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SOCIAL STUDIES TEACHERS'  
PERCEPTION OF TOPICS  
IN GEOGRAPHY  
DISSERTATION

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

BY  
Francis Eldon Bloomer, A.B., M.Ed.

* * * * * *

The Ohio State University  
1971

Approved by

[Signature]
Adviser  
School of Education
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February 14, 1925.............. Born - Walnut Grove, Missouri

1955 .......................... AB in Social Studies, Wichita State University, Wichita, Kansas

1961 .......................... M. Ed. Wichita State University, Wichita, Kansas


1966-1967. ................. . N.E.E.A. Fellowship in Geography, The Ohio State University, Columbus, Ohio

1969-1971. .................. Teaching Associate, Department of Humanities Education, The Ohio State University, Columbus, Ohio

1969-1971. .................. Instructor in Geography, Urbana College, Urbana, Ohio

1971 .......................... Assistant Professor Professor of Education, Texas Tech University, Lubbock, Texas

FIELDS OF STUDY

Major Field: Social Studies Education

Social Studies Education Professor Robert E. Jewett

Geography Professor S. Earl Brown

Curriculum Professor Paul Klohr
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CHAPTER I
INTRODUCTION

In recent years high school geography courses have seldom sparked much interest among students or teachers. The revolution in content and methods that so dramatically affected some other curriculum areas seemed to evade geography. Courses consisted mainly of memorizing names of countries and their capitals, the kinds of products produced in different areas, and the locations of mountain ranges and rivers. There was a sprinkling of other more important and meaningful information, but typically the student has been submerged in a flood of unrelated, insignificant data. One writer was led to observe:

High school geography is in a miserable state: materials on the whole are inadequate, and the supply of competent teachers is quite insufficient to meet current needs, let alone those that emerge when school systems attempt to improve the intellectual quality of the rather pedestrian work that goes on under the name of geography of the geographic aspects of the social studies.

Concerning the state of teaching in geography another writer said:

There are about 20,000 high schools in the United States... One may say, accepting any current definition of geography, that probably in all of them some

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geographic instruction takes place. But only a minority of these institutions offer clearly identifiable geography courses. Of these courses, relatively few are believed to reflect our field's current trend of thought.

Dissatisfaction with the quality of teaching and the lack of geographical knowledge possessed by high school students has been a chronic condition for a number of years. While addressing the National Education Association in 1914, Whitback revealed that ninety percent of the students who enter normal schools and colleges were deficient in the elements of general geography. In the same year, Dodge complained of poor teaching in the subject and stated that geography in the schools lacked unity and purpose. Two years later Kirchway voices similar complaints in *The Journal of Geography*. By 1919, Robert Brown concluded:

...geography...appears to be the most generally ill-taught subject... It has been so long considered the "sick man of the curriculum", that supervisors have been persuaded that the condition is chronic and remedies to increase its vitality are sought

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A 1924 article in *School and Society* reported the lack of competence related to geographic understanding of Stanford University freshmen, in 1938 Herman Levi spoke to substantially the same issue and in 1947, Kendel referred to geography as "a neglected subject" in the secondary schools of the country.

The plight of geographic education received more attention in the 1950's. Benjamin Fine reported in the New York Times a study of nearly 5000 college students revealing a dearth of geographic sophistication. In 1955 a survey of 178 high schools revealed that only 19 percent offered a course in geography.

The same theme, lamenting the endemic condition of geography in the high school continues to the present. The conclusions to be derived are that geography is poorly taught, is poorly learned, and that it does not command a respected place in the curriculum of our nation's

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7 Eliot Mears, "What Do College Students Know About World Geography?" *School and Society*, 20 (August 30, 1924), p. 286.

8 Herman S. Levi, "Ineffective Geography Teaching-Why?", *Journal of Geography*, 37 (May, 1938), p. 188.


11 *Bulletin of the Kansas Chapter of the National Council of Geography Teachers*, (April, 1956) p. 16.
schools. There appears to be several interrelated forces which have contributed to geography's failure. The basic explanation is related to the differences between the position of geography as viewed in the literature and practiced by leading universities and how geography as a subject is taught in the public schools.

Leaders in the field and social studies teachers do not value the same topics in geography. There is a lag between current knowledge and information available in the classroom. This lag involves more than information, definition or philosophy in geography; it involves the rationale of the discipline. In addressing to this same issue, John Ball states, it is imperative that the social studies teachers' perception of geography be brought up to date as it is not merely behind the times; it completely misses the point. It is a misrepresentation of geography as it is defined today. ¹²

Changing what is taught as geography will be a lengthy and arduous undertaking. The curricular revolutions that transpired in leading universities in the 1950's have not yet reached many of the teachers colleges of the country, nor are they likely to for some time to come. Perhaps new curriculum materials will enable the bypassing of some of the traditional "gatekeepers" of curriculum. The changes in the high school's approach to geography must be made now or the dilemma will

be perpetuated for another generation.

**Purpose of the study**

A sustained and pervasive curriculum reform began in this country in the 1950's. The launching of the Soviet Sputnik in 1957 was subsequently followed by a demand from many Americans for a complete reassessment of our educational system. Of particular importance to this study was the subsequent movement of the United States to improve curriculum at all levels in all subjects. Generally this movement is reshaping course content of the entire national educational system at the pre-college level. For the most part the movement has been in the form of national curriculum projects dealing mostly with discrete subject-matter disciplines. "Each of these foregoing projects," Taba has noted: "Seems to recognize the import of the rapid obsolescence of descriptive knowledge. In each...there is an attempt to identify the elements of durable knowledge; the central concepts, the basic generalizations, and the methods of inquiry..." The activities of the curriculum projects is often loosely referred to as "the curriculum revolution."

This curriculum "revolution" has generated a renewed respect for


and interest in, the teaching of geography in the high school and consider­able emphasis has been placed upon its substantive reform and on the production of relevant teaching materials.

In this specific regard the profession has done well and geographers across the country have made a major contribution toward upgrading the subject matter. No matter how noble this effort, it still falls far short of the mark because (1) most teachers are ill-prepared to teach geography in the first place and those who were geography majors are not much better off because the new substance requires a new methodology; most new curriculum materials focus upon systematic geography, even though the schools concentrate on regional geography and will probably continue to do so for many years to come...

The foregoing would indicate disparity between the "is" and the "ought" questions in geography. Obviously a good deal of teacher training should accompany the development of new materials and approaches in teaching geography on the basis of the following assumption: The successful use of method and content in high school geography depends heavily upon the perceptions of the teacher for the ultimate judges and evaluators of "what is" and "what ought to be" will be the teachers.

Purpose of the investigation

The purpose of this study is to determine the importance of topics in geography as viewed by secondary school social studies teachers. The basic hypothesis of this study takes the following form:

\[ \text{Schmeider, op. cit., p. 210.} \]
Social studies teachers and leaders in the field of geography hold disparate views of the importance of topics in geography.

A secondary hypotheses closely related to the above contention is:

Social studies teachers-in-training and secondary schools social studies teachers hold similar views relative to the importance of topics in geography.

Methods of Investigation

The purpose of the study is to investigate perceptual differences of the importance of topics in geography between professional geographers and social studies teachers in the secondary school. An ancillary investigation in the design measures identical topical preferences of teachers-in-training at The Ohio State University during the spring quarter, 1971.

The data used in this study came from two sources for the purpose of comparing differences. Topic preference (or importance) of social studies teachers was determined by analysis of responses to a questionnaire.* This measuring instrument was designed to identify:

a) A preferred curriculum for a geography course in the secondary school. There were four choices. Each choice listed the essential elements and the over-all theme of the course.

b) A choice of a definition of geography. Eight

* The questionnaire is included in the Appendix.
choices were listed allowing a wide range of philosophical preferences and a tradition of the discipline.

c) A Likert Scale checklist for the seventy-six topics in geography. The respondents rated each topic as to their perception of its importance in a secondary school geography course. The ratings were:
(1) of major importance as a topic in geography;
(2) of some importance; (3) undecided as to importance; (4) of little importance; and (5) of no importance as a topic in geography. An additional column was included to indicate if the meaning of a topic was unclear.

Geographers deal with a varied assortment of topics. In an attempt to delineate topics for this investigation considerable reliance was placed on several works widely recognized as authoritative sources. They were: The Nature of Geography by Richard Hartshorne, published in 1939; American Geography: Inventory and Prospect, Preston James and Clarence Jones, editors, published in 1954; Perspectives on the Nature of Geography, by Hartshorne, published in 1959; The Science of Geography, a report issued in 1965 by an ad hoc Committee on Geography of the National Academy of Science-National Research Council, Earth Science Division; and The Behavioral and Social Sciences Survey: Geography Panel (BASS Report), Edward J. Taffe, Chairman, published in
In the selection of current topics, greatest reliance was placed on those in the last two listed works not only because they are committee reports of prominent geographers thereby affording a more representative view of the field, but because their content is considered as the "new geography". One additional source of topics favored by leading professional geographers was from the contents of the High School Geography Project's, Geography in an Urban Age,\(^6\) published in 1970. Topics from this source were exceptionally relevant since it was designed for use as a high school geography course, its authors were all leading geographers, it was sponsored by the Association of American Geographers, and its content is representative of "the frontiers of current research and professional thinking in geography."\(^7\) Therefore, the topics included in the High School Geography Project are those leading geographers value most for inclusion in a high school geography course.

Limitations of the investigation

In addition to the limitations suggested in the "Method of Investigation", the following list will be observed in the study:

1) The study will not deal with topics in geography other than the seventy-six specifically listed in Part II of the Survey


2) Although it is beyond the scope of this study to list all of the topics germain to the discipline of geography, the listing is assumed to be an adequate sample of the traditions in geography.

3) Questions addressed in the study are "what is" rather than "what ought to be". The study does not recommend teaching strategies within the content of the first four chapters.

4) Throughout the study, geography as a subject, is considered a part of the social studies in the secondary school.

5) Although there is a wide variation in conditions and circumstances that might have determined choices of the respondents to the questionnaire, the assumption is that each choice is a result of considered judgment on the part of the respondent and not an act of caprice. Therefore the responses given are considered as the true perception of the respondent.

6) The study does not recommend instructional or curricular materials to be used.

7) Where terms and topics in geography have no commonly-agreed-upon meaning in geography or the social studies, the writer may create and state operational meanings.

8) The investigation assumes that the literature used in deriving topic perceptions of professional geographers is representative of the frontiers of current research.

9) Though determinations of causes may be implicitly intimated
within the development of Chapter II; a prediction of causal factors as related to the succeeding position or tradition of geography is not a part of this investigation.

10) In this investigation it must be assumed that the representative sample portrays perceptions of social studies teachers in general.

**Definition of terms**

**Social sciences** -- those organized bodies of data about human relationships and methods of arriving at new knowledge which employ the scientific method.

**Social studies** -- that part of the curriculum of the secondary school which deals with human relationships and problems and is abstracted from the social sciences.

**Leading institutions in geography** -- universities whose graduate programs in geography were ranked in the top ten in the ACE 1969 survey.

**Leaders in the field** -- those geographers who are widely recognized in the discipline because their work is frequently published in the leading journals; or because of positions of responsibility on the Steering Committee of the HSGP, or the Executive Board of the AAG, etc.

**Topic in geography** -- the subject or theme of a study or a discourse within the subject matter field of geography.

**Professional geographer** -- a college or university lecturer, or

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researcher in the field of geography.

Secondary school -- that part of the pre-college curricula encompassing grades seven through twelve.

The above terms are used frequently throughout the investigation and so their definitions are provided in advance so that the reader will be cognizant of the writer's meaning. Effort has been made to delineate other terms which are used less often in the investigation.

Assumptions underlying the investigation

Schools of the United States will need to provide increased opportunities for students to become better acquainted with the world in which they live, and with the role of the United States, and thus of themselves, in the emerging world community of nations. In this context, more attention will need to be given to the teaching of geography. This discipline, above all others, is concerned with studying world patterns and cultures, and with gaining insights into the many complex social, and political relations that make the world a vast, highly complex system of nations and peoples. 19

A study of geography helps teach these understandings to students by:

1) teaching the spatial structure of man's basic economic, social, and political activities.

2) geography is the only subject that has as its

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principal purpose the development of regional understandings.

3) Geography helps students understand man's inter-relationships with the land.

4) Geography helps students understand how man through time has come to occupy and change the face of the earth.²⁰

In short, the geographic approach is worthwhile because it is unique in its search for truth in that it deals with those aspects of problems relative to man and his relationships to space, uses data which deal with man and spatial relationships, and asks the kinds of questions which reflect the basic concepts of geography-questions about spatial dimensions.²¹

Overview of the presentation

1. Chapter II reviews the literature pertinent to the development of American geographic thought and the parallel development of geographic education. The research in geography is examined to determine the important topics of and the current views of geography.

2. Chapter III is a review and criticism of the High School Geography Project. The Project is examined to determine its content, important topics, and its rationale. The High School Geography Project is relevant to this investigation since it represents the frontiers of current


research and professional thinking in geography.

3. Chapter IV is the presentation of the findings of the investigation; social studies teachers' perception of topics in geography. This chapter also contains the analysis of the data.

4. Chapter V is the summary and conclusions of the investigation.
A close association between leading geographers and social studies teachers could be of immeasurable benefit to the condition of geography teaching in the secondary schools. Until quite recently scholars in geography have avoided such involvement. Thirty years ago Robert Redfield took note of the situation by stating:

A fable, which Aesop somehow neglected to record, tells of a hen who was making an effort to instruct her chicks about their future sources of food supply while she and they were balanced precariously on a chicken coop which was being carried down a river by a flood. It was a long time since the hen had studied the forest on the bank, and the account she was giving her chicks of forest resources was none too good. So she called to a wise owl on the bank for help. "You know the woods, oh owl, for you stay in the forest and study it," said the hen. "Will you not tell me what to teach my chicks about life in the forest?" But the owl had overheard what the hen had been telling the chicks about the forest as she came along, and he thought it was scientifically inaccurate and superficial. Besides, he was just then very busy completing a monograph on the incidence of beetle larvae in acorns. So he pretended he had not heard the hen. The hen turned back upon herself, proceeded as well as she could to prepare and put into effect an instruction unit on the food resources of oak forests, meanwhile struggling to keep the chicks from falling off the chicken coop. The chicks took the instruction very well, and later the chicken coop stopped at a point far down-stream, and the chicks all went ashore—to begin
In the twentieth century American geography has, like so many other academic disciplines, undergone remarkable and substantive changes. Unlike many of the other disciplines however, geography as a field has never entirely exchanged one point of view for another; it has instead, simply attempted to encompass them all. Such a condition has kept geographers busy, and the journals full, in defending, retrenching, and explaining to each other, "yours is a special case of my more general theory." The various changes in points of view within the discipline have had repercussions on the place of geography as a part of the public school curriculum. Professional geographers traditionally have been so introspective in dealing with the "larvae in the acorns" of geography that a gulf of serious proportions has evolved between geographers and secondary school teachers, between geographers and other academic disciplines, and most tragically, between geographers and other geographers.

How many people outside the small restricted ranks of geography know what a geographer is or what geography is or what a person is about when he is doing geography? How many geographers have not seen a look of confusion and perplexity on the face of someone when replying to a question about his occupation said, "I am a geographer"? The lay view

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of geography is simple and direct. A geographer is someone who has a knowledge of where places are, what they look like, how far they are apart, and perhaps something of the landscape features separating these places in question.

Unfortunately, professional geographers have never been greatly troubled by the inaccuracies of the lay view of geography. Geography was and still is a small profession. Few geographers worked closely with other professionals outside the confines of the field itself, and by and large, American geographers have, for most of the twentieth-century, experienced enough difficulty trying to decide among themselves what the definition of geography should be and encompass without attempting to explicate it to laymen. Implications of such a situation in its effect on geographic education is obvious.

In dealing with the prevalent views of geography in the United States it would be inaccurate, if not entirely impossible to state with any degree of certainty when one view within the field gave way to the next. Each phase finds its antecedents in the past and each claims in some way to best represent a "pure" geographical point of view. Each era of development, in turn, left its imprint on the methods and the literature of geography.

The existence of two approaches to geography, the regional and the systematic have been more troublesome to the advancement of geographic education than has any other factor. The early systematic approach was adumbrated by Richthofen and dominated methodology in geography for some 40 years. Richthofen said essentially that the composite study
of an area covered the spatial arrangement of earth-bound phenomena, physical, biotic, and human and should be examined in terms of their forms, material, genesis and spatial interconnections. He called such a study at the descriptive level "chorography". However, as knowledge accumulated and hypothesis became feasible explanation would naturally enter, and thus the study would rise to the level of what he termed "chorology". According to Dickinson this approach to geography was later described as the "storied mansion approach". Each level of the mansion has different occupants and each level having no connection with the others.² It was a "dead end" approach to geography because in using such a method, many sets of spatially arranged phenomena in this same area are thoroughly examined as ends in themselves.

Early regional presentations were little better. Much of the early research and presentation of content of particular areas was mainly a matter of compilation of spatial data presented without order and with little discrimination as to what information was relevant. This was generally referred to as the "holistic approach". In much of this work areas were descriptively fragmented and no effort or devices were demanded to synthesize or interpret the data, except in so far as they were coextensive with and dependent upon the "physical base". A study began with the definition of the "natural regions", and then tried to fit human data into this framework. What did not fit was omitted.

Many of the studies took the following form:

1. Land forms
2. Climatic conditions
3. Soils
4. Plant and animal life
5. Geographic development of settlement
6. People and state in their areal development
7. Race, speech, and folk
8. Agriculture and rural settlement
9. Forestry, hunting and fishing
10. Towns and markets
11. Industry and crafts
12. Population distribution and density
13. Trade and traffic
14. Spiritual life

Many of the current text writers in geography still present a thorough presentation of the physical elements, and add almost an addendum of human derivatives which is, to this writer at least, an environmentalistic approach.

The purpose of this chapter is a pursuance of the literature relevant to the development of effective geography instruction in the public schools in this century. This is to be accomplished by first tracing the evolution of "geographic thought" and then by giving a brief summary or account of the parallel growth and development of geographic
education during the same period.

**Growth of the discipline**

Even though the rank of professional geographers is a small fraternity it is undergoing a remarkable expansion in the United States. In 1901 the first Doctor of Philosophy degree in geography was that by the University of Pennsylvania to J. Paul Goode. The founding of the Association of American Geographers (AAG) occurred in 1904 with an initial enrollment of 44 members. The 1968 *Directory of College Geography of the United States* showed that 635,191 students at 1,332 different colleges and universities were enrolled in geography courses and that graduate training in geography is offered at over 100 of these institutions. To illustrate the increasing rate of growth in geography it is worthwhile to look at the production of doctoral dissertations since 1901. In this time period, 1,676 dissertations have been completed. This is an impressive growth, however, of greater significance is noting the following: By 1930 only 105 dissertations had been written (6 per cent of the total) and even some of these probably belong in other fields such as geology; in 1950, twenty short years ago, the cumulative total of dissertations in geography was barely over 400; more dissertations have been written in the last five years than in the

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3 *Directory of College Geography of the United States, Academic Year, 1966-1967, XIX No. 1, J. R. Schwendeman (ed), Association of American Geographers, Southeastern Division (Richmond: Eastern Kentucky University, 1968).*
first fifty years. And of particular interest to the thesis of this study is the fact that out of the total 1,676 dissertations in geography only 34 dealt with geographic education.

Points of view

Geography is not confined to a narrow range of phenomena nor is it restricted by criteria of time. While geography normally emphasizes the more stable and visible parts of the landscape it may, on the other hand, include such fleeting or ephemeral phenomena as ocean currents, house types, commodity movements and hazard perceptions of a population. While the range of interest and research in geography is prodigious, an elemental unity within the field seems to lie in the concern for finding place relationships or rational sequences in space—"the search for Zusammenhang" in the words of Alexander von Humboldt and Karl Ritter, or of a principe de connexite as expressed by Jean Brunhes.  

Alfred Hettner (1859-1941) attempted to establish a philosophical framework for geography in reasoning:

Reality is simultaneously a three-dimensional space which we must examine from three different points of view in order to comprehend the whole; examination from but one of these points of view alone is one sided and does not exhaust the whole. From one point of view we see the relation of similar


things, from the second the development in time, from the third the arrangement and division in space.²

Inherent difficulties concerning spatial unity studies have long been recognized. Bernard Varenius' Geographia Generalis, published in 1650, divided geography into general or universal geography, and special geography which would deal descriptively and analytically with properties of particular places.

The modern terms used today for these two approaches are systematic geography, which can be systematic physical or systematic human geography, and regional geography whose basis can be any degree of study of physical or human aspects of an area, or both.

