An Analysis of the Questions and Study Problems Found in Geography Text-Books For Grades Four to Seven

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AN ANALYSIS
OF THE QUESTIONS AND STUDY PROBLEMS
FOUND IN GEOGRAPHY TEXT-BOOKS FOR
GRADES FOUR TO SEVEN

by

KATHARINE E. McCUE

A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS
IN
LOYOLA UNIVERSITY

1930
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INTRODUCTION

The general purpose of this study is to make an analysis of the questions and study problems found in geography textbooks commonly used in grades four to seven. By an intensive analysis of questions and problems found in representative texts, the writer shall attempt to show, not only the vast difference between the general quality and quantity of various types of questions and problems in the books investigated, but she shall also attempt to throw some light on the higher or lower mental faculties which some authors try to exercise or develop through questions, exercises and study problems. In this latter connection, she shall endeavor to discover by careful analysis whether the questions and problems are made increasingly difficult from grade to grade, or whether the same general type or trend of question and problem is included for grade seven as for grade six, or for grade four. Are there, for example, a preponderance of sheer fact of memory questions in any text? Do the problems and questions have any practical or social value? Are the questions and study problems answering any teaching purpose?

In an attempt to arrive at a representative number of texts commonly approved for grades four to seven, the writer employed a prominent publishers' list of sold al-
ready made or pending, in the case of new books. From the
sixteen so-called best sellers the eight ranking highest
from the point of view of national sales were selected for
this study. Then, as a matter of interesting comparison,
the questions and study problems of a text written by
Barnes and published in 1925 were tabulated and analyzed.

The entire list of texts investigated follows:
A. Branom, Frederick K. and Ganey, Helen M., Social Geo-
graphy Series: Home Lands and Other Lands, Sadlier Co.,
1928.
B. Shepherd, Edith P., Geography for Beginners, Rand
McNally Co., 1926.
C. Smith, J. Russell, Human Geography, Book One: Peoples
and Countries, Winston Co., 1926.
D. Brigham, Albert P. and McFarlane, Charles T., Essential-
E. Brigham, Albert P. and McFarlane, Charles T., Essential-
F. Branom, Frederick K. and Ganey, Helen M., Social Geo-
G. Dodge, Richard E. and Lackey, Earl E., Advanced Geo-
graphy, Rand McNally Co., 1929.
H. McMurry, Frank M. and Parkins, A. E., Advanced Geo-
graphy, MacMillan Co., 1927.
I. Monteith, James., Barnes Elementary Geography, American
In the case of each text a random sampling of questions and problems was employed, as for example, the first, third, fifth, seventh, ninth, eleventh, fifteenth and twentieth, providing that number were included. Each question and problem was then analyzed using the classification suggested by Nellie Moore in the *Elementary School Journal*, for November, 1926.

All questions which could be answered by facts given in the text were arbitrarily classified as fact questions. It might be asked, for example, why something stated in the text is true, or what is true about facts included in the context. Such questions answered either entirely or primarily from textual content seem to the writer to be sheer fact or memory questions, since the only measure of success in this type of exercise is whether or not the facts are remembered. In this case her contention is substantiated by that of William T. Miller in an article which was reported in the *Journal of Geography* for October, 1929 (8:300).

Inasmuch as it was impossible in some instances to differentiate between types of thought questions and problems, the writer was forced to include a miscellaneous grouping into which were thrown all thought questions and problems which seemed incapable of more definite placement.
In the chapters to follow, frequency distributions will be made of each type of question and problem included in the sampling of the various texts. An attempt will then be made to compare the questions and problems in books intended primarily for grade four with those intended primarily for grade seven, and for those of grade four with grade six, and so forth. The object of such comparison, as previously mentioned, is to throw light upon whether or not the questions and study problems are aiming at the functioning and development of higher mental processes as the pupil advances to a higher grade level. Finally, we shall investigate whether the sheer fact or memory question still predominates even in the junior high school texts and whether the questions and problems have increasing social significance.

In a study such as this one may anticipate many limitations. First, the writer was encountered with the question of the selection of representative texts. If she had the time and money, she might, with profit, visit a large number of schools distributed throughout the forty-eight states and investigate the texts which are being actually taught in grades four to seven. Secondly, a carefully prepared questionnaire might have provided her with the information she desired. Third, she might investigate the text book adoptions approved and published by representative boards
of education, city, or state school systems. Fourth, she might accept the surveys of best texts in geography (as, for example, 17:183-84), outlined by recognized scholars or committees. Fifth, and by no means last, she might accept a record of text sales from year to year which are kept on file by most publishers. In this instance it is not unethical to state that one should perhaps allow for "padding" due to displacements not recorded.

