependent upon farmers and others who lived outside the city but also dependent in many ways upon each other."\(^{67}\)

The above quotations refer to this concept but certainly do not explain or emphasize sufficiently the role of the relationship between cities and their hinterlands. The other four texts make no direct references to this concept but do present examples of the concept in their descriptions of various cities. The following are the types of material discovered by the writer in these four textbooks.

Cutright et al., *Living Together as World Neighbors*

... The flat and treeless plain on which Hungary lies is one of the richest farming areas in western Europe. Large

\(^{65}\)Sorensen, *op. cit.*, p. 16.

\(^{66}\)Ibid., p. 168.

\(^{67}\)Ibid., p. 171.
crops of wheat, potatoes, corn, and thousands of beef cattle, hogs, and sheep are raised.

Budapest, the capital of Hungary, has more than 1,850,000 people. Its factories use farm products as their raw materials. Flour milling, sugar refining, and dressing meat are the main industries. 68

Glendinning, Your Country and the World

The busiest port of all Venezuela is Maracaibo. It is located on the narrow lane of water which connects Lake Maracaibo with the sea. Most of its business is that of shipping petroleum obtained from the Maracaibo Lowland. 59

Pounds and Jones, Beyond the Oceans

We find much good farm land in the area around the seaport of Tunis. Grain is grown here, and most of the citrus fruit of Tunisia. Flowers for use in making perfume are also grown here.

People of Tunis not only ship goods out of their city but also prepare goods for shipment. Olive oil is manufactured, fruit juice canned, dates processed, and perfume made. 70

Stull and Hatch, Our World Today: The Western Hemisphere

"Cordoba is a thriving city center for one of the best agricultural and stock raising areas in the interior." 71

Based upon almost complete lack of explanatory materials and the lack of emphasis upon the role of this concept in the topic of urban geography, the writer evaluates all of the textbooks as unsatisfactory in relation to this concept.

68 Cutright et al., op. cit., p. 148.
69 Glendinning, op. cit., p. 374.
70 Pounds and Jones, op. cit., p. 249.
71 Stull and Hatch, op. cit., p. 30.
6. Today, in the age of suburbs, freeways, and decentralization of industry, students must be aware of the centrifugal forces and centripetal forces which influence every city.

The writer's analysis revealed that none of the textbooks either referred directly to these two types of forces or did the texts use the terminology "centrifugal and centripetal forces." The writer discovered one example of each of these types of factors which influence all cities. These are as follows:

Here, as in many parts of the Northeast, life has always centered in towns and cities. Factories run by water power were built in this area very early. Because workers were needed, people came to live near the factories. As the factories grew, churches, schools, libraries, stores, and office buildings became part of each community. Each community needed teachers, lawyers, doctors, ministers, bankers, and city employees. More and more goods were produced and sold. Workers of every kind were needed, so the growth in population continued.

In Baltimore, as in most American cities, settlement is not continuous, either within or outside the city proper. The pattern of built-on land suggests ribbons, or large fingers, which reach far out from the city center. As we should expect, this pattern of settlement follows closely the pattern of railroads and highways leading to and from the heart of the city. Many thousands of workers live miles from their jobs. This would have been impossible in the old days, when men had to walk to work.

Based on the fact that this concept is neither sufficiently explained nor demonstrated, the writer evaluates all of the textbooks as unsatisfactory in relation to this concept. For all major purposes, these texts have completely omitted and ignored this concept.

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72 Cutright et al., op. cit., p. 47.
73 Sorensen, op. cit., p. 174.
7. Urban geography provides examples of the "basic theme" of geography -- interrelation. Cities and urban geography are the result of many interrelated factors and influences.

The five selected textbooks make no direct reference to the concept of interrelation in regard to cities. However, all of the texts have numerous examples which demonstrate this concept of interrelation. In the following paragraphs the writer presents representative examples of the material in the textbooks showing the interrelation of factors and phenomena.

Cutright et al., Living Together as World Neighbors

Whenever Pittsburgh is mentioned, we think of smoking chimneys, blast furnaces, and steel mills. Two things have made Pittsburgh a great industrial city.

One is the existence of the bituminous coal fields of western Pennsylvania. The soft coal is made into coke for use in the blast furnaces of the Pittsburgh region.

The other is an oil and natural gas region north of the city. . . . These sources of power run Pittsburgh's factories and steel mills.

Good natural means of transportation have helped to build up the city's industries. Pittsburgh has often been called the "gateway to the West." 714

There are several reasons why Toronto has grown to its present importance. It has a fine harbor on Lake Ontario. It is served by many railroads. It lies in the center of a fine farming district. It receives cheap electric power from the power plant at Niagara Falls. 75

Glendinning, Your Country and the World

There are many reasons for the greatness of the port of New York. New York has one of the best and biggest harbors in the world. The harbor faces toward the second busiest area

714Cutright et al., op. cit., p. 52.

75Ibid., p. 87.
of the world, the British Isles and western Europe. Connecting
New York with that area is the busiest of all ocean trade
routes, the route which crosses the North Atlantic. Looking
inland from the port, we find that New York is in the eastern
part of the earth’s largest single manufacturing region. It
is also near many productive farming districts. Furthermore,
all the major railroads of the United States and many of the
transcontinental highways connect with New York.  

... It could also be said that coffee built São
Paulo State and the large city of São Paulo, and that it was
money from coffee which enabled São Paulo City to get started
in manufacturing and to become one of the major industrial
centers of all Latin America. The soils of the São Paulo area
are very rich and are especially suited to coffee trees,
though several other crops thrive in them as well. Also, the
climate of the upland is just right for coffee. ...

Pounds and Jones, Beyond the Oceans

Oslo is the largest port of Norway and its capital.
The city lies in the one region of Norway which is not
mountainous. In the valley of the river Glomma and its
tributaries, the lower and gently sloping land is used for
farming. Both Oslo and the region around it are highly
industrialized, also.

Most of the people of Norway live in this southeastern
part, and we can easily see why. People have more ways to make
a living here than in any other part of Norway.

Sydney is the chief port of Australia and also an
industrial city. Both north and south of the city, coal is
mined. Iron-ore carriers bring iron ore from Iron Knob, a
mountain west of Adelaide in South Australia.

