

**ANALYSES OF SEVEN HIGH SCHOOL GEOGRAPHY
TEXTBOOKS**

INDIANA STATE TEACHERS COLLEGE

The purpose of this study is to analyze the content of seven high school geography textbooks in order to determine the nature and extent of the geographical knowledge and concepts presented in these books. The study is based on a comparison of the content of these textbooks with the requirements of the Indiana State Board of Education for high school geography.

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This study was conducted as a part of the requirements for the Master of Science Degree in Education at Indiana State Teachers College. The author wishes to express his appreciation to the faculty of the college for their cooperation and assistance in the study, and to the Indiana State Board of Education for their permission to use the textbooks in this study.

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I. INTRODUCTION

This study was made to ascertain the quantitative contents of high school geography textbooks of general principles and of economic geography. The conclusions have been based on only the quantitative contents of the textbooks.

A. Problem

The problem was to make quantitative analyses of the leading high school geography textbooks of general principles and of economic geography.

The purpose of this problem was to study the high school geography textbooks with respect to how well they were meeting the requirements of modern geographers in their attempts to humanize geography.

B. Sources

Sources of the study were furnished by periodicals, reference books, textbooks, and score cards. Valuable data were received through the cooperation of forty-eight Indiana high school geography teachers who answered a questionnaire in the form of a score card for evaluating high school geography textbooks.

C. Procedure

A study was made of previous studies found in periodicals and textbooks. The score cards of other authors were analyzed

and a score card was made from them. This score card was sent to forty-eight Indiana high school geography teachers who evaluated any high school geography textbook. Evaluations and a comparative quantitative analysis were made of three high school geography textbooks of general principles and of four high school economic geography textbooks.

II. HISTORICAL DEVELOPMENT OF GEOGRAPHY

Geography had its beginnings earlier than history but at first it was a pure science rather than a subject in the curriculum. The contributions of the Chaldeans, Hindoos, Jews, and Egyptians were: geometry, the ideas of a spherical earth, circular measure, knowledge of the eclipse, the first measurements of the earth, and the calendar. The Romans made use of maps and accounts of their newly acquired possessions later. Strabo contributed a systematic geography, 20 B. C. The period of Discovery and Exploration, during the sixteenth and seventeenth centuries, placed an emphasis upon geography in the elementary school curriculum. The influence of Francke, in the latter part of the seventeenth century was toward geography in the secondary school curriculum. There has been tremendous material development of the world in the last fifty years. All these facts go to show that there has been a fundamental interest in geography from the beginning of historic time.

A. Geography as the Mother of Science

Only in recent years has geography been recognized to any extent in America as an appropriate subject for university instruction and research, as a science with vital truths to contribute to human knowledge, and as an art having wide application to practical affairs. One is not surprised, therefore, to hear it frequently characterized as the youngest of the subjects of advanced study. This thought is erroneous and a

student of geography can soon prove that geography is the Mother of the Sciences. Centuries before Christ it was a recognized study the scope of which embraced the entire universe. As time passed, geography bore many children, among them astronomy, botany, zoology, geology, meteorology, archaeology, and anthropology. The relation to the parent of these offspring has in some cases been entirely overlooked. The children have attained independence by taking over a part of the parental estate, the cultivation of which involved distinctive tasks and by working it more intensively than the parent had done. Thus each child became a successful specialist, while the parent, though it relinquished most of its original domain and many of its earlier functions, still retained multifarious interests. Moreover, geography repeatedly has undertaken new obligations as marginal fields have become new centers for research; and has added to the complexity and extent of its domain. In other words, its boundaries expanded in some quarters, even as they contracted in others. Thus the scope of geography has changed from time to time in the past, and future changes may be anticipated with confidence. Geography, perhaps, will remain for many years a "vibrant science."

B. Human Ecology as the Unique Field of Geography

Geographers have the question before them from time to time as to what marks a distinctive field for geography. The answer to the question has been made by the modern scientific American geographers. It began with the notable work of Davis,

Gilbert, and a few others in physiography. This particular movement caused geography to become integrated with Geology, but as geography has retained its importance one now finds in the colleges a Department of Geography and Geology. This is the status of things now in seven or eight of the universities of the Middle West. Scarcely was physiography established before an insistent demand arose that it be "humanized." This demand met with a prompt response and the center of gravity within the geographic field has shifted steadily from the extreme physical side toward the human side, until geographers in increasing numbers define their subject as dealing solely with mutual relations between man and his natural environment. By "natural environment" they of course mean the combined physical and biological environments.

According to Barrows,¹ geography is defined as the science of human ecology. Geography aims to make clear the relationships existing between natural environments and the distribution and activities of man.

If the history of geography teaches one lesson more clearly than another, it is that the etymology of the word has not delimited the field to which it applies. In the future, just as in the past, the scope of geography will be determined largely by that of the constructive work of its followers and by the labors of men in kindred fields.

¹H. H. Barrows, "Geography as Human Ecology," Annals of the Association of American Geographers, XIII (1923), pp. 1-14.

Huntington² says that geography is primarily the science which describes and maps the phenomena of the earth's surface for the purpose of discovering how the distribution of one set of phenomena is related to that of others. The foundations of the science are the distribution of physical features like oceans, land forms, soils, minerals, and climate. Upon these to a large degree depends the distribution of plants and animals, then comes that of human occupations and modes of life, and at the top the distribution of human character and achievements. The pinnacle of geography is reached when one is able to explain why certain types of human character and certain manifestations of genius; hence certain lines of progress and stages of civilization are localized in various parts of the world.

C. Content and Point of View

The nature of geography has changed radically during recent years, but, as is to be expected, practice lags far behind the newer point of view. The tendency, born of tradition, is still strong toward treating rivers and mountains, also exports and imports as such. The vital human element, if introduced at all, is likely to be a sort of appendage, something with which to close the chapter.

At the high school level, as elsewhere, there is urgent

²Ellsworth Huntington, "Geography and Natural Selection," Annals of the Association of American Geographers, XIV (1924), pp. 1-16.

need of a new content dealing with the relationships which exist between human life and the natural environment; between human activities on the one hand, and the natural scenes of such activities on the other. Subject matter, selected and organized in line with this basic conception, moves certain human affairs from a marginal to a focal position and vitalizes the study of geography.

D. Huntington's³ Main Divisions in the Classification of Geography

"Geography is a dynamic science. Activity or change is one of its most fundamental principles. The descriptive stage of fifty years ago when geography was classified as mathematical, physical, and political was succeeded by the so-called scientific stage. Then it became the science of distribution. This idea of distribution as the distinguishing characteristic of geography still lingers in some quarters, notably in England.

In America, however, early in this century geography entered the environmental or biogeographic stage, becoming the relation between the earth and its living inhabitants. It has become a combination of (1) physiography, (geoplanetology, meteorology, oceanography, and the physiography of the lands), and (2) ontography (phytogeography, zoogeography, and anthropogeography). The following objections may arise: (1) that these are non-biological sciences, whereas geography deals with life; (2) that plants and animals belong in the environment; (3) that botany and zoology deal with adaptations of life to the environment.

Recently geography seems to be entering the social phase. Defining geography as the study of the reciprocal relations between man and his environment, one finds a logical classification to be: (1) physical; and (2) social geography. Both deal with essential geographic function, the relation between man and environment. Physical geography treats it from the side of the environment, whereas social geography examines it from the point of view of man and his activities. The subdivisions of physical geography are naturally those dealing

geography must with better accuracy if some clear phase were

³C. C. Huntington, "The Main Divisions in the Classification of Geography," Annals of the Association of American Geographers, XVI (1926), pp. 28-29.

with the relations to man of each of the great environmental factors. Thus there is geography of the land, the geography of animals, etc., in each case some attention being given to its relation to man. Social geography logically subdivides, according to the classification of man and his activities, into racial, economic, political, military, historical geography, etc."

E. Geography in the High School

Physiography, or earth science, which was the first branch of geography to be taught, is almost entirely a development of the last fifteen years in the high school. Its successful establishment in secondary schools was due to the development in the nineties of a vigorous group of university physiographers. Two of them, Tarr and Davis, wrote the first elementary texts which combined modern scientific content with a simple and attractive manner of presentation. A period of marked growth in physiography instruction at the end of the century resulted. Since then, however, a general reaction has begun. In some sections of the country physiography is holding its place in the curriculum, while in others different forms of science instruction, most particularly general science are being substituted.

The questions are, therefore: May geography redeem its position by remedying the deficiencies which have been discovered in physiography as taught at present? Must geography give way to other branches of science as a whole or will geography meet with better success if some other phase than physiography be chosen?

Physiography failed because of two reasons: (1) lack of

trained teachers and (2) an impression that the course lacked general practical value.

Because physiography has not developed the practical values inherent in the subject of geography and because it is also open to other objections mentioned, other phases of geography have been proposed to take its place. The three forms which have attracted attention are: economic geography, principles of geography, and regional geography. Each of these is a study of life in reference to its environment; the emphasis is shifted from the inanimate world to the animate world. It is true that in all of them the best teaching requires training in physiography and in anthropogeography. These subjects make a more general appeal to the student because of the lesser amount of technical material, and because in them geographic principles are applied to practical life. From one standpoint these branches are simply the application of physiography to economic conditions. Due to their interesting contents and obvious value these "humanized" forms of geography are winning their way rather rapidly in the high schools of the country.

The first of these more recent forms of geography to be introduced into secondary schools was commercial geography, the study of the production and exchange of the commodities. Its development in this country was partly in response to the success of this type of instruction in Europe and Great Britain. The movement was started when Adams published a text in 1901. The practical information which this course gives regarding world's work and the drill which it affords in place geography

has won for commercial geography a position not alone in commercial courses but in non-vocational courses in high schools as well.

The subject is sufficiently well organized for presentation in the high school, the chief difference of opinion which remains being as to whether it is preferable to make the commodity or the region the unit of study.

The need of a high school course in the general principles of geography has been the subject of discussion at various meetings of educators, most notably at those of the National Education Association, and the Association of American Geographers. The task was first undertaken by Dryer, who published his High School Geography in 1911, and by Salisbury, Barrows, and Tower with their Modern Geography, published in 1913.

The salvation of geography in the high school lies in the development of general and commercial geography. Of the two, the general course will fill by far the more responsible position in the curriculum. It includes all the most important teachings of physiography. Its interest is heightened by an application to the living world, especially to human activities. Its nature is cultural in the fullest sense in that it tends to give a world outlook. It should have as its great laboratory the home environment, which may be used quite as fully and successfully as in physiography or biology. General geography should provide an attractive review of locational geography.

Geography has too long occupied a minor place in commercial

education. It has been taught by inexperienced, disinterested teachers whose only thought seems to have been to complete the text in the given length of time. The assignments day after day have been "take pages so and so for to-morrow." The recitations have been usually so uninteresting to both teacher and pupil that all were glad when the class period was completed.

If such a subject as geography, which links up with life and living, is so vitally important to all of us, why is one not finding it interesting? Why is it so neglected? Why do so many teachers dislike to teach it and why do academic teachers say to pupils "it is merely a waste of time to take such a course?" These questions can be answered by humanizing geography and by requiring more training before teaching certificates are granted in the subject.

Geography is fundamental in the commercial training of those who would enter the industrial life of the world today. Human beings must spend most of their energy in obtaining food, clothing, and shelter. The industries and commerce concerned in the necessities of life are, therefore, the greatest activities of human life. To the boys and girls who will soon be earning their living, an understanding of economic activities and their relation to natural environment is most important.

1. Economic geography touches man on every side.

Geography is the study of the earth and its people.

It is the study of the earth and its people.

III. GEOGRAPHY IN THE MODERN HIGH SCHOOL

The high school course in geography should include physiography, economic geography, and human geography. At least two semesters are needed to do satisfactory work and two years would be preferable.

A. Objectives

According to Symonds,⁴ the objectives of the courses in high school geography are: (1) to develop personality, (2) to encourage individuality, (3) to stimulate initiative, (4) to train for leadership.

These objectives may be realized by using various methods to stimulate interest, such as the following: (1) special reports, (2) problems, (3) maps illustrating principles, (4) themes, (5) debates, (6) outlines made by pupils, and (7) outlines supplied by the teacher.

B. Principles Around Which a High School Geography

Course Should Be Built

A good high school geography course should be built around five principles, according to Symond's⁵ philosophy of the subject.

1. Economic geography touches man on every side. Few

⁴Clare Symonds, "High School Geography," Journal of Geography, XXIV (1925), pp. 314-323.

⁵Ibid., pp. 314-323.

realize that the wants of people created industry and commerce, and as wants increase industry and commerce will increase. In countries or regions where people do not know of things to wish for there is little industry and commerce.

2. Geography is the study of the adjustments made by peoples to fit themselves to the best possible advantage into their natural or earth environment. In this study one gains an understanding of what man has done to overcome natural obstacles and learns to appreciate what Nature has done for man.

3. Economic activities are largely determined by natural environment. The chief features of natural environment are climate, soil, topography, geographic position, and natural resources.

4. Environment influences man's material needs. In order to understand the economic activities of any country one must study the different peoples, their varying appearance, dress, shelter, kinds of food, and above all their capacities for work.

5. Transportation and communication have done more for human progress than any other agencies. Without them present civilization would not exist.

Although the foregoing principles do not include a study of all the factors of the natural environment which many geographers choose to include, they show an interesting and extremely useful tendency of the subject to evolve into a study of human ecology.

Geography, 1911, p. 100.

C. The Content of Geography in the High School by Grades

According to Renner,⁶ the content of geography in the high school by grades is as follows:

1. Geography of Nations. When the pupil enters the ninth grade he will have laid his foundations in home geography, expanded his background in type studies, and obtained a complete knowledge of the world in his three years of continent geography. He is then ready for a new type of work. A selected list of ten or a dozen nations should constitute the year's program. Each should be studied as an example of a nation's adjustment to its environment and to its world relations with the purpose of developing the idea of national economy.

2. Physical Geography. Physical geography should be taught in the tenth grade. This subject should establish in the pupil's mind an appreciation of nature, a knowledge of the forces and processes involved in shaping the natural environment, and a preliminary introduction to the methods and viewpoints of science.

3. Economic Geography. In the eleventh grade, the unit of work should consist of what is usually termed industrial and commercial geography. Its function is to study the major occupations of mankind in their relation to the environment. Such a study provides the basis for economics and furnishes interpretation of many familiar natural phenomena, thus taking

⁶G. T. Renner, "The Geography Curriculum," Journal of Geography, XXIX (1930), pp. 344-353.

valuable aid to the study of history and other social studies.

4. Historical Geography. The last unit of work, reserved for the twelfth grade, affords a fitting climax to the public education in geography. Its aim is to accomplish a three-dimensional analysis of American development. The present status of man's national life should be interpreted in the light of the successive geographies of the past. In this way the United States will be viewed not as an historical accident, nor as a self-generated political power, but as the natural resultant of a long line of progressive adjustments to the environment.

D. Adjustments Needed in High School

Geography Teaching

Some of the conditions calling for a readjustment in geography teaching in the secondary schools are as follows:

(1) Geography, originally a university and later a secondary school subject, has expanded into the elementary school where the pupil gains much of the information formerly given only in the university and the secondary school. (2) The atlas, the railway guide, and the encyclopedia now provide for the layman ready access to locational and descriptive facts, thereby eliminating the need for memorizing a great mass of such information. (3) General science is assuming responsibility for the interpretation of many familiar natural phenomena, thus taking away another traditional duty from geography. These changes, far from leaving geography without content, really emancipate

the subject from the necessity for building up numerous subordinate concepts, and thus prepare the way for effective concentration on the present main objective.

To orient the individual in this world of commerce is one of the basic responsibilities of geography in the secondary school. The major objective⁷ of commercial, or economic, geography embraces a mental image of the silent features of the world's commercial pattern. This image is rationalized by an understanding of how these features are related to the world's occupational pattern and to the underlying pattern of natural resources and conditions.