A second limitation of this thesis is concerned with the sampling of questions and problems. It is, therefore, frankly admitted that any method of sampling will necessarily eliminate a number of worthy as well as unworthy questions and problems, but the analyzation of all questions and problems in the nine selected texts would make this study somewhat tiresome and unwieldy.

A third limitation resolves itself about the classification of questions and problems and the differentiation of questions and study problems within the commonly accepted classes. No doubt there will be occasions when the readers of this study will disagree with the writer from the point of view of the general or of the subsidiary classification.

A fourth limitation, which is outside of the writer's control, was encountered because so few related or similar studies have appeared in print. Because of this fact very little textual or periodical guidance could be solicited.
Finally, the writer acknowledges that it is often very difficult to designate certain texts which are most adapted for use in grade four and others for use in grade six or seven. Most authors do not designate the specific grades for which their texts should be used. Others make general grade recommendations, while very few writers publish a special volume for each grade. As a result of this situation it was sometimes exceptionally difficult to make comparisons between the types of questions and study problems intended for different grade levels.
For many decades educational literature has abounded with profound as well as with superficial discussions upon just what constitutes a thought question. Following the suggestion of Dewey many writers have come to refer to a thought question as one which involves the solution of a problem or one which involves doubt or uncertainty. Does the question involve concept building or clarifying? Are there, for example, a sufficient number of percepts indicated or implied so that the pupil may be led to exercise his powers of reflective thought? Does the question appeal to the class as worthy of an answer? Does it utilize personal experience or is it a test of power rather than facts? Do the questions which are propounded, either by the teacher in classroom work or by the textbook, attempt to meet the child's increasingly complex social needs, and do they endeavor to lead him to the exercise of higher mental levels? When the new elements in a situation are not immediately absolved, or when a situation confronts the individual which arouses a mental query that involves the marshalling of past experience, the securing of additional information, or the exercise of reflective thinking and judgment for its interpretation, reason is called into play,
and the individual is confronted with a genuine problem. The new elements in a situation requiring thought processes for their interpretation constitute the problem or problems arising out of the situation. Problems, as well as memory work, have entered into the school activities of the past, but there has been a tendency to emphasize unduly the latter. At times the topical outline has been taken up from the problem standpoint, but only too frequently the dominant and almost exclusive emphasis has been and still is placed on memory work.

And so, if there is to be training along the higher planes of thought, pupils must be required to secure, evaluate, and organize material from various sources in their solution of problems. For a detailed solution of a geography problem bears the same relation to the problem that a "pony" in a foreign language or in mathematics bears to the contents of those subjects with all the attendant advantages and disadvantages. Not only, therefore, for self realization, but for the social welfare is it the duty of the schools to emphasize problem work in geography classes as well as in other school subjects (5:233-35; 20:39).

Nevertheless, memory work, which constitutes mental effort at a lower mental level still has its place in the learning process. For, as Branom states

"A good memory is not to be disparaged and an effort
should be made to teach each child to memorize economically, since a person may have a good memory and be a poor reasoner, it is very difficult to be a good reasoner without having a good memory. Problem solving involves a consideration of past experiences in the interpretation of a situation, and a treacherous memory will not permit there experiences readily to be recalled. It also involves, frequently, the securing of additional material in relation to the situation and a poor memory will seriously handicap the person in his attempt to retain, interpret, and apply the material secured" (5:235; 9:177).

If we apply the foregoing suggestions and admonitions to geography, we may ask if this subject truly gives exercise in memory and reasoning, moreover, does it give training in the power of observation, and above all, does it give the broadest possible knowledge of peoples and countries, their cities and their achievements all that makes them strong or weak leaders or followers among the nations of the earth, and the principal reasons why these things are as they are. These and other inquiries have either been made or answered by some of the outstanding writers of recent years (45:101; 23:421-22; 36:265; 47:69-70).

Moore tells us that all thought questions involve:

(1) Causal reasoning.

(a) Finding the relation between cause and effect - as in seeing the underlying reasons or motives, or in recognizing certain happenings as results of certain situations.

Example: Why was it so difficult to travel by
water at the time of Sinbad?

(b) Reasoning based on analogy.

Example: Why is a tall chimney better than a short one?

(c) Causal reasoning or judgment.

Example: Were the conquests outside of Italy good or bad for Rome?

(d) Causal reasoning based on analogy and judgment.

Example: Does Athens or Sparta deserve greater credit for saving Greece from the Persians?

(2) Comparison or contrast.

(a) Finding likenesses only.

Example: In what way is an oasis like an island?

(b) The ability to find differences only, as in "What difference is there between the shores of Greece and Italy?"

(c) Finding likenesses and differences.

Example: Compare one's methods of travel in winter with those in summer.

(d) Comparison and evaluation or choice.

Example: Would you prefer to have been a Spartan or an Athenian?

(3) Reorganization of facts.

(a) Grouping only.