Sorensen, A World View

If we are to understand a city, we must learn how its
people live and make a living. What connection is there between
one man’s work and another’s? How is life in the city related

76 Glendinning, op. cit., p. 351.
77 Ibid., p. 367.
78 Pounds and Jones, op. cit., p. 153.
to life and work in the surrounding countryside? In what ways do city people depend on natural resources? Why was the city built where it is? What natural or man-made transportation routes are present? These and other questions must be answered if we are to understand fully the character of the city we are studying.80

Cleveland has advantages for making iron and steel that are similar to those of both Pittsburgh and Chicago. The coal producing regions of the Appalachians are not far away. Iron ore from Minnesota and limestone from Michigan can reach the city by cheap water transportation.81

Stull and Hatch, Our World Today: The Western Hemisphere

St. John in New Brunswick is used as a shipping port for Canadian goods during the winter months when the St. Lawrence is closed with ice. The map shows the railroad leading directly from Montreal through our state of Maine to St. John.82

Although iron was produced in other places in our country, the industry got its real start in western Pennsylvania. Coke is the best fuel for manufacturing iron. Bituminous coal, from which good coke could be made, was abundant near Pittsburgh. The best coke was made near Connelsville on the Youghiogheny River, a few miles south of Pittsburgh. Iron ore was also found there and it was easy to smelt the ore in the furnaces near Connelsville and ship the iron down the river to Pittsburgh.83

The writer's analysis revealed neither explanatory materials nor emphasis upon this concept of urban geography. On the basis of the lack of the above types of materials, the writer evaluates all of the textbooks as unsatisfactory in relation to this concept.

80Sorensen, op. cit., p. 168.
81Ibid., p. 261.
82Stull and Hatch, op. cit., p. 186.
83Ibid., pp. 292-293.
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8. Urban geography should lend its knowledge, skill, and understanding to provide a better urban way of life.

The writer's analysis revealed that only one textbook contained any materials that may be interpreted as being relevant to this concept. Sorensen, *A World View*, presents a section, entitled "Cities of Tomorrow." The material in this section focuses its attention on transportation problems of the city and the need for planning to solve these transportation problems. 84

On the basis of the almost complete lack of material in all of the textbooks, the writer evaluates all of the texts as unsatisfactory in relation to this concept.

Conclusion

With the world, in general, steadily becoming more and more urban, and with the United States already being one of the most urbanized nations of the world, the five selected textbooks provide very little information to aid the student in comprehending this situation. The over-all treatment of urban geography by these five books not only does little to help students comprehend the trend of urbanization but also does very little to help them comprehend the city that they all know and that influences them.

The writer's analysis revealed that only one textbook could be evaluated as satisfactory for any concept. *A World View* was judged by the writer to be satisfactory in relation to the concept (number

84Sorensen, *op. cit.*, pp. 228-231.
three) dealing with the uniqueness of each city. None of the texts were evaluated as satisfactory in relation to all the concepts. Again the authors of these books fail to explain and emphasize the concepts. Oftentimes examples of the concepts are contained in the text materials but are not sufficiently explained or emphasized. Junior high school students need explanatory materials and examples which are emphasized in order to gain the maximum comprehension. The authors of these textbooks, in the writer's opinion, take too much for granted and therefore fail to help students comprehend cities as more than masses of buildings, streets, people, and factories.
Conservation is an idea to which almost all people give "lip service" and with which almost all people agree in theory. On the other hand, the number of people who really comprehend the topic of conservation and apply conservation to all aspects of their lives is extremely few indeed.

Most junior high school students have some acquaintance with the term and topic of conservation, but few realize either its ramifications for their lives or have the desire to apply sound conservation practices in their daily living. Many people through the years have given expression to the idea that education is the best avenue to good conservation practice and policies. It is the writer's hypothesis that junior high school geography provides an excellent opportunity for our schools to make a worth-while contribution to the topic of conservation. In Chapter Seven of this study, the writer presented the basic concepts, in his opinion, necessary for comprehension of this topic. These concepts, listed in the following paragraphs, are used in this chapter to evaluate the materials applicable to the topic of conservation contained in the five selected textbooks.

1. Conservation of resources includes all resources -- natural
and human. Acquaintance leads to recognition of what are our resources.

2. Resource use must be understood or seen in the sense of stewardship or trusteeship. Resources are for the benefit of all the people and for all generations.

3. As resources must be recognized, so must the waste of resources. Elimination of waste must be a major goal.

4. Man's place in conservation, as in the whole field of geography, is central. Conservation of resources must be considered in relation to the cultural or social framework in which they exist. Conservation in a democratic society is our problem.

5. Today, conservation is more than preserving or hoarding. It includes restoration, substitution, recovery, reuse, and other means of scientific management as well as preservation.

6. Not all resources are alike. The two basic categories, renewable and non-renewable, serve to clarify the nature of resources. Resources are also dynamic in their relationship to man and his needs.

7. All resources are interrelated and interdependent. Since they are interrelated, intelligent conservation action calls for comprehensive, broad scope planning.

8. Each and every individual must assume responsibility for conservation if it is to be successful. Conservation is not solely a government function. Only through education can the understanding and desire to assume responsibility be achieved in our society.

9. Students must be made aware of all the varied conservation programs, projects, and activities that are in existence today.
10. Man must learn to know and respect nature. Through knowledge and respect, the idea of the inexhaustibility of our resources will be destroyed.

By means of his analysis, the writer discovered that only one textbook, Cutright et al., Living Together as World Neighbors, has a specific section or unit devoted primarily to conservation and resources. Sorensen, A World View, has two small subdivisions of chapters devoted to the conservation of specific resources. The contents of these units and subdivisions will be analyzed thoroughly in the following pages of this chapter. The other three texts included no sections, units, or chapters which dealt exclusively with the topic of conservation, but the writer discovered materials pertinent to this topic dispersed among the content of all five books.

1. Conservation of resources includes all resources — natural and human. Acquaintance leads to recognition of what are our resources.

This concept contains two major ideas. First, conservation includes all resources — natural and human. The writer's analysis revealed that three of the five textbooks contained materials applicable to this aspect of the concept. Secondly, students must be introduced or made aware of what man's resources are. All of the textbooks enumerate, and some elaborate, on the various resources of the respective nations, continents, or regions of the world.