The major objective⁸ of political geography in the secondary school is an understanding of relationships that tie international political problems to the physical earth. The attainment of the major objective of political geography in the high school will broaden the pupil's horizon by revealing the cooperative effort involved in the age-long struggle of mankind to occupy and control the earth.

E. The Status of Geography in the Senior High School

As a result of a recent study made by Clare Symonds⁹ the

⁷ Alice Foster and Katherine L. Calloway, "Geography in the Senior High School," National Society for Study of Education, 1932 Yearbook on Teaching of Geography, (1933), pp. 287-307.

⁸ Ibid., pp. 287-307.

⁹ Clare Symonds, "The Status of Geography in the Senior High School," National Society for the Study of Education, 1932 Yearbook on Teaching of Geography, (1933), pp. 545-546.

following discoveries were made:

"During the years 1927 to 1930 a survey was made to learn the extent to which geography was offered in the senior high schools of the United States. Questionnaires were sent to 500 school systems well distributed throughout the country: 151 in the Northeastern States; 103 in the Southern States; 179 in the North Central States; and 67 in the Western States. Replies were received from 371 cities, 74 percent of the total, with 70 to 70 percent from each of the four sections. The following are some of the significant facts disclosed by the survey.

Of the 371 senior schools reporting, 259, or 70 percent, offer geography; 112, or 30 percent, do not include geography in the curriculum.

The 259 cities that include geography in the curriculum offer a total of 340 courses. Of this number, 79 are physical geography; 238 are commercial geography; 23 courses are given under other titles, some of which are by name: general geography, high-school geography, human geography, social geography, human ecology, world geography. Seventy-six, or 20 percent of the 371 schools reporting, offer more than one course in geography.

Geography is offered in each of the three years of the senior high school. Of the 333 schools reporting on the grade placement of geography, approximately 50 percent assign geography to the tenth year; 30 percent to the eleventh year; 15 percent to the twelfth year; and 5 percent to any year in which it may be chosen.

Of the 371 schools reporting, 60 make commercial geography a required study in the commercial course and elective in all other courses; 96 offer commercial geography as an elective in any course. Physical geography is offered as an elective in 79 schools. Geography work given under other titles than physical geography or commercial geography is usually elective, but in some schools required of those who expect to become teachers.

The percentage of high-school pupils taking geography varies from less than 5 percent in a few schools to more than 30 percent in a few schools. The range in most schools is between 8 percent and 25 percent.

A somewhat broader view of the offerings of geography in the high schools of the United States is indicated by the following: 'The last figures¹⁰ available show that for the year ending June 30, 1928, the enrolment in geography classes in the high schools of the United States was 153,351.'

Geography should teach one to make the most of his natural

¹⁰L. C. Cochrane, "Statistical Report," Thirty-first Yearbook, National Society for the Study of Education, Part I, (1932), p. 243.

environment, and give him knowledge of the relationships between man and his environmental complexes over the world. In these times of modern communication and transportation the ends of the earth have been brought to man's front door. Perhaps there is today in this country a greater need at the high school level for an understanding of geographical relationships and principles than ever before. This is the challenge which the high school teacher of geography must meet.

The authors of Textbook 2 have tried to meet this challenge by presenting a series of stimulating problems which will help the student understand the geographical relationships and principles which govern the world we live in.

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IV. PHILOSOPHY OF MODERN HIGH SCHOOL GEOGRAPHY TEXTBOOK AUTHORS. The age of science and invention seems to be a time of geographical re-orientation.

The authors of Textbook A believe that a textbook should contain a sound and adequate factual content, but such content must be adapted to the needs of the high school pupil. They have sought to produce a book the student's mastery of which will be a task at once easy and pleasant. Some of the means used to secure these ends are: the use of simple diction, relating new knowledge to old by means of ample explanations, amplifying the text by frequent use of photographs, graphs, and maps, and providing an adequate number of exercises.

The authors of Textbook B state that the chief aim of geography in the high school is to give a working knowledge of the Commercial World. The process of obtaining this knowledge is not a simple task, but the introductory concept, however, can be obtained by geographic study; in fact, it can scarcely be obtained by any other means.

The authors of Textbook C wrote their book as an endeavor to reawaken the interest of high school pupils who think that they have already had enough geography. The methods which they use in accomplishing this are: First, to ground the book on the economic basis expressed in the four terms Primary Production, Transportation, Manufacturing, and Consumption; second, to combine a large number of stimulating problems with an interesting text that guides the pupil and helps him to work out the problems.

The author of Textbook D believes that it might almost be said that the world is made anew every year. The age of science and invention seems to be in its beginning, not its ending. All these new things react on each other, on our natural resources, and economic situation and give a new and changed usefulness to our old earth. His book is an attempt to explain how the earth becomes the home of man, especially those men who are pleased to call themselves civilized.

The educational philosophy of the author of Textbook E is that its greatest aims are to prepare the youth of our land to be self-supporting, to participate intelligently in local and national affairs, and to be useful and honored members of society. That the future history of our country is to be inseparably connected with that of the rest of the world is now an assured fact. No longer can our national life be one of isolation, even if we so desired. To perform efficiently and justly our part in the world and national affairs, we must know geography. It is generally conceded that geography is one of the broadest subjects, and that it cannot, in its deeper significance, be grasped by pupils in the elementary schools. This means that geography should be taught in every secondary school in the United States.

The authors of Textbook F have prepared their book with the conviction that the chief object in geography teaching should be preparation for everyday life, for citizenship in the widest sense. They have sought to make their text explanatory and to emphasize the relations of earth, air, and water to man's life.

activities and interests, so that the knowledge gained may be directly useful.

The author of Textbook G has written his book with two ideas in mind: (1) that the geography of the secondary school ought to be humanized; and (2) that the influence of geographic environment upon man's mode of life and upon his principal activities should be always in the foreground. Geography is not simply a study of the physical environment of man, nor is it simply a study of selected human activities; rather is it a study of both plus their interrelation.

From a study of the foregoing philosophies of modern high school geography textbook authors, the following tendencies are significant: (1) To adapt the content of geography to the high school pupil by means of humanization, (2) to give the high school pupil a working knowledge of the Commercial World, (3) to show the influence of geographic environment upon man, and (4) to prepare the youth for efficient citizenship.

Of course all four of these tendencies were found in each of the seven textbooks considered, but usually only one was placed in the foreground in the development of the subject matter of each textbook. The most significant tendency found in Textbooks A, C, and G is to adapt the content of geography to the high school pupil by means of humanization. Textbook B has the greatest tendency to give the high school pupil a working knowledge of the Commercial World. Textbooks D and G have a tendency to show the influence of geographic environment upon man. The outstanding tendency found in Textbooks E and F is to prepare the youth for efficient citizenship.

V. TEXTBOOK SELECTION

A. The School Textbook Problem

The textbook has always occupied a position of large importance in American education. In the early days of the school, when trained teachers were exceedingly few in number, and when teaching equipment was exceedingly limited, the success of the instruction was largely determined by the textbooks which the teacher happened to have at her disposal. The great and widespread influence of such early textbooks as PIKE'S ARITHMETIC, MORSE'S ELEMENTS OF GEOGRAPHY, LINDLEY MURRAY'S GRAMMAR, and WEBSTER'S SPELLER, and the great improvement in instruction in arithmetic made possible by the publication of COLBURN'S FIRST LESSONS IN ARITHMETIC on the Plan of Pestalozzi, are known to every student of the history of education. Other textbooks familiar to the older generation are: RAY'S ARITHMETIC, MCGUFFEY'S READERS, APPLETON'S GEOGRAPHIES, and the SPENCERIAN COPYBOOKS. At a later stage of American education the textbooks of GUYOT, FRYE, and the TARR AND McMURRY GEOGRAPHIES; the APPLETON BALDWIN and CYR READERS; the BARNES, FISKE, and McMASTERS HISTORIES have been introduced. Each of the textbooks educated a body of teachers in new methods of instruction, and each profoundly influenced the teaching in our schools.

B. Principles of Textbook Selection

The major criteria for the selection of textbooks are

five:¹¹

1. The factor of interest.
2. The factor of comprehension.
3. The permanent methods of study involved in the text.
4. The permanent value of the content.
5. The mechanical construction of the text.

These criteria are accepted by most educators as of great importance in evaluating textbooks. The difficulty, at present, is to apply these criteria in a particular situation.

A study of textbook construction and of methods of textbook selection even now prevalent, however, gives the student of education reason to prophesy great increase in the genuine adequacy of public school textbooks. Further, it is sure that the selection of a particular text in preference to other available books is about to become far less a matter of guess and poorly based opinion and far more a matter of deliberate choice in light of sound criteria of textbook excellence.

Textbook selection is obviously a process of making choices, and choices can be made in many ways. It is quite possible that certain texts have been chosen not because they were better tools of instruction than other books, but because the salesman urging their adoption had a more persuasive vocabulary, more agile and plastic sales methods, or was politically more canny than his competitors. Other texts have had large sales because they were, or professed to be, exponents of some

¹¹R. H. Franzen and F. B. Knight, Textbook Selection (Baltimore: Warwick and York, Inc., 1922), p. 11.

pedagogical doctrine which pleased the buying agent. Some textbooks have been adopted by schools because the proper authority, having studied the matter deliberately, chose those particular books.

C. Geography Textbook Selection

There has been a marked change in the attitude toward geography in recent years. The relationship idea has become prominent. The conception of a textbook in geography as a mere atlas is no longer sufficient. The modern text in this subject does credit to the makers of books. Owing to the cost of publication, there is not a multiplicity of texts from which to choose as in most other subjects. This fact makes possible an extensive examination without great effort.

Textbooks play a very significant part in all geography work. According to the findings of the Bureau of Curriculum Research of Teachers College, Columbia, they have been the most important factor in determining courses of study. They contain the main collection of reading materials, maps, pictures, diagrams, graphs, statistical material available for the great majority of teachers and pupils alike. Fortunately or unfortunately, most teachers and consequently most pupils, would be lost without the textbook. It has been discovered that teachers want a textbook even on the opening day of school.

1. Deforest Stull's Criteria for Textbook Selection. The following criteria for textbook selection are suggested by

Deforest Stull:¹²

a. Reading Matter. The reading matter should appeal to the high school pupil. Modern textbooks in geography are now being written by authors who understand this fact.

In modern geography, the what, the where, and the why of man's interrelationships with his natural environment are emphasized and very much attention is given to causes.

b. Pictures. A high school geography textbook should contain carefully selected pictures. They are very valuable in all geography work. It cannot be too strongly emphasized that modern authors and publishing houses have gone to considerable trouble and expense to secure reliable, recent, and worthwhile pictures, in the hope that they be wisely used.

c. Maps. Maps constitute a very valuable part of the language of geography and as such should be often and carefully used. Further, the teacher should realize that there are literally hundreds of various kinds of maps. There are maps which show temperature, rainfall, political boundary lines, communication, pressure and winds, vegetation, products, density of population, commercial development, and hundreds of other facts of location and distribution. A high school geography textbook should contain many such maps. This should be true if for no other reason than that the textbook maps may be the only ones available to teachers and pupils alike.

¹²Deforest Stull, "A Survey of Textbooks and Related Publications in Geography," Journal of Educational Methods, VII (1928), pp. 179-189.

d. Diagrams. The geography textbook should contain helpful diagrams. They are especially helpful in the study of physical geography. A good example would be a diagram to illustrate various positions of the earth in its revolution around the sun. A careful examination of this diagram should enable one to secure an understanding of the causes of the seasons which otherwise could only be obtained from many pages of written material. Winds offer a very difficult topic under any circumstances, and are almost impossible to present successfully without diagrammatic representation. A good illustration of such a diagram is one showing the circulation of air about a low pressure area and a high pressure area in a certain part of the earth.

e. Statistics and Graphs. Textbooks in high school geography should contain up-to-date statistical material, such as statistical data concerning commerce, industry, and population. These data may be presented in table form but for a more compact form of representation graphs are used. Modern governments now publish much valuable statistical geographical materials based on census figures, and statisticians have developed methods for their graphic representation.

f. Mechanical Make-up. Textbooks in geography should pay attention to attractiveness in mechanical construction. Size appears to be a factor in textbook selection even in the high school. Small, diminutive volumes do not appeal as strongly as a larger book. The cover also appears to be a factor in determining the selection of the textbook. Blue, red, and yellow

are favorite colors for covers.

2. A Copy of Stenquist's Score Card for Evaluating High School Geography Textbooks.

Topic in Course of Study.....

Author.....Title.....Pub.....

After examining the book, if you find it is desirable for Pupil's Use, write P in columns which will show why it is desirable. If it is good only for Teacher's Use, write T in the columns which show why it is desirable.

The Book Provides Good

	<u>Pupil's Use</u>	<u>Teacher's Use</u>
Pictures.....(for).....
Maps..... "
Graphs..... "
Statistics..... "
Reading Matter..... "
Organization..... "

Correct Use of the Book
Results in

	<u>Pupil's Use</u>	<u>Teacher's Use</u>
Knowledge of Geographic Principles.....
Knowledge of Geographic Vocabulary.....
Attitude Toward Life and Geography.....
Skill in Problem-Solving.....
Skill in Using Table of Contents, Indices, Cross-References, Foot-Notes, etc.....
Skill in Presenting Data in Good English.....
Reading Geographic Material for Pleasure.....

3. Maxwell's Criteria¹³ For Judging High School Geography Textbooks.

¹³ C. R. Maxwell, The Selection of Textbooks (New York: Houghton Mifflin Co., 1921), p. 105.

I. Publication

A. General

1. Title of Book _____
2. Author or Authors
 - a. _____
 - b. _____
3. Publisher
4. Number pages
5. Date of copyright
 - a. (1st edition) _____
 - b. (Revised, if any) _____
6. Intended for _____ grade
7. Price

II. Content

- A. Purpose
- B. Proportional Distribution of Subject Matter
- C. Proportional Distribution of Illustrative Matter
- D. Validity
- E. Style or Nature
- F. Organization
- G. Aids for Using

III. Mechanical Make-Up

- A. Binding and Size
- B. Paper
- C. Typography
- D. Quality of Illustrations

4. Writer's Score Card for Evaluating High School 30

Geography Textbooks.

		Approximate Average Ratings*	Ratings Reduced to Round Numbers
I.	Point of View Total points	181	180
	A. Relationship idea prominent	59	60
	B. Response of man to his environment	39	40
	C. Information the end point	27	25
	D. Physical features or life of the people, the starting point in the first part of book	56	55
II.	Organization of Material Total points	228	230
	A. Logical	48	50
	The point of view of the geographer; i.e., mathematical, physical, political, industrial,		
	B. Psychological	111	110
	Organized from the point of view of the interests, capacities and needs of undeveloped children.		
	C. Organization with a definite purpose	69	70
III.	Type of Treatment Total points	234	235
	A. Topics treated in large units with many supporting details	54	55
	B. Suggestions for problem study	65	65
	C. Interesting information given in an interesting way rather than a mere list of facts	49	50
	D. Attention to relative values based on importance	24	25
	E. Sailor or location geography emphasized	16	15
	F. Use of devices such as graphs to make statements emphatic.		
IV.	Reliability of Material Total points	184	185
	A. Accuracy of statements	49	50
	B. Latest available information used	52	50
	C. Explicit statement of the year in statistics	34	35
	D. Maps accurate	49	50
V.	Accessories	171	170
	A. Maps:	56	55
	Different kinds, physical, relief, regional, political, commercial, industrial		
	B. Illustrations	50	50
	C. Statistics	24	25
	D. Indices	20	20
	E. References	20	20
		1000	1000

Total points 1000

*Ratings on sub-topics were made by twenty-five high school geography teachers.

5. Summary of Ratings on Questionnaire Score Cards.

Having made a careful study of Stenquist's score card for evaluating high school geography textbooks, Maxwell's criteria for judging high school geography textbooks, and Stull's criteria for judging high school geography textbooks, the writer formed his score card which was sent to teachers of geography to secure quantitative evaluation on the various points. It contains five principles which can well be used as a basis for evaluating any high school geography textbook. The rating scale was based on 1000 points which were to be distributed over the five principles making up the score card. The score card with completed ratings is on page 29.