The "father" of the systematic approach to geographic studies is widely considered to be Alexander von Humbolt (1769-1859), whose five volume Kosmos, published 1845-1863, summarized the major relationships of the physical geography or "earth-science tradition". Systematic human geography derives partially from Karl Ritter's (1778-1859) Erkunde and also from Fredrich Ratzel (1844-1904), Paul Vidal de la Blache (1855-1918), and Jean Brunhes (1869-1930). Much of urban geography, the geography of manufacturing, production, studies of social spatial conditions, voter behavior, etc. and their relations to worldwide distributions are the concerns of the systematic approach to

human geography. 7

The antecedents of the regional approach to geography are more difficult to define although regional geography finds its roots in the ancient Greek world of Strabo and Herodotus. Ritter and Paul Vidal de la Blanch both wrote erstwhile regional studies. The most widely accepted definition of scope and method are represented in Richard Hartshorne's The Nature of Geography and in Derwent Whittlesey's "The Regional Concept and the Regional Method" in American Geography: Inventory and Prospect. 8

Geographers have spent an unconscionable amount of time and passion in arguing over which approach - systematic or regional is the "only" proper approach to geography. While many scholars have patiently and logically assailed the absurdity of such a dualism in geography, the furor continues. In addressing to this point, Schaefer said, "...Regional and systematic geography are codgins, inseparable, and equally indispensable aspects of the field." 9 Whittlesey stated, "Indeed, the regional and topical points of view are not separable.... The one seeks the greatest possible synthesis, the other the most complete


Hartshorne then sums the argument up by contending, "Geographic studies do not fall into two groups but are distributed along a gradual continuum from topical studies of the most elementary integration at one end to regional studies of a most complete integration at the other."\textsuperscript{11} Such divisions within the field of professional geography does the most possible harm to the status of geography in the secondary schools and will be addressed to later in this chapter.

In the past, centers of geography have become institutionalized and ingrown through academic "inbreeding". Often their hallmark became one of "conceptual poverty". Strong departments in a leading university would often completely dominate the "what was geography" throughout a large area of the country. (The University of Wisconsin and the University of California were examples of this sort of dominance in the discipline.) Arguments raged between competing centers on the meaning of the "earth surface", "geography", "the integration of heterogeneous phenomena", "What is the measure of significance", distinctions between human and natural factors", "time and genesis", "dualisms", and probably most significantly, over "divisions between systematic and regional geography as the 'true' geography", and whether "geography seeks to formulate scientific laws or to describe individual cases".

\textsuperscript{10}Derwent Whittlesey, "The Regional Concept and the Regional Method", in Preston James and Clarence F. Jones (eds), \textit{American Geography: Inventory and Prospect} (Syracuse: The Syracuse University Press, 1954), p. 32.

The nature of and diversity within the field of geography precludes a serious attempt at comprehensive coverage of the range of geographic inquiry.

The difficulty of such a pretentious undertaking arises from the fact that the content of geography is indefinitely expansible in descriptive terms. Many geographers cling to the philosophical point of view that anything happening in a region could, or on occasion should be included in geography's description of the area under consideration.

The problem is compounded in that geography is inextricably tied to the so called knowledge explosion during the past half-century. Given the nature of scientific inquiry and its insistent tendency toward even greater degrees of specialization, the field of geography has become fragmented. "Groups of geographers proliferate into subgroups. Study areas and techniques are divided and sub-divided; problems are broken into subproblems, which then become special concerns of subgroups within the field."

In addressing to the questions: "What is geography?" and "What do geographers do?", James and Jones give some sampling of the divergence within the discipline by listing over thirty subdivisions in geography and then professing, "This volume makes no claim to have covered all phases of American geography." Some of the specializations mentioned by the above authors include; historical geography, population geography, settlement and urban geography, political, resource, economic, marketing, 

12 James and Jones, op. cit., p. VI-XI.
recreation, agricultural, mineral production, manufacturing, transportation, cultural, physical, soils, climate, vegetation, oceans, geomorphology, plant geography, animal geography, cartography, medical geography, statistical and mathematical geography, as well as others. Any of the above specialties in geography could then be divided into the regional or topical frame of reference as well as into the rubric of a number of traditions and definitions in the field.

A myriad of monographs has been produced to deal with the proper place of geography within the academic community. Since the founding of the Association of American Geographers (AAG) in 1904, the members have had dialogues, soliloquies, debates, and minor wars not only to determine geography's position, but its appropriate direction, its impact, its relation to science, to the social sciences, the behavioral sciences and its definition.

Robert S. Platt is reputed to have taken his students at the University of Chicago up into the bell tower and while having them survey the panorama of the Chicago landscape exclaimed, "Look - what you can see is geography. What you can't see isn't." In a later attempt to bring understanding of the discipline into more modest and manageable proportions he defined the field by saying, "Geography is what geographers do." While Platt's view of geography might seem extensive and all-encompassing enough for even the most confirmed generalists, other geographers at other times have defined the role of geography in more restrictive terms.
The first president of the American Association of Geographers said, "Any statement is of geographical quality if it contains... some relation between an element of inorganic control and one of organic response." While at first glance this statement sounds innocuous enough, it effectively restricted geographic inquiry to the confines of physiography. By this proclamation geography's legitimate concern was understood to be within the limitations of the physical aspects of the surface of the earth.

This early period in American geography was greatly influenced by the ideas of Social Darwinism. Its theory of evolution, the concepts of natural selection, the survival of the fittest in the struggle for existence, the inheritance of acquired characteristics, and the determinism of the natural environment had a widespread impact on geography. According to James, William Morris Davis applied the idea of developmental or evolutionary change to landforms through youth, maturity, and old age. In his thinking, man could be fitted into the same picture. Human society was pictured as resembling an organism, seeking survival by adjusting to the demands of the physical environment. Herbst contends that this form of Social Darwinism was derived in the main from the writings of Herbert Spencer, became known as environmental deter-

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minism and became the dominant theme of American geography. The study of human societies in their environmental settings was exclusively concerned with place as the "physical base" and the repetitive life-forms of plants, animals and man that could be associated with that base.

Nearly a decade later Harlan H. Barrows in his Presidential address before the Association of American Geographers, in attempting to extend the scope of geography beyond the restrictions of a purely physical orientation, submitted as the unique field of geography an additional factor. He stated, in effect, that the center of gravity of the geographic field had shifted from the extreme physical side toward the human side, until, "geographers in increasing numbers define their subject as dealing solely with the mutual relations between man and his natural environment." According to Barrows, thus defined, geography is the science of human ecology and will make clear the relationships existing between natural environment and the distribution and activities of man. He further contended that geography proper deals largely with the present - with those surface manifestations of man's present occup-

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The physiography tradition of Davis and the man-land tradition of Barrows are viable philosophies in geographic inquiry yet today. Geography under the leadership of Davis was usually defined as the study of relations between man and his natural environment. The mystique involving harmony between man and his environment led, as has been pointed out earlier, to environmental determinism.

Taaffe points out that, "debates raged as to whether the environment 'controlled' or 'influenced' man's activities."19 Under the leadership of Barrows, the definition of geography"softened"to the study of "relationships" between man and environment with no necessary causal implications. Barrow's views, as stated in 1923, "included such currently familiar recommendations as: a greater emphasis on practical problems; dual training in physical and social sciences; and more concern for the impact of man upon his environment."20 Professor Taaffe stated further:

Certain problems began to appear, however, as geographers began applying the ecological view to their work. Then, as now, the problem of definition of the natural environment to include such things as landforms, vegetation, soil, and climate? Or do we use a broader term to include all the artifacts of man, including man himself as part of

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18 ibid.
20 ibid.
The strict definition begged the investigative question and forced geographers to look for relations between man's activities and some aspect of the physical environment. An investigator in geography would, under the parameters of the strict definition, have to look at relations between physical and human factors. That is, an examination of settlement patterns or city form as related to political processes would not be a suitable method for geographic investigation. Few of the research frontiers in modern geography would have been legitimate endeavors according to Barrow's restrictive definition of geography.

A second shortcoming of the strict man-land definition of geography was, according to Taaffe, "that the findings of such studies did not seem to be cumulative." Each geographic study was forced to "discover the wheel" all over again. One work did not seem to build on findings of previous investigations. "Although some of the (man-land) studies did prove to have some short-run utility, the broader generalizations to emerge from the many years of man-land studies were not only few in number but unimpeachably banal in nature."

Much was made of agricultural differences between glaciated and unglaciated land, and how early settlement followed certain fertile river valleys. One
generalization did emerge, however. Most dissertations ended with the solemn pronouncement that man, not nature, had been the dominant force affecting man's activities in any area. The mystique of forces moving to establish some kind of harmonious equilibrium between man and his environment faded as empirical evidence indicated sharply divergent cultures operating within similar environments as well as similar cultures developing in markedly different environments.  

The narrowness of the strict definition presented still another problem in that it did not encompass the kinds of work that geographers were actually doing. As geographers expanded their work to include urban areas their concerns became much broader than the "acceptable" definition would allow. Consequently there evolved the broad definition; of man to his total environment "... the relations between man and all objects, man-made or others as well as his psychological environment." The broad definition of man-land relations said too much. All of the social sciences and many of the physical sciences studies problems that would be included under its rubric. With such latitude, geographic studies lost their identity as geography. This tradition in geography however, also persists to the present. 

The area studies (regional) approach to geography, sometimes called the synthesizing or integrating approach, developed parallel to the man-land tradition and grew in importance as the popularity of the man-land view declined - partially as the recognition arose that the

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24 ibid.
25 ibid.
presence or absence of an environmental parameter in a study was not an operationally effective way of distinguishing geography from other fields. Carl Sauer's early work on *The Geography of the Pennyroyal* is an excellent example of one of the best early works in area studies. However the regional approach was best articulated in Richard Hartshorne's encyclopedic monograph which was exclusively devoted to a critical review of definitions and their implications. It was here that geography was defined as the discipline that "studies the world, seeking to describe and to interpret, the differences ... areal differentiation. ...The direct subject of geography ... is the uniquely varying character of the earth's surface..." In short, geography was defined as areal differentiation. The author's intent in looking at differences, at the unique aspects of a region was grossly misinterpreted by many geographers. As a consequence, there ensued a host of studies that were nothing more than an endless listing of phenomena in a region all under the rubric of the area studies tradition. Geographers confused process with product completely disregarding a means-ends continuum. The quest in geography became a search for the unique; why a region was different. Seemingly geographers were asking the wrong questions and much of the work in area studies was a cul de sac of description sometimes called "trash can" geography. Hartshorne was criticized for the


27Hartshorne, op. cit., p. 455.
misinterpretations others made of what he said.

The area studies tradition (integrative view) had limitations. At its worst, it became holistic. Instead of syntheses of interrelated phenomena many geographers produced inventories. According to Taaffe the end result was once again a paucity of cumulative generalizations. He contended that the very thing the area studies tradition should have done most effectively— to bring geographers into closer contact with other social scientists— it failed to do. Taaffe stated in essence, that neither the methods nor the relatively few generalizations which emerged from geographic work of this era formed an effective basis for communicating with other social scientists.

Hartshorne was well aware of the direction geography was taking and in 1959, he brought out his second methodological work, Perspectives on the Nature of Geography which was based on the principle that the determination of the nature, scope, and purpose of geography is primarily a problem in empirical research. Professor Hartshorne devotes Perspectives to a reconsideration of ten basic questions which he had covered some twenty years earlier in The Nature of Geography. The questions addressed were: "What is meant by geography as the study of areal differentiation?" "What is meant by the 'Earth Surface'?" "Is the integration of heterogeneous phenomena a peculiarity of geography?"

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28 Taaffe, op. cit., p. 4.
29 Ibd.
"What is the measure of "significance" in geography?" "Must we distinguish between human and natural factors?" "The division of geography by topical fields," "The dualism of physical and human geography," "Time and genesis in geography," "Is geography divided between "systematic" and "regional" geography?" "Does geography seek to formulate scientific laws or to describe individual cases?" and "The place of geography in a classification of the sciences." In this work Hartshorne redefined geography as being concerned to provide accurate, orderly and rational description and interpretation of the variable character of the earth surface, in other words, areal variation - as opposed to his earlier definition of the subject as being areal differentiation. In *Perspectives* he carefully explained that similarity is not the opposite of difference, "but merely a generalization under which differences deemed minor are ignored, those deemed major are emphasized." He advised looking at the organization of an area and to explain this areal organization in terms of interaction.

Hartshorne was cognizant of the mounting criticism of the area studies tradition even if, in general most of it amounted to a narrow criticism of his definition in its seeming limitation to "distinguishing between areas" which had led to idlographic studies. An example of such criticism was Ullman's critique which seemed essentially semantical.

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30 Hartshorne, *op. cit.*

31 Ibid.
Ullman's contention was that "areal differentiation" should properly be considered a sub concept of the newer definition of geography; "spatial interaction." Hartshorne's reply in Perspectives was that spatial interaction could only mean relations between phenomena in different places and that these (spatial) interactions arise only in response from a part of the character of an area and therefore, the term "spatial interaction" is actually a part of "areal differentiation". He then went on to point out that the overall point of view of geography is in its concern to analyze the character of places and differs in kind from that systematic science with its emphasis on analyzing a particular category of phenomena. He then said that the "unique purpose of geography" is to seek comprehension of the variable character of areas in terms of all the interrelated features which together form the variable character of places.  

Hartshorne had attempted to bring unity to the discipline of geography in seeking the most reliable description of the field possible. He recognized the changes that were rapidly occurring in geography and welcomed them for the benefit they could bring. He said:

New conceptual approaches and techniques will result only from intensive substantive work in particular branches or aspects of the fields. American geographers in the last decade or so have developed... a greater number of significant and use-

33 Ibid, p. 22.
ful concepts and methods than in any previous period. Among the many which may be listed... the development of statistical tools for analysis... and for correlating various indices of urban phenomena and combined cartographic-statistical methods... These may provide us with analytical methods that will permit a revolution in the speed and precision of determining areal correlations.\textsuperscript{34}

However his plea was, that even with the development of new techniques and tools that there should be some basis of agreement in the profession concerning the purpose of its work.

The spatial tradition

An almost imperceptible change in viewpoint occurred within geography in the early fifties. As geographers realized the futility of the inventory or holistic approach to areal studies, it became increasingly common to synthesize only the phenomena which had significant spatial expression - an awareness of "the measure of significance" which Hartshorne had explicated. This usually included physical phenomena as well as "an ever-widening range of measures of socio-economic phenomena."\textsuperscript{35}

Schaeffer's "Exceptionalism in Geography"\textsuperscript{36} was one of the earliest and probably the most important paper up to that time outlining the

\textsuperscript{34}Ibid, p. 10.

\textsuperscript{35}Taaffe, op. cit., p. 4.

spatial viewpoint and insisting that geography's role was in the nomothetic approach. He stated unequivocally that "the geographer's specific task in the analysis of a region is limited to spatial relations only." He asserted that Hettner's views on methodology in 1928 were even then twenty or thirty years old, at a time when virtually all of the other sciences experienced almost hectic change and progress.

"Turning to American geography," he said, "one may add that Hartshorne had restated many of Hettner's views in his work with little change or criticism." Schaeffer then said:

... with the development of natural sciences in the eighteenth and nineteenth centuries it became apparent that mere description would not do. Description, even if followed by classification, does not explain the manner in which phenomena are distributed over the world. To explain phenomena one has described means always to recognize them as instances of laws ... science is not so much interested in individual facts as in the patterns they exhibit. In geography the major pattern-producing variables are, of course, spatial... Hence geography had to be conceived as the science concerned with the formulation of the laws governing the spatial distribution of certain features of the surface of the earth.

Schaeffer's admonishments were not unheeded. The research frontiers—the pace-setters of geography, accepted wholeheartedly the "spatial view" of geography and the scientific paradigm. Leading university geography departments currently favor the deductive-theoretical approach

37 Ibid., p. 226.
38 Ibid.
39 Ibid., p. 227.
and a majority of the work is in the realm of systematic studies. Few graduate departments of geography seem to feel that they can meet their responsibilities to the student and the profession without offerings that are highly quantified, spatially oriented, and systematic. The increasing use of statistical analysis in geographic research parallels the emergence in most social sciences of a greater emphasis upon scientific method and the associated languages of statistics and mathematics. According to King, "whatever the discipline, the scientific method demands precise identification of problems, accurate description, and the formulation and development of hypotheses and models which might serve as explanations of reality." As pursued by the quantifiers in geography, the scientific inquiry is cyclic. The geographer proceeds from observed facts to the formulation of hypotheses or models, the logical consequences of which are then tested against the facts. The agreement or discrepancy between the "expected" facts or predictions and the observable facts is noted and the cycle commences again. Throughout the pursuit of this inquiry the language of mathematics enjoys a preeminent role largely by virtue of its powerful logical properties. It might be added that the language of mathematics is equally important because of its ready application to a computer programming technique.

41 Ibid.
42 Ibid.
King notes that the "quantification revolution" has not been without opposition within the ranks of geographers. The opposition has been strongest in the non-physical fields... and has focused upon such themes as the "idiographic versus the monothetic" approach, the qualitative nature of many phenomena as opposed to the quantitative requirements of science", "aggregative versus behavioral approaches", and the distinction between "correlation and causation". 43 In the Fortieth Yearbook of the National Council of the Social Studies, George Carey notes some of the same arguments in saying:

Ten years ago, a debate which was raging within the field of geography concerning the usefulness of quantitative methods in geographic research had reached its apogee. During its course, "quantifiers" alike seemed often to be driven to polarized positions which were equally indefensible. On the one hand assertions were encountered that the level of abstraction essential to statistical methodology undermined and obscured the effort to understand the delicate processes of spatial order and adjustment so central to the work of geographers. And, indeed, the quantitative methods employed... were often blunt tools. But equally, the other side might have been accused of irrationally rejecting any study founded on non-quantitative research as trivial.

In Dr. Carey's opinion, as the techniques of quantitative geography have matured, and been refined, the need to defend them has vanished and in retrospect much of the rhetoric of a decade ago appears nothing

43 Ibid, p. 4.
In a sense Professor Carey is right. Leading universities have embraced quantification; however his statement seems myopic in asserting that the issue is not quaint or passe. The assumption is premature, for while his contentions are relevant to the activities of many large centers of learning, they most assuredly do not apply equally to the hundreds of "lesser" institutions where so very many of the future teachers of public school geography are trained. There are significantly more "traditionalists" than "quantifiers" within the ranks of professional geography and while the above majority may acquiesce to the value of mathematical formulae, programming, models, and such as useful tools of geography and much as they consider cartography a tool, they are less inclined to grant that quantification is the central theme or method of geographic scholarship.

Edward Taaffe says that the spatial view is no more immune to pitfalls than were the previous traditions in geography. He said, "At worst, the spatial view has led to elaborate studies of spatial trivia, or of mathematically elegant geometries which must be good because they're spatial." In addressing to the problem of an over reaction on the part of quantifiers he states, "geographers discovered statistical, mathematical and theoretical models... and gleefully applied and

45 Ibid.
47 Taaffe, op. cit., p. 5.
misapplied them.... We regressed everything on everything else and factor analyzed every scrap of data..." He then said in effect, that as studies progressed, it became apparent that there was a certain amount of consistency and cumulation to the generalizations. The findings of one study were starting to be used in the next study and that geographers began moving into the literature of the other social scientists. 49

The position of geographic thought in the sixties was best defined in the National Academy of Science's Research Council Publication, *The Science of Geography*. 50 The work set four premises: (a) Scientific progress and social progress are closely correlated if not equated. (b) Full understanding of the world-wide system comprising man and his natural environment is one of the four or five great overriding problems in all science. (c) The social need for knowledge of space relations of man and natural environment rises, rather than declines, as the world becomes more settled and more complex, and may reach a crisis stage in the near future. (d) Progress in any branch of science concerns all branches, because science as a whole is epigenetic. 51 The committee then defined geography as the discipline seeking to explain how the sub-systems of the physical world are organized on the earth's surface.


and how man distributes himself over the earth in his space relations to physical features and to other men, in short, spatial analysis. The book admittedly had a "quantitative bias" which according to the authors reflected a concern for more rigorous hypothesis testing. It stated that geography's organizing concept, for which "spatial distributions and space relations" are a verbal shorthand, is a tri-scalar space compromising extent, density, and succession. Geography's theoretical framework is developed from this basic concept and listed settlement (central place) hierarchy, density thresholds, and diffusion theory as examples of theoretical constructs serving specific research.

The Ad Hoc Committee on Geography in *The Science of Geography* was writing an "appropriate" illustration of geography's research interests, methods, and opportunities. The report also dealt with "function" and was concerned primarily with that part of geography contributing to the "general progress of science." The committee stated, "... the many complex educational aspects of the field were not reviewed." The report was not an exhaustive coverage, rather it concentrated on concepts and methods. Its overriding concern was with the spatial distributions and space relations of the man-environment and not with simply man-environment as it was sometimes misinterpreted. Its treatment was concerned

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52 Ibid., p. 55.
53 Ibid., p. 1.
54 Ibid., p. 4.
with research clusters.