In the following paragraphs, the writer presents examples of the materials discovered by his analysis which are pertinent to the two aspects of this concept.
Outright et al., Living Together as World Neighbors

A. Human and Natural Resources

"The energetic and hard-working people of western Europe are a great human resource. Its two greatest resources, if we were to name only two, are people and coal."¹

The authors of this text have included a subdivision, entitled "The Importance of Human Resources," as a part of the chapter, mentioned previously, which deals primarily with conservation and resources. In this section, the physical, social, cultural, and religious needs of man are discussed.²

The role of human resources is expressed in this text as follows:

"The human resources of the world are its more than two and one-half billion people. The people, their health, safety, and abilities are the wealth of a nation and of the world."³

B. Acquaintance with Resources

Along the Atlantic and Gulf coast of the Southeast many people earn a living by fishing. In these waters it is said that fishermen can catch eighty different kinds of fish. Some fish are used for food and some for making fertilizer. Chesapeake Bay and the coastal waters of North Carolina and South Carolina are famous for their oyster beds. The coasts of Mississippi and western Florida have many shrimp fisheries. Off the western coast of Florida near Tampa, divers plunge deep into the water to pull sponges from the rocks.⁴

²Ibid., pp. 424-433.
³Ibid., p. 424.
⁴Ibid., p. 56.
The Central Valley is one of the finest farming regions in the world. Fruit is the great crop. The land is rich and nearly level. There is not much rain, but rivers bring water down from the mountains.⁵

"Poland has an important coal field. It also mines zinc in the region west of the city Cracow."⁶

Glendinning, Your Country and the World

A. Human and Natural Resources

The writer's analysis revealed no reference to this aspect of the concept in this text.

B. Acquaintance with Resources

The author of this text has entitled Unit Two of his book "The Resources of the United States and the World." The fourteen chapters in this unit deal with such resources as climate, soil, forests, coal, iron ore, oil, water, and others.⁷ In these chapters the student is introduced to some of the basic resources and their role in our lives.

The forest-covered slopes of the mountains of the west furnish lumber. In several places, including the famous Klon-dike, they furnish gold. Where the towering coastal ranges dip into the sea, the waters are full of salmon. To the east of the mountains the broad central plain becomes a great sea of wheat during the summer, and petroleum is now obtained from part of the plain region. Still farther east, the great forests of the hilly eastern country contain lumber, pulpwood, fur-bearing animals, and many useful minerals, such as gold, copper, and nickel, in this part of Canada. . . . Recently

⁵Ibid., p. 70.
⁶Ibid., p. 148.
large deposits of rich iron ore were discovered in southwestern Ontario and along the boundary between Labrador and the province of Quebec. In the southeast are many fine dairy cattle, which furnish the milk from which the famous Canadian butter and cheese are made.

Pounds and Jones, Beyond the Oceans

A. Human and Natural Resources

"As in every other part of the world, the best natural resource of Southeast Asia is its people."

"As in any continent or country, the most valuable resource in Africa is the people. People are an even more valuable resource when they are educated."

B. Acquaintance with Resources

"The Finns possess rich supplies of lumber and manufacture timber products by means of electric power provided by the streams."

"Modern Iraq has one thing that was not used in ancient times. To the north and east oil is found. Hundreds of wells have been drilled."

Sorensen, A World View

A. Human and Natural Resources

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8 Ibid., p. 284.
10 Ibid., p. 395.
11 Ibid., p. 156.
12 Ibid., p. 216.
The writer discovered no references to this aspect of the concept in this text.

B. Acquaintance with Resources

In the story of Sunbury, you will recall, three natural resources -- soil, forests, and minerals -- were discussed. But these are by no means the only ones. A more complete list would include air, water, natural grasses, and what we call animal life, that is birds, wild animals, and fish. All of these nature provides for man's use.\(^{13}\)

Fortunately for Canada, there are large mineral resources in the coldest lands. Each year, Canada produces many millions of dollars worth of gold, silver, copper, nickel, and other minerals.\(^{14}\)

Stull and Hatch, *Our World Today: The Western Hemisphere*

A. Human and Natural Resources

"Our greatest resource is our people."\(^{15}\)

B. Acquaintance with Resources

Chile's greatest wealth lies in her minerals. The two most valuable ones are copper and nitrates. Other minerals produced in smaller quantities are gold, silver, iron, manganese, lead, mercury, molybdenum, sulphur, salt, and coal. Some tungsten, zinc, and borax are also produced. Marble and onyx, stones used for ornamental purposes, are quarried. Recently, petroleum was discovered in the western part of the island of Tierra del Fuego.\(^{16}\)


\(^{14}\) Ibid., p. 272.


\(^{16}\) Ibid., pp. 10-11.
Large iron deposits and some copper, manganese, and kaolin are found in Paraguay. Kaolin is white clay used in the making of porcelain. Limestone and paving stone are quarried and sold. Coal and petroleum are lacking, and the main fuel used is wood.17

It is the writer's opinion that for the maximum comprehension of the topic of conservation there must be explanatory materials and examples of both aspects of this concept. Without one or the other, explanation or example, such materials are just abstract theory or factual listing of resources. Only one of the five selected textbooks, Living Together as World Neighbors, provides explanatory materials and examples for both aspects of this concept. The writer evaluates this text as satisfactory and the other four books as unsatisfactory in relation to this concept.

2. Resource use must be understood or seen in the sense of stewardship or trusteeship. Resources are for the benefit of all the people and for all generations.

The writer's analysis of the textbooks revealed that only two of these texts made any reference to this concept. In these two texts, the writer found only a single reference, and this concept was definitely not emphasized throughout the text. The following are the materials discovered by the writer which are relevant to this concept.

Cutright et al., Living Together as World Neighbors

Conservation of natural resources means not only using resources wisely now, but also it means planning for their use.

17 Ibid., p. 41.
in the future. Each generation has a duty to coming generations. For this reason, we should conserve our resources and replace them in every possible way.  

Sorensen, A World View

Conserving mineral resources does not mean that man should stop using them. But present needs should be balanced against the needs of future generations. The people who will live on the earth a hundred years from now have a right to their share of its mineral wealth. We would not think it was fair if the people of a hundred years ago, for example, had used up all the coal and left us none.

The above quotations state very well the concept of stewardship in conservation, but the texts themselves neither emphasize nor provide examples of the means of achieving the concept. Emphasis and examples, in the writer's opinion, are most necessary for maximum benefit or comprehension. On this basis, the writer evaluates all of the five textbooks as unsatisfactory in relation to this concept.

3. As resources must be recognized, so must the waste of resources. Elimination of waste must be a major goal.

None of the five textbooks has a section or subdivision devoted exclusively to explaining waste and how it can be recognized by students. On the other hand, four of the textbooks present examples of waste of resources in their presentation of materials dealing with resources. In the following paragraphs, the writer presents representative examples of the references made to this concept in the four textbooks.