Score cards were received from forty-eight high school geography teachers in the state of Indiana. A summary of the ratings found on them is as follows:

- a. Point of View. The total of points given to this principle was 180. The sub-divisions, "Relationship Idea Prominent," and "Physical Features or Life of the People, the Starting Point in the First Part of the Book," received the highest ratings. This fact shows that teachers of geography place emphasis upon the relationship idea in a high school geography textbook and that they would expect a good geography textbook to give careful attention to the physical features or life of the people as a starting point in the first part of the book.
- b. Organization of Material. Organization of material ranked next to the highest rating given to any of the five

principles. A total of 230 points was given to this principle. The psychological organization of material was most significant. The high rating of 110 points for this sub-division shows that high school geography teachers are especially interested in geography textbooks being adapted to the interest, capacities, and needs of the high school pupil.

c. Type of Treatment. The principle on the type of treatment, receiving a total of 235 points, received the highest rating on the score card. The three sub-divisions dealing with the broadening and enlivening geography were given a total of 170 points. The indication is that high school geography teachers are becoming interested in the humanization of geography.

d. Reliability of Material. Reliability of material received a total of 185 points. Accuracy of statements and maps and utilization of the latest available information were given equal ratings. The ratings show that high school geography teachers emphasize the importance of recent information and accurate use thereof in the make-up of a good high school geography textbook.

e. Accessories. A total of 170 points were given to the accessories. Of the accessories, maps and illustrations were by far the most significant. The tendency is for the high school geography teacher to stress the value of good maps and illustrations in the high school geography textbook as a means of helping the pupil understand the content.

f. Conclusion. The organization of material and the type

of treatment are significant in the make-up of any high school geography textbook. High school geography teachers are in harmony with the tendency of modern authors to humanize geography textbooks.

The study of the treatment of the various countries in the high school geography textbooks is a study of the treatment of the various countries in the high school geography textbooks.

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VI. ANALYSES OF SEVEN HIGH SCHOOL GEOGRAPHY

TEXTBOOKS, A, B, C, D, E, F, AND G

A. Analysis of Textbook A

1. A Study of the Distribution of the Subject Matter in Textbook A. Table I contains a proportional distribution of the subject matter found in Textbook A which is a textbook of economic geography.

TABLE I

PROPORTIONAL DISTRIBUTION OF SUBJECT MATTER OF TEXTBOOK A

Topics Covered	Number Pages	Per Cent* of Book
INTRODUCTION.....	12	1.7
Total	12	1.7
THE UNITED STATES:		
Nature's Gifts to Our Country.....	15	2.1
Our Dependence Upon the Soil.....	109	15.5
Harvests of the Sea.....	13	1.9
Our Use of the Forests.....	27	3.9
The Work of Mill and Factory.....	82	11.8
The Exchange of Goods.....	63	9.1
Our Territories and Dependencies.....	14	2.1
Total	323	46.4
THE FOREIGN COUNTRIES:		
Canada.....	18	2.7
Mexico.....	10	1.4
Caribbean Lands.....	13	1.9
Brazil and Paraguay.....	11	1.5
Argentina and Uruguay.....	14	2.0
Chile and other Andean Countries.....	19	2.8
Great Britain.....	23	3.3
Scandinavia.....	12	1.7
Germany.....	16	2.3
Belgium and the Netherlands.....	10	1.4
France.....	14	2.0
Switzerland.....	8	1.3
Italy.....	8	1.3
Spain and Portugal.....	8	1.3
New Countries of the Baltic and Central Europe.....	15	2.1
Russia.....	9	1.4
Balkan Countries.....	12	1.7

TABLE I. (Continued)

Countries of Southwestern Asia.....	8	1.3
India.....	10	1.4
China and Japan.....	30	4.3
Australia and New Zealand.....	16	2.3
Africa.....	17	2.4
Total	301	43.8
APPENDIX.....	42	6.0
Total	42	6.0
INDEX.....	18	2.3
Total	18	2.3
Total	696	100.2

*All per cents are based on actual number of pages in book.

The book consists of 696 pages. The topics covered are as follows:

a. Introduction. The introduction includes twelve pages, which is 1.7 per cent of the entire book. Its purpose is to give the reader a survey of world commerce and why man must work.

b. The United States. The number of pages allotted to this topic is 323, which is 46.4 per cent of the book. The two topics receiving the most discussion are agriculture and manufacturing, which occupy 15.5 per cent and 11.8 per cent, respectively. The reason for this is that they are the greatest industries of this country. The exchange of goods comes next in importance and receives this rank, because the author is endeavoring to create an appreciation of the commercial relationships existing between one part of the country and another, and the necessity for exchange of commodities between the United States and foreign lands. The topics on fishing and possessions are discussed the least, for only a

comparatively few people are engaged in the fishing occupation and the possessions are rather insignificant as compared to the home-land.

c. Foreign Countries. Canada and Great Britain occupy the most significant places in this topic. The United States is deeply interested in the commerce of Great Britain and Canada. To them it sends 40 per cent of its exports and from them receives 30 per cent of its imports. Great Britain is the best market for cotton, grain, and meat products. The leading imports of the United States from Great Britain are manufactured textiles, tin, and leather and leather manufactures. Great Britain and the United States are competitors in the world's markets. A comparatively small per cent of the topic is devoted to Italy, Switzerland, Spain, and Portugal because they have made little attempt to modernize their industries. On account of unfavorable physical features of their countries, Spain and Portugal have been greatly handicapped in commerce.

d. Appendix. The appendix includes 6 per cent of the subject matter and is of great value, because it contains the latest commercial and industrial data of the Fifteenth Census of the United States and eight plates of double-page, colored maps.

e. Index. A well organized index which has the chief references in heavy type completes the book.

2. A Study of the Distribution of Illustrative Matter, Exercises, and Text Material in Textbook A. Table II contains a proportional distribution of illustrative matter, exercises,

and words found in Textbook A which is a textbook of economic geography.

TABLE II

PROPORTIONAL DISTRIBUTION OF ILLUSTRATIVE MATTER, EXERCISES, AND TEXT MATERIAL OF TEXTBOOK A

Material	Size	Number	Actual Number Pages	Number Photographs	Colored	Uncolored	Per Cent* of Book
Photographs	One-fourth Page	46	11.5	63	0	63	1.6
	One-half Page	297	148.5	502	0	502	21.4
	One Page	40	40	128	0	128	5.8
Total		383	200	693	0	693	28.8

Material	Size	Number	Actual Number Pages	Number Graphs	Per Cent of Book
Graphs	One-fourth Page	37	9.25	49	1.3
	One-half Page	7	3.5	9	.5
	One Page	3	3.0	3	.5
Total		47	15.75	61	2.3

*All per cents are based on actual number of pages in book.

TABLE II. (Continued)

Material	Size	Number	Actual Number Pages	Number Maps	Colored	Uncolored	Per Cent* of Book
Maps	One-fourth Page	28	7	44	0	44	1.2
	One-half Page	13	6.5	20	0	20	1.9
	One Page	9	9	17	0	17	1.3
	Two Pages	8	16	8	8	0	2.3
Total		58	38.5	89	8	81	6.7

Material	Size	Number	Actual Number Pages	Number Tables	Per Cent* of Book
Tables	One-fourth Page	1	.25	1	.03
	One-half Page	0	0	0	.00
	One Page	25	25.00	51	3.6
Total		26	25.25	52	3.63

*Per cent based on actual number pages in book.

TABLE II. (Continued)

Material	Size	Number	Actual Number Pages	Number Exercises	Per Cent of Book
Exercises	One-fourth Page	24	6	190	.8
	One-half Page	24	12	287	1.7
	One Page	0	0	0	.0
Total		48	18	477	2.5

Material	Estimated Number of Words on Ten Pages	Average Number Per Page	Actual Number Pages	Actual Number Words	Per Cent of Book
Words in Text	3,849	384	398.50	153,924	56.2

The book contains 696 pages. The materials covered are as follows:

a. Photographs. Twenty-eight and eight-tenths per cent of the book is given to photographs. The total number of photographs is 693, and they cover 200 pages of text. Of this number, 63 are found to be one-fourth-page size each; 502 are one-half-page size each; 40 are one-page-size each. The photographs are of significance in the illustrative material, because the author has attempted to accompany each topic discussed

with two or more photographs. They are all half-tones and are of new subjects such as modern machinery in operation, therefore, they are very helpful to the reader. The half-page views, occupying 21.4 per cent of the book, are used in a much greater number than the others, for they are large enough to present a good view and they do not break into the subject matter as much as the full-page photographs.

b. Graphs. Graphs occupy 15.75 pages, or 2.3 per cent of the text. The total number of graphs is sixty-one. The greatest per cent of this illustrative matter is of one-fourth-page size. The author's reason for this is that he has given so much space in the book to photographs. He has therefore condensed his graphs into a smaller compass, yet they are large enough to be understood by the reader. The three types of graphs used are line graphs, bar graphs, and circle graphs. The larger number are line graphs.

c. Maps. Six and seven-tenths per cent of the book is devoted to maps, the total number being eighty-nine. Forty-four of these maps are found on one-fourth-pages; frequently two maps occupy only one-fourth-page. The small maps are used so much, because usually each one locates and shows the distribution of only one product in the country. Eight colored two-page maps are found in the appendix.

d. Tables. The tables cover 3.6 per cent of the subject matter. The total number is fifty-two. All of the tables except one are found in the appendix, because they are statistical tables which serve as reference material.

e. Exercises. Eighteen pages, 2.5 per cent of the book is devoted to exercises, the total number being 477. The majority of the exercises are found in groupings of one-half-page in length, because they occur at the end of each topic and the average number of exercises in each group is about twelve. They are in the nature of direct questions.

f. Text Material. Text material covers 56.9 per cent of the text. An average of 384 words per page is based on the number of words found on ten full pages.

3. A Summary of the Distribution of Illustrative Matter, Exercises, and Text Material in Textbook A. Table III is a summary of the proportional distribution of the illustrative matter, exercises, and words found in Table II.

TABLE III

SUMMARY OF THE PROPORTIONAL DISTRIBUTION OF ILLUSTRATIVE MATTER, EXERCISES, TEXT MATERIAL OF TEXTBOOK A

Materials	Actual Number Pages	Number	Per Cent* of Book
Photographs	200	693	28.8
Graphs	15.75	61	2.3
Maps	38.5	89	6.7
Tables	25.25	52	3.63
Exercises	18	477	2.5
Text Material	398.5	153,024	56.2
Total	696	154,396	100.13

*All per cents are based on actual number pages in book.

Of the illustrative matter, photographs are the most significant in proportion to the other three materials. The authors have used these photographs as a means of humanizing the subject matter, thus making it more attractive and interesting to the reader. Graphs occupy the smallest per cent of any major classification of the book, because they present facts in a more compact form. The exercises make up only two and five-tenths per cent of the book, because they are in the form of direct questions. The text materials cover a greater per cent of the book than all the other materials together. They constitute the body of the book.

B. Analysis of Textbook B

1. A Study of the Distribution of the Subject Matter in Textbook B. Table IV contains a proportional distribution of the subject matter found in Textbook B which is a textbook of economic geography.

TABLE IV

PROPORTIONAL DISTRIBUTION OF SUBJECT MATTER IN TEXTBOOK B

Topics Covered	Number Pages	Per Cent* of Book
INTRODUCTION.....	38	6.1
Total	38	6.1
THE FOREIGN COUNTRIES:		
Mexico.....	15	2.4
Caribbean Lands.....	18	2.9
Brazil.....	28	4.5
Cuba.....	25	4.1
Total	86	13.9

TABLE IV. (Continued)

THE UNITED STATES:		
Introduction to United States		
Industries.....	23	3.9
Our Dependence upon the Soil.....	88	13.9
Lumber Industry of Pacific Northwest.	20	3.0
The Motion-Picture Industry.....	13	2.1
Transportation in the Western United States.....	25	4.1
Mineral Resources.....	49	7.9
Automobile Industry.....	10	1.6
The Eastern Seaboard.....	18	2.9
Trade, Transportation, and Manufacturing in New York.....	30	4.9
Total	276	44.3
THE FOREIGN COUNTRIES:		
China and Japan.....	26	4.2
The Philippine Islands.....	10	1.6
Southeastern Asia.....	33	5.4
India.....	17	2.8
Western Europe and Its Place in Commerce.....	16	2.7
Great Britain.....	20	3.0
Belgium and the Netherlands.....	7	1.1
Germany.....	10	1.6
France.....	10	1.6
Uplands of Western Europe.....	14	2.3
Feeding An Industrial and Commercial Population.....	15	2.4
Outlying Regions.....	14	2.3
Total	192	31.0
APPENDIX.....	10	1.4
Total	10	1.4
INDEX.....	18	2.9
Total	18	2.9
Total	620	99.6

*All per cents are based on actual number of pages in book.

This book consists of 620 pages. The topics covered are as follows:

a. Introduction. This introduction occupies 6.1 per cent. of the entire book. The author has for his purpose to acquaint the reader with the opportunities which his natural environment has to offer. The commercial regions are classified as major

regions, regions of second rank, and regions of third rank. The plan of the book is given, which takes the United States as the center of our study.

b. Foreign Countries. The tropical American countries, Mexico, Caribbean Lands, Brazil, and Cuba, are given 13.9 per cent of the book, the number of pages being about equally divided among them. The object in these studies is to discover how people live and work in the tropical areas and to ascertain the nature of their relations with those areas. Four tropical commodities, bananas, cacao, coffee, and sugar are studied in detail.

The countries of the Orient make up 13 per cent, or 76 pages. The trade relations between the United States and the Orient have increased since the Philippine Islands came under the American flag in 1898. The huge populations of China, Japan, and India provide a large market for manufactured products. The authors, therefore, have given them considerable study.

Great Britain holds an almost two-to-one significance over the other countries of western Europe. Through British ports flow approximately a seventh of the world's foreign trade, and British traders have been the most active pioneers in opening new lands to commerce. Their trade is concerned principally with three great areas, the continent of Europe, the Americas, and the Orient.

Germany is recognized only as being a leader in chemical manufacture, while Paris, France, is recognized only as being

the fashion center of the world. This accounts for the small per cent devoted to these two countries.

c. The United States. Agriculture occupies a significant proportion, 13.9 per cent, or about one-third of the entire per cent given to the United States. The authors' reasons for this are as follows: the United States is a prosperous country, has a wide diversity of industries, and probably no other area of equal size in the world is as richly endowed with natural resources. Many of the industries not only produce enough to supply our domestic demand, but also yield a surplus for export.

The automobile is given a small place, for its manufacturing area is limited principally to Detroit, Michigan, area.

d. Appendix. The appendix contains two double-page, colored maps, a reference list, and one statistical table.

e. Index. The index is of the average type found in any textbook.

2. A Study of the Distribution of Illustrative Matter, Exercises, and Text Material in Textbook B. Table V is a proportional distribution of the illustrative matter, exercises, and words found in Textbook B, which is a textbook of economic geography.

TABLE V

PROPORTIONAL DISTRIBUTION OF ILLUSTRATIVE MATTER, EXERCISES, AND TEXT MATERIAL OF TEXTBOOK B

Material	Size	Number	Actual Number Pages	Number Photographs	Colored	Uncolored	Per Cent* of Book
	One-fourth Page	21	5.25	22	0	22	.8

TABLE V. (Continued)

Photographs	One-half Page	68	34	68	0	68	5.5
	One Page	11	11	14	0	14	1.8
Total		100	50.25	104	0	104	8.1

*All per cents are based on the actual number pages in book.