The Science of Geography was faulted in many quarters for its parsimonious selectivity. The only subfields of geography discussed were: physical geography, cultural geography, political geography and location theory. The work completely overlooked cartographic, an oversight which seems incredulous and further, according to the espoused point of view as set forth by the committee, regional geography was read out of the discipline. In this writer's opinion the above two omissions were more serious in their implications than the report's lack of policy implications, its ignoring associations with the other social sciences, or its apparent over-emphasis on methods.

The BASS report

The contemporary view of geographic thought is probably best represented in the findings of the BASS Report. This report was designed to present a view of the field of geography in the United States. The content was selective in that it is concerned only with geography as a behavioral and social science even though geography has an important physical science component; it was concerned with research rather than educational trends; it did not attempt to include representative sampling of all or even most research activity - only four subfields (locational analysis, urban study, cultural geography, and environmental perception) were discussed, and illustrations from these were extremely selective.  

In explaining "Geography as a Social Science," the report employs several illustrative studies designed to give readers a brief overview of some of the types of research activities in current geographical work. The Report defines geography as: "the study of spatial organization expressed as patterns and processes". The concept, spatial organization is defined as including ecological studies of man-environment interrelations; studies of rapidly changing cultural landscapes, emphasizing synthesis of diverse but interrelated phenomena; and locational studies that emphasized geometries of movement, size, shape and distance. Of particular interest is the Report's involvement with an increasing concern with behavior in space, growing out of the cultural perceptions and ecological interpretation of environment as well as its statements taking note of an observable trend away from questions concerned primarily with detailing pattern, form and structure, and toward the observation of behavior and analysis of the processes underlying structure. The second part of the committee's work in the BASS Report is given over to methods of achievement in geography. There is a lengthy discussion of cartographic analysis in dealing with social and behavioral problems and the Report states, "map use for problem analysis has greatly increased in recent decades and its utility has been enhanced

55 Ibid., p. 6.
57 Ibid.
58 Ibid., p. 8.
by current developments in mathematical and statistical analysis and the use of computers." The slighting of cartography as a viable part of geography discussed earlier in The Science of Geography was not repeated in the BASS Report. The BASS Report emphasized that the importance of cartography to geography is evidenced by the statement: "maps are extremely efficient devices for storage of spatially associated data in a form that allows instant associative recall," and that "maps serve as models that permit the measurement and analysis of both static and dynamic spatial relationships, they are useful devices for the transformation of surface characteristics in the plane and that they serve as information filters by transforming complex patterns into simpler patterns." Changing techniques and emphasis of recent years have significantly accelerated the growth of cartography and seem to portend considerable future development. The "quantification revolution" has enabled map-makers to apply statistical techniques in analyses of spatial distributions. This is aptly illustrated by Carey in his example of the utility of statistical techniques in mapping. He says the modern techniques are mandatory where an analysis of combinations of variables are desirable. His illustration says in effect that an endeavor to describe a phenomenon which incorporates many complex and

59 Ibid., p. 37.
60 Ibid., p. 59.
interacting and parallel causal chains can be virtually impossible when employing older, traditional map comparison techniques. He gives a New York City example where there are more than 2,000 census tracts for which over 200 categories of information are available from the census. If the cartographer, in his analysis, prepared 200 base maps and then took each of the 2,000 variables and mapped them separately in proceeding through his analysis, he would then initiate his task by superimposing his maps of variables over the base map on a light table. Just a simple comparison of two variables to each base map would require 19,900 separate analyses! While this would be a laborious and tedious process, such an undertaking would not be impossible. But in considering that some relationships among variables may occur not in pairs but in variables taken at three or four or even fifty at a time, the impossibility of "traditional" techniques is clarified. Carey states that with quantitative techniques and computer applications to the variables the researcher can cluster the variables into a much smaller number of independent dimensions which, after a relatively short period of computer time, may be used systematically to classify the census tracts under consideration by their similarities or differences along the dimensions thus constructing regional patterns of variation with very little drudgery.62 Aside from the quantitative, other trends in cartographic development include the active feedback system involving data collection,  

62 Ibid., p. 177.
information display and image processing - all made possible because of recent technological developments in communication. Automation and computers have made available remote sensors, stereocompilation machines, optical scanners, computer-directed line-printers and plotters, cathode ray tube displays, and so on. Some of the three-dimensional computerized maps such as those displayed in the February, 1969 Newsletter of the Laboratory of Computer Graphics, Harvard Graduate School of Design, are most impressive and promising.

The BASS Report picks up from here and then goes on to discuss Mathematical and Statistical techniques, Field methods and Remote Sensing and then gives illustrations of Locational Analysis (this was called Location Theory in the earlier publication of the Science of Geography), Cultural Geography, Urban Studies and Environmental and Spatial Behavior.

The overriding theme of the entire Report is the emphasis given to the behavioral aspects in geographic research and the increasing proliferation of mathematical and statistical techniques based primarily on the availability of computers in the leading universities. The Report notes that the number of universities offering quantitative courses in geography increased from three in 1958 to twenty-nine in 1965, and the number of dissertations employing mathematical or statistical analysis increased from one or two in 1955 to approximately one-fourth of the

63 Ibid., p. 177.
In discussing the trends and needs of geography the BASS Report notes:

A particularly difficult aspect of research is related to training in mathematics. Entering geography students often have weak mathematical backgrounds.... The problem is complicated by the fact that the expansion in mathematical work has occurred so recently that it is difficult for graduate departments to obtain enough adequately trained faculty to develop strong programs.

The basic needs are for stronger fundamental mathematical understanding reinforced by work with mathematical models applied to specific research questions. In geography... it is likely that the attainment of better fundamental mathematical understanding will require remedial work for some time to come. Ideally, course work in calculus, probability theory, and linear algebra would be part of an undergraduate program....

The current research thrust of geography then, seems to be essentially a highly sophisticated, quantified approach principally in the areas of the behavioral sciences. Divisions within the discipline are as deep and as bitter as ever, but have shifted from the older dissensions of the "physical" versus the "human" aspects and the "regional" versus the "topical" approach to one of a question of methodology. Namely, the insistence of the deductive-theoretical, quantified model builders that the traditional empirical-inductive method in geography is no longer viable or valid. The implications and consequences of the current division within the field probably have greater significance.

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64 Taaffe, op. cit., p. 64.

65 ibid., p. 124 ff.
relative to the progress of geographic education and its concomitant role in public school education than have the divisions that preceded it.

Geographic Education

In attempting to deal with the development of geographic education in this century, an unhappy reputation precedes the subject. Parson Malthus' description of economics as "the dismal science" could apply equally well to the popular view of geography. Not that the lay estimation of geography has diminished; on the contrary, everyone admits that it was never more important. But geography is too often remembered as an unordered listing of facts, or at best as an endless repetition of trivial relationships.

For most, the remembered route of geography in school is the regional inventory. This is the traditional avenue into geography, but it is a very demanding and austere rite of passage. With much hard work, the student learned about principal products, trade routes, physical features and locations of places. But when the textbook is closed and put away, somehow very little seemed to stick. Despite the valiant efforts of his teachers, the structure of geography does not readily impart deep and unforgettable meanings to the average student, or help him put a handle on the "real world." The regrettable result is that the "facts" and "differences" concerning regions of the world soon fade.

The excitement of high school students toward the subject of geog-
raphy is succinctly reflected in the study by Jessen and Herlihy in noting that in 1900 geography enrolled 23.9 per cent of the high school pupils; by 1910 the enrollment had dropped to 19.3 per cent. By 1922 only 5.9 per cent of the high school students were taking courses in geography. A later survey indicated that from a student population of 830,000 senior high school students in 33 major cities only 4.7 per cent took geography courses and that only 24 states in the nation had some form of geography instruction in senior high schools. Such signs of geography's flagging popularity as a subject in high school are even more ominous when viewed in the context of the continually increasing numbers of students enrolled in high schools across the nation.

It was pointed out earlier that concern with geographic knowledge and awareness was by no means new. A study by Harold Rugg and John Heckett nearly fifty years ago seemed to predict a dire and lowly circumstance for geography in the high school. Geographic educators were concerned, but it would appear that their efforts in remediation were directed to the wrong questions. A cursory, chronological survey of *The Journal of Geography* reveals that the continuing concern of


geographers to find the root of the problem dealt primarily with methodology and **not with the substance of the discipline**. This approach was clearly stated in the early 1930's by Guy M. Whipple. In the 1933 Yearbook of the NSSE he stated: "We are not suggesting radical departures from well-tried procedures in the curricula or elsewhere. There has been no attempt in the geography yearbook to set geography right, for we cannot see that where handled by well-trained teachers it has been taught wrongly. We feel that what is most needed is more and better trained geography teachers." To the geography professionals, what seemed to explain the failure of geography to maintain a respected place in the high school curriculum was poorly trained teachers, indifferent state departments of education, poor use of maps and globes, lantern slides, tests, insufficient space for geography laboratories, failure to maintain a vigorous schedule of field trips, and questionable activities on the part of education departments in the colleges and universities of the United States. For example, the 1933 Yearbook of the National Society for the Study of Education contained a chapter resulting from an extensive survey sent out to each of the teacher-training institutions in the United States as well as to 2,800 individual teachers. Among the findings were:

1. Students entering the teachers colleges of the

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country have had almost no geography since they were children in the grades.

2. Great numbers of elementary school and high school teachers, supervisors, and administrators now at work in the schools have had little or no training in geography beyond that they received as children in the grades.

3. Little or no geography is required in teachers colleges, even though most of their graduates become grade teachers and will teach geography if working above the third grade.

4. Many teachers in colleges have had inadequate training in geography. According to Miller the root of the problem was insufficient training in geography. A later study concerning the teaching of geography in New Jersey stated:

...It cannot be said that the teaching of the discipline is in a state of healthful vigor. Two offerings dominate geography programs - Economic Geography and World Geography. The former is often ineptly taught by Business Education majors, the latter ineptly taught by majors in the social studies... All are taught by persons poorly trained in the field - by teachers who have accumulated between three and ten semester hours of geography.

A survey of Georgia Schools indicated, "... the discipline of

70 ibid., p. 362.
71 ibid.
geography is poorly taught, and concomitantly, it is poorly learned." In North Carolina a 1960 survey showed that only three of 313 teachers of geography were certified in that field, and that 32 per cent of the geography teachers in the study never had a single course in college geography. Indications are that geography is not only poorly taught by a group that by and large are poorly prepared in the subject, but also that much of the time there seems to be a severe shortage of geography teachers. Bacon noted, "not long ago, the city of Chicago advertised nationally for personnel to fill 300 positions as teachers of geography in its high schools. Fewer than a dozen were found qualified for certification as geography teachers." The shortage of teachers qualified in geography is in turn blamed on the dearth of geography offered in the public schools, which is again blamed on the fact that its absence on the schools in because it is poorly taught, ad infinitum.

In looking at this Gordian Knot, Phelps said that "the shortage exists not only because of graduate school attitudes toward teaching as a profession, but also because of undergraduate programs, high school programs, and elementary schools." He then added, "the recruitment of

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undergraduate majors in geography, which would alleviate much of the condition, is relatively difficult since few high school students are exposed to geography in the High Schools. Practically no entering college freshmen aspire to careers in geography. For the most part therefore, the recruitment of undergraduate majors must be done after the student has initiated work on a college program." 76 Yet another reason for the scarcity of geography majors in college could be that they have had a geography course in high school and found it so distasteful that few are interested in more geography. A 1969 study of students in freshman geography at the University of North Carolina (Chapel Hill) showed that 48 per cent of the students had had geography in secondary schools, but only seven per cent indicated that they found the course "useful and interesting." 77

From the above, it would appear then, that geography's plight is, to a degree, closely correlated to the quality and strength of the geography program in the high school. Frick hypothesized that such is the case 78 as does the rationale behind the High School Geography Project. It would be prudent to add however, that the High School Geography Project Steering Committee saw a need for "revolutionary" changes not


only in methodology but an even more pressing one for substance. The present position of geography in the high school is characterized by four problems. They are: (1) lagging enrollment in geography courses in the high schools; (2) poor teaching of geography by teachers with little or no preparation in the field; (3) a shortage of qualified geography teachers; and (4) student apathy. With the exception of item number one, the problems common to geography seem essentially the same as those common to social studies in general. The feelings of geographic education toward conditions in general were pretty well summed up in a *Journal of Geography* editorial which said in part:

... We, as geographic educators, have been fighting a long and often seemingly hopeless battle to firmly establish the role of a dynamic, conceptually based geography sector in the curricula of the American school. In the past, the fight has seemed hopeless at times because the solidly entrenched position of history dominated social studies curricula, where geography, with its feet planted in both the physical and social sciences, had difficulty finding a home. Even more frustrating was the failure on the part of far too many states to encourage persons preparing for certification to teach to gain a solid grounding in the discipline of geography. As a result, generations of teachers, inadequately trained in geography themselves, unwittingly led the children and youth into the morass of geographic illiteracy.

In the same editorial the author then brimmed optimistic for the future in relating, "I believe in all sincerity that geographic education is

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quite literally entering a Golden Age. The opportunities for the
expansion of geography in the curricula of our schools is evident on all
hands.\textsuperscript{A1} In the same vein William Pattison opined:

"We have entered a period of strong reassertion of
interest in geographic education in the United
States. Educational journals are calling for
new approaches to geography, teachers and local
school administrators have been showing a special
concern for improving geographic offerings, and
curriculum reform undertakings in geography have
been organized at several educational levels and
scales of operation. Prospects for promoting the
geographic understanding of American society
through formal education perhaps have never been
more favorable than at the present time.\textsuperscript{A2}

The foregoing has shown the cyclic nature of geography as a
subject in the public schools. At the beginning of the twentieth
century geography was a significant component in the curriculum of
American high schools. During the next fifty years it declined steadily,
until by the middle of this century it had largely disappeared from the
high school or at best, held a marginal or insignificant position. The
problems in geographic education were undoubtedly due to a number of fac-
tors. Charles Beard in his now classic statement \textit{A Charter for the
Social Sciences in the Schools} pointed out that "instruction in the
social studies in the schools is conditioned by the spirit and letter of
scholarship, by the realities and ideas of the society in which it

\textsuperscript{A1}Ibid.

\textsuperscript{A2}William D. Pattison, "Regional Geography in the American School:
(October, 1936), p. 398.
is carried on, and by the nature and limitations of the teaching and learning process at the various grade levels at which it is distributed. Geographic educators were not always so perceptive. To them, the major problem was in the training of teachers of geography and this concession was not directed at quality, but was in conjunction with only the quantity.

Until quite recently one might well have thought that messages from school geography had been cast in bronze and handed down from the mountain top. Geography's content and method of instruction seemed immutable. Beyond paying lip service to broad social objectives, school geographers seemed locked in a distant agrarian realm that was totally isolated from the realities of a technologically complex, industrial society. Fortuitously, time was on the side of geographic education. Eventually the diminishing of "isolationism" and the advent of World War II had marked effects on the resurgence of interest in geography as a viable contributor to the high school curriculum. Meanwhile, the characteristics of geographic data, research interests, and understandings had been changing notably. To thoughtful, forward-looking geographers it became evident that a re-establishment of geography in the high school curriculum would require the incorporation of new geographic understandings in the course offerings. Something would have

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84 Ibid.
to be done to lessen the gulf between scholarship and classroom practice. At long last geographic educators became interested in curriculum theory, in learning theories, in research on teaching and what was happening in the classroom situation. New questions were being asked. How can the methodology of modern geography be organized and presented to high school students so that the mode of inquiry - the concepts, generalizations and the analytical questions of the geographer - has relevance. Can sophisticated spatial models be translated into some usable form for efficient and honest use in the classroom? Are the concerns of geographers legitimate concerns which will engage the interest of youth? In what ways are modern learning theories to be applied to the "content" of modern geography? And in what ways can geographic education best meet the needs of students, the needs of society, and the needs of the discipline of geography all simultaneously?

These are relevant questions. They are questions that might have seemed sheer heresy to geographers a few years ago, but today they are challenges with which some geographic educators are attempting to deal.

Changes in the learning process, in what is known about teaching and changes in scholarship are ultimately reflected in the classroom. How far have geographic educators progressed in their undertakings? According to Bacon, recent efforts in geographic education have been exemplary in this regard. He says:

"Few other disciplines have done more to enlist the participation of its scholars in the preparation of new and exciting materials for school purposes... The vigorous attention currently being
given to the teaching of geography by both the National Council for Geographic Education and the Association of American Geographers gives further evidence of a revitalized concern for school geography. 85

If Bacon is correct the understanding or comprehension of such a salubrious position in contemporary geographic education dictates the tracing of the development of the "new" geography and the demise of the old. Before such is undertaken however, the reader would be well served by some scheme of ordering to the terms to be used. Geography is amorphous in content and often several different traditions of geography are concurrent in a given time period. Consequently it is often extraordinarily difficult to bring coherence to the prevalent philosophies in an historical development. This writer and many contemporary geographers as well, have discovered great utility in the ordering William Pattison applied to the dilemma in a speech to the National Council for Geographic Education in 1963. In his address he said:

There are four distinct but affiliated traditions that operate in the minds of geographers, which prevent disarray of their collective efforts. Through identification of these traditions we are provided an alternative to the competing monistic definitions... The resulting pluralistic basis for judgment promises, by full accommodation of what geographers do... to expedite greatly the task of maintaining an alliance between professional geographers and pedagogical geography, but more to the point, it promises to have constructive effects within the profession itself. The traditions are:

1. A **Spatial tradition**, the key to which is mapping.
Thought, in this tradition, concerns itself with positioning-and-layout on the surface of the earth, together with movements from place to place thereon.

2. An area studies tradition, made familiar to many Americans during the past twenty years, in principle, by interdisciplinary area studies programs. Within geography, the aim of area studies has long been recognized as that of character determination, the task, in this kind of organization of knowledge, being to establish and communicate the individuality of parts of the earth.

3. A man-land tradition, in which the purpose of investigation is to illuminate the significance of habitat in human affairs and the role of man-in-society in changing the fact of the earth.

4. An earth-science tradition, embracing study of the earth, the waters of the earth, the atmosphere surrounding the earth, and the association between earth and sun. From this tradition springs what is, almost without a doubt, morally the most valuable concept in the entire geographic heritage, that of the earth as unity.

Professor Pattison then goes on to say:

Our four traditions, though distinct in logic, are joined in action. We can say of geography that alone among fields, it pursues concurrently all four of them. Taking the traditions in varying combination, we can explain the conventional divisions of our field. Human or cultural geography turns out to consist of the first three traditions, applied to human societies; physical geography, it becomes evident, is the fourth tradition prosecuted under constraints from the first and second traditions. Going further, one can uncover the meanings of "systematic geography," "regional geography," "urban geography," "industrial geography," etc.

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My hope is that through a widened willingness to conceive of and discuss our field in terms of these traditions, we all will be better able to secure inner unity and outer intelligibility.

The remainder of this chapter will be devoted to a brief account of the development of geographic education in an effort to assess the reasons for the rise and fall and the impending resurgence of geography in the American high school.

**Historical development: Geography as physiography**

In 1892 the National Education Association appointed a Committee of Ten, headed by President Eliot of Harvard University, to study the related problems of pre-college school programs and of college entrance requirements. The report of the Committee of Ten subsequently provided direction for secondary education policy and its effects were felt throughout the United States. The report declared intellectual discipline to be the chief goal of the high school, and developed this view into curricular recommendations by drawing upon the written advice of nine subsidiary conferences. Each of the nine subsidiary conferences was organized to consider a specific field of study and one of the conferences was asked to review the situation in geography. Wil-

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William Morris Davis was a member of the conference on geography and, according to Preston James, his ideas on the subject completely dominated the conference's resulting report.

The conference on geography spoke out against the survey type of course in geography which was then in fashion, and recommended elementary or physiography, and meteorology as subjects worth of high school study.\textsuperscript{91}

Physiography became the "new geography" emphasizing the physical environment and was accepted as a college admission subject by the College Entrance Examination Board.\textsuperscript{92} Pattison says that new textbooks ensued - the first of which were by Professor Tarr of Cornell, and around these new texts courses in physiography were organized.\textsuperscript{93}

Physiography became the earth science course of the American high school and at the time was likely to be the only science course offered in any particular school.

The literature in geographic education relative to this era seems to be in reasonable agreement in that most writers state that the pre-eminence of physiography was shortlived. However there is less congruence in their opinions on the reason for physiography's demise.

\textsuperscript{90} James, \textit{op. cit.}

\textsuperscript{91} Ibid.


\textsuperscript{93} Pattison, \textit{op. cit.}, p. 281.
James says that "in spite of the adoption of Davis' ideas to raise geography to the status of a science, that within ten years the whole effort was recognized as a failure principally because of an inability to train and furnish a sufficiently large number of competent teachers." According to Anderson:

... by 1910 its status (physiography's) and prestige as a secondary school subject had declined... In view of its scope and emphasis it is not surprising that this form of geography underwent... severe criticism... Generally it appears that the main criticism... involved the belief that physiography was of little significant value in contributing to the main objectives of secondary education since it did not stress the study of human relationships.