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18 Outright et al., op. cit., p. 418.
19 Sorensen, op. cit., p. 165.
"Soil is sometimes washed away. Soil erosion results when the rich topsoil is carried away by rivers or by strong winds."

Running water often cuts a gully, or a deep ravine, in an eroded field. Each rain then widens and deepens the gully and further destroys the soil. In time, the field loses its productivity.

The most serious loss of topsoil is due to sheet erosion. Sheet erosion, which is caused by a sheet of water flowing across a gently sloping field, removes the topsoil. Over a period of years sheet erosion can remove nearly all the valuable topsoil.

In times of war minerals are used in great amounts. During World War II, thousands of tons of iron and steel, copper, and other minerals were used in making war machines and shells and in building ships. Other war materials were shot away, lost at sea, or left in such distant places as small Pacific islands, never to be recovered or reused. Wars are one of the greatest enemies of conservation. Not only are minerals used in quantity, but shell-torn battlefields also experience soil erosion. Forests, too, are depleted in war times, and wildlife is slaughtered or dies from lack of a natural shelter. In addition to the loss of natural resources in war there is even greater waste of human resources -- losses in life, in limb, or in health.

The farmers of the South planted crop after crop of cotton on the same fields year after year. Each crop robbed the soil of those mineral foods which the cotton plants needed in order to grow well. Fertilizers were not used to any great extent to replace these mineral foods, nor were other crops planted to help restore to the soil the foods which cotton took from it. As a result, the soil wore out over larger and larger regions.

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20 Outright et al., op. cit., p. 103.
21 Ibid., p. 419.
22 Ibid., p. 424.
Then too, in plowing the land many of the farmers ran the furrows straight up and down the slopes. During a rainstorm each furrow became the bed of a miniature river swiftly running downhill, and each miniature river washed away some of the valuable soil. 23

Not long ago salmon were much more plentiful than they are today and were found much farther south. For example, the Sacramento River in California, one of the rivers which flows into San Francisco Bay, once furnished large numbers of salmon each summer. Now salmon are seldom seen there. This is man's fault, for he has allowed the oils and dirt from ships to pollute the waters of many of the bays and river mouths in the salmon producing areas. He has dumped sewage and waste from his factories into the rivers. Salmon love clean water. When it is not clean, they sicken and die. 24

Every four years the number killed by automobiles is larger than the number of American soldiers killed in the First World War. More of our people are injured by automobiles in one year than were wounded in the first three years of the Second World War. . . . The fault lies in our carelessness, a carelessness which has become vicious and which must be corrected. 25

"It has been said that most of the people of India do not live, they merely exist. In some years millions die of starvation." 26

Sorensen, A World View

. . . Many areas have been over-grazed, that is, people have tried to pasture too many animals on a particular piece of land. When this happens, some of the grass dies out, and the bare soil is exposed to wind and rain. Then the topsoil is blown or washed away, and the land becomes almost worthless. 27

23 Glendinning, op. cit., p. 97.
24 Ibid., p. 239.
26 Ibid., p. 396.
27 Sorensen, op. cit., p. 61.
Conservation is the opposite of waste. Too often, because of carelessness, coal has been left in the ground, petroleum has flowed into rivers, natural gas has escaped into the air. People have also used fuel wastefully once they had it in their homes. Increasingly, men are seeing that waste of all kinds must be prevented. \(^{28}\)

Stull and Hatch, *Our World Today: The Western Hemisphere*

Free public schools provide a primary education in Colombia, but children are not compelled to attend school. It is estimated that only one-half of the people over seven years of age can read and write. \(^{29}\)

Since the salmon travel in schools, it is possible to catch great numbers of them in nets. When they run in certain channels of a river, traps of various kinds are used. Because of too much fishing, salmon are growing scarce and the catch of this delicious fish has been steadily decreasing for many years. \(^{30}\)

In the woods, logging has often been very wasteful, using only the best parts of the trees. The desire to get the timber out quickly and cheaply has often caused the destruction of young trees which would have restored the forest.

Fire has been another important reason for the loss of our forests. During the last few years, an average of more than 200,000 fires, burning over more than 30,000,000 acres, have occurred each year. Statistics show that most of these fires have been due to human carelessness. \(^{31}\)

All of the textbooks, except *Beyond the Oceans*, present material describing the waste of natural resources. Three of the texts, *Living Together as World Neighbors*, *Your Country and the World*, and


\(^{29}\) Stull and Hatch, *op. cit.*, p. 107.


A World View, present materials describing the waste of human resources. None of the texts provide a description or definition of what is meant by waste.

The writer believes that to be evaluated as satisfactory the text should present materials explaining what is meant by waste, provide examples of waste of both human and natural resources, and work toward the goal of creating in students a desire to eliminate waste. Since none of the five textbooks provide all of these types of materials, the writer evaluates them all unsatisfactory in relation to this concept.

**4.** Man's place in conservation, as in the whole field of geography, is central. Conservation of resources must be considered in relation to the cultural or social framework in which they exist. Conservation in a democratic society is our problem.

The writer's analysis revealed no references by any of the selected textbooks to this concept. On this basis, the writer evaluates them all unsatisfactory in relation to this concept.

**5.** Today, conservation is more than preserving or hoarding. It includes restoration, substitution, recovery, reuse, and other means of scientific management as well as preservation.

Through his analysis the writer discovered that none of the textbooks made direct reference to this concept. Likewise, none of the texts presented any explanatory materials dealing with this concept and the meaning of conservation in our times. On the other hand, four of the texts, all except Beyond the Oceans, contain materials which
the writer has interpreted as being applicable to this concept. The following are examples of the type of materials found in the four textbooks.

**Cutright et al., Living Together as World Neighbors**

Minerals, as we know, are among the exhaustible natural resources. Conservation of minerals means their wise and efficient use. It also means the use of substitutes. For example, synthetic materials like plastics have replaced metals in some ways. A nation may also conserve its minerals by using low-grade mineral deposits, instead of high-grade ones, wherever possible. Some deposits of iron ore contain only 30 percent of iron. Such low-grade deposits are used successfully when the coal used in the smelting can be obtained cheaply. Still another way to conserve minerals is through better methods of extraction and better methods of refining or of smelting. This is possible in the United States because of the work done by scientists and engineers. For example, with modern methods, the piles of waste rock around the copper mines of northern Michigan have been reworked and more of the copper has been extracted from them. Our oil wells pump more of the crude oil from the ground than was the case in the past. Modern oil refineries obtain a greater amount of gasoline and other products from the crude oil than was once done. All of this means conservation of valuable resources.  