Material	Size	Number	Actual Number Pages	Number Graphs	Per Cent of Book
Graphs	One-fourth Page	7	1.75	7	.3
	One-half Page	11	5.5	20	.9
	One Page	0	0	0	.0
Total		18	7.25	27	1.2

Material	Size	Number	Actual Number Pages	Number Maps	Colored	Uncolored	Per Cent of Book
Maps	One-fourth Page	45	11.25	52	0	52	1.8
	One-half Page	57	28.5	66	0	66	4.6
	One Page	20	20	22	0	22	3.1
	Two Pages	4	8	4	2	2	1.1
Total		126	67.75	144	2	142	10.6

TABLE V. (Continued)

Material	Size	Number	Actual Number Pages	Number Tables	Per Cent of Book
Tables	One-fourth Page	8	2	8	.3
	One-half Page	5	2.5	5	.4
	One Page	4	4	4	.7
	Two Pages	1	2	1	.3
Total		18	10.5	18	1.7

Material	Size	Number	Actual Number Pages	Number Exercises	Per Cent of Book
Exercises	One-fourth Page	7	1.75	20	.3
	One-half Page	32	16	148	2.6
	One Page	20	20	126	3.0
Total		59	37.75	294	5.9

Material	Estimated Number of Words on Ten Pages	Average Number Per Page	Actual Number Pages	Actual Number Words	Per Cent of Book
Words in Text	3,400	340	446.5	152,830	72.5

The book consists of 620 pages. The materials covered are as follows:

a. Photographs. Photographs occupy 8.1 per cent of the book. The total number of photographs is 104. Sixty-eight of them, or 5.5 per cent of the subject matter, are found on one-half-size pages. This size view is of leading importance, for it is the most practical for use in a textbook of this type. The remaining number of photographs is about equally divided between the one-fourth-page size and the one-page size. The photographs are all half-tones and are views of new subjects, such as modern agricultural scenes, therefore, they serve the purpose of illustrating the subject very efficiently.

b. Graphs. One and two-tenths per cent of the book is given to a total of twenty-seven graphs. The one-half-page size graphs are used most frequently, because the author represents two facts on the same graph by the use of lines and bars.

c. Maps. Maps occupy 10.6 per cent of the text. Of the total number of 144 maps, sixty-six of them are of one-half-page size. Next in importance are the one-fourth-page size maps. These are used to locate the distribution of certain products. Only two maps are colored and they are of the two-page size.

d. Tables. Only 1.7 per cent of the book is devoted to tables. Most of them are of one-fourth-page size. They are statistical in nature.

e. Exercises. The exercises cover 5.9 per cent of the subject matter, the total number being 294. Most of the

exercises occur in groups of one-half-page in length and in groups of one page in length. They are in the form of questions, problems, and projects.

f. Text Material. Seventy-two and five-tenths per cent of the book is made up of textual matter. The average of 340 words per page is based on the number of words found on ten full pages.

3. A Summary of the Distribution of Illustrative Matter, Exercises, and Text Material in Textbook B. Table VI is a summary of the proportional distribution of the illustrative matter, exercises, and words found in Table V.

TABLE VI

SUMMARY OF THE PROPORTIONAL DISTRIBUTION OF ILLUSTRATIVE MATTER, EXERCISES, AND TEXT MATERIAL OF TEXTBOOK B

Materials	Actual Number Pages	Number	Per Cent* of Book
Photographs	50.25	104	8.1
Graphs	7.25	27	1.2
Maps	67.75	144	10.6
Tables	10.5	18	1.7
Exercises	37.75	294	5.9
Text Material	446.5	152,830	72.5
Total	620	153,417	100.0

*All per cents are based on the actual number of pages in the book.

Maps, which occupy 10.6 per cent of the book, are of the greatest proportion among the illustrative materials. Since

TABLE VII. (Continued)

The Sources of Animal Products.....	19	5.7
Fisheries.....	8	2.1
The Mining Industry.....	13	3.7
The Fuel Products.....	9	2.2
Lumbering and Forest Products.....	13	3.7
Problems in Primary Production, South America, Mexico, Central America, West Indies, and United States.....	14	3.9
Total	132	37.4
THE FIELD OF TRANSPORTATION:		
Means of Transportation.....	16	4.5
Railroads.....	14	3.9
The Use of Ships.....	18	5.6
Transportation and Location of Cities in the United States.....	18	5.6
Special Problems in Transportation, British North America, and Africa..	10	2.3
Total	76	21.9
THE FIELD OF MANUFACTURING:		
Geographical Conditions of Manufacture.....	12	3.4
Manufacturing Regions of United States.....	17	4.8
Manufacturing Outside the United States.....	14	3.9
What Europe Does For a Living.....	10	2.3
Total	53	14.4
THE FIELD OF CONSUMPTION:		
The United States as a Market.....	13	3.7
Foreign Countries and World Markets..	13	3.7
The Contrast Between Asia and Australia.....	14	3.9
Total	40	11.3
APPENDIX.....	12	3.4
Total	12	3.4
INDEX.....	15	4.3
Total	15	4.3
Total	352	100.1

*All per cents are based on actual number of pages in the book.

The book consists of 352 pages. The topics covered are as follows:

a. Introduction. The introduction covers twenty-six pages, or 7.4 per cent of the book. The authors use the cotton

industry as an example of the four great fields of man's work in commercial and industrial geography. They acquaint the reader with the four great fields of man's work which business geography concerns: (1) primary production, (2) transportation, (3) manufacturing, and (4) consumption. Commodities are discussed fully in regard to the four fields mentioned above, but the countries in which commodities are produced are left in the background, with the exception of the United States, which is given considerable mention.

b. The Field of Primary Production. This field is the most significant one of the four, therefore, it occupies 37.4 per cent of the entire book. Farming is given the greatest number of pages, because in the world as a whole the number of people engaged in it and the value of its products make it more important than all other occupations combined. Although in proportion to its population the United States has fewer farmers than many other countries, it is the leading agricultural nation of the world. It grows about three-fifths of the world's corn crop, three-fifths of the cotton, one-third of the tobacco, one-fourth of the oats, and one-fifth of the wheat.

Next in importance is the discussion on the sources of animal products, which covers nineteen pages, or 5.7 per cent of this book. Again the United States takes the lead in this field of production. Dairying and cattle raising are important industries in the sources of animal products.

Only 2.1 per cent of the subject matter is devoted to fishing. In the United States in recent years 243 out of

every thousand working people have been engaged in primary production. Out of these, 214 were farmers, twenty-four were miners, four were lumbermen, and less than two were fishermen. Moreover, the total yearly catch of fish is worth less than one of the minor crops, such as barley or tobacco.

Vegetable farming, sugar beets, sugar cane, fruit growing, the mining industry, the fuel products, forest products, and problems in primary production are each given about the same number of pages.

c. The Field of Transportation. Of the six most important means of transportation, (1) man; (2) horses and other animals; (3) ships; (4) railways; (5) automobiles; (6) airplanes, railways and ships are the most significant. The railroad is better than the automobile for long distance land transportation, because the cost is less per ton. Steam ships are the world's long distance carriers. Though steam ships are not so rapid as railroad trains they cover longer distances almost as quickly because they make few stops. They are still cheaper than the railway, the cost for a ton per mile being about one-fifth of a cent. They sail on practically all the world's navigable oceans, lakes, and rivers. These are the reasons why the steam ship and railroad train occupy 5.6 per cent of the book and 3.9 per cent, respectively.

d. The Field of Manufacturing. In this field the United States is given 4.8 per cent of the book, while the other countries together are given only 6.2 per cent. Of these countries, Great Britain ranks second only to the United

States in the production of manufactured goods. In a broad way race and climate exert the most powerful influence on the general location of manufacturing industries. The United States has both an industrious race of people and a favorable climate.

e. The Field of Consumption. The United States as a market occupies an equal place with the foreign countries together as markets, 3.7 per cent of the subject matter being given to each. No other country furnishes so large a market as the United States, because it is more progressive than other countries of the world.

f. Appendix. The appendix consists of seven statistical tables which cover twelve pages.

g. Index. A characteristic of the index is that a star(*) after a page number indicates that an illustration will be found on that page. It occupies 4.3 per cent of the book.

2. A Study of the Distribution of Illustrative Matter, Exercises, and Text Material in Textbook C. Table VIII contains a proportional distribution of illustrative matter, exercises, and words found in Textbook C, which is a textbook in economic geography.

TABLE VIII

PROPORTIONAL DISTRIBUTION OF ILLUSTRATIVE MATTER, EXERCISES, AND TEXT MATERIAL OF TEXTBOOK C

Material	Size	Number	Actual Number Pages	Number Photographs	Colored	Uncolored	Per Cent* of Book
Total	One-fourth Page	19	4.75	19	0	19	1.4

TABLE VIII. (Continued)

Photo- graphs	One- half Page	77	38.5	78	0	78	11.6
	One Page	4	4	5	0	5	1.1
Total		100	47.25	102	0	102	14.1

*All per cents are based on the actual number of pages in the book.

Material	Size	Num- ber	Actual Number Pages	Number Graphs	Per Cent of Book
Graphs	One- fourth Page	2	.5	2	1.0
	One- half Page	0	0	0	.0
	One Page	0	0	0	.0
Total		2	.5	2	1.0

Material	Size	Num- ber	Actual Number Pages	Number Maps	Col- ored	Uncol- ored	Per Cent of Book
Maps	One- fourth Page	16	4	18	0	18	1.0
	One- half Page	50	25	53	0	53	7.4
	One Page	12	12	18	0	18	5.0
	Two Pages	0	0	0	0	0	.0
Total		78	41	89	0	89	13.4

TABLE VIII. (Continued)

Material	Size	Number	Actual Number Pages	Number Tables	Per Cent of Book
Tables	One-fourth Page	.9	2.5	9	.7
	One-half Page	.10	5	14	1.4
	One Page	.16	16	12	4.5
Total		35	23.5	35	6.6

Material	Size	Number	Actual Number Pages	Number Exercises	Per Cent of Book
Exercises	One-fourth Page	10	2.5	36	.7
	One-half Page	65	32.5	482	9.1
	One Page	32	32	301	9.1
Total		107	67	819	18.9

Material	Estimated Number of Words on Ten Pages	Average Number Per Page	Actual Number Pages	Actual Number Words	Per Cent of Book
Words in Text	4,480	448	172.75	77,332	49.0

The book consists of 352 pages. The materials covered are as follows:

a. Photographs. Photographs make up 14.1 per cent of the book, the total number being 102. By far the greatest number is found to be of one-half-page size. The authors present interesting views of new subjects showing methods of growth, transportation, and manufacturing with each topic discussed. The pages of the book are large enough for good one-half-page photographs. The other two sizes are given little attention.

b. Graphs. Graphs make up a very insignificant per cent of the text, because maps are used instead.

c. Maps. Thirteen and four-tenths per cent of the book is given to maps, the total being eighty-nine. One-half-page and one-page maps are used frequently.

d. Tables. The tables make up 6.6 per cent of the book, the total number being thirty-five. They are used to present statistical data.

e. Exercises. Eighteen and nine-tenths per cent of the book is devoted to exercises. The total number is 819. The one-half-page and the one-page groups are the most significant, for the author has worked out a detailed list of questions and problems.

f. Text Material. Words cover 49 per cent of the text. The average of 448 words per page is based on the number of words found on ten bull pages.

3. A Summary of the Distribution of Illustrative Matter, Exercises, and Words in Textbook C. Table IX is a summary of the proportional distribution of the illustrative matter, exercises, and words found in Table VIII.

TABLE IX

SUMMARY OF THE PROPORTIONAL DISTRIBUTION OF ILLUSTRATIVE
MATTER, EXERCISES, AND TEXT MATERIAL OF TEXTBOOK C

Materials	Actual Number Pages	Number	Per Cent* of Book
Photographs	47.25	102	14.1
Graphs	.5	2	1.0
Maps	41.25	89	13.4
Tables	23.5	35	6.6
Exercises	67	819	18.9
Words	172.75	77,392	49.0
Total	352	78,439	103.0

*All per cents are based on actual number pages in book.

Of the illustrative matter, the photographs and maps are given the most attention. The reason for this is that the author has used the photographs as a means of humanizing the subject matter and he has used the maps to present the subject discussed in a more vivid manner. The exercises make up 8.9 per cent of the book, because they thoroughly cover the subject matter. About one-half of the book is occupied by text materials, therefore, they are of about equal importance as compared to the use of the other materials together.

D. Analysis of Textbook D

1. A Study of the Distribution of Subject Matter in Textbook D. Table X contains a proportional distribution of

the subject matter found in Textbook D which is an economic geography.

TABLE X

PROPORTIONAL DISTRIBUTION OF SUBJECT MATTER OF TEXTBOOK D

Topics Covered	Number Pages	Per Cent of Book
INTRODUCTION:		
Our Changing Environment.....	29	3.5
Total	29	3.5
THE UNITED STATES:		
The Cereals.....	36	4.7
The Animal Industries.....	34	4.4
The Vegetable Industries.....	15	2.0
The Fruit and Canning Industries.....	25	3.3
Sugar and Tobacco.....	15	2.0
Fisheries.....	20	2.5
Fundamentals of Manufacture.....	60	7.8
The Forest Industries and Paper.....	28	3.6
Fibers, Textiles, and Clothing.....	28	3.6
Leather and Rubber.....	19	1.3
The Machinery, Ship-Building, and Metal Industries.....	18	2.3
Chemical Manufactures.....	10	1.3
The Mineral Industries.....	19	2.4
The Trade and Routes of North America Total	20 330	2.5 43.7
FOREIGN COUNTRIES:		
Canada.....	12	1.4
Mexico.....	9	1.2
The Caribbean Lands and The Guianas..	13	1.5
Brazil.....	10	1.3
The River Plata Countries.....	10	1.3
The Andean Countries.....	8	1.1
The United Kingdom.....	22	2.7
France and Belgium.....	10	1.3
Germany.....	14	1.9
Switzerland.....	3	.4
Holland and Denmark.....	5	.6
Norway and Sweden.....	3	.4
The New Countries of the Baltic and Central Europe.....	18	2.3
Balkan States.....	7	1.0
Russia.....	9	1.2
The North Mediterranean Lands.....	15	2.0
The Trade and Routes of Europe.....	10	1.3
The Old World Desert and the Desert's Edge.....	16	2.0
China, Japan, and Korea.....	15	2.0

TABLE X: (Continued)

India and Southeastern Asia.....	11	1.3
Philippines and Malaysia.....	12	1.4
Tropic Africa.....	9	1.2
Union of South Africa.....	7	1.0
Australia and Polynesia.....	14	1.9
Total	270	33.7
WORLD COMMERCE:		
Expansion of Industry and Resources..	31	4.0
The Law of Trade.....	8	1.1
The World Highway.....	7	1.0
The North Atlantic Route.....	8	1.1
The North Pacific Route.....	7	1.0
The Suez and Panama Canals.....	5	.6
World Trade During and After War.....	14	1.9
Total	80	10.7
Statistical Appendix.....	26	3.4
Total	26	3.4
INDEX.....	34	4.4
Total	34	4.4
Total	769	99.4

*All per cents are based on actual number of pages in the book.

The total number of pages in this book is 769. The topics covered are as follows:

a. Introduction. Three and five-tenths per cent of the book is given to the introduction which discusses our changing environment and its influences on mankind.

b. The United States. Three hundred thirty pages, or 43.7 per cent of the subject matter are covered by this topic. In commerce and industry the United States is almost a world in itself. It has a great abundance and variety of natural resources, and a very favorable climate. These things have made it the richest nation in the world and have enabled it to have varied industries. Its lands range from the sub-tropical orange groves of Florida and California to the cold temperate

shores of Lakes Superior and Champlain. Its rainfall varies from the deserts of the Great Basin to the heavy soakings of West Washington and Louisiana. Its fields and forests are vast and its rich mines yield all the important minerals except tin and potash, and we have recently found a new way to secure potash from the sea.