While William Pattison contends:

... as high schools grew away from academic ideas... school administrators found general science increasingly attractive as a course that would meet broad citizenship needs. Existing earth science courses proved to be rather easy to convert into general science through curtailment of outdoor observation, through general simplification, and through an increase in the amount of attention given to physics and chemistry.

Cohen's reasoning is of the order that interest began to grow in commercial and economic geography as the nation's isolationists policies

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94 James, op. cit., p. 479.


96 Pattison, op. cit. 282.
declined. The National Education Association expressed dissatisfaction with the emphasis of physiography on the analytical study of physical relationships. At its Forty-first Annual Meeting, the following view emerged:

The secondary school, as has been set forth, is too much engaged in preparing for practical life to spend more time than is absolutely necessary on the theoretical side of physiography... No subject has reached its highest usefulness in the secondary school until its resources have been exhausted to find that organization of subject matter that will make the student face intelligently the vital problem of comfortable, honest living.  

The social studies era

Earlier in the chapter it was pointed out that geography of the 1920's was in a transitional period in its leadership. The changes transpiring were philosophical and between the earth-science and the man-land traditions. There were arguments concerning the respective positions of the two traditions in representing the "true" direction of geographic endeavor. These differences were never fully resolved to the satisfaction of factions within the field. The ultimate consequence of the disagreements was that geography ended up with its feet in two camps: it was identified as a physical science by some geographers and as a social science by others. The end result was that many educa-

97 Cohen, op. cit., p. 25.

tors concluded that geography as a field of study was not only amorphous in its curricular position, but ambiguous in its terminology as well.

When the National Educational Association undertook a new review of the secondary school curriculum in 1911, Thomas Jesse Jones, a sociologist at Hampton Institute was appointed chairman of the subcommittee to deal with the new field of social studies. In 1916 when the Committee's report was published professional educators had fashioned a new broad high school ideology. In the Commission of 1916 report there was: (1) seven "cardinal principles of secondary education"; (2) sanctioning of the junior high school movement - which was incidentally, already well underway; (3) support of vocational training as a specialized part of high school education; and (4) authorization of a social studies program involving at some grade levels a fusion of traditional subjects. In the Report the social studies was defined as including history, civics, economics, geography, and a new course called "problems of democracy." According to James, the Committee of 1916 was clearly more concerned with the training of young people to become citizens of a democracy than in meeting the requirements of scholarship. (This writer is led to wonder if the two are mutually

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100 ibid.

101 James, op. cit.
exclusive.) As a result of the 1916 Report, the school curriculums were given the following sequence:

Grade 7 Geography and American History
Grade 8 American History
Grade 9 Community and Vocation Civics
Grade 10 European (or World) History
Grade 11 American History
Grade 12 Problems of Democracy

The educational philosophy implicitly stated by the adoption of the new curricular sequence further muddied the waters for geography. The report of the social studies committee included no direct recommendations for geographic instruction in the senior high school, but suggested that, as a subject of emphasis, it be limited to one semester in grade seven and correlated with history and civics in grades eight and nine.

In reference to the junior high the committee suggested:

Geography, history, and civics are social studies that find a proper place in the seventh, eighth, and ninth years. The geography should be closely correlated with history and civics, and should be thoroughly socialized.

Most of the recommendations of the Social Studies Committee were accepted and are largely found throughout the United States; still in effect today. With the adoption of vocational education as a specialized part of the high school, business education departments often undertook the teaching of various forms of commercial geography as a part of their

102 Anderson, op. cit., p. 105.
core. This form of economic geography served the high schools in the 1920's and 1930's. According to a survey made in 1928 other geography courses offered in various schools included titles such as: home geography, general geography, high-school geography, human geography, social geography, human ecology, world geography and physical geography. It is interesting to note that of the schools responding in this survey that nearly 75 per cent of the students enrolled in geography courses were courses entitled "commercial geography." 103

Geographic educators seem particularly vitriolic in their denunciation of the social studies movement in American schools. Their writing leaves the impression that the purity of geography was grossly ravaged and violated when the social studies movement included the teaching of geography in other areas. Pattison, James, and Anderson all contend that for all intents and purposes the social studies movement killed geography. 104 What seems nearer the truth to this writer, at least, is that geography was not assassinated by the social studies movement; it died of internal disorders. Whatever the cause of geography's demise, it appears that geographers withdrew from active participation in national conferences on education for a number of years. James explains:

In the years immediately following World War I, a

103 Whipple, op. cit., p. 545.
104 Ibid.
group of teachers of social studies led by Harold Rugg undertook to develop new course materials and texts to carry out this program. Recognizing their own lack of background in most fields except history, this group asked for the cooperation of subject-matter specialists. They received help from historians specializing in certain periods and countries, and from sociologists, economists, and others - but not from geographers. The leading geographers of that period who were asked to help in the insertion of correct geographical concepts into the social studies, replied that geography was not a social study. For once the professional geographers spoke with one voice.... For a long time any professional geographer who cooperated with the social studies teachers was in danger of losing standing in his own field.105

Geographers seem to have adopted an "all or nothing" attitude. While academic geographers discussed the relative virtues of physical geography, physiography, regional, human, and economic geography, some educators became more convinced than ever before that the field possessed no materials that should be confined exclusively to a single subject and could best be - subject matter wise - a component of other subjects. What was important to the relevance of geographic education however, was that "during the formative period in secondary education, when the social sciences subjects were being selected on the basis of their direct contribution to the cultivation of social and civic efficiency, high school geography was still being defined by many geographers as a physical science."106

105 James, op. cit., p. 484.
103 Anderson, op. cit., p. 105.
By the mid 1920's and thereafter there was a gradual lessening of interest in commercial geography in the high schools and at the same time liberal arts colleges dropped geography as an accepted subject for college admission. "Only the ghost of independent geography remained in American high schools in the 1930's.

Changing viewpoints in geographic education

The succession of traditions in professional geography (and geographic education as well) during this century has in general been as follows: (1) the earth-science tradition; (2) the man-land tradition; (3) the area-studies tradition; and (4) the spatial tradition. To be sure there were overlaps in the traditions and all four are presently shared in the field. However, for the purposes of this study an understanding of the development of geography's role in education seems necessary. At the beginning of the twentieth century geographic education was firmly entrenched in the earth-science tradition headed by the William Morris Davis school of geographic thought. A perusal of the literature shows that for the next sixty years geographers were largely absent in any sort of sustained actions on behalf of the nation's secondary schools. What little that geographers wrote or did was peripheral and ineffective. It wasn't until the 1930's that the National Council of Geographic Education became involved in the sponsoring of periodic yearbooks for the National Council for the Social Studies. Changing rationale behind successive Yearbooks that geographic educators prepared constitutes an interesting insight into the expressions
of the National Council of Geographic Education. In 1933 (Guy M. Whipple, editor, The Teaching of Geography) took up the cause of geography as a field on the defensive against the "iconoclastic destruction of subject structures" while at the same time presenting geography as a study of the relationships between man and his earth environment - the man-land tradition of geography.

In the 1948 Yearbook of the National Council for the Social Studies (Clyde F. Kohn, editor, Geographic Approaches to Social Education) accepted the demands of social education as a control over geographic learning. "The editor, in keeping with the times, asked how these demands could be met through learning about geographic phenomena - the development of differences from place to place." This was within the area-studies tradition of geography. In 1959, the Yearbook (Preston E. James, editor, New Viewpoints in Geography) represented the same general interpretation of education and geography and expressed contemporary trends by appealing to "The Hard Core of Geography," the university discipline as a source of new wisdom for the schools. The 1970 Yearbook (Phillip Bacon, editor, Focus on Geography) is as firmly in the spatial tradition of geography as were the previous Yearbooks in their traditions. The current Yearbook speaks for a university

107 William Pattison, Focus on Geography, op. cit., p. viii.
108 ibid.
109 William Pattison in Focus on Geography, op. cit., p. viii.
discipline with an extraordinary diversification of research activity and the second part of the book discusses geography's involvement in new thinking about teaching and learning. Pattison comments that "one consequence of this reconsideration is a reduction of anxiety over the "correct" relationship between geography and the social studies." He adds, "The National Council for Geographic Education wishes to make known its complete approval of the alleviation." This new posture of geography toward the social studies did not evolve to any extent until after 1957 with the launching of the first successful earth satellite.

In 1958 the Congress of the United States passed the first National Defense Education Act. This act was revised in 1964 by specifying six additional fields of study that "were critically in need of improvement in the interest of national security." Geography was one of the fields covered by the 1964 amendment.

The ready availability of federal funds for aids to graduate students in geography and for teacher training institutes, among other things, seemed to erode the barriers erected by professional geography's independent attitude. Concomitant curriculum reform movements throughout the range of subject fields stressing a "discipline centered approach" to teaching in the high school seemed to warm the hearts of

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110 Ibid.

111 James, Ibid., p. 484.
geographers even more toward involvement in problems related to the teaching of geography in the public schools. Funds from the National Science Foundation were made available for support of such a program and The High School Geography Project (HSGP) resulted with the involvement of many leading scholars in the field of geography.

Geography's improbably pretext for a "beginning again" within the secondary school curriculum seems to lie with the "success" of the High School Geography Project which went into publication in 1970. The Project was a gesture constituted to break through three decades of hostility and indifference toward educators in general and toward public school efforts in particular. Geography has suddenly put on a "happy face." And after years of almost total isolation during the self-destructive turmoil within the discipline, it appears that geographers everywhere are rallying to the cause in seeking to make complete a return a respected place in the curriculum of public high schools.

It is still much too early, of course, to predict a felicitous outcome to the courtship of educators. Solutions to the many tangled problems dividing teachers and geographers still seem, to this writer at least, remote. Even so, the joint involvement of the Association of American Geographers and the National Council of Geographic Education in an effort at curriculum revision could offer a bright range of opportunities for the high schools. Most immediate, it promises a greater involvement and interaction of scholars in problems of secondary school geography as well as the prospect of a larger involvement in
future curriculum revisions and offerings, and just the mere possibility of closer ties between geographers and the public schools is indeed heartening, especially to the many interested teachers who have long advocated a new approach to secondary school geography.
CHAPTER III
THE HIGH SCHOOL GEOGRAPHY PROJECT

Geography in an Urban Age, better known as the High School Geography Project was designed for use as a high school geography course. The course authors were leading geographers, it was written under the auspices of the prestigious Association of American Geographers, and its content is representative of "the frontiers" of current research and professional thinking in geography. To the best of the author's knowledge, the HSGP is the only single source for determining what topics in high school geography are valued by leading geographers.

The design for classroom learning known as Geography in an Urban Age represents the work of hundreds of people who contributed their services over a period of nearly ten years. Geography in an Urban Age is the name given to the over-all theme of the High School Geography Project (HSGP).

The High School Geography Project began as a part of a general reform movement. By the end of the 1950's the National Science Foundation had sponsored a number of curriculum reform projects which were rapidly becoming a significant force in American education.

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typical project was national in scope, not only because it drew on a nationwide community of talent, but because it usually was sanctioned by some appropriate learned society, and because it was neither approved by nor affiliated with local or state agencies. Early examples of such national curriculum projects would be the Chemical Bond Approach (CBA), the Biological Science Curriculum Study (BSCS), the School Mathematics Study Group (SMSG), and the Physical Sciences Study Committee (PSSC).

Goodlad says essentially that, the commonality between each of these early national projects was in that they were discipline centered. Their emphasis was on updating and reorganizing those academic disciplines considered basic in the pre-collegiate curriculum. Reviewing the literature relative to the early curriculum reform movements indicates in general that the projects were responses to several factors. One factor was a lack of comprehension of the conceptual structure of the disciplines demonstrated by entering college freshmen. Other exigencies such as the problems created by prodigious accumulations of knowledge, the discovery of new ways of structuring knowledge and the ready availability of computers were also factors. Probably the most important consideration in the implementation of curriculum reform was nationalistic in nature. The imperative of American superiority played no small part in making much of the financing readily available.

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From an early conference of curriculum project leaders and specialists came The Process of Education by Jerome Bruner stating the tenants of the new curriculum makers in succinct form. This book stressed the conviction the "the best minds of any particular discipline must be put to work in the task (of developing curricula for the schools)." Bruner said that a program for instruction should "reflect the basic structure of a field of knowledge," and he then set forth the hypothesis; "any subject can be taught effectively in some intellectually honest form to any child at any stage of development." He further brought to the fore the image of the student as an active inquirer applying to his tasks in school the same methods as the professional scholar.  

The impetus for a curriculum project in the field of geography came from the Fund for the Advancement of Education, a specialized branch of the Ford Foundation. In April, 1961, the Fund authorized a group of representatives of geography to proceed with the plans for developing a "new program in the teaching of geography for the high schools of the nation."  

In Pattison's account of the developmental stages of the High School Geography Project he says:

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From the beginning, HSGP was perceived as a threat, even by members of the group that had brought it into existence. The Joint Committee, representing the Association of American Geographers (AAG) and the National Council for Geographic Education (NCGE), was made up of eight persons, all but one of whom had a direct interest in at least one textbook, then either on the market or under development. For them, of necessity, a question of constant concern was whether or not HSGP would grow along lines at variance ready made.  

Beyond this personal uncertainty was a troubling organizational question: What does the founding of HSGP imply, relative to the functioning of the NCCE? ... The NCCE had been set up many years earlier as a society charged with taking initiative in all matters pertaining to geography in education.... Creation of HSGP as an organization that was expected to define teachable ideas and skills implied that the NCCE, though perhaps once successful, now required help in achieving its declared aims.... Both inside and outside the committee, on account of this implication, uneasiness was felt about the new venture.  

Although the NCCE was a sponsor of the project the same could not be said for professional education proper, "whose geography-interested membership was concentrated in the National Council for the Social Studies (NCSS)." Pattison points out that the leaders of this society had reason to look upon the project with a degree of doubt, not only because they were not officially involved in its organization but also because early published declarations of intent gave them little reason to expect that the promised learning materials would reflect the values

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5 Ibid., p. 58.
6 Ibid., p. 59.
for which they stood. Publications had stated that the project would be basing itself upon "such new concepts as those which had emerged from modern geophysics and central place theory."

Gilbert White, former president of Haverford College and, at the time professor of geography at the University of Chicago was chosen director of the HSGP and it was he who drafted the proposal under which the Project was funded.

At its inception the HSGP found itself caught up in a contest between the likenesses-and-differences position (the area-studes tradition of geography) and a competing interpretation that equated geography with locational analysis (the spatial tradition). Holders of the latter view, convinced that they represented scientific geography, produced a highly ordered scheme of concepts that the project placed on the public record: a tightly defined link-up of "geographical fact," "spatial distribution," "areal association," "spatial interaction," and "region." Pattison says that while this scheme may not have gained great numbers of converts within the profession it unquestionably stimulated other factions to reflect upon their own research preferences, from a "structure of the discipline" point of view.

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"bid.

In 1954 Nicholas Helburn was invited to join HSCP as its new director. "Helburn went into the geographic community as an evangelist, to urge his belief that no more exciting and worthwhile challenge could be offered to a geographer than an opportunity to become a unit author on contract with the High School Geography Project. By 1955 the contract signers were as follows:

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<td>Political Geography</td>
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Taken as a whole, this was a group strongly oriented to the value of research in geography. During this period in the HSGP development of a course outline, consisting of eleven units, was made. With advice from the Steering Committee and HSGP staff, several of these units were prepared by the teams of professional geographers with the aid of educators, and classroom teachers. The units were then sent to the Project staff in Boulder, Colorado for trials and revision.

From 1965 to 1958 the units were evaluated in school trials directed by the Project's evaluation team. During the early trials, the evaluation team consulted with the Education Testing Service, Princeton, New Jersey. Approximately 130 teachers in various parts of the country, were involved in the three-year tryout period. The largest school tryout was held in 1966-1967 with 70 participating teachers. 11

An information dissemination program was also carried out by the Project. Administrators, high school teachers, and college professors were introduced to the HSGP materials at professional meetings, workshops, and institutes. Articles about the project and materials appeared in newspapers, magazines, and professional journals. A Newsletter with a circulation that grew to approximately 20,000 was published by HSGP.

several times each year.

After the original eleven units were revised and combined, based on the results from the school trials and editorial decision, a six-unit ninth or tenth grade course was completed late in 1959. The Macmillan Company was chosen as the publisher.12

The materials

Unit I, The Geography of Cities deals with factors influencing the location, structure, function, and growth of cities. The major question posed in the unit relate to these concepts about cities.

A variety of classroom activities are used in the hopeful development of the concepts. The first activity, "City Location and Growth," uses hypothetical site diagrams giving students several alternative choices for the location of settlements. The "inquirers" need to take into account the factors of history, resource availability, transportation technology, and anticipated growth in deciding where they will locate settlements in the pursuit of the activity.

In the "New Orleans" activity, students use topographic maps, aerial photography, and census tract data to analyze internal land-use patterns. Particular attention is given to the study of three residential neighborhoods which reflect differences in housing, income, and

12: HSCP Newsletter, Number 19, September, 1970.
and ethnic patterns. Students are encouraged to hypothesize on several aspects of each neighborhood and then are presented the census tract data to test the hypotheses.

In another activity of this unit students are involved in the building of their own city, "Portsville." After reading about the city as it developed in periods between 1850 to 1900, students work in small groups to construct the city as they believe it would have developed on a three-dimensional modulex board, using colored lego blocks to represent the different types of land use in the city. Decisions regarding appropriate locations for different land uses are made and defended by each student group.

Near the end of the unit, students match photographs of various specialized cities with descriptions of the cities. They are then to discuss probable reasons, based only on evidence in the photographs, why these particular cities developed in specialized manners.

Other activities in the unit explore the shape, size, and spacing of cities and provide opportunities for a local community study, a local shopping survey, and an analysis of the phenomenon of megalopolis. 13

Unit II, Manufacturing and Agriculture, is divided into two parts. First, students examine the local patterns of manufacturing and some of

the economic influences manufacturing has on a country. In the second part, students focus on agricultural practices in advanced and developing countries. Early in the unit students work with maps, relating various manufacturing distributions to descriptions of each distribution. The important factors in the location of different types of manufacturing are then discussed. The next activity deals with the impact and importance of manufacturing in the students' daily lives and in the economy of their home community.

In a role-playing situation, the class decides where to locate a hypothetical metal fabricating company in the United States. Assuming the roles of various company officials, students work with data on production, market, labor, etc. to determine the best location for the plant. An optional activity allows them to apply a different set of alternatives in locating a similar plant in the U.S.S.R. The concluding activity on manufacturing has students prepare diagrams to illustrate factors which influence the various types of manufacturing in the United States.

The first activity dealing with agriculture, "Hunger," is a discussion about mass hunger and its attendant problems. Next, students analyze maps to study the distribution and pattern of various farm commodities and discuss the influences that created the patterns. Taped interviews with farmers in various parts of the world provide the basis for a discussion about the decisions farmers must make about what to raise. The activity also gives students an opportunity to compare
different farming techniques.

The "Game of Farming" puts students in the role of "settlers" in Western Kansas during three different time periods. Students are given a 160 acre farm and $1500 to invest. They choose crops to plant and livestock to raise. Outcome cards, based on actual crop yields during a particular period, give students the results of their farming operations.

In the concluding activity in the unit, students reassess the problem of world hunger and attempt to offer plausible solutions.

Unit III of the HSGP is on Cultural Geography. Cultural similarity, relativity, diffusion are major themes of the unit. In each activity students analyze the factors that influence the way ideas, objects, and beliefs are modified according to cultural contacts.

In the first activity students compare their notions about the different uses of cattle and address to the question, "What is a cow?" A film strip and readings are furnished to bring students to the realization that different cultural groups of people use cattle, and view cattle, in different ways. This serves as a springboard for discussion about differing attitudes and beliefs around the world.

Sports is the topic of research in the next activity. Students trace the origins of several sports to determine how and where they

14 "Manufacturing and Agriculture" Unit II, HSGP, Ibid.
originated and how different cultures have modified them. The Islamic religion is another topic for diffusion study. Through readings, discussions, and map work, students try to account for the reasons the Islamic religion was accepted in some areas and discover the apparent barrier and modifications of the religion in other areas.

In the following activity, students try to determine a boundary between two adjacent cultures in Southeastern Canada, using cultural distributions such as language, ethnic origin, and religion. Emphasized is the difficulty of drawing a definite boundary between two groups of people as there are similarities between the groups where they mix in a zone of transition.

The last activity of the unit uses a filmstrip to contrast traditional architecture and modern business districts in cities around the world. Students try to locate each city in light of cultural clues provided. The greatest difficulty is encountered by the students in attempting to identify modern downtown sections. From this analysis, students gain an understanding of how different parts of the world are becoming more alike.

Political Geography, Unit IV. Students explore a range of political processes, such as making legislative decisions, settling boundary disputes, and redistricting a state to assure equal voting representation of the population.