**Glendinning, Your Country and the World**

... In addition, we import some products of which we have a good supply -- for example, iron ore, petroleum, and copper -- in order to add to our supplies and thus help to make our own natural resources last longer.

**Sorensen, A World View**

"Conserving mineral resources does not mean that man should stop using them. But present needs should be balanced against the needs of future generations."  

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32 Cutright et al., op. cit., pp. 423-424.
33 Glendinning, op. cit., p. 42.
34 Sorensen, op. cit., p. 165.
A wider use of the more abundant minerals instead of the scarcer ones, when there is a choice, is also a way of conserving resources. Actually, the world has such an enormous supply of some minerals that they may be considered inexhaustible. These include stone, clay, sand, gravel, and salt. This abundance makes the future less dark than it otherwise would be. For these abundant minerals may provide substitutes for some of the scarcer minerals.  

Stull and Hatch, *Our World Today: The Western Hemisphere*

"At first these areas were looked upon as reserves and were not used. Then the viewpoint developed that timber is a crop and must be used when ripe or it would be wasted."  

The techniques of reuse and recovery are well explained in the text, *Living Together as World Neighbors*. Substitution as a means of conservation, is well explained by Sorensen in *A World View*. Conservation as more than hoarding is explained by both *A World View* and *Our World Today: The Western Hemisphere*. None of the textbooks explained all of the techniques listed in the concept.

In the writer's opinion, all of the techniques need to be thoroughly explained and specific examples provided for satisfactory fulfillment of this concept. Since none of the texts provide all these types of information, the writer evaluates all of the texts as unsatisfactory in relation to this concept.

6. Not all resources are alike. The two basic categories, renewable and non-renewable, serve to clarify the nature of resources.

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Only two of the five textbooks analyzed contained any materials that were relevant to this concept. This concept has two aspects -- types of resources and the dynamic nature of resources -- both of which are dealt with in the materials of these two books.

Outright et al., Living Together as World Neighbors

Natural resources are generally classified in three groups. One group is composed of unfailing, or inexhaustible, resources. The air is one of these. A second group of natural resources replaces, or rebuilds, themselves after they are used if they are given enough time. Natural resources of this kind are called renewable. A forest is a renewable resource. The trees may be cut down and the lumber used, but if young trees are planted and time is allowed for them to grow, the forest will be renewed. A third group of natural resources is composed of expendible, or exhaustible, resources. When such resources have been used, they are gone forever. Most of our minerals are expendible resources. For this reason they should be used wisely rather than wastefully.37

The authors also provided extensive explanatory materials and examples for each of the three types of resources mentioned in the preceding quotation.38

A subdivision of the unit dealing with resources and conservation is entitled "Changing Uses of Natural Resources." In this subdivision, a brief historical sketch of resource use in the United States is presented -- beginning with the Indians and ending with the early days of the twentieth century. Such resources as land, water power, and minerals are given general attention.39 This historical sketch

37 Outright et al., op. cit., p. 402.
38 Ibid., pp. 402-406.
demonstrates how resources are dynamic in relation to man's knowledge, skills, and needs.

Sorensen, A World View

The story of man's use of natural resources is a story of change. As man learned to make and use better tools, they came to use natural resources in different ways. Also, as they learned more about natural resources, they discovered new ways in which these resources could be used. Men learned, for example, that petroleum, when refined, could be used to produce power. They learned enough about the building of machines to make a gasoline engine. As a result, one of the natural resources of the world could be used in a new way, and much of man's work could be done more easily and more quickly.

Not only do men's ways of using natural resources change, but the resources themselves change with the passing of time. Soils may wear out or be washed away. They may be improved by careful cultivation and fertilizing. Forests may be burned or new forests may grow. New minerals may be discovered or old mines may be abandoned.40

Sorensen provides numerous additional examples of the dynamic nature of resources and resource use in relation to man's needs. Man's utilization of resources is traced from the Stone Age to modern times.41

As time passed, men learned to use forest resources in new ways, just as they learned to use other resources, including minerals, in new ways.

... Most of the new machines were made of iron and steel, instead of wood. Yet, the use of wood has also continued to increase, partly because men have invented new ways of using it. For example, rayon is, in part, a product of the forest. Until about a hundred years ago, nearly all paper was manufactured from rags. Now, wood is the basic material used in making most paper. This geography book, for example, is made largely of wood.

40Sorensen, op. cit., p. 39.
41Ibid., pp. 39-42.
Tomorrow there may be a thousand other uses for forest products -- uses which no one dreams of now.\textsuperscript{42}

Mining is known as a "robber industry," because it always takes away, and never puts back. Though operated with the greatest care, every iron mine must some day be abandoned. Every oil well will run dry in time. \ldots In time, it will be abandoned, and the machinery taken away to be used somewhere else.

Even if unwisely used, there is a chance that natural resources other than minerals can be restored. The birds, wild animals, and fish may be almost gone. Yet, if given the opportunity, they may increase again. Grasslands may be overgrazed. But, with care, they can be improved. Soils that are washed away cannot be replaced. But soils partially worn out can, in time, be built up again, though at a great expense. Man can plant new trees to replace old ones. But nothing in the power of man makes it possible for him to restore the minerals that are used up. As far as he is concerned, they are gone forever. There is no second crop.\textsuperscript{43}

The writer believes that the quality and quantity of examples and explanatory materials in the texts, \textit{Living Together as World Neighbors} and \textit{A World View} are sufficient for the comprehension of this concept. The writer evaluates these two texts as satisfactory in relation to this concept. The remaining three books, because of complete absence of relevant materials, are evaluated as unsatisfactory in relation to this concept.

7. All resources are interrelated and interdependent. Since they are interrelated, intelligent conservation action calls for comprehensive, broad scope planning.

The writer's analysis revealed that none of the textbooks

\textsuperscript{42}\textit{Ibid.}, p. 142.
\textsuperscript{43}\textit{Ibid.}, p. 165.
directly state or explain the concept. On the other hand, the writer did find some materials which are applicable to the two aspects of this concept -- resources are interrelated and the need for broad scope planning. Only one text, Beyond the Oceans, had no material whatsoever on this concept. In the following paragraphs the writer presents the materials contained in the other four textbooks which are applicable to this concept.