Manufacturing ranks first in significance in the text treatment and covers 22.3 per cent of the subject matter. The fundamentals of manufacturing cover a large part of this field. The author endeavors to give the reader a more thorough understanding of the fundamentals of manufacturing, which are, (1) abundance of land, (2) basic metals, and (3) power. Following this discussion, the industries are treated almost equally as to their importance in the commerce and industry of the United States.

Agriculture occupies the second most important position in this topic, which is 16.4 per cent of the book. The main agricultural products and processes discussed are: cereals, animals, vegetables, fruit and canning, and sugar and tobacco. Of these, the cereals and animals are most important.

c. Foreign Countries. In this topic the United Kingdom and Germany are the leading countries and occupy 2.7 per cent and 1.9 per cent of the book, respectively. The reason for this is that the United Kingdom has been for a century and a quarter one of the greatest manufacturing countries in the world, therefore, the author endeavors to acquaint the reader with the British manufacturing as compared to that of the

United States. Germany is treated as an example of a country inhabited by people who by hard work and intensive farming and manufacturing have gained an important place in the economic world.

The following countries, Switzerland, Holland, Denmark, Norway, and Sweden are given little space because they are rather insignificant in the commercial world as compared to other countries. They are greatly handicapped on account of the unfavorable physical features of their countries.

d. World Commerce. This topic, consisting of 10.7 per cent of the subject matter, has for its purpose to discuss the expansion of industry and resources; the laws of trade; the importance of the world highway, which is made up of oceans, seas, lakes, and canals; and world trade during and after the war. These discussions are given about equal significance in the subject matter.

e. Appendix. The appendix covers 3.4 per cent of the book. It contains twenty-five statistical tables.

f. Index. The index occupies 4.4 per cent of the book. It includes an alphabetical index and an index to places.

2. A Study of the Distribution of Illustrative Matter, Exercises, and Text Material in Textbook D. Table XI shows the distribution of the illustrative matter, exercises, and text material found in Textbook D which is an economic geography.

TABLE XI

PROPORTIONAL DISTRIBUTION OF ILLUSTRATIVE MATTER, EXERCISES,
AND TEXT MATERIAL OF TEXTBOOK D

Material	Size	Number	Actual Number Pages	Number Photographs	Colored	Uncolored	Per Cent* of Book
Photographs	One-fourth Page	18	4.5	18	0	18	.6
	One-half Page	99	49.5	99	0	99	6.4
	One Page	24	24	25	0	25	3.3
Total		141	78	142	0	142	10.3

*All per cents are based on the actual number of pages in the book.

Material	Size	Number	Actual Number Pages	Number Graphs	Per Cent of Book
Graphs	One-fourth Page	61	15.25	61	2.1
	One-half Page	39	19.5	39	2.5
	One Page	8	8	8	1.1
Total		108	42.75	108	5.7

Material	Size	Number	Actual Number Pages	Number Maps	Colored	Uncolored	Per Cent of Book
	One-fourth Page	7	1.75	7	0	7	.2

TABLE XI. (Continued)

Maps	One-half Page	58	29.00	7	0	59	3.8
	One Page	42	42	42	0	42	5.5
	Two Pages	2	4	2	0	2	.3
Total		109	76.75	109	0	109	9.8

Material	Size	Number	Actual Number Pages	Number Tables	Per Cent of Book
Tables	One-fourth Page	3	.75	3	.01
	One-half Page	14	7	14	1.0
	One Page	7	7	7	1.0
	Two Pages	6	12	6	1.4
Total		30	26.75	30	3.41

Material	Size	Number	Actual Number Pages	Number Exercises	Per Cent of Book
Exercises	One-fourth Page	25	6.25	164	.08
	One-half Page	15	7.50	136	1.1

TABLE XI. (Continued)

	One Page	0	0	0	0
Total		40	13.75	300	1.18

Material	Estimated Number of Words on Ten Pages	Average Number Per Page	Actual Number Pages	Actual Number Words	Per Cent of Book
Words in Text	4,080	408	531	216,648	69.1

The book consists of 796 pages. The materials covered are as follows:

a. Photographs. Ten and three-tenths per cent of the subject matter is devoted to photographs, the total number being 142. The majority of them are found to be one-half-page illustrations. The one-fourth-page photographs are used very little on account of their small size and lack of attractiveness to the reader. The views are all half-tones and are views of new methods of manufacturing and growing, therefore, they fulfill their purpose very well.

b. Graphs. Graphs make up 5.7 per cent of the book, the total number being 108. Most of the attention is given to the one-fourth-page and one-half-page graphs, for they occur within the topics and present only one product. The majority of them are bar graphs and are easily read.

c. Maps. Nine and eight-tenths per cent of the text consists of maps. The total number of maps is 109. One-half-

page and one-page maps are the most significant. These sizes meet the author's need for showing the distributions of the different products. All these maps are half-tones.

d. Tables. Tables occupy 3.4 per cent of the book, the total number being thirty. Nearly all of the tables are found in the statistical appendix. They serve only as reference material in the study of the commodities.

e. Exercises. Only 1.2 per cent of the subject matter is devoted to exercises. The total number is 300. They are all found on one-fourth and one-half pages and consist of short direct questions.

f. Text Material. Sixty-nine and one-tenth per cent of the book is given to text. An average of 408 words per page is based on the number of words found on ten full pages.

3. A Summary of the Distribution of the Illustrative Matter, Exercises, and Words in Textbook D. Table XII is a summary of the proportional distribution of the illustrative matter, exercises, and text material found in Table XI.

TABLE XII

SUMMARY OF THE PROPORTIONAL DISTRIBUTION OF ILLUSTRATIVE MATTER, EXERCISES, AND TEXT MATERIAL IN TEXTBOOK D

Materials	Actual Number Pages	Number	Per Cent* of Book
Photographs	78	142	10.3
Graphs	42.75	108	5.7
Maps	76.75	109	9.8
Tables	26.75	30	3.41

TABLE XII. (Continued)

Exercises	13.75	300	1.18
Text Material	531.00	216,648	69.1
Total	769	217,337	99.49

*All per cents are based on actual number of pages in book.

Of the illustrative material, photographs and maps are the leading ones. The author has used them rather extensively in the development of his topics, because they tend to make a book more interesting than graphs and tables do. Little space is needed for exercises because they are short direct questions. The text materials occupy a very important place, because they are the means by which the author expresses his viewpoints in development of the subject matter.

E. Analysis of Textbook E

1. A Study of the Distribution of the Subject Matter in Textbook E. Table XIII is a proportional distribution of the subject matter found in Textbook E which is a textbook on the general principles of geography.

TABLE XIII

PROPORTIONAL DISTRIBUTION OF SUBJECT MATTER IN TEXTBOOK E

Topics Covered	Number Pages	Per Cent* of Book
PHYSICAL GEOGRAPHY:		
Man and His Physical Environment.....	17	3.3
The Earth and Its Neighbors.....	17	3.3
The Atmosphere.....	14	2.7

TABLE XIII. (Continued)

General Movements of the Atmosphere...	11	2.1
Storms.....	15	2.9
The Moisture of the Atmosphere.....	12	2.3
The Weather and the Weather Bureau...	7	1.3
Climate and Its Relations to Life....	7	1.3
Mountains and Their Relations to Life	16	3.1
Plains and Life.....	7	1.3
Rivers and Man.....	15	2.9
Lakes: Their Origin and Uses.....	6	1.2
Glaciers.....	9	1.7
The Soil.....	5	1.0
The Ocean.....	11	2.1
Total	169	32.5
ECONOMIC GEOGRAPHY:		
The Response of the Soil.....	13	2.5
Plant Life.....	6	1.2
The Cereals.....	18	3.5
The Fiber Plants.....	17	3.3
Beverage Plants.....	8	1.5
Fruits.....	15	2.9
Miscellaneous Crops.....	16	3.1
Forests and Forestry.....	12	2.3
Forest Products.....	16	3.1
Animals As Sources of Food.....	14	2.7
Animals As Sources of Clothing.....	6	1.2
Draft Animals.....	4	.8
Minerals as Fuels.....	13	2.5
Building Stones and Clay Products....	6	1.2
The Metallic Minerals.....	10	2.0
Miscellaneous Minerals.....	5	1.0
Transportation by Land.....	7	1.3
Inland Waterways.....	5	1.0
Ocean Transportation.....	6	1.2
Aerial Navigation.....	2	.4
Communication.....	3	.6
Total	212	39.3
REGIONAL GEOGRAPHY OF THE UNITED STATES:		
The United States as a Whole.....	11	2.1
The New England Province.....	12	2.3
New York State.....	10	2.0
The Atlantic Coastal Plain.....	10	2.0
The Gulf Plain.....	7	1.3
The Appalachian Province.....	5	1.0
The East Central States.....	13	2.5
The West Central States.....	14	2.7
The Rocky Mountain and Great Basin Provinces.....	9	1.7
The Pacific Coast States.....	19	3.7
Alaska.....	7	1.3
Insular Possessions of the United States.....	13	2.5
Total	120	25.1

TABLE XIII. (Continued)

APPENDIX.....	4	.8
Total	4	.8
INDEX.....	8	.5
Total	8	.5
Total	513	99.2

*All per cents are based on the actual number of pages in the book.

This book contains 513 pages. The topics covered are as follows:

a. Physical Geography. This section occupies 169, or 32.5 per cent of the text. The author presents this subject matter as the necessary foundation of geography. The work is fully humanized and many points which are presented in the ordinary course in physical geography are here omitted. The reader is led to study geographic forms and processes, not as things and conditions apart from human affairs but rather in their relations to the life of man. Therefore, the topics dealing with the relationship existing between man and his physical environment such as climate, mountains, plains, and rivers cover a significant proportion, 11.9 per cent, of the textbook.

The physical make-up of the earth is of next importance. A discussion of the earth and its neighboring planets is given 3.3 per cent of the subject matter, because the author realizes the value of an understanding of the earth's relations to the other planets in the study of physical geography.

The soil is given little treatment in this section,

covering only 1 per cent of the book, for it is much more important in the field of economic geography and it is discussed more fully in that section.

b. Economic Geography. This section covers 212 pages, or 39.3 per cent of the subject matter. This is a significant section because of its very practical value to all in everyday life. A comprehensive view of industrial and commercial conditions as applied to the world is given.

The topic Cereals, which occupies 3.5 per cent of the textbook, is of major importance in this field. The great industry of agriculture is largely concerned with the cultivation of these plants. Directly and indirectly the inhabitants of the world depend upon them for a large part of their food supply. Their cultivation is closely related to stock-raising, the leather and liquor industries, the manufacture of agricultural tools and machinery, and transportation facilities.

Another topic on animals as sources of food, which occupies 2.7 per cent of the book, is given a significant place, because in most parts of the world meat and dairy products are important foods.

Aerial navigation, occupying .4 per cent of the subject matter, is given little treatment. This is probably due to the fact that aviation is a more recent means of navigation than steam ships. However it has a promising future.

c. Regional Geography. This division of the book consists of 120 pages, or 25.1 per cent of the subject matter. The author's purpose is to give an intensive study of the regional

geography of the United States.

The Pacific Coast States, as a region, are given the most extensive treatment of any region. The study of this region consists of nineteen pages, or 3.7 per cent of the text. The position of this region is one of its most favorable features. This enables the Pacific Coast States to greatly profit by the rapidly increasing Oriental commerce. The character of the climate is attracting large numbers of people to the Pacific Slope.

The Appalachian Province is given little attention, because the region is not industrial, its agricultural conditions are not such as to attract immigrants, and it is far removed from the lines of westward travel.

d. Appendix. The appendix is a brief one consisting of only four pages of statistical tables, because the most of the tables are found in the contents of the book.

e. Index. The index occupies 1.5 per cent of the book. It contains an alphabetical index and an index of authors.

2. A Study of the Distribution of Illustrative Matter, Exercises, and Text Material in Textbook E. Table XIV is a proportional distribution of the illustrative matter, exercises, and text material found in Textbook E which is a textbook on the general principles of geography.

TABLE XIV

PROPORTIONAL DISTRIBUTION OF ILLUSTRATIVE MATTER, EXERCISES,
AND TEXT MATERIAL OF TEXTBOOK E

Material	Size	Number	Actual Number Pages	Number Photographs	Colored	Uncolored	Per Cent* of Book
Photographs	One-fourth Page	28	7	28	0	28	1.3
	One-half Page	105	52.5	105	0	105	10.2
	One Page	11	11	11	0	11	2.1
Total		144	70.5	144	0	144	13.6

*All per cents are based on actual number of pages in book.

Material	Size	Number	Actual Number Pages	Number Graphs	Per Cent of Book
Graphs	One-fourth Page	14	3.5	22	.7
	One-half Page	4	2	4	.4
	One Page	0	0	0	.0
Total		18	5.5	26	1.1

Material	Size	Number	Actual Number Pages	Number Maps	Colored	Uncolored	Per Cent of Book
	One-fourth Page	0	.0	0	0	0	.0

TABLE XIV. (Continued)

Maps	One-half Page	7	3.5	8	0	8	.7
	One Page	25	25.0	30	13	17	5.0
	Two Pages	4	8	4	3	1	1.5
Total		36	36.5	42	16	26	6.2

Material	Size	Number	Actual Number Pages	Number Tables	Per Cent of Book
Tables	One-fourth Page	51	12.75	51	2.4
	One-half Page	4	2	4	.4
	One Page	0	0	0	.0
	Two Pages	2	4	2	.8
Total		57	18.75	57	3.6

Material	Size	Number	Actual Number Pages	Number Exercises	Per Cent of Book
Exercises	One-fourth Page	45	11.25	401	2.2
	One-half Page	3	1.50	26	.3
Total		48	12.75	427	2.5

TABLE XIV. (Continued).

Material	Estimated Number of Words on Ten Pages	Average Number Per Page	Actual Number Pages	Actual Number Words	Per Cent of Book
Words in Text	4,340	434	369	160,146	71.9

The book contains 513 pages. The materials covered are as follows:

a. Photographs. Thirteen and six-tenths per cent of the subject matter is devoted to photographs. The total number is 144. One-half page photographs are by far the most numerous. The views are not so interesting and new as they might be. It seems that most of the views are old pictures, such as one sees in old geographies.

b. Graphs. One and one-tenth per cent of the textbook is given to graphs, the total number being twenty-six. Most of them are found on one-fourth pages, because they are nearly all small circle graphs.

c. Maps. Maps occupy 7.2 per cent of the book, the total number being forty-two. Sixteen of them are colored and twenty-six are uncolored. The majority of them are one-page maps. The colored maps are used in the study of the regions. There are no one-fourth-page maps used, because they would not be very efficient for the presentation of broad areas.

d. Tables. Three and six-tenths per cent of the text is given to tables, the total number being fifty-seven. The greatest number is found to be the one-fourth-page type.

e. Exercises. The exercises cover 2.5 per cent of the subject matter, the total number being 427. Four hundred one of them are found to occupy one-fourth-page each, for they are all short questions and problems.

f. Text Material. Seventy-one and nine-tenths per cent of the book is given to text. The average of 434 words per page is based on the number of words found on ten full pages.

3. A Summary of the Distribution of the Illustrative Matter, Exercises, and Text Material in Textbook E. Table XV

TABLE XV

SUMMARY OF THE PROPORTIONAL DISTRIBUTION OF ILLUSTRATIVE MATTER, EXERCISES, AND TEXT MATERIAL OF TEXTBOOK E

Materials	Actual Number Pages	Number	Per Cent* of Book
Photographs	70.5	144	13.6
Graphs	5.5	26	1.1
Maps	36.5	42	7.2
Tables	18.75	57	3.6
Exercises	12.75	427	2.5
Text Material	369.00	160,146	71.9
Total	513	160,842	99.9

*All per cents are based on the actual number of pages in the book.

is a summary of the proportional distribution of the illustrative matter, exercises, and text found in Table XIV. Of the illustrative matter, photographs are of greatest importance. Graphs are given little space. The exercises cover only a

small per cent of the book, because they are principally direct questions. The text occupies the greatest per cent of the subject matter. The author has relied upon it for the main development of the subject matter.