15 "Cultural Geography," Unit III, HSGP, ibid.
In the activity "Section", students assume a role-playing identity either as legislators or citizens with special interests from different parts of a hypothetical state. As they negotiate to allocate the state's budget, they are introduced to conflicts among different groups. After the budget is determined, the citizens vote to elect or reject their representatives on the basis of satisfaction with their performance in relation to each district's interests - on how well their section's needs were met.

In another activity, students work with hypothetical voter data to try to solve the malapportionment of voting districts. By drawing new districts, students learn how voting districts influence the legislative process.

An analysis of the problems of setting up high school districts in the hypothetical city of Millersburg, is the next activity in the unit on political geography. Maps showing industrial and business areas, elementary schools, family income, minority groups, and population density are studies to determine the boundaries for the school districts. The students discuss the political and social implications of the proposed boundaries that the groups have determined. In this unit there is a more expository activity using London as a basis for analyzing problems involved in the overlapping levels and services of a metropolitan government.

Finally, students role-play to try to settle an international boundary dispute. The place is real - Point Roberts, Washington. The
facts are real but the situation has never reached the crisis stage portrayed in the activity. Using skills in negotiation and compromise, students offer solutions to the dispute and begin to understand the complexity of international political problems.

The Habitat and Resources unit, Unit V, emphasized the interaction between man and his natural environment. Seven activities in the unit deal with such topics as man's modification and use of the environment, conflict over resource utilization, adjustments to floods, use of water, and problems related to the disposal of waste in a large city.

Students begin the unit by examining a series of color photographs showing a variety of ways in which man has changed his habitat. The degrees of modification range from an urbanized area where the natural environment has been extensively modified by man, to a mountain scene where there is little evidence of the presence of man. Students discuss some of the implications of the changes in habitat.

In the next activity, "Two Rivers" students study two similar habitats in detail, using data on landforms, climate, crops, income, irrigation, and settlement patterns. Although the Nile Delta and the Salton Sea area of California are similar in their physical characteristics, students determine that they are different in the way man has used and modified each of the habitats.

16 "Political Processes". Unit IV, ISCP, ibid.
Using topographic maps and aerial photographs, students study an area of New Jersey to see and to predict the locations of transportation routes, farming, and settlements developed by man as they are influenced by geological and physical factors.

In another activity, students role-play representatives of Australian mining, conservation, and recreation groups who are in competition for the use of a beach land in Australia that contains rutile, an important mineral. Students, representing different interest groups, try to convince a jury as to how the beach should be used. They learn that resources are defined in terms of needs and technology and that conflicts arise over their use.

The next two activities in this unit focus on flood hazards and the water requirements of a highly industrialized society. Finally, in the "Waste Management" activity, New York City is a case study for an analysis of the problems of pollution and disposal of solid, liquid, and airborne wastes. Sources for the teacher to develop a study of a local waste disposal situation are listed in the unit.

Japan, Unit VI. Geography in an Urban Age concludes with the unit on Japan. The major activity in this unit is a student investigation of Japan's growth during the past hundred years, using data presented in graphic, tabular, and map form. Students try to explain how Japan has been able to modernize so effectively in such a short period of time

17"Habit and Resources", Unit V, HSGP, ibid.
and speculate on the implications for other developing nations. A filmstrip showing scenes of Japan and North America introduces students to Japan and serves as a basis for their discussion of the economic and cultural similarities and differences between the two areas. Students conclude that Japan is a modern, industrial nation that has retained some of its traditional features.

"Traditional Japan," the second activity, provides a description of life in mid-nineteenth century Japan to help students discover the characteristics of traditional Japan and to discuss some indicators of cultural change. This is followed by an activity that compares aspects of modern Japan with traditional Japan. Students also consider the meaning of a "developed" country by examining various data that indicate the degree of economic development or standard of living in a country.

In the concluding activity, students work in small groups to analyze how Japan's modernization process has worked and prepare recommendations to guide developing countries to undergo economic and technological change, based on Japan's experience.

Reflections on the High School Geography Project

There are about twenty thousand high schools in the United States... One may say, accepting any current definition of geography, that probably in all of them some geographic instruction takes place. But only a minority of these institutions offer clearly identifiable geography courses. Of these courses relatively few are believed to reflect

"Japan", Unit VI, HSGP ibid.
our field's current trend of thought. Chapter II of this study dealt with some of the issues in and realities of geographic education. It was implied that geographic education's philosophical weakness had its roots in chronically unsolved problems; problems of values, problems of causes and social wholes. "In effect some of us saw geography as an end in itself rather than in the broader context of a contributor to a larger scientific whole." \textsuperscript{20} Geography in an Urban Age, more generally known as the High School Geography Project, was an attempt to alleviate many of the chronic problems of the field—especially those aspects which related to geography in the secondary school. The HSGP seeks to "narrow the gap" between the discipline as it is taught in the high school classroom and the frontiers of current research and professional thinking in geography.

Since the High School Geography Project is the only curriculum project on the secondary level dealing with geography and since it is directed by the prestigious Association of American Geographers, professional geography as a whole has not only placed high hopes in the future success of the project they have, in a manner of speaking, placed "all their eggs in one basket."


\textsuperscript{20} Edward A. Ackerman, "Where is a Research Frontier?" \textit{Annals of the Association of American Geographers}, Vol. 53 (December, 1963), p. 431.
They point with extreme pride to their exemplary contribution to the "new social studies" and justifiably so. A great deal of time, effort, money, and propaganda went into the production of the materials. During the ten years of the project's existence it was funded at a cost of nearly $2,500,000.\textsuperscript{21} The materials were widely tried in the public schools, evaluated by a professional testing service at considerable cost, and a prodigious amount of publicity for the project was created. By 1970 there had been sixty-two books and journal articles published about the High School Geography Project.\textsuperscript{22} The Project staff at Boulder, Colorado produced and distributed twenty-one Newsletters, eleven advisory papers, thirteen progress reports and eleven different teaching presentation and demonstration kits. All of the materials were widely disseminated.\textsuperscript{23} The brochures of the commercial publisher advertising the materials present a glowing description of a "new geography... a course that brings the excitement and reality of modern geography into the classroom for the new generation."\textsuperscript{24} The materials have been used as the organizing theme of summer institutes for high school teachers and are a topic for discussion at national meetings. They have been

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\textsuperscript{22} Ibid., p. 99.
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\textsuperscript{23} Ibid., p. 82.
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\textsuperscript{24} Brochure number 50-598 (New York: The Macmillan Company, School Division, 1971).
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used as demonstrations of new methods of teaching for teachers-in-
training and, whatever the contribution of the High School Geography
Project to the educational process in general, it is the conviction of
this writer that they are more indicative of a revolution in geographic
education than in learning.

It was pointed out that the High School Geography Project materials
are "Brunerian" inquiry oriented and based on the "discipline" approach
to teaching. Geography in an Urban Age is a multi-media packaged
aimed at the high school aged student. They reputedly are designed
for either a ninth or tenth grade two-semester course however, the grade
placement is likely more one of expediency than design, since the organi-
zation of most high school curriculums in the social studies area does
not leave much room in either the eleventh or twelfth grade. The ma-
terials are organized around the "structural elements" of geography;
the concepts, key ideas, principles and mode of inquiry. The assump-
tion underlying the HSGP seems to be that an understanding of these
elements will give the student "intellectual power to attack unfamiliar
problems and will enable him to grasp intuitively the relationship of
new problems not previously encountered." 25

The structure of each activity can be diagrammed as follows:

26 Final Report HSGP, op. cit., p. 35.
Teacher poses generalized question or problem

Student given data

Student interacts with the data and/or with other students to explore the problem

Teacher poses an interpretive question

Student forms concepts or generalizations

Within this structure each activity the analysis may be shown thusly:

In any classroom, students are asked

- to use cognitive skills
- on data
- to find generalizations
- which illustrate important abstract ideas (concepts)
- reinforcing or changing values and attitudes
- learning or practicing social skills

For example, this model applied to the New Orleans activity in Unit I would take the following form:

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27 Ibid., p. 35.
28 Ibid., p. 37.
Each of the activities are, in turn aimed at a group of educational objectives. The objectives were enumerated by Nicholas Helburn and are listed in the following capsulized form:

1. **Students will work with a representative variety of facts or generalizations from all the regions of the world, including both physical and social topics.** Students will also work with most of the broad abstractions of the field.

2. **Students should understand certain basic abstractions.** While there seems to be available no definitive statement of the abstract ideas of geography at any given level, the following have been given high priority: ecosystem, man-land relations, sequent occupance, location, distance, pattern, spatial distribution, areal association, spatial interaction, diffusion, spatial hierarchy, region, and change through time.

3. **Student training should focus on four skills objectives:** an increased awareness of place and
its significance; an increased ability to deal with data in terms of their spatial characteristics; an increased ability to formulate appropriate problems which derive from that awareness; an increased ability to solve (or at least partially solve) those problems.

4. As a result of working with the Project materials, the student will be able to ask a series of questions that will help him to understand the contents of the world:

Where is it? Where in relation to others of its kind? Taken together, what kind of distribution do they make?

How did it get there? What was there before that made a difference? Whose decisions about the choice of location were important? How were these decisions made?

What factors influenced its growth in that place? What difference does it make to me, to society that it is there?

What else is there too? How are those things related to each other in place?

How is it connected to things in other places? What kinds of flow result?

The students' ability to formulate questions like these, to collect information and to select the relevant from the mass, to hypothesize answers, to recognize the tentativeness of these answers - this is the primary objective of the High School Geography Project.\footnote{Nicholas Helburn, The Educational Objectives of High School Geography," \textit{The Journal of Geography}, 68 (May, 1968), p. 290-291.}

In a recent addition of Social Studies Saunders and Tanck said of \footnote{\textit{Ibid.}}
these materials, "other national projects have completed more courses in less time... but there are fewer rough edges in this course than in most others." The authors then concluded their appraisal of the HSGP materials by adding,"... it focuses on important concepts, present opportunities for many kinds of thinking, and has a wealth of good lessons worked out in detail."31

Conclusions

Two years as a trial teacher for the High School Geography Project have led this writer to some personal observations that may or may not afford added insight to any critical appraisal. The materials are extraordinarily demanding on the teacher's time and skill in class management. All materials and data sources for the course are furnished with the package. There are slides, filmstrips, transparencies, data sheets, a variety of small and large maps for differing uses, thousands of lego blocks, plastic sheets, student resource booklets, student manuals, teachers manuals, wall maps and charts, stereo viewers, aerial photographs and other paraphernalia that must be inventoried, collected at the end of each class, stored, sorted and ordered for each class activity.

Many teachers would chafe under the complete structuring of the activities. This structuring seems to imply too little respect for the capabilities and creativity of teachers. The detailed lesson plans,

the concepts "to be derived", the generalizations posited, the listing
of interpretative questions for the teacher's use, all implicitly demon-
strate meticulous attempt on the part of the Project to "teacher proof"
the activities. Such a structuring gives too great a rigidity. Para-
doxically such structuring of the teaching act would be of greatest
value to the teacher who is least able to use the High School Geog-
raphy Project; the new or inexperienced teacher. For in spite of what
has been written about the applicability of the materials to the schools,
they deal with abstract concepts in modern geography and most teachers
would be hard pressed to teach them with any degree of competence. This
criticism applies to teachers who have had considerable training in geog-
raphy also; for most teachers have received their instruction in the
area-studies tradition of geography. The HSGP materials are based on
a deductive-theoretical, spatial analysis view of the discipline.

In addition, there seems to be an over-reliance on inquiry or
analysis in the activities. There is too much emphasis on the importance
of materials in the teaching act and a concomitant implication that
students must be trained for roles in later life. In the development
of the materials scant attention was given to evaluating the needs of
the discipline, or the nature of knowledge. The materials are struc-
tured to teach the discipline which, in essence becomes the problem
and the central theme. Such an approach seems predicated on a group of
a priori assumptions rather than on a scientific examination of real
problems. Consequently what is "discovered" by the students in their
inquiry is enumerated activity, by activity in the teacher's manual.

Finally, although the High School Geography Project materials are a "salted mine", they are teachable, they are interesting to some of the students some of the time, and the wide-spread adoption and implementation of the materials into the classrooms of the United States would vastly improve most of the geography instruction now taking place.
CHAPTER IV
THE STUDY

The major purpose of this investigation is to compare the relative value of topics in geography as perceived by social studies teachers and by leaders in the field of geography. The basic hypothesis of the study takes the form that these two groups, social studies teachers and geographers, hold differing perceptions relative to the importance of certain topics in geography. The secondary hypothesis of the study is that teachers-in-training and social studies teachers hold similar views relative to the importance of topics in geography.

Even though the testing of the hypotheses is the prime consideration of the investigation; the simple determination of the social studies teacher's perceptions is of signal importance because to this writer's knowledge, it has not been done before. Therefore, in this chapter attention will also be given to the teachers' perceptions, for the ultimate judges and evaluators of "what is" and "what ought to be" in the high schools are the teachers. Consequently geography will be taught in the schools as the teacher perceives it and therefore the teachers' perceptions have profound implications for curriculum planners and geographic educators.

The data used in this study came from two sources for the purpose
of comparing differences. Topic preference of social studies teachers was determined by analysis of responses to a questionnaire. Topical preferences of leading geographers was based on topics included in the High School Geography Project materials and from the BASS Report.

The survey

The survey consisted of a cover letter and a five-page questionnaire. The survey instrument was sent to 200 social studies teachers in twenty-six different states. An additional eighty questionnaires were given to social studies teachers-in-training attending the social studies methods classes during the Spring quarter, 1971 at the Ohio State University at Columbus, Ohio.

Of the 200 questionnaires mailed to teachers 171 were returned, of which 162 were complete and usable responses. All but four of the questionnaires completed in the social studies methods classes were usable. The response to the mailed questionnaires represents slightly more than 80 per cent return rate. Gilbert Sax states that the usual expectation for mailed questionnaires is that fewer than half the respondents may reply.\(^1\) Another study concerned with the percentage of returned questionnaires in a published study found that the average rate of returns was about 75 per cent.\(^2\)


The questionnaire

The questionnaire consisted of a "Respondent Data Sheet," a "Curriculum Choice" section, a "Definition of Geography" choice section and, a listing of seventy-six topics in geography which were to be rated as to their importance in a high school geography course.

The "Respondent Data Sheet" asked for information concerning teaching level, number of years in teaching, approximate number of academic hours credit in geography, years of training, year in which the respondent had their last course in geography, as well as some information concerning geography at the school in which they teach. The "Respondent Data Sheet" is included in the Appendix.

Part I of the questionnaire was a "forced response" to one of four descriptions of a mini-curriculum. The directions to this part of the questionnaire stated: Below are listed essential elements, or content for a secondary school geography curriculum. None of the four choices should necessarily be considered complete, or for that matter, the optimum course. Please indicate which of the four course descriptions you consider most suitable for a geography curriculum in the secondary school. Each of the four choices contained a brief course description and a partial listing of topic content. The course descriptions were:

1. Aspects of physical geography with emphasis on where things are.

2. Emphasis on Spatial patterns and distributions
especially as applicable to cities.

3. A study of the world by regions, i.e. Latin America, Asia, Africa, Europe, and North America. Emphasis on how people and places are different.

4. Concern with the formulation of high-level generalizations (theories) and laws governing the spatial distributions of certain features of the face of the earth. Emphasis on quantification of geometries and movement.

The choices were included in the questionnaire in an attempt to determine which of the four very different types of courses the teachers preferred. It was surmised that there would be some logical consistency between the type of course selected and the respondent's indications of what topics were considered most important. For example, curriculum one, above represents a place-name-physiographic approach to geography which was most representative of geography in the secondary schools of the nation from the turn of the century to the early 1920's. Inextricably associated with this type of geography would be such topics as; latitude and longitude, climate regions, vegetation, soils and landforms, atmosphere and weather, glaciation, field mapping, place locations, etc. There is no implication that such topics might not be a part of one of the other curriculum choices, but this choice
of curriculum prescribes the inclusion of some specific topic choices.

Curriculum choice number two is essentially the High School Geography Project. It is most representative of the current view of leaders in geography of what should be included in a high school course in geography. The choice of this curriculum is complimentary to a part of the topic listing in the questionnaire and inimical to others. This curriculum went into publication on 1960, is widely considered the "new" geography, and is presently being adopted by some schools.

Curriculum choice three, of the above listing is probably the most representative of what is taught as high school geography today. In content and approach, it is relatively unchanged from high school geography of the mid 1930's.

Choice four was designed to depict the activities of the "leading edge" of current geographic research. The expertise and technology necessary for implementation of its content listing would make such a course in high school highly impracticable.

Part II of the questionnaire listed eight definitions of geography and requested the respondents to indicate which of the eight best defined their perception of geography. The definitions listed were:

1. The study of where things are on the face of the earth (people, places, and things).

2. The study of earth regions as they differ from each other.

3. The study of relations between man and his
natural environment (i.e., land forms, vegetation, soil and climate).

4. The study of the relation between man and his total environment (i.e., all objects, man-made or other as well as his psychological environment).

5. The study of spatial organization expressed as both pattern and process.

6. The description and interpretation of the variable character of the earth's surface; areal differentiation.

7. The study and development of models applicable to the analysis of spatially expressed problems.

8. The study of the integrated system of learned behavior patterns in response to space.

Some of the above listed definitions do not define geography at all. Some of the other do but are differentiated only by very subtle differences, or at best, by very fine distinctions. Legitimate prescription to one or the other of the definitions requires a considerable philosophical grounding in geography that most social studies teachers simply do not have. Inclusion of the definitions was not "seductive" in intent, but rather an attempt to ascertain which of the "traditions" of geography would be most often represented by the respondent's definition selection.
In the array of definitions, numbers one and eight are fabrications. The former is an impression of the lay view of geography and the latter is from a commonly used definition of sociology, with the term, "response to space" replacing the usual,"society".

Definition two is a generalized statement of broad applicability and of little, if any, definitional value. It could be the study of any number of phenomena so long as the study was done regionally. It contains no organizational implications and yet could well be a loose definition of many high school geography courses.

Definition seven is primarily an operational statement gleaned from a reading of Chapters 12 through 14 of David Harvey's *Explanation In Geography*. Definitions three and four represent the man-land view tradition of geography. Number three is a rephrasing of Huntington's definition of human geography. Definitions three and four are both to be found in Taaffe's "Modern Geography and the Study of Man's Environment."

Definition five is of the spatial tradition of geography, the current view, and is taken from page six of *The BASS Report*. And the last of the list, number six is the area-studies tradition and was

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postulated by Hartshorne in The Nature of Geography.

Part IV of the questionnaire was a listing of seventy-six topics in geography to be ranked according to their importance in a course in high school geography.

The selection, delimiting and categorization of the topics included in the study was an arduous, lengthy process. Professor S. Earl Brown of The Ohio State University Geography Department was of inestimable value in the categorizing of topics.

Since an intuitive feeling is seldom justification for the classification scheme in a serious investigation, decisions on topic disposition were made on the basis of several assumptions. The topics are neither mutually exclusive to a tradition of geography nor are they entirely inclusive of all important topics in geography. The apportionment of the topics to different classes was predicated on:

Class I. If a topic was explicitly listed in one of the Teacher’s Guides of the High School Geography Project materials under the heading of "Major Ideas and Skills" it was considered important and included in Class I since it "represents the frontiers of current research and professional thinking in geography".

Class II. If a topic was used as an illustrative example of current geographic research in The BASS Report it was considered as representative of the professional geographer’s choice as a topic of

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Importance, but not necessarily significant for inclusion in a high school geography course.

Class III. These are those topics found in so-called "traditional" place-name geography courses and includes items or topics that are usually found and considered in the domain of the area-studies and earth-science traditions of geography.

Class IV. Topics important to all or most of the traditions of geography and therefore too basic to all to be assigned to one class or another.

Class V. Topics not usually considered explicitly in a course in geography.

The writer is painfully and acutely aware of the pitfalls awaiting a classifier. Dichotomies do not always come easily in constructing such a scheme. With some topics placement in a class is simple. With others the placement is a nebulous undertaking and at best is open to serious question. However, the classification of each topic was the result of considered judgement and in the final analysis, Class I took priority over the remaining classes.

Topics in Class I are considered as important to leading geographers. The topics in this class are:

1. city location and growth
2. urban analysis
3. aerial photographs
4. Socio-economic characteristics of
urban areas
5. models of city form
6. urban synthesis
7. time-distance concepts
8. central place
9. local shopping surveys
10. economic functions of cities
11. census data
12. industrial location factors and patterns
13. the importance of manufacturing
14. least cost and maximum profit considerations in industry
15. problems of world hunger
16. agricultural decisions relative to capital allocations
17. economic hazards of agriculture
18. cultural differences
19. legislative or governmental processes
20. cultural diffusion (ideas, religious beliefs, etc.)
21. cultural regions
22. cultural barriers
23. environmental pollution
24. market centers and retail distribution

25. urbanization

26. environmental perception
   (how man perceives such phenomena as floods, wilderness, etc.)