Cutright et al., Living Together as World Neighbors

"Conservation of natural resources means not only using resources wisely now, but also it means planning for their use in the future."44

Many hillsides have trees growing on them naturally. If these trees are allowed to grow, the soil is protected. The roots of the trees hold the soil together and keep it from being carried away by flowing water or high winds.45 Dead leaves and forest litter also protect the topsoil.45

Glendinning, Your Country and the World

When trees cover the land, their branches and foliage scatter and break the beating rains. Under the trees is a thick layer of loose, spongy leaves and needles, which catches and absorbs the water. It holds the water long enough for much of it to sink into the soil and down into the upper part of the earth's crust beneath the soil. Thus the soil is kept from becoming parched and thirsty, and wells and springs can continue to supply water. Some of the water also flows slowly along the surface to feed the brooks and rivers directly. On steep slopes a thick forest cover is needed to hold the water gained from the rains and the melting snows. Otherwise the water races

44 Cutright et al., op. cit., p. 418.
down the slopes, carrying with it precious soil and swelling the streams of the lower lands until they overflow their banks and flood the lands close by.  

Sorensen, *A World View*

"... When this happens, some of the grass dries out, and the bare soil is exposed to wind and rain. Then the topsoil is blown or washed away, and the land becomes almost worthless."  

"Conserving mineral resources does not mean that man should stop using them. But present needs should be balanced against the needs of future generations."  

Stull and Hatch, *Our World Today: The Western Hemisphere*

In the law creating national forests, it was stated that the forests would help in preventing floods and erosion. In attempting to carry out this purpose, the Forest Service makes a special effort to keep trees on steep slopes. By breaking the force of storms, the trees slow down the rapid runoff of water, thus reducing the loss of soil and preventing floods. The forests slowly release the water to feed the springs and streams, thus making a more even flow. An even supply of water is important in streams used for irrigation, navigation, and water power.  

The examples of the interrelationship of resources discovered by the writer were very limited in scope and number. Also, the references to the need for planning in conservation were very limited in their coverage. On the basis of the lack of comprehensive coverage, examples, and explanatory materials, the writer evaluates all of the texts as unsatisfactory in relation to this concept.

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48 Ibid., p. 165.
8. Each and every individual must assume responsibility for conservation if it is to be successful. Conservation is not solely a government function. Only through education can the understanding and desire to assume responsibility be achieved in our society.

The writer's analysis revealed only one very incomplete reference to this concept. Sorensen, *A World View*, states: "All people, everywhere, depend on natural resources for a living, directly or indirectly. That is why everyone should be concerned about the wise use of these resources."\(^\text{50}\)

Based upon the almost complete lack of materials, explanatory materials and examples, the writer evaluated all of the textbooks as unsatisfactory in relation to this concept.

9. Students must be made aware of all the varied conservation programs, projects, and activities that are in existence today.

Cutright et al., *Living Together as World Neighbors* is the only text which provides a section or subdivision devoted primarily to explaining what conservation programs and projects are being carried on today. All of the texts provide numerous specific examples of conservation projects and activities which are operational at the present time. In the following paragraphs, the writer presents examples of the types of information contained in the five selected textbooks.

Cutright et al., *Living Together as World Neighbors*

... To prevent soil erosion, or the washing away of soil by heavy rains, they build terraces on the hillsides

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\(^{50}\) Sorensen, *op. cit.*, p. 42.
which slow down the flow of water. When they plow, they make their furrows around the hills, instead of up and down the hills. This also helps to slow the running water and prevents soil erosion.\textsuperscript{51}

The government of the Union of South Africa has set aside a national park to provide natural surroundings and also to protect its wild animals. The park is in the extreme northeast, the most tropical part of the nation. No hunting is allowed in this park... Tourists who drive through can see lions, zebras, giraffes, antelopes, and many other kinds of African animals.\textsuperscript{52}

Forest conservation began to be practiced in the United States in the early 1900's. Some forested areas have been set aside and are protected as national forests. Some states also have state forests. The Federal and state governments have replanted trees where the forests were cut down and where the land is not good for farming.\textsuperscript{53}

As mentioned previously, the text, \textit{Living Together As World Neighbors} contains a section devoted primarily to explaining the best conservation practices and activities being used in the world today. This section is organized around the following headings:

\begin{itemize}
  \item Conservation of soil
  \item Conservation of forests
  \item Conservation of game and fish
  \item Conservation of water
  \item Conservation of mineral resources
  \item Protecting and using human resources
\end{itemize}

Each subdivision contains excellent explanatory materials and examples of the "best" conservation practices in that particular area.

\begin{itemize}
\item \textsuperscript{51}Cutright \textit{et al.}, \textit{op. cit.}, p. 103.
\item \textsuperscript{52}\textit{Ibid.}, p. 394.
\item \textsuperscript{53}\textit{Ibid.}, p. 405.
\item \textsuperscript{54}\textit{Ibid.}, pp. 418-433.
\end{itemize}
Glendinning, Your Country and the World

One way to save the soil is to plow it at right angles to the slope, instead of up and down. When properly plowed, each furrow becomes a small dam able to catch and hold the rain. In this way the water sinks into the soil, providing the necessary soil moisture and is kept from flowing down the slope, taking the soil with it. Another way to hold the soil is to terrace the land.

Still another way to hold the soil is to keep it well fed and healthy with fertilizers. A rich soil grows a good blanket of crops, and such a blanket helps to hold the soil well, even during very hard rainstorms.\(^\text{55}\)

... The warm welcome given to the lespedeza shows how useful it is. For one thing it is a good soil-builder. When planted on worn-out land, it will rebuild the soil and make it good for growing cotton again. Lespedeza, like such crops as soybeans, clover, and alfalfa, does this by putting nitrogen back in the soil.

Just as man has learned how to improve his methods of agriculture, so he is learning to grow trees to replace those which he has used or wasted... In fact, trees are crops; for, as they reach maturity, they are harvested for lumber and fuel and woodpulp. By planting them at different times and by replacing every mature tree that is cut down, a steady yield, year after year, is ensured.\(^\text{56}\)

Before Hoover Dam was built, the Colorado River, fed by rain and snow water from the high Rockies, went on a rampage each spring. By late summer, however, its waters had often dwindled to little more than a trickle.

The building of the dam has made it possible to store the flood waters of the Colorado in Lake Mead. These waters are released a little at a time, as they are needed. Since the Colorado River has been made to behave better, floods have

\(^{55}\text{Glendinning, op. cit., p. 98.}\)

\(^{56}\text{Ibid., p. 169.}\)

\(^{57}\text{Ibid., p. 183.}\)
diminished, irrigation water is available throughout the year, and tremendous amounts of hydro-electric power are produced.  