F. Analysis of Textbook F

1. A Study of the Distribution of the Subject Matter in Textbook F. Table XVI contains a proportional distribution of the subject matter found in Textbook F, a geography textbook of general principles.

TABLE XVI

PROPORTIONAL DISTRIBUTION OF SUBJECT MATTER IN TEXTBOOK F

Topics Covered	Number Pages	Per Cent* of Book
PHYSICAL GEOGRAPHY:		
The Nature of Geography.....	3	.7
Earth Relations.....	15	3.6
Relief Features of the Earth.....	8	1.9
The Nature and Functions of the Atmosphere.....	7	1.7
Climatic Factors: Temperature.....	22	5.2
Climatic Factors: Moisture.....	10	2.4
Climatic Factors: Pressure and Wind.....	15	3.6
Storms and Weather Forecasting.....	17	4.0
Tropical Climate.....	15	3.6
Types of Climate in the Temperate Zones.....	20	4.8
Climate of Polar Regions.....	7	1.7
The Oceans.....	20	4.8
Changes of the Earth's Surface Due to Internal Forces.....	6	1.4
Modification of Land Surfaces by External Agents.....	67	16.0
Total	232	55.4
ECONOMIC GEOGRAPHY:		
The Materials of the Land and Their Uses.....	15	3.6
The Uses and Problems of Inland Waters.....	36	8.6

TABLE XVI. (Continued)

Distribution and Development of the Leading Industries of the United States.....	35	8.4
Distribution of Population.....	26	6.2
Total	112	26.8
REGIONAL GEOGRAPHY:		
Mountains and Plateaus and Their Relations to Life.....	18	4.2
Plains and Their Relations to Life...	19	4.5
Coast-Lines and Harbors.....	16	3.8
Total	53	12.5
INDEX.....	21	5.0
Total	21	5.0
Total	418	99.7

*All per cents are based on actual number of pages in book.

This book contains 418 pages. The topics covered are as follows:

a. Physical Geography. Fifty-five and four-tenths per cent of the subject matter is devoted to the study of physical geography. This textbook was written before the "humanizing" of geography had gained much prominence, therefore the authors have dealt more with the earth in regard to its physical elements.

The topic of most significance is on the modification of land surfaces by external agents. It occupies 16 per cent of the book. It is important because the surface of the land is being changed all the time by various agents, especially by wind, by ground water, by running water, by ice, and in minor ways by different forms of life.

The topic of next importance treats temperature as a climatic factor. It covers twenty-two pages, or 5.2 per cent of the text. Of the three climatic factors discussed,

(1) temperature, (2) moisture, and (3) air movements, or wind, temperature is the most important. Were it not for the effect of the atmosphere on temperature, life could not endure the heat of day or the cold of night, and the earth would be a desolate, lifeless waste.

The study of the changes of the earth's surface due to internal forces is given little treatment. It occupies only 1.4 per cent of the subject matter.

b. Economic Geography. This division consists of 112 pages, or 26.8 per cent of the book. The two leading topics in this section are on the uses and problems of inland waters, and on the leading industries of the United States, covering 8.6 per cent and 8.4 per cent of the book, respectively. The inland waters are significant because progress in the economic world is greatly influenced by navigation, power, irrigation, drainage, and water supply. A study of the industries of the United States is valuable, for it ranks first among the nations of the world in this respect.

c. Regional Geography. Regional geography is given the least attention of any of the three divisions. It occupies only 12.5 per cent of the textbook. The three topics discussed in this section are of almost equal importance and all deal with the elevation of the land and its relation to life.

d. Index. The index covers 5 per cent of the book. It contains an alphabetical index of the average type.

2. A Study of the Distribution of Illustrative Matter, Exercises, and Text Material in Textbook F. Table XVII is

a proportional distribution of the illustrative matter, exercises, and text material found in Textbook F which is a geography of general principles.

TABLE XVII

PROPORTIONAL DISTRIBUTION OF ILLUSTRATIVE MATTER,
EXERCISES, AND TEXT MATERIAL OF TEXTBOOK F

Material	Size	Number	Actual Number Pages	Number Photographs	Colored	Uncolored	Per Cent* of Book
Photographs	One-fourth Page	71	17.75	74	0	74	4.1
	One-half Page	19	9.5	25	0	25	2.3
	One Page	6	6	9	0	9	1.4
Total		96	33.25	108	0	108	7.8

*All per cents are based on actual number of pages in book.

Material	Size	Number	Actual Number Pages	Number Graphs	Per Cent of Book
Graphs	One-fourth Page	9	2.5	9	.6
	One-half Page	4	2	5	.5
	One Page	0	0	0	.0
Total		13	4.5	14	1.1

TABLE XVII. (Continued)

Material	Size	Number	Actual Number Pages	Number Maps	Colored*	Uncolored	Per Cent of Book
Maps	One-fourth Page	43	10.75	45	0	45	2.5
	One-half Page	35	17.5	48	0	48	4.1
	One Page	23	23	27	0	27	5.3
Total		101	51.25	120	0	120	11.9

Material	Size	Number	Actual Number Pages	Number Tables	Per Cent of Book
Tables	One-fourth Page	0	0	0	.0
	One-half Page	3	1.5	3	.3
Total		3	1.5	3	.3

Material	Size	Number	Actual Number Pages	Number Exercises	Per Cent of Book
Exercises	One-fourth Page	8	2	49	.5
	One-half Page	12	6	120	1.4
	One Page	3	3	37	.7
Total		23	11	206	2.6

*Seven colored plates in back of book not included in pages.

TABLE XVII. (Continued)

Material	Estimated Number of Words on Ten Pages	Average Number Per Page	Actual Number Pages	Actual Number Words	Per Cent of Book
Words in Text	4,240	424	316.5	134,647	75.7

The book contains 418 pages. The materials covered are as follows:

a. Photographs. Seven and eight-tenths per cent of the entire book is devoted to photographs, the total number being 108. The majority of them are one-fourth-page photographs. They are mostly of old subjects such as scenes of the glacier, and volcanic views. Since the authors are covering such a broad field of geography in the ordinary size book, they have sacrificed space for half-tones for word space.

b. Graphs. Only 1.1 per cent of the subject matter is given to graphs, the total number being fourteen. The author has chosen to use maps instead. Most of them are bar graphs.

c. Maps. Eleven and nine-tenths per cent of the book is occupied by maps. The total number is 120. Forty-five are one-fourth-page maps, forty-eight are one-half-page maps, and twenty-seven are one-page maps. The authors have used these different sizes about equally, because they are discussing so many phases of geography. Seven plates of colored maps are found in the back of the book and are not included in the pages of the subject matter.

d. Tables. Very little space is devoted to tables. Only

three are given, because the nature of the development of the book does not require so much statistical data.

e. Exercises. The exercises occupy 2.6 per cent of the subject matter, the total number being 206. A majority of the exercises are confined to one-half page each and are short direct questions.

f. Text Material. Seventy-five and seven-tenths per cent of the book is given to text. The average of 425 words is based on the number of words found on ten full pages.

3. A Summary of the Distribution of Illustrative Matter, Exercises, and Text Material in Textbook F. Table XVIII is a summary of the proportional distribution of the illustrative matter, exercises, and text material found in Table XVII.

TABLE XVIII

SUMMARY OF THE PROPORTIONAL DISTRIBUTION OF ILLUSTRATIVE MATTER, EXERCISES, AND TEXT MATERIAL OF TEXTBOOK F

Materials	Actual Number Pages	Number	Per Cent* of Book
Photographs	33.25	108	7.8
Graphs	4.5	14	1.1
Maps	51.25	120	11.9
Tables	1.5	3	.3
Exercises	11.00	206	2.6
Text Material	316.5	134,196	75.7
Total	418.00	134,647	99.7

*All per cents are based on the actual number of pages in book.

Maps, which occupy 11.9 per cent of the book, are most significant among the illustrative materials. The authors have attempted to use maps as a means to make the text explanatory rather than merely descriptive. The photographs, covering 7.8 per cent of the text, rank next in significance. They also serve as an aid in the explanations of the subject matter. Since the topics discussed in this book are not based so much on statistical data, little attention is given to tables. Only 2.6 per cent of the book is devoted to exercises, because they are made up of definite questions. The text makes a very large per cent of the book, for the authors have used it as their greatest means of presenting the subject matter to the reader.

G. Analysis of Textbook G

1. A Study of the Distribution of the Subject Matter in Textbook G. Table XIX is a proportional distribution of the subject matter found in Textbook G which is a textbook of general principles.

TABLE XIX

PROPORTIONAL DISTRIBUTION OF SUBJECT MATTER IN TEXTBOOK G

Topics Covered	Number Pages	Per Cent* of Book
PHYSICAL GEOGRAPHY:		
The Earth and Its Neighbors.....	18	3.0
The Materials of the Earth's Crust...	8	1.4
The Ocean and Its Shores.....	23	4.1
Rock Weathering and Soil.....	17	2.9
Climate and Its Influence.....	27	4.6
The Work and Service of Underground Water.....	17	2.9

TABLE XIX. (Continued)

Rivers at Work.....	22	4.0
American Rivers.....	30	5.0
Six of the World's Great Rivers.....	30	5.0
Glaciers Present and Past.....	23	4.1
Surface Changes Produced From Within.....	14	2.4
Surface Features of the Land.....	26	4.5
The Atmosphere.....	15	2.6
Winds and Storms.....	18	3.0
Total	388	49.4
ECONOMIC GEOGRAPHY:		
Mineral Resources of the United States	22	4.0
Agriculture in the United States.....	20	3.2
The Coast and Coastal Activities of the United States.....	24	4.2
The Forests and Forest Industries of the United States.....	16	2.8
Geographical Aspects of Transporta- tion.....	22	4.0
Manufacturing and Manufacturing Centers in the United States.....	26	4.5
Total	130	22.7
REGIONAL GEOGRAPHY:		
Latin America.....	38	6.9
The British Empire.....	37	6.8
Continental Europe.....	42	7.3
Japan and China.....	19	3.1
Total	136	24.1
REFERENCE BOOKS.....	7	1.2
Total	7	1.2
INDEX.....	13	2.2
Total	13	2.2
Total	574	99.6

*All per cents are based on actual number pages in book.

This book contains 574 pages. The topics covered are as follows:

a. Physical Geography. This section occupies 388 pages, or 49.4 per cent of the subject matter. The author has attempted to humanize this aspect of geography by closing each chapter with a discussion of related human aspects. Three of the leading chapters are studies concerning rivers. Fourteen and one-tenth per cent of the entire book is devoted to this

topic. Rivers are significant in determining the physical characteristics of a country by means of their work of draining and eroding the soil.

The topic of least importance deals with the materials of the earth's crust. It covers only 1.4 per cent of the subject matter, because of the author's attempt to humanize physical geography.

b. Economic Geography. Twenty-two and seven-tenths per cent of the book is given to this section. The author devotes 4.5 per cent of the subject matter to the study of manufacturing and manufacturing centers in the United States. This is given importance because so many of our people are engaged in this industry?

Other industries such as mining, forestry, agriculture, and transportation are discussed almost equally in this division, because all have important contributions to offer the economic world.

c. Regional Geography. Regional geography occupies 24.1 per cent of the subject matter. The regions, Latin America, the British Empire, and Continental Europe, are treated more extensively than the nations of Japan and China, because of the greater importance of the former. Even though Japan and China are progressing, they have not yet reached the level of the other regions.

d. Reference Books. A list of reference books is suggested for use in the school library. This list covers 1.2 per cent of the book.

e. Index. The index occupies 2.2 per cent of the text-book. It is the usual type of index.

2. A Study of the Distribution of the Illustrative Matter, Exercises, and Text Material Found in Textbook G. Table XX shows a proportional distribution of the illustrative matter, exercises, and text material found in Textbook G which is a textbook of general principles.

TABLE XX

PROPORTIONAL DISTRIBUTION OF ILLUSTRATIVE MATTER, EXERCISES, AND TEXT MATERIAL OF TEXTBOOK G

Material	Size	Number	Actual Number Pages	Number Photographs	Colored	Uncolored	Per Cent* of Book
Photographs	One-fourth Page	25	6.25	25	0	25	1.1
	One-half Page	125	62.5	125	0	125	10.9
	One Page	44	44	53	0	53	7.7
Total		194	112.75	203	0	203	19.7

*All per cents are based on actual number pages in book.

Material	Size	Number	Actual Number Pages	Number Graphs	Per Cent of Book
Graphs	One-fourth Page	10	2.5	10	.4
	One-half Page	10	5.0	10	.8
Total		20	7.5	20	1.2

TABLE XX. (Continued)

Material	Size	Number	Actual Number Pages	Number Maps	Colored	Uncolored	Per Cent of Book
Maps	One-fourth Page	37	9.25	37	0	37	1.4
	One-half Page	132	66	132	0	132	11.5
	One Page	25	25	31	3	28	4.4
	Two Pages	5	10	5	5	0	1.7
Total		199	110.25	205	8	197	19.0

This book contains no tables.

Material	Size	Number	Actual Number Pages	Number Exercises	Per Cent of Book
Exercises	One-fourth Page	9	2.25	64	.4
	One-half Page	19	9.5	156	1.6
	One Page	15	15.0	325	2.6
Total		43	26.75	545	4.6

Material	Estimated Number of Words on Ten Pages	Average Number Per Page	Actual Number Pages	Actual Number Words	Per Cent of Book
Words in Text	3,660	366	316.75	115,930	55.2

The book contains 574 pages. The materials covered are as follows:

a. Photographs. Nineteen and seven-tenths per cent of the subject matter is devoted to photographs, the total being 203. The majority of them are one-half-page half-tones and of the old type, showing views such as volcanic eruptions and areas formed by the glacier. They are used more in the topics on economic geography. The one-fourth-page photographs are given least attention.

b. Graphs. One and two-tenths per cent of the book is devoted to a total number of twenty graphs. They are equally divided between one-fourth-page and one-half-page graphs, because they are bar graphs so do not require a large amount of space. There are no one-page graphs.

c. Maps. Nineteen per cent of the subject matter is given to maps. One-half-page maps are much more numerous than the others. The reason for this is that usually only one region is presented on each map. There are three one-page, colored maps and five two-page, colored maps. These are to be used for locating places.

d. Tables. There are no tables in this book.

e. Exercises. Four and six-tenths per cent of the subject matter is devoted to exercises, the total number being 545. The majority of them are found in one-page groups. The author values the use of exercises very highly as a means for mental training. He has therefore included a large number of them in this book.

f. Text Material. Fifty-five and two-tenths per cent of

the book is occupied by text material. The average of 396 words per page is based on the number of words found on ten full pages.

3. A Summary of the Distribution of Illustrative Matter, Exercises, and Text Material in Textbook G. Table XXI is a summary of the proportional distribution of the illustrative matter, exercises, and text material found in Table XX. Of the

TABLE XXI

SUMMARY OF THE PROPORTIONAL DISTRIBUTION OF ILLUSTRATIVE MATTER, EXERCISES, AND TEXT MATERIAL OF TEXTBOOK G

Materials	Actual Number Pages	Number	Per Cent* of Book
Photographs	112.75	203	19.7
Graphs	7.5	20	1.2
Maps	110.25	205	19.0
Tables	0	0	0
Exercises	26.75	545	4.6
Text Material	316.75	116,930	55.2
Total	574	116,930	99.7

*All per cents are based on actual number pages in book.

illustrative matter, photographs and maps are of about equal importance, each occupying about 19 per cent of the subject matter. The author has used them as a means of supplying self-explanatory and descriptive material to the reader. Graphs are given little attention, while tables are not used at all. The exercises make up 4.6 per cent of the book and are usually found in one-page lists. The author is an advocate of the

value of good exercises for mental training. The text makes up 55 per cent of the subject matter.