The topics in Class II are:

1. land values
2. residential desirability
3. human behavior
4. religious pilgrimages
5. poverty
6. distance-decay factors
7. rural-urban migrations
8. probabilistic inference
9. man-man relationships
10. consumer behavior

The topics in Class III are:

1. trade routes
2. agricultural production and exchange
3. isolines (isotherms, isobars, isochevets etc.)
4. atmosphere and weather
5. soils and landforms
6. vegetation distributions
7. climatic regions
8. field mapping
9. topographic maps
10. rock identification
11. distribution of agricultural commodities
12. glaciation
13. latitude and longitude
14. world distributions of phenomena
15. man-land relationships
16. taxonomies, classification of phenomena
17. regional distributions
18. cultural change
19. technology
20. industrialization
21. power potential (hydropower, fossil fuels, etc.)
22. manufacturing regions
23. economies of scale and agglomeration of industries
24. regional analysis
25. place locations (countries, capitals, oceans, etc.)
26. differences among areas
27. freight rates
28. transportation
29. mineral production and exchange

Topics in Class IV are:

1. resource use and depletion
2. site and situation
3. scale, distance and direction
4. demography

Topics in Class V are:

1. diplomacy
2. prohibition
3. values
4. anomie
5. evolution
6. ethnocentrism
7. suicide

Each of the above topics was rated on a Likert Scale. The construction of the Likert-type scale involved assigning points to each of the categories being used. For each of the seventy-six topics included in Part IV of the questionnaire the respondent was to make a judgement concerning the topic's importance on a 5-point scale, a rating "of major importance" would indicate a value of 1, whereas "of no importance" would receive 5 points. The choices relating to each
topic were: "of major importance as a topic in geography," "of some importance," "undecided as to importance," "of little importance," and, "of no importance as a topic in geography." A separate column to the right of the rating scale was provided and could be checked in case the meaning of any topic was unclear.

There were certain assumptions underlying the construction of the questionnaire used in the investigation. The questionnaire was highly structured. Each respondent simply checked a category or ranking which corresponded most closely with his perception of the question or item. A major advantage of the questionnaire of the type used is that each respondent received the same set of questions, phrased in exactly the same way which, theoretically, should yield comparable data. More significantly the questionnaire technique enabled the researcher to sample a much larger number and a much wider cross-section of teachers than would have been feasible with some other method.

Even though the respondents all reacted to an identical set of questions in a highly structured questionnaire, the investigator makes no claim that the questionnaire can therefore be considered a standardized situation. Such an assumption would require more than simply providing respondents with a common set of questions and items; it would require that responses be obtained under similar types of conditions. With mailed questionnaires, there probably is little or no standardization in the conditions under which respondents answer the questions. In Chapter I however, one of the assumptions underlying the study was
that the responses indicated are considered the true perception of the respondent.

The method of investigation

Although the questionnaire formulated for this study is not particularly long, it is nevertheless complicated to analyze. There is a large number of comparisons possible in the data. The "Respondent Data Sheet" makes it possible to use any one or combination of forty-two separate classifications of each person returning a questionnaire, which may then be viewed in conjunction with thirty-two combinations of curriculum and definitions of geography. Those, in turn, should then be compared with each of the seventy-six variables of the study - the topics, each of which can be scored in six different ways. The spectre of such logistics persuaded the investigator to submit the collected data to two different computer programming techniques.

A simple COBOL tabulating program was constructed to facilitate the analysis. The 102 responses from each questionnaire were transferred to a key-punched card. The format of the program then enabled the reading of each card and the counting and accumulation of each item total. Each card adds by subscripting a formulated use number and adds to the designated column by a subscript furnished in the program. The program gives a topic break-down by either "curriculum" or "definition" choices from the questionnaire. It also gives summary totals for each of the 102 separate items on the questionnaire.

The summed score will give answer to the question under considera-
tion in this investigation but it leaves a great deal of unploughed ground. It may be well to remember that statistics is essentially a system of computation by which differences between individuals are eliminated by taking the averages and averages can be calculated to nine decimal places with astonishing ease. When the analysis is done it looks very accurate. Moroney said, "Historically, statistics is no more than State Arithmetic.... It has been used - indeed, still is used - to enable rulers to know just how far they may safely go in picking the pockets of their subjects." Since the total scores of the COBOL (Program 1) disguise more than they reveal it was decided to resubmit the data to a second program, The P-Stat (Program 2).

P-Stat is shorthand for The Princeton Cross-Tabulation Statistical Program. It is a package of programs designed particularly for the social scientist who has data to be analyzed, and who has neither the time nor the inclination to learn computer programming. It is an impressive creation with an awesome range of applications. Its application to this investigation was in an attempt to look at some of the more interesting and relevant breakdowns within the total data.

Typically in P-Stat files, the rows will be the subjects and the columns will be the variables. Data in P-Stat is handled in files. A

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file (array or matrix) is two dimensional. For example in the first cross-tabulation in this study each of the seventy-six variables was cross-tabulated with seven different items related to the "Respondent Data Sheet." The program print-out produced 532 separate tables each with appropriate means, standard deviations and chi square indices for each row, each column and the program included as well row and column total means, standard deviations from the mean and chi square values.

The cross-tabulation

Each of the 93 tables generated by the P-Stat program is a matrix taking the form shown below.

<table>
<thead>
<tr>
<th>Item</th>
<th>Topic variable</th>
<th>Mean (x)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>23</td>
<td>22</td>
</tr>
<tr>
<td>2</td>
<td>51</td>
<td>35</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Topic Variable (in this case "scale, distance and direction) is cross-tabulated with the Item (Teaching level of respondent). For example; in the matrix above the Item, teaching level of the respondents has three divisions (Codes) represented in rows 1, 2, and 3. The teaching levels (Item divisions or Code groups) were: row 1, junior high school; row 2, senior high school; and row 3, other.
The columns are numbered 1 through 5 and are the ranking of importance of the Topic Variable in a high school geography course. Column 1 indicates that the Topic Variable (scale, distance and direction) is of major importance. Column 2 ranks the Topic Variable of some importance; column 3, undecided as to importance; column 4 ranks the variable of little importance; and column 5 shows how many respondents ranked the topic variable of no importance as a topic in geography.

To the right of the matrix is the mean value for that Item division or code. At the bottom of the column is the total mean, \( \bar{x} \) (in this instance, 1.62). The level of confidence for Topic Variables is 2.0. A mean greater than 2.0 is an indication that for the purposes of this investigation the Variable Topic is unimportant.

In the matrix example above, 23 junior high school teachers thought the topic was of major importance; 22 thought it was of some importance; 1 was undecided as to its importance, and 1 thought it was of little importance. The mean ranking of importance by junior high teachers was 1.57. The ranking of senior high teachers was 1.67 (they considered it slightly less important), and the mean ranking for others was 1.40. The total mean \( \bar{x} \) was 1.62. Therefore the sample considered this topic variable (scale, distance and direction) important for inclusion in a high school course in geography.

In the analysis of the data several terms will be used frequently. The terms and meanings are given below.
**Topic Variable or Topic.** One of the 26 topics in geography used in this study.

**Item.** One of the twelve divisions from the "Respondent Data Sheet" used for cross-tabulating with topic variables. The items of the study are: (a) teaching level, (b) years of teaching, (c) number of academic hours in geography, (d) year of last course in geography, (e) undergraduate area of emphasis, (f) subject area of emphasis, (g) do you favor a separate course in geography, (h) do you now teach geography, (i) have you previously taught geography, (j) would you teach geography if given a choice, (k) should geography be a required course, (l) curriculum and definition choices.

**Code.** Divisions within an item; i.e., in the item (teaching level) code 1 is junior high teachers, code 2 is senior high teachers, etc.

**Level of Confidence.** The mean value necessary for a topic variable to be considered important to a course in geography. $\bar{x} \leq 2.0$ important. $\bar{x} > 2.0$ unimportant.
Rank of Importance. Respondents' rating of Topic Variable on a continuum. Rank of 1 is major importance and a rank of 5 is of no importance.

Sample. The 162 respondents to the survey and, when specified explicitly the 76 teachers-in-training of the ancillary survey.

Standards for evaluation

Determination of the importance of a topic in the study is semantical as well as numerical. The attitude of the respondent is recorded numerically while the respondent rated the topic by responding to a cue word. If the respondent thought a topic was of major importance to a secondary school geography program a "1" was recorded on the key-punched data card and if he thought it was of some importance, a "2" was recorded. If a topic received a numerical ranking greater than 2 it is assumed that the respondent did not consider it an important topic for a geography course. This level of confidence in the determination of importance is similar to the rankings used by the Commission on College Geography in evaluations for similar tests. It is comparable also to the criteria established by the HSGP staff for activity evaluations. 8

The findings

The strategy of the analysis is to look first at differences within the groupings of the respondents and finally, to analyze the total results of the survey.

**Teaching level (TC,LVL)**

The respondents were identified by teaching level and the topic ratings were then gaged against the groups in each of the levels. The break-down by level of the 152 respondents is shown in Table 1.

**Table 1:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Teaching Level</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Junior High School</td>
<td>49</td>
</tr>
<tr>
<td>2</td>
<td>Senior High School</td>
<td>99</td>
</tr>
<tr>
<td>3</td>
<td>Other*</td>
<td>15</td>
</tr>
</tbody>
</table>

*Included eleven, seventh and eighth grade teachers from 1-8; 9-12 systems and four respondents indicating they taught in middle schools.

In general the teaching levels showed insignificant differences in the ranking of topics. Table 2 shows that the topic, Socio-economic characteristics of urban areas was rated more important by Junior High teachers than by Senior High School teachers. The same tendency was
evidenced concerning the topic, latitude and longitude and is shown in Table 3. This may or may not be due to the fact that longitude and latitude studies have traditionally been a part of most seventh grade geography courses. The topic, soils and landforms is also favored in the Junior high schools more than in Senior high or the other level. The results of the cross-tabulation is shown in Table 4.

### TABLE 2

**Item: TEACHING LEVEL**

**Variable Topic: SOCIO-ECONOMIC CHARACTERISTICS OF URBAN AREAS**

<table>
<thead>
<tr>
<th>Code</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>28</td>
<td>15</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1.55</td>
</tr>
<tr>
<td>2</td>
<td>42</td>
<td>36</td>
<td>7</td>
<td>8</td>
<td>3</td>
<td>1.09</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1.73</td>
</tr>
</tbody>
</table>

### TABLE 3

**Item: TEACHING LEVEL**

**Variable Topic: LAND FORMS**

<table>
<thead>
<tr>
<th>Code</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>19</td>
<td>19</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>1.91</td>
</tr>
<tr>
<td>2</td>
<td>22</td>
<td>46</td>
<td>8</td>
<td>13</td>
<td>5</td>
<td>2.37</td>
</tr>
</tbody>
</table>
Years in teaching

Breaking the responses to the different topics in geography by years of teaching showed a considerable variation of topic preferences. The divisions in teaching experience are shown in Table 5.

### TABLE 5
YEARS IN TEACHING

<table>
<thead>
<tr>
<th>Code</th>
<th>Years in Teaching</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>First year teacher</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>Two to three years</td>
<td>26</td>
</tr>
<tr>
<td>3</td>
<td>Four to ten years</td>
<td>66</td>
</tr>
</tbody>
</table>
Examination of the cross-tabulation of the "Urban Analysis" variable illustrates the importance of examining the preferences within the sub-groups of teachers. The total mean value for the topic is 1.7 which is well within the limit set for significance in this study. From the standpoint of all of the responses (the average) it is considered an important topic in high school geography. However, an examination of Table 6 shows that the "average mean" fails to relate an interesting variance. The topic was deemed important by all the groups except for those who had taught more than twenty years. This group rejected it soundly. The mean values of the rows show a decline in the perceived importance of the topic as years of experience increase.

Certain generalizations are frequently made concerning teachers who have more than twenty years of experience. Often it seems that whether or not the said generalization is favorable or unfavorable is related to how long the "generalizer" has been teaching. Some of the more unexpected results of "years in teaching" and "importance of topics" have been included in this section of the analysis.

TABLE 6

<table>
<thead>
<tr>
<th>Item: YEARS IN TEACHING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable Topic: URBAN ANALYSIS</td>
</tr>
</tbody>
</table>
### Table 7

**Item: YEARS 'IN TEACHING**

**Variable Topic: "AGRICULTURAL PRODUCTION AND EXCHANGE"**

<table>
<thead>
<tr>
<th>Code</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td>2.00</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>18</td>
<td>1</td>
<td>3</td>
<td></td>
<td>2.12</td>
</tr>
<tr>
<td>3</td>
<td>27</td>
<td>29</td>
<td>5</td>
<td>5</td>
<td></td>
<td>1.82</td>
</tr>
<tr>
<td>4</td>
<td>16</td>
<td>21</td>
<td>4</td>
<td>3</td>
<td></td>
<td>1.86</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td></td>
<td>1.95</td>
</tr>
</tbody>
</table>

Table 7 deals with the different group's acceptance of the topic, "Agricultural Production and Exchange." This topic was generally of greater importance to the more mature teachers. However, none of the sub-groups thought that the topic was of no importance.
TABLE 8

Item: YEARS IN TEACHING

Variable Topic: "ATMOSPHERE AND WEATHER"

<table>
<thead>
<tr>
<th>Code</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2.00</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>15</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>2.69</td>
</tr>
<tr>
<td>3</td>
<td>16</td>
<td>28</td>
<td>6</td>
<td>11</td>
<td>2</td>
<td>2.23</td>
</tr>
<tr>
<td>4</td>
<td>13</td>
<td>20</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>2.13</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1.79</td>
</tr>
</tbody>
</table>

TABLE 9

Item: YEARS IN TEACHING

Variable Topic: "MODELS OF CITY FORM"

<table>
<thead>
<tr>
<th>Code</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1.86</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>12</td>
<td>4</td>
<td>1</td>
<td></td>
<td>1</td>
<td>2.08</td>
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<td>6</td>
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<td>2.27</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td>1</td>
<td></td>
<td>2.68</td>
</tr>
</tbody>
</table>
### TABLE 10

**Item: YEARS IN TEACHING**

**Variable Topic:** "SOILS AND LANDFORMS"

<table>
<thead>
<tr>
<th>Code</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>1.43</td>
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<tr>
<td>2</td>
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<td>10</td>
<td>4</td>
<td></td>
<td></td>
<td>2.73</td>
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<td>13</td>
<td>33</td>
<td>8</td>
<td>7</td>
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<td>2.06</td>
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<td>2.00</td>
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<td>5</td>
<td>9</td>
<td>5</td>
<td></td>
<td></td>
<td>2.26</td>
</tr>
</tbody>
</table>

### TABLE 11

**Item: YEARS IN TEACHING**

**Variable Topic:** "TIME-DISTANCE CONCEPTS"

<table>
<thead>
<tr>
<th>Code</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
<td>2.43</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>12</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>2.42</td>
</tr>
<tr>
<td>3</td>
<td>23</td>
<td>25</td>
<td>4</td>
<td>8</td>
<td>2</td>
<td>2.11</td>
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<tr>
<td>4</td>
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<td>15</td>
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<td>9</td>
<td>3</td>
<td>2.60</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>8</td>
<td>2</td>
<td></td>
<td></td>
<td>1.74</td>
</tr>
</tbody>
</table>

Table 8 shows the attitude toward "Atmosphere and Weather" and
Table 9 is "Models of City Form". On the basis of the newness of the
two concepts to geography, the preferential differences as related to
years of teaching seem predictable. There is a greater acceptance of
the former by the more experienced teachers and the more "modern" con­
cept is rated highest by the teachers with less experience.

Applying the same logic to the results of Tables 10 and 11 seems
unworkable however, as the results are unexpected.

The topic, "Local Shopping Surveys" is a recent topic in geography
while the topic, "Field Mapping" is as old or older than any teacher
now active in the profession. It is of considerable interest to note
in the cross-tabulation of these two topics that all sub-groups in
this part of the investigation overwhelmingly reject both topics. There
is no appreciable differences in the mean values of the five divisions
related to years of teaching. Perhaps the teacher's "mental construct
of what school and teaching should or should not be" is a factor in
this unanimity. For engaging in either activity requires an interrup­
tion of the usual school routine - you must leave the school to"do"
either of them.

A peculiarity evident in this part of the analysis is very
noticable in the topics related to culture. Such topics as; "Cultural
tributions," are considered unimportant only the the groups that have
between two and ten years teaching experience. They are rejected by
both the first year teachers and by those having more than ten years in
teaching. This could be the starting point for a discussion of cyclic teaching periods in the teacher training institutions around the country.

The very same idea might very well relate to problems of concern to different age groups. Table 12 is the reaction to the topic, "Problems of World Hunger." The mean values for the different groups show that the first year teachers (Code 1) are less concerned with the topic than are the other groups.

**TABLE 12**

**Item:** YEARS IN TEACHING

**Variable Topic:** "PROBLEMS OF WORLD HUNGER"

<table>
<thead>
<tr>
<th>Code</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td>2.53</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>12</td>
<td>2</td>
<td>3</td>
<td></td>
<td>1.86</td>
</tr>
<tr>
<td>3</td>
<td>31</td>
<td>30</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1.67</td>
</tr>
<tr>
<td>4</td>
<td>14</td>
<td>25</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1.91</td>
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<tr>
<td>5</td>
<td>5</td>
<td>9</td>
<td>3</td>
<td>2</td>
<td></td>
<td>2.10</td>
</tr>
</tbody>
</table>

Several other observations relative to "years in teaching" and the importance of various topics seem worthy of inclusion. Only the teachers with more than twenty years teaching considered the topic, "industrialization" important enough for inclusion in a course in
high school geography. "Manufacturing Regions," a topic closely related to industrialization, was favored only by the first year teachers and the "more than twenty year" group. Surprisingly, the "first year teachers" felt that "Place Location" were significant while this was at variance with the attitude of the other four groups. Could this imply a correlation between affinity for "busy work", and teacher maturity?

Although the teachers with more than twenty years experience gave a rating of significant importance to the two topics; "industrialization" and "manufacturing," they did not support the topic "urbanization." Such a combination of choices appears inconsistent since the logical consequence of "industrialization" and "manufacturing" is "urbanization."

Approximate number of academic hours taken in geography

The review of literature in Chapter II implied that a lack of teacher preparation in the field was the "villain" most responsible for geography's lowly position in the secondary schools. This part of the survey confirms such a contention. There is a considerable lack of preparation on the part of social studies teachers in the area of geography. Furthermore, many differences in topic perception seem attributable to different degrees of preparation.

There were 162 social studies teachers represented in the sample, half of whom have taught geography. Yet sixty-one per cent of the entire group have less than six semesters of preparation. To be more
specific, ninety-nine of the respondents fall into the 0-6 hour category. Of these twenty-nine (roughly one-third) have had absolutely no academic training in geography. Teachers with no hours in geography constitute eighteen per cent of the study sample.

A closer inspection of the questionnaires reveals several instances of statutory neglect on the part of some school administrators. Of the group with no training in geography, nine presently teach the subject, twelve have previously taught geography, and only five of the twenty-nine under discussion indicated that they would not teach geography if given the choice. Such a displayed willingness to teach without the benefit of academic preparation is undoubtedly evidence of a noble and selfless dedication to teaching. However, this observer feels that if geographers were aware of such feelings that they surely would go into "physiographic" fits.

The respondents' preparation in geography is summarized in Table 13.

<table>
<thead>
<tr>
<th>Code</th>
<th>Number of Hours</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1*</td>
<td>0-6</td>
<td>99*</td>
</tr>
<tr>
<td>2</td>
<td>7-15</td>
<td>26</td>
</tr>
<tr>
<td>3</td>
<td>16-25</td>
<td>19</td>
</tr>
</tbody>
</table>
All in all, the respondents seem to have a benign attitude toward the field of geography. Some eighty-eight of them have taught geography in the secondary school and forty-seven are currently teaching the subject. Exactly half, eight-one of the teachers, would teach a course in geography if given the choice. One wry respondent qualified his willingness to teach the subject by saying, "I'd like to teach it if they ever stop using it as a dumping ground for the dumb kids."

A wider range of inter-group divisions are found in this section dealing with "hours of preparation" than is found in any of the other sub-divisions of the study. Not only are more topic perceptual differences (as related to preparation in geography) evident in a perusal of the matrices, but certain differential patterns emerge as well.

The pattern of major significance is shown in this sub-division of the study and pertains to topic comprehension. Some perceptual differences were anticipated in the study, especially in respect to topics that are more specialized and peculiar to geography. As it turned out, the respondents with over 25 hours of geography, quite different from the rest of the group and were overwhelmingly superior to topic comprehension. This is most clearly illustrated by the following illustration; in the provision for rating the 76 topics in the questionnaire, there was a separate column to check if the meaning of any
topic was unclear to the respondent. This column was checked a total of 494 times in the survey. Only twelve of the 494 checks were made by the "over 25 hours" group. Moreover, comprehension seemed proportionately related to training in the field. This portends serious consequences for the learning process in the classes of poorly trained teachers.