Pounds and Jones, Beyond the Oceans

The government of Tunisia encourages the building of dams, and it also encourages the protection of forests on the mountains and hillsides. These forests help to preserve the water supply in the soil.

... We have spoken of the dams on the Nile that store the water when there is plenty and release it to the fields in the dry season. The best-known one is the Aswân Dam. Here the dammed-up Nile River forms a lake over two hundred miles long.

Sorensen, A World View

Mr. Raymond values highly the large pile of manure outside the barn door. This will be carted to the fields and carefully spread on the ground. He may also buy some fertilizer. By careful methods of farming, by enriching the soil, and by rotating crops, French farmers have kept their soil from wearing out, though the same fields have been farmed for hundreds of years.

Europe has long been a leader in scientific forestry. In many places, forests are carefully cared for as any farmer's crops. Trees planted this year may not be cut for seventy-five or a hundred years. Planning of this kind takes into account the needs of future generations.

Our forests, the national forests, are in charge of the Forest Service of the Department of Agriculture. The men of the Forest Service have a great responsibility in protecting our forests and in managing the use of them.

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58 Ibid., p. 214.
59 Pounds and Jones, op. cit., p. 250.
60 Ibid., p. 257.
61 Sorensen, op. cit., p. 118.
62 Sorensen, op. cit., p. 118.
Some timber in the national forests is sold when it is no longer growing at a profitable rate. Removing older trees allows more room for the growing of young trees.\(^63\)

Stull and Hatch, Our World Today: The Western Hemisphere

Rye is also an important food crop. It is valued by the prairie farmers because it does not suffer much from dry weather, and it fills the ground with fine roots which prevent soil from being blown away by the strong winds.\(^64\)

One of the most sought-after furs obtained from the Alaska territory is that of the seal. So great has been the demand for this fur that the animals were in danger of all being killed. Our government now supervises this industry, thus regulating the number of seals killed each year.\(^65\)

In 1891, Congress passed a law giving the President the right to set aside forest areas where no one would be allowed to cut timber without permission from the government. This law marked the beginning of our national forest system. There are now 152 national forests, covering an area of about 180,000,000 acres. . . . At first these areas were looked upon as reserves and were not used. Then the viewpoint developed that timber is a crop and must be used when ripe or it would be wasted. With this idea came the beginnings of scientific forestry.\(^66\)

It is the writer's opinion that conservation activities and their significance must be thoroughly explained as well as examples provided, for maximum comprehension of this concept. On this basis, the writer evaluates the text, Living Together as World Neighbors, as satisfactory in relation to this concept and the remaining four books as unsatisfactory in relation to this concept.

\(^{63}\)Ibid., pp. 149-150.

\(^{64}\)Stull and Hatch, op. cit., p. 174.

\(^{65}\)Ibid., p. 196.

\(^{66}\)Ibid., pp. 259-260.
10. Man must learn to know and respect nature. Through knowledge and respect, the idea of the inexhaustibility of our resources will be destroyed.

The writer's analysis revealed no direct reference by any of the five textbooks to this concept. On this basis, the writer evaluates all the textbooks as unsatisfactory in relation to this concept.

Conclusion

It may be stated that in some respects the need for conservation becomes greater each day. Man will undoubtedly continue to use those resources most beneficial to him so long as a supply of these resources exists. The ideal goal would be to have the actions of every individual, corporation, and nation based upon sound conservation principles. In this manner, the longevity of our supply of resources would be greatly elongated. The only conceivable way to accomplish this ideal goal is through education.

Through his analysis, the writer discovered that none of the five textbooks satisfactorily fulfilled the requirements of all of the ten concepts used as the basis of the writer's evaluation. Living Together as World Neighbors was evaluated as satisfactory in relation to three concepts (numbers one, six, and nine), and A World View was evaluated as satisfactory in relation to one concept (number six).

As was true in relation to a number of the other five topics, materials applicable to the concepts were presented which were neither explained nor emphasized sufficiently, for maximum comprehension.
at the junior high school level. In the writer's opinion, these texts do not utilize their opportunity to make a worth-while contribution, via education, to the topic of conservation. They fail to present the types of materials that can make this topic a part of every individual's way of life.
CHAPTER XIV

CONCLUSIONS AND RECOMMENDATIONS

Since the preceding chapters in this study have been organized on the basis of six major geographic topics, the writer will use this final chapter to present an over-all evaluation of the five selected junior high school geography textbooks in relation to the six geographic topics. Also, in this chapter the writer will present a summary of the major findings of this study and some recommendations for further study.

Major Findings

At the conclusion of the discussion of each concept in Chapters Eight through Thirteen, the writer evaluated each text on the basis of the quality and quantity of materials presented by the textbooks for the particular concept being considered. Here the writer will present an over-all evaluation of the five textbooks in relation to their treatment of the six major geographic topics.

Cutright et al., Living Together as World Neighbors

The textbook was not evaluated as satisfactory for any of the six major topics. However, the writer's analysis did reveal that this text provided satisfactory materials in relation to some specific concepts for two of the geographic topics. The writer evaluates
Living Together as World Neighbors as satisfactory in relation to the following individual concepts which are components of their respective topics:

A. Political Geography

6. Through the study of the external relations of a state, the student should be better able to realize that a state cannot be completely self-sufficient nor isolated. Therefore, international cooperation and understanding are essential for security and prosperity in the future.

B. Conservation

1. Conservation of resources includes all resources -- natural and human. Acquaintance leads to recognition of what are our resources.

6. Not all resources are alike. The two basic categories, renewable and non-renewable, serve to clarify the nature of resources. Resources are also dynamic in their relationship to man and his needs.

9. Students must be made aware of all the varied conservation programs, projects, and activities that are in existence today.

It should be emphasized that this book was the only one of the five texts analyzed that contained a chapter devoted exclusively to the topic of conservation and resources. On the basis of the six topics, this text provides a more satisfactory treatment for conservation than for any other topic.

Glendinning, Your Country and the World

The writer did not evaluate this textbook as satisfactory in relation to any of the six major topics. By means of his analysis
the writer discovered that two concepts, each related to a different topic, were satisfactorily treated by this book. These two concepts, listed here under their appropriate topic, are as follows:

A. The Nature of Geography

7. Geography is a dynamic field of study and is constantly changing.

B. Political Geography

6. Through the study of the external relations of a state, the student should be better able to realize that a state cannot be completely self-sufficient nor isolated. Therefore, international cooperation and understanding are essential for security and prosperity in the future.