The following table shows the distribution of the subject matter in the text and exercises. The text is divided into three parts: the first part contains the general principles of mental training, the second part contains the specific exercises, and the third part contains the conclusions. The exercises are divided into two parts: the first part contains the exercises for the first part of the text, and the second part contains the exercises for the second part of the text.

Part	Text	Exercises
1	10.0	10.0
2	10.0	10.0
3	10.0	10.0
4	10.0	10.0
5	10.0	10.0
6	10.0	10.0
7	10.0	10.0
8	10.0	10.0
9	10.0	10.0
10	10.0	10.0
11	10.0	10.0
12	10.0	10.0
13	10.0	10.0
14	10.0	10.0
15	10.0	10.0
16	10.0	10.0
17	10.0	10.0
18	10.0	10.0
19	10.0	10.0
20	10.0	10.0
21	10.0	10.0
22	10.0	10.0
23	10.0	10.0
24	10.0	10.0
25	10.0	10.0
26	10.0	10.0
27	10.0	10.0
28	10.0	10.0
29	10.0	10.0
30	10.0	10.0
31	10.0	10.0
32	10.0	10.0
33	10.0	10.0
34	10.0	10.0
35	10.0	10.0
36	10.0	10.0
37	10.0	10.0
38	10.0	10.0
39	10.0	10.0
40	10.0	10.0
41	10.0	10.0
42	10.0	10.0
43	10.0	10.0
44	10.0	10.0
45	10.0	10.0
46	10.0	10.0
47	10.0	10.0
48	10.0	10.0
49	10.0	10.0
50	10.0	10.0
51	10.0	10.0
52	10.0	10.0
53	10.0	10.0
54	10.0	10.0
55	10.0	10.0
56	10.0	10.0
57	10.0	10.0
58	10.0	10.0
59	10.0	10.0
60	10.0	10.0
61	10.0	10.0
62	10.0	10.0
63	10.0	10.0
64	10.0	10.0
65	10.0	10.0
66	10.0	10.0
67	10.0	10.0
68	10.0	10.0
69	10.0	10.0
70	10.0	10.0
71	10.0	10.0
72	10.0	10.0
73	10.0	10.0
74	10.0	10.0
75	10.0	10.0
76	10.0	10.0
77	10.0	10.0
78	10.0	10.0
79	10.0	10.0
80	10.0	10.0
81	10.0	10.0
82	10.0	10.0
83	10.0	10.0
84	10.0	10.0
85	10.0	10.0
86	10.0	10.0
87	10.0	10.0
88	10.0	10.0
89	10.0	10.0
90	10.0	10.0

The analysis is based on the following principles: the first part of the text is devoted to the general principles of mental training, the second part to the specific exercises, and the third part to the conclusions. The exercises are divided into two parts: the first part contains the exercises for the first part of the text, and the second part contains the exercises for the second part of the text.

VII. CENTRAL TENDENCIES FOUND IN THE FOUR HIGH SCHOOL

ECONOMIC GEOGRAPHIES, A, B, C, AND D

A. A Study of a Comparative Quantitative Analysis of the
Economic High School Geographies A, B, C, and D

Table XXII is a comparative quantitative analysis of four high school economic geographies, A, B, C, and D.

TABLE XXII

COMPARATIVE QUANTITATIVE ANALYSIS OF FOUR HIGH SCHOOL
ECONOMIC GEOGRAPHIES, A, B, C, AND D

Textbooks	Number Pages	Per Cent Photographs	Per Cent Graphs	Per Cent Maps	Per Cent Tables	Per Cent Exercises	Per Cent* Text
<u>A</u>	696	28.8	2.3	6.7	3.6	2.5	56.2
<u>B</u>	620	8.1	1.2	10.6	1.7	5.9	72.5
<u>C</u>	352	14.1	1.0	13.4	6.6	18.9	49.0
<u>D</u>	769	10.3	5.7	9.8	3.4	1.1	69.1
Averages	609.2	15.3	2.5	10.1	3.8	7.1	61.7

*All per cents are based on the actual number of pages in each book.

The analysis is based on the following materials:

1. Photographs. Of the illustrative matter, photographs, occupying twenty-eight and eight-tenths per cent of the book, are of greatest significance in Textbook A. The authors have amplified the text by the frequent use of photographs, carefully selected for clarity and usefulness in the development of the subject matter. They also supply the book with the attractive

element of description. These facts account for the use of such a large number of photographs in this book as compared to the other three textbooks. For this reason alone, if the photographs are useful, this book would rank high as a good high school economic geography textbook. Textbook C, with 14.1 per cent of the book devoted to photographs, ranks next in the frequent use of views in its development. Since these two texts are later publications, this shows a tendency of modern geographers to use photographs, maps, and graphs for clarifying and enlivening the subject matter.

2. Graphs. Textbook D, having 5.7 per cent of its subject matter made up of graphs, contains more graphs than the other three books together. Wherever possible, the author has employed graphs as a means of showing his comparisons made between countries and regions. Textbook C devotes the very insignificant portion of one tenth per cent of its contents to graphs. In this book maps have been utilized for showing comparisons rather than graphs.

3. Maps. Of the four economic geographies, Textbook C gives the most attention to maps. It devotes 13.4 per cent of the text to maps, because the authors have used them to show locations, distributions, and comparisons throughout the book. This is a favorable characteristic of the textbook. Textbook A has the smallest per cent of maps. Rather than having so many maps included along with the text, the authors have placed eight colored physical-political maps in the appendix.

4. Tables. Textbook C, with 6.6 per cent of the subject

matter given to tables, has more tables than any of the other three books. They are used to a great extent in connection with the exercises, which insures the pupil's use of them. One of the outstanding characteristics of this book is the constant use of statistics. Textbook B devotes only one and seven tenths per cent of its content to tables, because the author has used maps for most of his presentations.

5. Exercises. Of the four textbooks, Textbook C far excels in the use of exercises. The authors have provided an adequate number of questions and problems of both the review and the thought-provoking type. Textbook D, with only 1.1 of its subject matter devoted to exercises, gives little space to questions and problems, especially to problems. The reason for such a small number of exercises being found in some of these texts is that they are supplemented by work books.

6. Text. Textbook B, having 72.5 per cent of the text made up of textual matter, leads in the use of this material. The authors have valued words and exercises more highly than illustrative matter. However, this tendency is not in keeping with that of some modern geographers. Textbook C, with only 49 per cent of its contents given to words, is a good example of the tendency of modern geographers to give more attention to illustrative matter.

B. Score Card Evaluations for High School
Economic Geographies, A, B, C, and D

1. Textbook A. The score card for evaluating Textbook A is found on page 93.

a. Point of View. The point of view received a total of 160 points. The relationship idea is given the most significance under this first principle, because Textbook A emphasizes the commercial relationships existing among the different countries. The two sub-divisions dealing with man and his environment are given the next important positions. Textbook A discusses the life of the people and their environment as being important factors in economic progress.

b. Organization of Material. Organization of material is given the highest rating, the total being 205 points. The logical organization is principally an industrial point of view. The psychological organization is significant, because Textbook A gives much attention to the interests, capacities, and needs of the high school pupil. The textbook was organized with a purpose of reawakening interest in geography.

c. Type of Treatment. The three sub-divisions dealing with large units treated by the use of many details and problem study receive the highest ratings under this principle. The reason for this is that the authors have endeavored to humanize geography by doing away with long lists of facts.

d. Reliability of Material. Reliability of the material has not been tested in this study.

e. Accessories. Textbook A rates well in the use of good maps and illustrations.

Score Card for Evaluating
High School Geography Textbooks

95

Textbook A For Evaluating Book B

I.	Point of View	Total points	160
	A. Relationship idea prominent	55	
	B. Response of man to his environment	40	
	C. Information the end point	20	
	D. Physical features or life of the people, the starting point in the first part of book	45	
II.	Organization of Material		205
	A. Logical The point of view of the geographer; i.e., mathematical, physical, political, industrial	45	
	B. Psychological Organized from the point of view of the inter- ests, capacities and needs of undeveloped children	110	
	C. Organization with a definite purpose	50	
	1. Facts about the earth and its inhabitants correlated		
	2. Good paragraphs and topical unity		
III.	Type of Treatment	Total points	215
	A. Topics treated in large units with many supporting details	50	
	B. Suggestions for problem study	60	
	C. Interesting information given in an interest- ing way rather than a mere list of facts	45	
	D. Attention to relative values based on importance	25	
	E. Sailor or location geography emphasized	10	
	F. Use of devices such as graphs to make statements emphatic	25	
IV.	Reliability of Material	Total points	185
	A. Accuracy of statements	50	
	B. Latest available information utilized	50	
	C. Explicit statement of the year in statistics	35	
	D. Maps accurate	50	
V.	Accessories	Total points	145
	A. Maps: Different kinds, physical, relief, regional, political, commercial, industrial.	40	
	B. Illustrations Sufficient in number; well chosen--represent- ative in character to give correct ideas; well engraved	50	
	C. Statistics	25	
	D. Indices	20	
	E. References	10	
			910

Total points 1000

2. Textbook B. The score card for evaluating Textbook B is found on page 95.

a. Point of View. The point of view received a total of 145 points. The relationship idea is significant, because the author has for his purpose to give the pupil a working knowledge of the Commercial World. The beginning chapter is devoted to a study of the life of the people.

b. Organization of Material. A total of 200 points is given to the organization of material. The logical organization is mainly industrial. The psychological organization is given considerable attention, because the author has wished to adapt Textbook B to the needs of the pupil. This textbook has been organized with the commodity as the center of discussion.

c. Type of Treatment. This principle, with a total of 195 points, is given the highest rating. Suggestions for problem study are significant. The topics are developed with many supporting details rather than by a mere list of facts.

d. Reliability of Material. Reliability of material is given a total of 185 points. The reliability of the material has not been tested in this study.

e. Accessories. The accessories are given a total of 135 points. Textbook B rates high in the use of commercial and industrial maps. The photographs are of new subjects and are interesting.

Score Card for Evaluating
High School Geography Textbooks

97

Textbook B

I.	Point of View	Total points		145
	A. Relationship idea prominent		50	
	B. Response of man to his environment		40	
	C. Information the end point		15	
	D. Physical features or life of the people, the starting point in the first part of book		40	
II.	Organization of Material	Total points		200
	A. Logical The point of view of the geographer; i.e., mathematical, physical, political, industrial.		40	
	B. Psychological Organized from the point of view of the inter- ests, capacities and needs of undeveloped children		95	
	C. Organization with a definite purpose		65	
	1. Facts about the earth and its inhabitants correlated			
	2. Good paragraphs and topical unity			
III.	Type of Treatment	Total points		195
	A. Topics treated in large units with many supporting details		50	
	B. Suggestions for problem study		40	
	C. Interesting information given in an interest- ing way rather than a mere list of facts		50	
	D. Attention to relative values based on importance		20	
	E. Sailor or location geography emphasized		10	
	F. Use of devices such as graphs to make statements emphatic		25	
IV.	Reliability of Material	Total points		185
	A. Accuracy of statements		50	
	B. Latest available information utilized		50	
	C. Explicit statement of the year in statistics		35	
	D. Maps accurate		50	
V.	Accessories	Total points		135
	A. Maps: Different kinds, physical, relief, regional, political, commercial, industrial		50	
	B. Illustrations Sufficient in number; well chosen--represen- tative in character to give correct ideas; well engraved		40	
	C. Statistics		20	
	D. Indices		10	
	E. References		15	
				860

Total points 1000

3. Textbook C. The scorecard for evaluating Textbook C is found on page 97.

a. Point of View. The point of view received a total of 150 points. The relationship idea is prominent, because Textbook C is a study of the relation between man's daily work and the geographical conditions upon which his work depends. The two sub-divisions dealing with people and their environment are rated rather high. This textbook explains what these conditions are and their effect on commerce.

b. Organization of Material. Organization of material is given a total of 200 points. The logical organization is principally industrial. The psychological organization is rated well, because the author has adapted his book to the interests of the pupil. The author's purpose is to discuss commodities, taking them from the field of primary production on through the field of consumption.

c. Type of Treatment. Type of treatment received a total of 215 points. The suggestions for problem study were given a good rating, because Textbook C awakens interest in the pupil by frequent use of questions, exercises, and problems. The topics are treated in large units with many supporting details.

d. Reliability of Material. Reliability of material is given a total of 185 points. The reliability of the material has not been tested in this study.

e. Accessories. The accessories are given a rating of 145 points. Well chosen maps and illustrations are used extensively in Textbook C.

Score Card for Evaluating
High School Geography Textbooks

99

Textbook C For Evaluating Textbooks

I.	Point of View	Total points	150
	A. Relationship idea prominent	55	
	B. Response of man to his environment	40	
	C. Information the end point	20	
	D. Physical features or life of the people, the starting point in the first part of book	35	
II.	Organization of Material	Total points	200
	A. Logical The point of view of the geographer; i.e., mathematical, physical, political, industrial	40	
	B. Psychological Organized from the point of view of the inter- ests, capacities and needs of undeveloped children	105	
	C. Organization with a definite purpose	55	
	1. Facts about the earth and its inhabitants correlated		
	2. Good paragraphs and topical unity		
III.	Type of Treatment	Total points	215
	A. Topics treated in large units with many supporting details	55	
	B. Suggestions for problem study	70	
	C. Interesting information given in an interest- ing way rather than a mere list of facts	45	
	D. Attention to relative values based on importance	20	
	E. Sailor or location geography emphasized	10	
	F. Use of devices such as graphs to make statements emphatic	15	
IV.	Reliability of Material	Total points	185
	A. Accuracy of statements	50	
	B. Latest available information utilized	50	
	C. Explicit statement of the year in statistics	35	
	D. Maps accurate	50	
V.	Accessories	Total points	145
	A. Maps: Different kinds, physical, relief, regional, political, commercial, industrial	50	
	B. Illustrations Sufficient in number; well chosen--represent- ative in character to give correct ideas; well engraved	50	
	C. Statistics	20	
	D. Indices	15	
	E. References	10	
			895

Total points: 1000

4. Textbook D. The score card for evaluating Textbook D is found on page 99.

a. Point of View. The point of view is given a total of 150 points. The influence of environment upon the life of the people is the most significant.

b. Organization of Material. Organization of material received a total of 200 points. The logical organization is mainly industrial. In comparison to the other three economic geographies, A, B, and C, Textbook D does not rate quite so high in the psychological organization. The definite purpose of the book is to explain how the earth becomes the home of man.

c. Type of Treatment. The type of treatment is given a total of 200 points. The topics are treated in large units with many supporting details. Textbook D has many bar graphs. The problem study is in the form of direct questions.

d. Reliability of Material. Reliability of material is given a total of 185 points. The reliability of the material has not been tested in this study.

e. Accessories. The accessories received a total of 140 points. The maps are commercial and industrial maps. A good statistical appendix completes Textbook D.