Table 14 illustrates the pattern of comprehension of a specialized topic. An "isoline" is a line on a map representing equality with respect to a given variable.

**TABLE 14**

**Item:** HOURS IN GEOGRAPHY  
**Variable Topic:** "ISOLINES"

<table>
<thead>
<tr>
<th>Code</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>21</td>
<td>24</td>
<td>27</td>
<td>9</td>
<td>10</td>
<td>3.3</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>9</td>
<td>4</td>
<td>1</td>
<td>3.31</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>3.05</td>
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<tr>
<td>4</td>
<td>3</td>
<td>9</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td></td>
<td>2.50</td>
</tr>
</tbody>
</table>

The pattern shown on Table 14 is further illustrated in Table 15 which deals with the topic, "Atmosphere and Weather." This topic has a much less specialized meaning in regard to its comprehension. None of the respondents indicated that the meaning was unclear. A consideration
more germane to the importance of preparation in geography is shown in the Mean values to the right of the matrix. The confidence or importance level expressed by Code 1 and 2 (2.3 and 2.4 respectively) show that these two groups consider the topic unimportant in geography. However, the two groups with sixteen or more hours in geography (Codes 2 and 3) rate this topic as statistically significant for inclusion in a geography course.

### TABLE 15

**Item: HOURS IN GEOGRAPHY**

**Variable Topic: "ATMOSPHERE AND WEATHER"**

<table>
<thead>
<tr>
<th>Code</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>28</td>
<td>42</td>
<td>9</td>
<td>12</td>
<td>9</td>
<td>2.31</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>15</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>2.42</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>10</td>
<td>2</td>
<td>1</td>
<td></td>
<td>1.89</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>9</td>
<td>2</td>
<td></td>
<td></td>
<td>1.83</td>
</tr>
</tbody>
</table>

Looking at some of the other topic variable ratings in relation to academic preparation in geography shows another pattern development. The concept of "region" seems significant only to those of the sample who have had considerable course work in the field. The topic, "Regional Distributions" is considered important enough for inclusion in a course in geography only by the eighteen respondents who have more
than 25 hours in geography (see Table 16). The topic variable, "Differences Among Areas," wins acceptance only from the same group. The same qualifications apply to the topics, "Culture Regions", "Manufacturing Regions" and "Climate Regions" which are significantly important only to the thirty-seven respondents with more than fifteen hours in geography.

TABLE 16

Item: HOURS IN GEOGRAPHY

Variable Topic: "REGIONAL DISTRIBUTIONS"

<table>
<thead>
<tr>
<th>Code</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>21</td>
<td>43</td>
<td>8</td>
<td>10</td>
<td>4</td>
<td>13</td>
<td>2.72</td>
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<td>11</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td>2.19</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>11</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td>2.11</td>
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<td>1</td>
<td></td>
<td></td>
<td>1.78</td>
</tr>
</tbody>
</table>

The variable "Site and Situation" is probably more basic to the method and philosophical understanding of geography than any other variable used in this study. However, Table 17 reveals that the only Code Group accepting the topic is those with more than 25 hours in geography. To the writer, this signifies an apparent dearth of conceptually oriented emphasis on the introductory geography courses taken by the respondents, or their failure to grasp the realities of the
subject, or both.

**TABLE 17**

**Item: HOURS IN GEOGRAPHY**

*Variable Topic: "SITE AND SITUATION"*

<table>
<thead>
<tr>
<th>Code</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>27</td>
<td>34</td>
<td>15</td>
<td>10</td>
<td>2</td>
<td>1</td>
<td>2.59</td>
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<td>2</td>
<td>1</td>
<td>3</td>
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<td>2.42</td>
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<td>2.74</td>
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<td>10</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td></td>
<td>1</td>
<td>1.89</td>
</tr>
</tbody>
</table>

In summarizing this item sub-division, hours in geography, it is necessary to emphasize another finding indigenous to this item breakdown. Nearly all of the matrices cross-tabulated with the item "number of hours in geography" have indicated that comprehension of, and attitude toward the topic variables is related to the amount of geography training. This evidence corroborates the contentions of geographic educators that there is indeed a need for geography teachers with more than 25 hours in geography is more "sophisticated" geographically than that of the rest of the respondents, their perception still falls short of the goals of leading geographers. Table 18 shows that the "best trained" respondents in the study rejected the topic variable "Central Place" which is one of the central themes of "the
new geography."

**TABLE 12**

**Item: HOURS IN GEOGRAPHY**

**Variable Topic: "CENTRAL PLACE"**

<table>
<thead>
<tr>
<th>Code</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11</td>
<td>20</td>
<td>21</td>
<td>11</td>
<td>4</td>
<td>23</td>
<td>3.37</td>
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<td>5</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td></td>
<td>3.08</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td></td>
<td>2.53</td>
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<tr>
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<td>4</td>
<td>7</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2.56</td>
</tr>
</tbody>
</table>

|      |     |     |     |     |     |     | 3.14 |

The best trained respondents not only rejected "central place", they also rejected all of the topic variables in the following list:

- Market Centers and Retail Distributions
- Consumer Behavior
- Probabilistic Inference (see table 19)
- Environmental Perception
- Least Cost and Maximum Profit Considerations in Industry
- Models of City Form
- Agricultural Decisions Relative to Capital Allocations
- The Economic Hazards of Agriculture
A premise of this study is that the teachers' perception of topics in geography determine what is taught as geography in the schools. It follows, therefore, that implementation of the "new geography" will require more than training in geography for those who are to teach it. It will require training in the theoretical-deductive approach in geography. As much was indicated in Chapter III of this study.

**TABLE 19**

**Item:** HOURS IN GEOGRAPHY

| Variable Topic: "PROBABLISTIC INFERENCE" |

<table>
<thead>
<tr>
<th>Ranking of Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
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</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
</tbody>
</table>

**TABLE 20**

**Item:** HOURS IN GEOGRAPHY
Year in which the Respondent had his last course in geography

Figure 1 portrays the relationship between the number of respondents and the year in which their last course in geography was taken. The first year shown on the graph is 1930 and the most recent year is 1971; a time range of thirty-two years.
Inspection of figure 1 shows that over half of the study sample has had recent training in geography. More respondents had a course in 1971 than in any other year. 78 per cent of the teachers in the survey had had course work in the past ten years and more than 50 per cent in the past five.

Apparently the recent training should be of consequence to the perception choices of this group. Such is not the case however, since the graph conceals as much as it reveals. Even though most respondents have had recent training, they haven't had much. Of the twenty-two who took course work in 1971, over half have less than six hours total training. Only eighteen of the entire study sample have had more than twenty-five hours in geography.

In spite of the lack of intensity of training some slight differences were apparent within the confines of this subdivision of the sample. The variable topic, "Models of City Form" was a significant topic to those who had their last course after 1963. "Problems of World Hunger" was rejected only by those respondents who had their last course after 1969. "Latitude and Longitude" was deemed important by the 1960 and the 1970 groups only. The cross-tabulation of the topic, "Urbanization" showed a trend line indicating greater acceptance by those with more recent training. "Trade Routes" was regarded significant as a topic in geography only by those whose training pre-dated 1960.

Some writers have castigated geography under the assumption that
its research is largely devoted to a search for the influence the physical environment has on mans' activities. Even though such criticism is fifty years tardy in its relevance, Table 21 seems to resurrect some ghosts from the past.

**TABLE 21**

*Item: YEAR OF LAST COURSE IN GEOGRAPHY*

*Variable Topic: "EVOLUTION"*

<table>
<thead>
<tr>
<th>Year of last course</th>
<th>Ranking of Importance</th>
<th>Mean Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>2</td>
<td>2.00C**</td>
</tr>
<tr>
<td>1961</td>
<td>1 2 1 1</td>
<td>2.800</td>
</tr>
<tr>
<td>1962</td>
<td>1 4 1</td>
<td>2.7143</td>
</tr>
<tr>
<td>1963</td>
<td>3 2</td>
<td>3.1301</td>
</tr>
<tr>
<td>1964</td>
<td>2 2</td>
<td>3.0000</td>
</tr>
<tr>
<td>1965</td>
<td>1 2 3 3 1</td>
<td>3.1000</td>
</tr>
<tr>
<td>1966</td>
<td>2 3</td>
<td>3.8000</td>
</tr>
<tr>
<td>1967</td>
<td>2 2 4 3</td>
<td>3.2273</td>
</tr>
<tr>
<td>1968</td>
<td>3 1 2 2</td>
<td>3.3750</td>
</tr>
<tr>
<td>1969</td>
<td>1 3 3 2</td>
<td>3.000</td>
</tr>
<tr>
<td>1970</td>
<td>5 1 4 2</td>
<td>3.4615</td>
</tr>
</tbody>
</table>

**Indicates significance**

It is logical to assume that respondents with recent training would have viewed topics in geography differently from those respondents whose training was dated. It seems that the evidence here dis-
putes such an assumption. The differences revealed in the seventy-six cross-tabulations are insignificant. A host of statistical inferences could be made at this time concerning a biased sample etc., but it would scarcely add validity to the findings or to the assumptions. The expected and the observed differences were not significant.

Respondents who have taught geography and Respondents indicating they would teach geography if given a choice.

The remaining two Respondent items in the cross-tabulation with the seventy-six variables are; "The Have Taught Geography," and The Would Teach Geography" groups.

Eighty-eight of the 132 respondents have taught geography. Their perceptions are substantially similar to the results obtained in the cross-tabulations dealing with "Respondents Now Teaching Geography" and consequently a discussion of the findings would be redundant.

The Respondent item results of the "Would Teach Geography" subgroup are basically not different from the perceptions of the sample as a whole. Eighty of the 162 respondents indicated that they would teach geography if given a chance. The researcher suspects that some of the respondents might have not been candid in signifying a willingness to teach geography. The cover letter with the questionnaire stressed the importance of geography and as a consequence there might have been a "desire to please factor" that biased the question. Nevertheless the differences in these Respondent items are insignificant and warrant no further attention.
Social studies teachers' perceptions

Considerable attention has been given to topic perception differences within the sub-grouping (Respondent Items) of the sample. This was done in an effort to ascertain whether or not certain relevant differences result because of the number of years of teaching, the number of academic hours taken in geography, having taught geography, etc.. The inter-group findings will be discussed in the chapter summary.

The basic hypothesis of this study is: Social studies teachers and leaders in the field of geography hold disparate views of the importance of topics in geography. The method to deduce the relative values assigned to topics was to consider topics in the High School Geography Project as representative of the views of the leaders in the field and to consider social studies teachers' ratings from the questionnaire used in the study. The topics considered important by geographers were listed earlier in this chapter. The topics considered important by social studies teachers are listed below by Class Division.

Class I: Topics from the High School Geography Project. Topics perceived as important in high school by order of preference are:

1. Environmental Pollution 1.5
2. City location and growth 1.6
3. Problems of world hunger 1.7
4. Urbanization 1.7
5. Urban analysis 1.7
6. Cultural differences 1.8
7. Socio-economic characteristics of urban areas 1.8
8. Economic functions of cities 1.9
9. The importance of manufacturing 2.0
10. Culture regions 2.0
11. Cultural barriers 2.0

Class I topics from the High School Geography Project considered unimportant are:

1. Cultural diffusion 2.1
2. Census data 2.2
3. Environmental perception 2.2
4. Models of city form 2.2
5. Industrial location factors and patterns 2.3
6. Time-distance concepts 2.3
7. Urban synthesis 2.4
8. Economic hazards of agriculture 2.4
9. Market centers and retail distributions 2.5
10. Aerial photographs 2.6
11. Agricultural decisions relative to capital allocations 2.9
12. Legislative or governmental processes 3.0
13. Central place 3.1
14. Least cost and maximum profit considerations in industry 3.1

15. Local shopping surveys 3.2

Class II topics were examples from the Bass Report. None of the topics in this class were considered important by the respondents. The listing of the topics and their mean importance values are:

1. Rural-urban migrations 2.1
2. Poverty 2.2
3. Human behavior 2.3
4. Man-land relationships 2.3
5. Land values 2.4
6. Residential desirability 2.4
7. Consumer behavior 2.5
8. Distance-decay factors 3.5
9. Religious pilgrimages 3.8
10. Probabilistic inference 4.2

The twenty-five (Class I) topics from the High School Geography Project are all considered important by leaders in the field of geography. The respondents considered sixty per cent of them unimportant for inclusion in a high school geography course - a decision highly unlikely to bring feelings of gladness to the hearts of geographic educators. A further repudiation of the "frontiers of geographic research" unfolded in the respondents' rejection of all ten of the topics listed in Class II.
It therefore seems to this investigator that this finding is sufficient ground for assuming that leaders in the field and social studies teachers hold significantly differing views concerning the value of topics in geography.

Although investigation of the importance of the remainder of the topics seems unnecessary - since the major contention of this investigation is substantiated; continuation may prove to be of some residual value.

Class III topics include the so-called "traditional" geography topics. Topics of this class rated as important are:

1. Man-land relationships 1.6
2. Agricultural production and exchange 1.9
3. Technology 1.9
4. Cultural change 2.0
5. Industrialization 2.0
6. Power potential 2.0
7. Manufacturing regions 2.0
8. Differences among areas 2.0
9. Transportation 2.0

Class III topics considered unimportant by the sample are:

1. Climate regions 2.1
2. Soils and landforms 2.1
3. Trade routes 2.1
4. Atmosphere and weather 2.2
Class IV topics are important to all or most of the traditions of geography and therefore too basic to all, to be assigned to one particular class. The rating of importance of these items is:

1. Resource use and depletion 1.5
2. Scale, distance and direction 1.7

Topics considered unimportant in this class are:

1. Demography 2.3
2. Site and situation 2.5

Class V topics are those in the listing not usually considered explicitly in a course in geography. Their ranking is:

1. Ethnocentrism 2.5
2. Values 2.5
3. Diplomacy 3.2
4. Evolution 3.3
5. Suicide 3.9
6. Prohibition 4.2
7. Anomie 4.2*

None of these topics were considered important in geography by the respondents.

Curriculum and definition choices

Each of the respondents selected one of four curriculum descriptions that were listed in Part I of the questionnaire. The choices were:

1. Aspects of physical geography with emphasis on where things are.

2. Emphasis on spatial patterns and distributions especially applicable to cities.

3. A study of the world by regions, i.e., Latin America, Asia, Africa, Europe, and North America. Emphasis on how people and places are different.

* mean value of importance of the topic. The level of confidence for accepting a topic is 2.0 or less.
4. Concern with the formulation of high-level generalizations (theories) and laws governing the spatial distributions of certain features of the face of the earth. Emphasis on quantification of geometries and movement.

Thirty one of the respondents (19 per cent) selected curriculum 1. Seventy-four of the respondents (46 per cent) selected curriculum 2. Forty-three of the sample selected curriculum 3 (27 per cent) and, thirteen of the respondents (8 per cent) selected curriculum 4.

More of the respondents selected curriculum 2 than any other. This curriculum essentially is the content of the High School Geography Project and the curriculum choice is not consistent with the topic selection of the sample. However, no one curriculum listed above would be consistent with the topic preferences of the sample, for the preferences showed tendencies toward an eclectic approach to the discipline of geography. If teachers have any rights, it is the right to pick and choose.

The second choice of the sample was the regional or "traditional" approach to geography. This tradition is most all-encompassing of the curriculums and probably would be most consistent with the topic preferences in the study.

The choices of definitions were:

1. The study of where things are on the face of the earth.

2. The study of earth regions as they differ from each other.

3. The study of relations between man and his natural environment.
4. The study of the relation between man and his total environment.

5. The study of spatial organization expressed as both pattern and process.

6. The description and interpretation of the variable character of the earth's surface; areal differentiation.

7. The study and development of models applicable to the analysis of spatially expressed problems.

8. The study of the integrated system of learned behavior patterns in response to space.

Definition 1 was chosen by fourteen of the respondents (7.7 per cent). Definition 2 was the choice of seven (4.3 per cent). Definition 3 was selected by thirty-nine (24 per cent), definition 4 was the choice of seventy-five of the respondents (47 per cent), definition 5 was the choice of thirteen respondents (7 per cent), definition 6 was selected by five (3 per cent), definition 7 was chosen by four of the respondents (2 per cent).

In view of the curriculum choice, the corresponding choice of definition should have been number 5; the study of spatial organization expressed as both pattern and process. However, the favored choice of the sample was number 4: The study of the relation between man and his total environment. This definition is in the man-land tradition of geography and says too much. Under the parameters of such a definition one could include engineering, biology, sociology, or nearly any other academic activity. Certain deductions could be made concerning the definitional choice and one logical conclusion could be that this definition, more than any other, seems to be associated with many of the popu-
lar problems such as ecology and environmental concerns. The writer feels that the choice of the respondents was likely to have resulted from considerations other than from a deliberate philosophical position in geography. In other words, the selection of definition is as likely to be due to an ignorance of geography as from a knowledge of it. The combinations of curriculum and definition are shown in Table 22.

### TABLE 22

CURRICULUM AND DEFINITION COMBINATIONS AND CHOICES

<table>
<thead>
<tr>
<th>Item</th>
<th>Curriculum</th>
<th>Variable: Definition</th>
<th>totals</th>
</tr>
</thead>
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</tr>
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<td>1</td>
<td>11 12 1 1</td>
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</tr>
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</tr>
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<td>3</td>
<td>4</td>
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</tr>
<tr>
<td></td>
<td>definition</td>
<td>14 7 39 75 13 5 4 1</td>
<td>161</td>
</tr>
</tbody>
</table>

**Teachers-in-training**

A secondary hypotheses of this study was: Social studies teachers-in-training and secondary school social studies teachers hold similar views relative to the importance of topics in geography.

The sample for "teachers-in-training" came from the social studies
methods classes at The Ohio State University, Columbus, Ohio in the spring quarter, 1971. There were seventy-six respondents in the sample.

The mean values for topic selection of the teachers-in-training were computed and compared to the mean values of the social studies teachers in this survey. The results of the teachers-in-training preferences are included in the Appendix.

On the level of confidence established for this study, the two samples (social studies teachers and teachers-in-training) differed on only four of the seventy-six topics in the questionnaire. The only topics that were important to the teachers-in-training that were not important to the social studies teachers were: "industrial location factors and patterns," "Poverty," and "rural-urban migrations." The only topic rejected by the teachers-in-training that was considered important by the social studies teachers was, "agricultural production and exchange."

Summary

From the findings of the study both the major and secondary hypotheses are accepted. Social studies teachers and leading geographers hold disparate views of the importance of topics in geography. Furthermore; social studies teachers-in-training and secondary school social studies teachers hold similar views relative to the importance of topics in geography.

The conclusions to be derived from the analysis of code-variable cross-tabulation are that the number of hours in geography and the number of years in teaching are the most important factors in explaining
item differentials.
CHAPTER V

SUMMARY AND CONCLUSIONS

At the beginning of the twentieth century geography was a significant component in the curriculum of American high schools. During the next fifty years it declined steadily, until by the middle of this century it had largely disappeared from the American high school altogether or at best held a marginal or insignificant position in the curricular offerings. Today the position and future of high school geography is tenuous. Geography is, in general, poorly taught by teachers with little or no preparation in the field, it is not a popular subject with high school students, its content is amorphous and behind the times, and indications are that things will likely get worse.

A number of divergent factors have contributed to the present state of the field. Kennamer pointed out that geographers have tended to disregard the efforts of curriculum builders with the result that geography has steadily lost prestige in the schools. ¹ Miller has cited evidence of the deterioration of geography in the public schools and expressed concern for its chances of survival.²


Evidence of geography's mean position in the curriculum is apparent to even the most casual observer. Reasons for the relegation of geography to its present disposition in schools are more difficult to ferret out. James Landing is disturbed by the fact that some schools allow credit for geography courses only to those students who are not in college preparatory programs with the consequence that only weaker students are allowed to take geography. Alice Rechlin contends that the image of geography is drastically damaged by the fact that the course is not considered essential by college admissions officers and as a result, the better high school students understandably concentrate on those other subjects which the colleges require for admission. Such lamentations inevitably disregard the more fundamental question, since to claim that geography would improve substantially in the high school if only "better" students took the course seems inordinately myopic. Who takes geography in high school is more a consequence of problems than a cause. The position of the investigator is that the social studies teachers' perception of geography is basic to many of the problems the discipline faces in the American high school today.

The development of geographic thought in the United States transpired in a manner that balkanized and complicated both lay and professional understanding. 

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sional understandings of the discipline. Within the field little agree-
ment existed on what the boundaries of geography were and whether or
not a mainstream of geographic inquiry existed. There were many diver-
gent views on the questions within the discipline. Eventually William
Pattison postulated four historic thrusts or traditions within geography.
These traditions were: (1) The spatial tradition concerned with mapping,
location and movement on the face of the earth; (2) the area-studies
tradition dedicated to the study of regional differentiation; (3) the
man-land tradition oriented to the relationships between societies and
the earth surface; and (4) the earth-science (physical geography) tra-
dition involving research into the physical properties of the earth.
"The four traditions" of geography afforded a philosophical foundation
whereby geographers could work together for the good of the discipline.