It is the writer's opinion that this textbook really provides more material in relation to these concepts than is indicated in the preceding summary. As can be seen in Chapters Eight through Thirteen of this study, Your Country and the World has many materials which are applicable to the concepts but does not provide the explanatory materials needed to be evaluated as satisfactory for the purposes of this study.

Pounds and Jones, Beyond the Oceans

The textbook analysis made by the writer in this study reveals that this textbook does not provide satisfactory materials for any of the six geographic topics. However, the analysis also revealed that Beyond the Oceans provided satisfactory materials for one concept
on the topic of Maps and Map Reading. This concept is as follows:

4. Maps function in the capacity of broadening man's perspective beyond his own immediate environment. They provide a means for man to see the world or large segments of the world in one view.

The authors, Pounds and Jones, state that their text contains both history and geography subject matter content. It is the writer's opinion that this type of social studies treatment is not the most satisfactory for the best comprehension and utilization of geographic knowledge at the junior high school level. Although this is technically beyond the scope of this study, the writer refers to this type of organization because it may help to clarify his analysis and evaluation of this book. Many pages of this text are pure history and therefore do not relate to the topics and concepts which are the basis of this study. The scope of the textbook, Beyond the Oceans, is too broad in the writer's opinion.

Sorensen, A World View

The writer's analysis revealed that even though this text was not evaluated as satisfactory for any of the six major topics, it did present materials which enabled it to be evaluated as satisfactory for several concepts. A World View was evaluated as satisfactory in relation to ten concepts which are included in four of the major geographic topics. These are as follows:

A. The Nature of Geography

7. Geography is a dynamic field of study and is constantly changing.
B. Maps and Map Reading

2. All flat maps are plane representations of the earth, a sphere, and therefore, they are distorted to some degree or extent.

5. Maps are a type of shorthand for the geographer to both gain and record knowledge. Maps are a means or a tool by which man can learn more about the earth. Is the "over-all" approach of the textbook that of using maps as a "means to an end" or as a tool, or are maps presented as ends in themselves?

6. There is no single ideal map. All maps have "properties," and the type of map selected must depend upon the function it is to serve.

7. The number of types of maps is almost endless. Students must gain a working knowledge of the basic standard types. How great a variety of map types are presented in the geography textbook?

8. The characteristics or components -- projections, grid system, scale, and symbols -- are all man-made devices to enable him to learn more about the earth. The geography student must have an understanding of all these components to use maps intelligently.

9. Maps are dynamic; technology and the times have greatly changed the need and function of maps. Man in order to keep pace with the ever-changing conditions of the earth has devised many new map techniques and types.

10. What type of "creative map activities" are suggested or provided for in the textbook?
C. Urban Geography

3. Each city, like each human being or region, is unique and is the result of many forces and factors -- location, site and situation, function, and internal structure.

D. Conservation

6. Not all resources are alike. The two basic categories, renewable and non-renewable, serve to clarify the nature of resources. Resources are also dynamic in their relationship to man and his needs.

A World View is the only text to include a chapter devoted, in part, to maps and map reading. This chapter is entitled "Tools" and provides excellent explanatory materials on maps and map reading. This text provides materials which were evaluated as satisfactory for the largest number of concepts, and these concepts were related to more of the six major topics than those of any of the other four selected textbooks.

Stull and Hatch, Our World Today: The Western Hemisphere

The writer did not evaluate this book as satisfactory in relation to any of the six major topics. In fact, the writer evaluated this text as satisfactory for only one concept. On the topic of Political Geography, the writer evaluated this text as satisfactory in relation to the following concept:

6. Through the study of the external relations of a state, the student should be better able to realize that a state cannot be completely self-sufficient nor isolated. Therefore international
cooperation and understanding are essential for security and prosperity in the future.

This textbook was the only one of the five analyzed which was not evaluated as satisfactory in relation to the number and quality of maps contained in the text. The maps provided in this text simply were not sufficient for maximum comprehension at the junior high school level. It is the writer's opinion that this text is the least satisfactory in relation to the six major geographic topics used as a basis for this study.

Drawing upon all the materials of this study, the writer believes it appropriate, in summary, to emphasize two major ideas in relation to organizing junior high school geography on the basis of geographic topics and concepts. First, at the junior high school level, geography textbooks need to be organized around the separate subject, geography, and not combined with history into a combination type social studies course. At this level, students must explore geography as an academic subject and discover its significance and function to man. At a higher grade level, the correlation and interrelation of geography and all subject matter areas can be further explored and applied.

Secondly, junior high school geography textbooks need to present more theoretical and explanatory materials than pure factual information. Drawing upon the analysis of the five textbooks made in this study, the writer concludes that at the junior high school level facts should be used to exemplify theoretical ideas or concepts, instead of an occasional bit of explanatory material to
supplement or expand the facts presented. If geography is to make its maximum contribution to man's knowledge, then students must first learn the "how" and "why" of this subject not just masses of facts. Through the use of major topics and concepts, students can gain a real understanding of the role of geography in the life of man, and then factual information will be not only more meaningful but also will be retained longer.

Recommendations For Further Study

This study was limited to six major topics and five selected textbooks. Certainly much could be gained by using these same six topics and analyzing others or all of the junior high school geography textbooks published today. Perhaps, there are some textbooks which more satisfactorily meet the requirements of this analysis and evaluation.

Another very beneficial endeavor would be to have junior high school geography teachers use and evaluate these topics and concepts in the classroom. There is no test equal to actual classroom application. This type of experiment would require either a teacher competent in the field of geography or a textbook based upon topics and concepts similar to those explained in Chapters Two through Seven. From the writer's experience, it is evident that these two components are in rather short supply.

This situation leads to another recommendation which is the construction of suitable resource units by classroom teachers.
With help and guidance, classroom teachers could construct resource units based upon geographic topics and concepts and use these as the course of study instead of using the textbook as the course of study as is a prevalent practice today.

Lastly, the writer believes that the ideal or ultimate recommendation would be to have a person or persons devise a "complete" set of topics and concepts for junior high school geography. The second step of this ideal recommendation would be to have a textbook written which would be based upon this "complete" set of topics and concepts. This would then fulfill the hypothesis upon which the writer has based this study.
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