Score Card for Evaluating
High School Geography Textbooks

101

Textbook D

I.	Point of View	Total points	150
	A. Relationship idea prominent		50
	B. Response of man to his environment		40
	C. Information the end point		15
	D. Physical features or life of the people, the starting point in the first part of book		45
II.	Organization of Material	Total points	205
	A. Logical		40
	The point of view of the geographer; i.e., mathematical, physical, political, industrial		
	B. Psychological		90
	Organized from the point of view of the inter- ests, capacities and needs of undeveloped children		
	C. Organization with a definite purpose		70
	1. Facts about the earth and its inhabitants correlated		
	2. Good paragraphs and topical unity		
III.	Type of Treatment	Total points	200
	A. Topics treated in large units with many supporting details		50
	B. Suggestions for problem study		40
	C. Interesting information given in an interest- ing way rather than a mere list of facts		50
	D. Attention to relative values based on importance		20
	E. Sailor or location geography emphasized		15
	F. Use of devices such as graphs to make statements emphatic		25
IV.	Reliability of Material	Total points	185
	A. Accuracy of statements		50
	B. Latest available information utilized		50
	C. Explicit statement of the year in statistics		35
	D. Maps accurate		50
V.	Accessories	Total points	140
	A. Maps:		45
	Different kinds, physical, relief, regional, political, commercial, industrial		
	B. Illustrations		50
	Sufficient in number; well chosen--represen- tative in character to give correct ideas; well engraved		
	C. Statistics		20
	D. Indices		15
	E. References		10
			875

Total points 1000

TABLE XXIII

COMPARATIVE QUANTITATIVE ANALYSIS OF SCORE CARD RATINGS
OF ECONOMIC GEOGRAPHY TEXTBOOKS A, B, C, AND D

Name of Textbook	Ratings					Total
	I	II	III	IV	V	
<u>A</u>	160	205	215	185	145	910
<u>B</u>	145	200	195	185	135	860
<u>C</u>	150	200	215	185	145	895
<u>D</u>	150	200	200	185	140	875

C. A Study of a Comparative Quantitative Analysis of
Score Card Ratings of Economic GeographyTextbooks A, B, C, and D

Table XXIII is a comparative quantitative analysis of the four high school economic geography textbooks, A, B, C, and D. The analysis is based on the ratings of the score cards which were sent to forty-eight high school geography teachers. The average ratings which were given on the score cards are as follows: (1) point of view, 180; (2) organization of material, 230; (3) type of treatment, 235; (4) reliability of material, 185; (5) accessories, 170. The sum of these five ratings is 1000 points. The ratings furnished the standard by which the above textbooks were rated.

The five principles on which the textbooks were rated are as follows:

1. Point of View. Of the four textbooks, Textbook A,

with a score of 160 points, rates highest as to the point of view. The author gives the reader a clear conception of the point of view which the textbook is to give. The relationship between man and his own environment and the relationship existing among the different countries is emphasized in Textbook A.

Textbook B has the lowest rating for this principle, the score being only 145 points. The content of this textbook does not emphasize the relationship idea as much as the products.

2. Organization of Material. Textbook A, having a score of 205 points for the second principle, rates highest. This book excels the others in its psychological organization by meeting the needs of the high school pupil so effectively. The needs are met by the use of simple diction, relation of new knowledge to old by means of ample explanations, wisely chosen illustrations, and thought-provoking exercises.

3. Type of Treatment. Textbooks A and C, each having a score of 215 points, are given the same rating for the third principle. The reason for this is that both books treat the topics in large units with many supporting details and both use many problem studies.

4. Reliability of Material. The reliability of material has not been tested in this study, therefore, each book is given the standard rating of 185 points.

5. Accessories. Textbooks A and C, each having a score of 145 points, are given the same rating for this principle,

because the illustrative materials in each book are exceptionally well chosen.

Based on the comparative quantitative analysis of the four high school economic geography textbooks, the comparative quantitative analysis of score card ratings of high school economic geography textbooks, and score cards of different authors, the four textbooks would rank as follows:

- | | |
|----------------------|----------------------|
| 1. Textbook <u>A</u> | 3. Textbook <u>D</u> |
| 2. Textbook <u>C</u> | 4. Textbook <u>B</u> |

D. Conclusions

Modern American geographers are putting forth a great effort to restore the interest in geography in the high school and to give it a permanent place in the curriculum. One of the solutions to this problem has been to humanize the content. The tendency of modern authors is to divide the content of high school economic geography textbooks more equally between the reading matter and the illustrative matter, especially by means of photographs and maps. With the proper treatment, economic geography can be made as attractive and interesting as any other course in the high school curriculum. During this world-wide economic depression resulting from trade disruption, it is especially necessary that the youth of today have an adequate appreciation both of what normal industry and trade conditions are and of the significant changes which have occurred since the peak in 1929 of the most recent era of prosperity.

VIII. CENTRAL TENDENCIES FOUND IN THE THREE HIGH SCHOOL
GEOGRAPHIES OF GENERAL PRINCIPLES, E, F, and G

A. A Study of a Comparative Quantitative Analysis of the
Geographies of General Principles, E, F, AND G

Table XXIV is a comparative quantitative analysis of the three high school geographies of general principles, Textbooks E, F, and G.

TABLE XXIV

COMPARATIVE QUANTITATIVE ANALYSIS OF THREE HIGH SCHOOL
GEOGRAPHIES OF GENERAL PRINCIPLES, E, F, AND G

Textbooks	Num- ber Pages	Per Cent Photo- graphs	Per Cent Graphs	Per Cent Maps	Per Cent Tables	Per Cent Exer- cises	Per Cent*
<u>E</u>	513	13.6	1.1	7.2	3.6	2.5	71.9
<u>F</u>	418	7.8	1.1	11.9	.3	2.6	75.7
<u>G</u>	574	19.7	1.2	19.0	.0	4.6	55.2
Averages	502.7	13.7	1.1	12.7	1.3	3.2	67.6

*Per cents are all based on the actual number of pages in each book.

The analysis is based on the following materials:

1. Photographs. Of the three textbooks, Textbook G, having 19.7 per cent of its subject matter devoted to photographs, excels in this type of illustrative material. The author has attempted to humanize geography in the general field and has employed photographs as one means of accomplishing this. Textbook F, with 7.8 per cent of its contents made

up of photographs, gives the least amount of attention to views. The reason for this is that it is an older textbook and the humanization of geography practiced little in general geography textbooks.

2. Graphs. Graphs are used little in all three of the books, because they are more adaptable for use in economic geography.

3. Maps. Textbook G also excels in the use of maps, the per cent being 19. The author has employed maps, as well as photographs, extensively to humanize his subject. Textbook E has only 7.2 per cent of the book given to maps, because most of the maps have been used only in the regional study.

4. Tables. Tables are used most extensively in Textbook E. This book is devoted to economic geography more than the other texts, therefore more tables are needed. The use of tables in the other two books is very insignificant.

5. Exercises. Textbook G, with 4.6 per cent of the subject matter made up of exercises, has given more attention to this type material than the other two books. The author gives so many exercises because he is an advocate of their use for mental training.

6. Text. Textbook F devotes 75.7 per cent of its contents to text, because it caters more to the old-style textbooks. Textbook G has the smallest per cent devoted to text. It relies more on illustrative material for its development of the subject matter than the other texts.

B. Score Card Evaluations for High School Geographies
of General Principles, E, F, and G

1. Textbook E. The score card for evaluating Textbook E is found on page 106.

a. Point of View. The point of view is given a total of 175 points. The relationship idea is prominent, because the author shows the relation between man and his physical environment. The life of the people is the starting point in the first part of the book.

b. Organization of Material. A total of 220 points is given to the organization of material. The logical organization is physical, economical, and regional. The psychological organization is significant, because the author has adapted the content to the interests, capacities, and needs of the high school pupil.

c. Type of Treatment. Type of treatment received a total of 220 points. The topics are developed by many details rather than by a mere list of facts. The physical geography has been humanized extensively.

d. Reliability of Material. The reliability of material received a total of 185 points. The reliability of material has not been tested in this study.

e. Accessories. The accessories are given a total of 160 points. The use of illustrations and references is emphasized in Textbook E.

Score Card for Evaluating
High School Geography Textbooks

108

Textbook E

I.	Point of View	Total points		175
	A. Relationship idea prominent		60	
	B. Response of man to his environment		40	
	C. Information the end point		25	
	D. Physical features or life of the people, the starting point in the first part of book		50	
II.	Organization of Material	Total points		220
	A. Logical		50	
	The point of view of the geographer; i.e., mathematical, physical, political, industrial			
	B. Psychological		100	
	Organized from the point of view of the inter- ests, capacities and needs of undeveloped children			
	C. Organization with a definite purpose		70	
	1. Facts about the earth and its inhabitants correlated			
	2. Good paragraphs and topical unity			
III.	Type of Treatment	Total points		220
	A. Topics treated in large units with many supporting details		55	
	B. Suggestions for problem study		50	
	C. Interesting information given in an interest- ing way rather than a mere list of facts		50	
	D. Attention to relative values based on importance		25	
	E. Sailor or location geography emphasized		15	
	F. Use of devices such as graphs to make statements emphatic		25	
IV.	Reliability of Material	Total points		185
	A. Accuracy of statements		50	
	B. Latest available information utilized		50	
	C. Explicit statement of the year in statistics		35	
	D. Maps accurate		50	
V.	Accessories	Total points		160
	A. Maps:		45	
	Different kinds, physical, relief, regional, political, commercial, industrial			
	B. Illustrations		50	
	Sufficient in number; well chosen--representa- tive in character to give correct ideas; well engraved			
	D. Statistics		25	
	D. Indices		20	
	E. References		20	
				960

Total points 1000

2. Textbook F. The score card for evaluating Textbook F is found on page 108.

a. Point of View. Point of view received a total of 170 points. The relationship idea is prominent, because the author attempted to relate the physical aspect of geography to the human aspects. Physical features serve as the starting point in the first part of the book.

b. Organization of Material. The organization of material is given a total of 200 points. The logical organization is physical, industrial, and regional. The psychological organization is developed with the idea of humanizing the different aspects of geography.

c. Type of Treatment. The type of treatment received a total of 190 points. The topics are treated in large units with several supporting details. Suggestions for problem study in the form of direct questions are used frequently in Textbook F.

d. Reliability of Material. A total of 185 points is given to reliability of the material. The reliability of material has not been tested in this study.

e. Accessories. The accessories are given a total of 150 points. Maps are significant in Textbook F, because frequent use is made of them. The photographs are principally of old subjects.

Score Card for Evaluating
High School Geography Textbooks

110

Textbook F for evaluation

I.	Point of View	Total points	170
	A. Relationship idea prominent	60	
	B. Response of man to his environment	40	
	C. Information the end point	25	
	D. Physical features or life of the people, the starting point in the first part of book	45	
II.	Organization of Material	Total points	200
	A. Logical The point of view of the geographer; i.e., mathematical, physical, political, industrial	50	
	B. Psychological Organized from the point of view of the inter- ests, capacities and needs of undeveloped children	80	
	C. Organization with a definite purpose	70	
	1. Facts about the earth and its inhabitants correlated		
	2. Good paragraphs and topical unity		
III.	Type of Treatment	Total points	190
	A. Topics treated in large units with many supporting details	45	
	B. Suggestions for problem study	50	
	C. Interesting information given in an interest- ing way rather than a mere list of facts	35	
	D. Attention to relative values based on importance	25	
	E. Sailor or location geography emphasized	15	
	F. Use of devices such as graphs to make statements emphatic	20	
IV.	Reliability of Material	Total points	185
	A. Accuracy of statements	50	
	B. Latest available information utilized	50	
	C. Explicit statement of the year in statistics	35	
	D. Maps accurate	50	
V.	Accessories	Total points	150
	A. Maps: Different kinds, physical, relief, regional, political, commercial, industrial	40	
	B. Illustrations Sufficient in number; well chosen--represent- ative in character to give correct ideas; well engraved	45	
	C. Statistics	25	
	D. Indices	20	
	E. References	20	
			895

Total points 1000

3. Textbook G. The score card for evaluating Textbook G is found on page 110.

a. Point of View. Point of view is given a total of 170 points. The relationship idea is prominent, because the author has shown the relationship between the physical and human aspects of geography. The physical aspect of geography is the starting point of the book.

b. Organization of Material. A total of 210 points is given to the organization of the material. The logical organization of material is physical, industrial, and regional. The psychological organization is used as an attempt to humanize geography.

c. Type of Treatment. The type of treatment is given a total of 205 points. The topics are developed by the use of several supporting ideas. Frequent use of problem study in the form of direct questions is made by the author.

d. Reliability of Material. A total of 185 points is given to reliability of material. The reliability of material has not been tested in this study.

e. Accessories. The accessories are given a total of 155 points. Maps and illustrations are used extensively in Textbook G.

Score Card for Evaluating
High School Geography Textbooks

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Textbook G

I.	Point of View	Total points		170
	A. Relationship idea prominent		60	
	B. Response of man to his environment		40	
	C. Information the end point		25	
	D. Physical features or life of the people, the starting point in the first part of book		45	
II.	Organization of Material	Total points		210
	A. Logical		50	
	The point of view of the geographer; i.e., mathematical, physical, political, industrial			
	B. Psychological		90	
	Organized from the point of view of the inter- ests, capacities and needs of undeveloped children			
	C. Organization with a definite purpose		70	
	1. Facts about the earth and its inhabitants correlated			
	2. Good paragraphs and topical unity			
III.	Type of Treatment	Total points		205
	A. Topics treated in large units with many supporting details		50	
	B. Suggestions for problem study		50	
	C. Interesting information given in an interest- ing way rather than a mere list of facts		45	
	D. Attention to relative values based on importance		25	
	E. Saylor or location geography emphasized		15	
	F. Use of devices such as graphs to make statements emphatic		20	
IV.	Reliability of Material	Total points		185
	A. Accuracy of statements		50	
	B. Latest available information utilized		50	
	C. Explicit statement of the year in statistics		35	
	D. Maps accurate		50	
V.	Accessories	Total points		155
	A. Maps:		40	
	Different kinds, physical, relief, regional political, commercial, industrial			
	B. Illustrations		50	
	Sufficient in number; well chosen--represent- ative in character to give correct ideas; well engraved			
	C. Statistics		25	
	D. Indices		20	
	E. References		20	
				925

Total points 1000

TABLE XXV

COMPARATIVE QUANTITATIVE ANALYSIS OF SCORE CARD RATINGS OF GEOGRAPHY TEXTBOOKS OF GENERAL PRINCIPLES, E, F, AND G

Name of Textbook	Ratings					Total
	I	II	III	IV	V	
<u>E</u>	175	220	220	185	160	960
<u>F</u>	170	200	190	185	150	895
<u>F</u>	170	210	205	185	155	925

C. A Study of a Comparative Quantitative Analysis of Score Card Ratings of Geography Textbooks of General Principles, E, F, and G

Table XXV is a comparative quantitative analysis of the three high school geography textbooks of general principles, E, F, and G. The analysis is based on the ratings of the score cards which were sent to forty-eight high school geography teachers. The average ratings which were given on the score cards are as follows: (1) point of view, 180; (2) organization of material, 230; (3) type of treatment, 235; (4) reliability of material, 185; (5) accessories, 170. The sum of these ratings is 1000 points. The ratings furnished the standard by which the above textbooks were rated.

The five principles on which the textbooks were rated are as follows:

1. Point of View. Of the three textbooks, Textbook E, with a score of 175 points, rates the highest. This textbook

excels the other two in that it shows a strong tendency to humanize all aspects of geography.

2. Organization of Material. Textbook E, having a rating of 220 points, is given the highest score for the second principle, because it has a good psychological organization. The physical geography, thoroughly humanized, is presented as a background for the intelligent study of commercial and industrial relationships.

3. Type of Treatment. Textbook E, with a score of 220 points, is given the highest rating. The author has treated the content with the purpose of giving information of practical value to the high school pupil. Even the physical aspect of geography is developed by many interesting details.

4. Reliability of Material. The reliability of material has not been tested in this study, therefore, each book is given the standard rating of 185 points.

5. Accessories. Textbook E, having a score of 160 points, rates the highest as to accessories, because a large number of illustrative materials is used in the development of the content.

Based on the comparative quantitative analysis of the three high school geography textbooks of general principles, the comparative quantitative analysis of score card ratings of high school geography textbooks of general principles, and score cards of different authors, the three textbooks would rank as follows:

1. Textbook E
2. Textbook G
3. Textbook F

D. Conclusions

To perform efficiently and justly his part in the world and in national affairs, every citizen must know geography. The great need is for a fuller grasp of physical, economic, and regional geography of the United States.

The tendency of modern geographers is to restore the interest **in** the geography course of general principles in the high schools and give it recognition as an essential part of the curriculum. The greatest solution to this problem is to humanize the physical aspect of geography by leading the student to study geographic forms and processes, not as things and conditions apart from human affairs but rather in their relations to the life of man. The topics are of more practical value to the high school pupil when they are developed by means of interesting details rather than by a list of mere facts.

IX. APPENDIX

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