Subsequently, cognizance of the four affiliated streams has been
of significant help in preventing disarray of geographers' collective
efforts. Unfortunately for the discipline many geographers still per-
sist in clinging to a monastic definition and structure ignoring the exis-
tence of geography's pluralism.

If geography is to become a viable part of the secondary school
curriculum geographers must start concerning themselves not only with
ordering of priorities and structural coherence, but with some of the the-
tories and trends in curriculum and the value of geography for today's
schools.

The status of geography in the secondary schools is inextricably
related to the current confusion and divisions within the ranks of professional geographers. The basic hypothesis of this study was that social studies teachers and leaders in the field hold disparate views on the importance of topics in geography. The secondary hypothesis was that social studies teachers-in-training and secondary school social studies teachers hold similar views relative to the importance of topics in geography. The contention of the investigation was that the differences in the valuing of topics between teachers and leading geographers are basic to geography's apparent failure to gain or maintain a respected place in the secondary school curriculum. Concomitantly, if the study demonstrated that teachers and future teachers held similar views relative to the importance of topics in geography that it would seem unlikely that geography teaching will improve in the immediate future.

The findings of this study indicated that leaders in the field of geography and secondary school social studies teachers do indeed differ in their perceptions of the importance of topics for inclusion in a high school geography course. The study further revealed that social studies teachers-in-training and secondary school social studies teachers are in remarkable accord concerning the importance of selected topics. The fact that the topic perceptions of these two groups are not noticeably different has a number of serious ramifications for the area of geographic education.

The first is that since this year's students are next year's teachers, it seems unlikely that the impending infusion of "new
blood" into the teaching ranks will substantially improve the teaching of geography in the immediate future. Even more sobering, is noting that the teachers-in-training of the sample used in this study are atypical. This group did not receive their training in the field from some remote behind-the-time geography department in a small teachers college. Their training in geography was by a department that is widely recognized as being progressive, highly quantified and theoretical in approach and on the research frontiers of new knowledge. Furthermore, on the average, the teachers-in-training have had more hours in geography than their counterparts in sample I. In spite of all this, their perceptions of geography are disturbingly similar to the perception of teachers in general.

Throughout the study the writer has pursued the question of how social studies teachers view topics in geography. The need for an answer to the question seems obvious. The reason is not so that geography courses can be tailored to fit teachers' perceptions thus eliminating inconsistencies. Such an idea is a travesty and positive deterrent to the advancement of learning. Rather, the importance of determining teacher perceptions is in the opportunity it affords the teachers of teachers and the curriculum builders a model for improvement and learning. In respect to curriculum improvement the classroom teacher is a paradox. He is at the same time both the hope for and the impediment to meaningful change in the school. The problems revolve around how to bring teacher perceptions into a closer proximity with professional thinking in the field. For this writer is persuaded that unless curri-
curriculum building changes teachers perceptions that little else will matter.

Geographic educators have recently attempted to implement curricular changes through the vehicle of the High School Geography Project. The geographers involved in the Project looked at their range of alternatives and opted for "pouring new wine into old bottles." The assumption basic to the HSGP is undoubtedly that significant curriculum change can be implemented through a restructuring of content. Such improvement will be helpful, but it is likely to result in only tentative gains.

Teachers are a key to curriculum change. The impractibility of holding the belief that other factors can be manipulated in hopes that the learning process will be substantially and significantly improved is to overlook or ignore the role of the teacher in the secondary school.

Changing the perceptions of teachers will not be easy. Pre-service training for teachers will be badly needed. In-service training for teachers presently in schools will have to be undertaken. Such changes or training will be difficult. Changes will require organizational renovations, the involvement of consultants, release time for teachers, lighter class loads, and the creation by school administrators of a situation whereby teachers can become involved in an ongoing process of curriculum activities.

Colleges and universities will of necessity need to be involved. Something must be done in the introductory geography courses. Geographers are suffering from a credibility gap. What they profess is
not what they produce. Geographers have long deplored the state of secondary school teaching and have condemned colleges of education for poor teacher preparation. What these same geographers have conveniently overlooked is the fact that their departments are the ones that prepared the secondary school geography teachers in the subject area. If the teachers' perception of topics, or concepts, or structuring of the discipline are behind the time or scientifically inaccurate - it is the geographer who is at fault. Perhaps a partial solution of the dilemma confronting geographic education in an environment of limited resources is to first re-train the teachers of teachers - those directly involved in the presentation of geography in the introductory courses. Poor teaching in the public schools and poor teaching in the colleges are opposite sides of the same coin.

The re-training of college teachers of geography would have a multiplier effect by diffusing the best of geographic concepts and generalizations to a large number of future teachers in a short time.

In conclusion, insofar as this writer was able to determine, no previous study had been done to determine what topics in geography social studies teachers valued. The value of this research effort is dependent upon the potential contribution or extent to which it adds to or tests some aspect of practice in improving the teaching of geography in the secondary schools.
APPENDIX A
Dear Fellow Teacher:

Although there are numerous demands on your time, will you take a few minutes for a task which may have significance in the improvement of the teaching of a subject within the social studies?

Countless "experts" have assailed our schools, and especially its teachers, as the root cause of most of society's current ills. Teachers are invariably held accountable for any scholastic deficiency, but are seldom consulted on how teaching should or could be improved. Textbook publishers and national curriculum projects have offered what they purport to be the unerring solution to any and all shortcomings in the social studies program.

The attached questionnaire is a part of a study being made to find out something of how a selected group of social studies teachers perceive the subject of geography (i.e., its most important elements and its essential content).

As a teacher you are one of an important and influential group of opinion leaders. Therefore, the opinions you hold of geography and its curricular content are important. It is believed that geographers and curriculum specialists will be benefited by examining responses to studies of this kind. Such a study should give some indication of the degree of consensus between classroom teachers and others on topics to be included in a revised secondary school curriculum in geography.

The questionnaire is to be strictly anonymous. For the purposes of my study, I am interested in totals, not in names. The value of the study will be greatly increased if respondents provide:

1. a candid answer to every statement;
2. prompt consideration.

I would appreciate your giving the questionnaire your considered judgment and returning it to me in the attached envelope as soon as possible.

Sincerely,

Frank Bloomer
RESPONDENT DATA SHEET

DIRECTIONS. Please answer every item.

1. Teaching Level  
   ____ Junior High School  
   ____ Senior High School  
   ____ Other ____________

2. Number of Years in Teaching  
   ____ First year teacher  
   ____ 2-3  
   ____ 4-10  
   ____ 11-20  
   ____ More than 20

3. Approximate number of academic hours taken in geography  
   Sem. (Qtr. hr. equivalent)  
   ____ 0-6 (0-9)  
   ____ 7-15 (10-23)  
   ____ 16-25 (24-37)  
   ____ More than 25

4. Years of Training  
   ____ 3 years  
   ____ 4 years  
   ____ 5 years or Master's degree  
   ____ More than 5 years

5. Year in which you had your last geography course ____________

6. Is your undergraduate major in the area of social studies?  
   ____ Yes  ____ No

   Subject area of emphasis ________________________

7. Is geography as a separate course offered at your school?  
   ____ Yes  ____ No

8. Do you now teach a course in geography?  
   ____ Yes  ____ No

9. Have you previously taught geography?  
   ____ Yes  ____ No

10. If you had a choice would you choose to teach a course in geography?  
    ____ Yes  ____ No

11. Is geography a required course at your school?  
    ____ Yes  ____ No

12. In the secondary school you would rate a separate course in geography:  
    ____ 1. of major importance  
    ____ 2. of some importance  
    ____ 3. undecided  
    ____ 4. of little importance  
    ____ 5. of no importance

    If you checked number 1 or 2 (item 12) would you make geography  
    ____ an elective  ____ a required course
PART I

DIRECTIONS. Below are listed essential elements, or content for a secondary school geography curriculum. None of the four should necessarily be considered complete, or for that matter, the optimum course. Please indicate which of the four course descriptions you consider most suitable for a geography curriculum in the secondary school.

CURRICULUM 1: ASPECTS OF PHYSICAL GEOGRAPHY WITH EMPHASIS ON WHERE THINGS ARE.

Content: A. Earth-sun relationships, longitude-latitude-mapping, atmosphere, winds, climate, land forms, soils, oceans and rivers.
B. Application of the effects of physical conditions on how people live through looking at the above factors in as many countries as time permits.

CURRICULUM 2: EMPHASIS ON SPATIAL PATTERNS AND DISTRIBUTIONS ESPECIALLY AS APPLICABLE TO CITIES.

Content: A. City settlement and growth, land use, models of city growth, city form, inter and intra-urban hierarchies, and structures of corporate and agricultural decision making.
B. Cultural relativity, diffusion, territoriality, political hierarchies, resource utilization and perception of environmental hazards.

CURRICULUM 3: A STUDY OF THE WORLD BY REGIONS, i.e. Latin America, Asia, Africa, Europe, and North America. EMPHASIS ON HOW PEOPLE AND PLACES ARE DIFFERENT.

Content: A. Countries in different regions of the earth, their boundaries, cities, physical features and uniqueness.
B. Inventories of products and of phenomena within a region, how people of different regions live, work, and exchange goods among themselves and with other regions.

CURRICULUM 4: CONCERN WITH THE FORMULATION OF HIGH-LEVEL GENERALIZATIONS (THEORIES) AND LAWS GOVERNING THE SPATIAL DISTRIBUTIONS OF CERTAIN FEATURES OF THE FACE OF THE EARTH. EMPHASIS ON QUANTIFICATION OF GEOMETRIES AND MOVEMENT.

Content: A. Spatial correlations, locational and network analysis, density gradients, central-place systems, accessibility, factorial ecology, spatial diffusion, and environmental perception.
B. Simulations, trend-surface analysis, factor and principal components analysis, matrices, and systems.
PART II

DIRECTIONS. Listed below are eight different definitions of geography. Please indicate which of the eight best defines your perception of geography by checking the square to the left of the statement.

GEOGRAPHY IS:

☐ 1. The study of where things are on the face of the earth (people, places, and things).

☐ 2. The study of earth regions as they differ from each other.

☐ 3. The study of relation between man and his natural environment (i.e., land forms, vegetation, soil and climate).

☐ 4. The study of the relation between man and his total environment (i.e., all objects, man-made or other as well as his psychological environment).

☐ 5. The study of spatial organization expressed as both pattern and process.

☐ 6. The description and interpretation of the variable character of the earth's surface; areal differentiation.

☐ 7. The study and development of models applicable to the analysis of spatially expressed problems.

☐ 8. The study of the integrated system of learned behavior patterns in response to space.

PART III

DIRECTIONS. The following, and final section of this survey consists of a list of topics that might be dealt with in the secondary school social studies (i.e., history, geography, sociology, economics, political science, etc.). Please rate each topic as you see its importance in a secondary school geography course. The rating scale is designed to read as follows:

| Column one | Indicates major importance as a topic in geography (essential) |
| Column two | Indicates some importance |
| Column three | Indicates undecided as to importance |
| Column four | Indicates little importance |
| Column five | Indicates no importance as a topic in geography |

Example:

1. underground water

The column to the right of the rating scale may be checked in case the meaning of any topic is unclear.
<table>
<thead>
<tr>
<th>Importance as a topic in Geography</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Scale, distance and direction</td>
</tr>
<tr>
<td>2. City location and growth</td>
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<tr>
<td>3. Trade routes</td>
</tr>
<tr>
<td>4. Urban analysis</td>
</tr>
<tr>
<td>5. Agricultural production and exchange</td>
</tr>
<tr>
<td>6. Aerial photographs</td>
</tr>
<tr>
<td>7. Isolines (isotherms, isobars, isobaths, etc.)</td>
</tr>
<tr>
<td>8. Socio-economic characteristics of urban areas</td>
</tr>
<tr>
<td>9. Atmosphere and weather</td>
</tr>
<tr>
<td>10. Models of city form</td>
</tr>
<tr>
<td>11. Soils and landforms</td>
</tr>
<tr>
<td>12. Urban synthesis</td>
</tr>
<tr>
<td>13. Vegetation distributions</td>
</tr>
<tr>
<td>14. Time-distance concepts</td>
</tr>
<tr>
<td>15. Climate regions</td>
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<tr>
<td>16. Central-place</td>
</tr>
<tr>
<td>17. Local shopping surveys</td>
</tr>
<tr>
<td>18. Economic functions of cities</td>
</tr>
<tr>
<td>19. Census data</td>
</tr>
<tr>
<td>20. Industrial location factors and patterns</td>
</tr>
<tr>
<td>21. The importance of manufacturing</td>
</tr>
<tr>
<td>22. Field mapping</td>
</tr>
<tr>
<td>23. Topographic maps</td>
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<tr>
<td>24. Diplomacy</td>
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<tr>
<td>25. Least cost and maximum profit considerations in industry</td>
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<tr>
<td>26. Anomie</td>
</tr>
<tr>
<td>27. Problems of world hunger</td>
</tr>
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<td>28. Rock identification</td>
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<tr>
<td>29. Distributions of agricultural commodities</td>
</tr>
<tr>
<td>30. Glaciation</td>
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<tr>
<td>31. Agricultural decisions relative to capital allocations</td>
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<td>32. Latitude and longitude</td>
</tr>
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<td>33. Economic hazards of agriculture</td>
</tr>
<tr>
<td>34. World distributions of phenomena</td>
</tr>
<tr>
<td>35. Cultural differences</td>
</tr>
<tr>
<td>36. Man/land relationships</td>
</tr>
<tr>
<td>37. Legislative or governmental processes</td>
</tr>
<tr>
<td>38. Taxonomies—classification of phenomena</td>
</tr>
<tr>
<td>39. Cultural diffusion (ideas, religious beliefs, etc.)</td>
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<tr>
<td>40. Regional distributions</td>
</tr>
<tr>
<td>41. Cultural change</td>
</tr>
<tr>
<td>42. Ethnocentrism</td>
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<td>43. Culture regions</td>
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<tr>
<td>44. Cultural barriers</td>
</tr>
<tr>
<td>Importance as a Topic in Geography</td>
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<td>-----------------------------------</td>
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<tr>
<td>45. resource use and depletion</td>
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<tr>
<td>46. technology</td>
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<td>47. environmental pollution</td>
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<tr>
<td>48. prohibition</td>
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<td>49. evolution</td>
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<tr>
<td>50. market centers and retail distribution</td>
</tr>
<tr>
<td>51. industrialization</td>
</tr>
<tr>
<td>52. land values</td>
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<tr>
<td>53. power potential (hydro-electric, fossil fuels, etc.)</td>
</tr>
<tr>
<td>54. residential desirability</td>
</tr>
<tr>
<td>55. manufacturing regions</td>
</tr>
<tr>
<td>56. human behavior</td>
</tr>
<tr>
<td>57. economies of scale and agglomeration of industries.</td>
</tr>
<tr>
<td>58. religious pilgrimages</td>
</tr>
<tr>
<td>59. regional analysis</td>
</tr>
<tr>
<td>60. poverty</td>
</tr>
<tr>
<td>61. place locations (countries, capitals, oceans, etc.)</td>
</tr>
<tr>
<td>62. demography</td>
</tr>
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<td>63. differences among areas</td>
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<tr>
<td>64. urbanisation</td>
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<tr>
<td>65. site and situation</td>
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<tr>
<td>66. distance-decay factors</td>
</tr>
<tr>
<td>67. rural-urban migrations</td>
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<td>68. probabilistic inference</td>
</tr>
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<td>69. freight rates</td>
</tr>
<tr>
<td>70. man-man relationships</td>
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<tr>
<td>71. transportation</td>
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<tr>
<td>72. consumer behavior</td>
</tr>
<tr>
<td>73. mineral production and exchange</td>
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<td>74. environmental perception (how man perceives floods, wilderness, etc.)</td>
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<td>75. suicide</td>
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<td>76. values</td>
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APPENDIX D
TABLE 23

Item: HOURS OF GEGRAPHY

Variable: SCALE, DISTANCE, DIRECTION

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### TABLE 25

**Item:** HOURS OF GEOGRAPHY  
**Variable:** CULTURAL DIFFUSION

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TABLE 26

Item: HOURS OF GEOGRAPHY

Variable: CULTURE REGIONS

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TABLE 28

Item: HOURS OF GEOGRAPHY

Variable: DIFFERENCES AMONG AREAS

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### TABLE 29

**Item:** HOURS OF GEOGRAPHY

**Variable:** CULTURAL CHANGE

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*Item: YEARS OF TEACHING*

*Variable: INDUSTRIALIZATION*

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Item: YEARS OF TEACHING

Variable: POWER POTENTIAL

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**Item:** YEARS OF TEACHING  
**Variable:** POVERTY

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Item: YEARS OF TEACHING

Variable: PLACE LOCATIONS

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Item: YEARS OF TEACHING

Variable: URBANIZATION

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**Item:** HAVE TAUGHT GEOGRAPHY

**Variable:** CULTURAL CHANGE

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### TABLE 36

**Item:** HAVE TAUGHT GEOGRAPHY

**Variable:** DIFFERENCES AMONG AREAS

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**TABLE 37**

Item: HAVE TAUGHT GEOGRAPHY

Variable: TRANSPORTATION
TABLE 38

Item: TEACH GEOGRAPHY NOW

Variable: TRANSPORTATION

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**Item:** TEACH GEOGRAPHY NOW  

**Variable:** DIFFERENCES AMONG AREAS  

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**Item:** TEACH GEOGRAPHY NOW

**Variable:** MANUFACTURING REGIONS

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**Item:** TEACH GEOGRAPHY NOW  
**Variable:** REGIONAL DISTRIBUTIONS

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Item: TEACH GEOGRAPHY NOW

Variable: LATITUDE AND LONGITUDE

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Item: TEACH GEOGRAPHY NOW

Variable: IMPORTANCE OF MANUFACTURING

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Curriculum Choices were: 1. Aspects of physical geography with emphasis on where things are.

2. Emphasis on spatial patterns and distributions especially as applicable to cities.

3. A study of the world by regions. Emphasis on where things are.

4. Concern with the formulation of high-level generalizations and laws governing the spatial distributions of certain features of the face of the earth. Emphasis on quantification of geometries and movement.

The definition choices were; 1) The study of where things are on the face of the earth, 2) The study of earth regions as they differ from each
other, 3) The study of relations between man and his natural environment, 4) The study of the relation between man and his total environment, 5) The study of spatial organization expressed as both pattern and process, 6) The description and interpretation of the variable character of the earth's surface-areal differentiation, 7) The study and development of models applicable to the analysis of spatially expressed problems, and 8) The study of the integrated system of learned behavior patterns in response to space.
TABLE 46

IMPORTANCE AS A TOPIC IN GEOGRAPHY

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21. The importance of manufacturing 2.1
22. Field mapping 3.3
23. Topographic maps 2.7
24. Diplomacy 2.8
25. Least cost and maximum profit considerations in industry 3.0
26. Anomie 4.3
27. Problems of world hunger 1.7
28. Rock identification 3.9
29. Distribution of agricultural commodities 2.5
30. Glaciation 3.2
31. Agricultural decisions relative to capital allocations 2.6
32. Latitude and longitude 2.6
33. Economic hazards of agriculture 2.6
34. World distribution of phenomena 2.8
35. Cultural differences 1.7
36. Man-land relationships 1.5
37. Legislative or governmental processes 2.7
38. Taxonomies - classification of phenomena 3.5
39. Cultural diffusion (ideas, religious beliefs, etc.) 2.1
40. Regional distributions 2.2
41. Cultural change 2.0
42. Ethnocentrism 2.1
43. Cultural regions 2.0
44. Cultural barriers 1.9
45. Resource use and depletion 1.7
46. Technology 2.0
47. Environmental pollution 1.2
48. Prohibition 4.1
49. Evolution 2.7
50. Market centers and retail distribution 2.5
51. Industrialization 2.0
52. Land values 2.4
53. Power potential (hydro-electric, fossil fuels, etc.) 2.6
54. Residential desirability 2.6
55. Manufacturing regions 2.3
56. Human behavior 2.1
57. Economies of scale and agglomeration of industries 3.0
58. Religious pilgrimages 3.7
59. Regional analysis 2.4
60. Poverty 1.9
61. Place locations (countries, capitals, oceans, etc.) 2.8
62. Demography 2.8
63. Differences among areas 2.0
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<td>Rural-urban migrations</td>
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<td>Probabilistic inference</td>
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<td>69</td>
<td>Freight rates</td>
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<td>70</td>
<td>Man-man relationships</td>
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<td>71</td>
<td>Transportation</td>
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<td>72</td>
<td>Consumer Behavior</td>
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<td>73</td>
<td>Mineral production and exchange</td>
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<td>Environmental perception (how man perceives floods, wilderness, etc.)</td>
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<td>Suicide</td>
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<td>76</td>
<td>Values</td>
<td>2.8</td>
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