Example: Make a list of Robinson Crusoe's inven-
(b) Grouping and evaluation or choice.

Example: Make a list of famous Greek men.

(4) The Reorganization of facts - Imagination

(a) Reconstructive imagination - mental picture or mental picture and verbal expression.

Example: If you were an Indian boy or girl, how do you think you would feel during the winter about the summer trip to the trading post?

(b) Reconstructive imagination involving constructive expression.

Example: Draw silhouettes of scenes on a Roman road as the Greek vase painter would have made them.

(c) Constructive imagination.

Example: What would it have meant to the world if Persia had conquered the Greeks?

(d) Constructive imagination involving constructive expression.

Example: Try to write a message by means of pictures.

(5) Interpretation of the author's meaning.

(a) Meaning of words and phrases.

Example: What is meant by the statement: The blood of the Martyrs became the seed of the Church.
(b) Inferences.
Example: Who tempted the boy to tell a lie?

(6) Application of a principle or definition.
(a) Does the first paragraph fit America only or could an Englishman say the same thing about his national flag, and a Frenchman of his.

(7) Selective recall.
(a) Example: In what part of the United States can grizzlies still be found.

(8) Criticism.
(a) Example: Was Penn's choice of a capital for his colony wise?

(9) Analysis.
(a) Breaking up into parts.
Example: What were Cincinnatus' good points!

(10) Interpretation of map symbols which causes pupils to remember facts selected from the reading and to use them in map reading or in map construction.
(a) Example: Locate on your map of North America the scenes of Dr. Grenfell's work.

(b) Map construction.
Example: Sketch roughly the lands of the Norsemen, Iceland and Greenland.

(11) Interpretation of pictures.
Example: Find the part of the story that each picture
on P. 50 illustrates.

(12) Selective reading.
Example: Find the lines which tell that the moon did not know the wind was blowing.

(13) Generalizing as to the central idea of a body of material.
Example: What is the lesson we can learn from this story?

(14) Outlining the main points and supporting details.
Example: Make an outline to guide you in telling the story.

(15) Reasoning as to time, distance, or area.
Example: About how long a journey do you think it would be from the eastern edge to the western edge of the region that is shown in this drawing (33:195-201).

When writing on this same subject Stormzand gives the Monroe and Carter list of thought questions as follows:

(1) Selective recall.
Example: Name the presidents who have been in military life before their election.

(2) Evaluating recall.
Example: Which do you consider the three most important American inventions in the 19th Century from the standpoint of expansion and growth of transportation.

(3) Comparison of two things on a single designated basis.
Example: Compare Eliot and Thackeray in ability in character delineation.

(4) Comparison of two things in general.
Example: Compare the life of Silas Marner in Ravelve with his life in Lantern Yard.

(5) Decision for and against.
Example: Whom do you admire most - Washington or Lincoln?

(6) Causes or effects.
Example: Why has the Senate become more powerful than the House of Representatives?

(7) Explanation of the use or exact meaning of some phases or statements in a passage.

(8) Summary of some unit of the text or of the article read.

(9) Analysis.
Example: Mention several qualities of leadership.

(10) Statement of relationships.
Example: Why is knowledge of botany helpful in studying agriculture?

(11) Illustrations or examples of principles.

(12) Classification - is converse of No. 11.
Example: What is the principle involved here?

(13) Application of rules or principles in new situations.

(14) Discussion.
Example: Discuss the Monroe Doctrine.
(15) Statement of aim.
Example: What was the purpose of introducing this incident?

(16) Criticism, as to accuracy or correctness of a printed statement.

(17) Outline.

(18) Reorganization of facts.

(19) Formulation of new questions.
Example: What else must you know to understand this matter?

(20) New methods of procedure.
Example: How would you change the plot in order to produce a certain different effect (45:264:66).

From these detailed analyses one may easily understand why it is the consensus of all superior teachers and recognized writers that good questions and study problems must have the purpose of stimulating thought or compelling study, instead of merely testing knowledge. As Yeomen and others remind us geography is recognized now as more than an informational subject of locations, capitals, and other encyclopedic material. On the contrary it now offers a wonderful opportunity for scientific thinking involving the relationship of man and earth, and in application to everyday life the geographic facts and principles thus acquired (49:171; 41:60; 45:267).
And perhaps above and beyond the sheer stimulation of thought all questions and study problems should motivate study. If the teacher guides the pupil through the type of assignment which centers attention upon mere factual content, as such, the child is likely to assume that memorization and catechetical instruction are still the most desirable outcome of study. If, on the contrary, she guides and directs the pupils' study by utilizing carefully selected problems and thought questions, the child will soon see the need of forming habits of application, organization, and reflection, as complimentary to the acquisition of essential facts and principles. Nevertheless, no problem, whether in geography or in any other subject may be selected at random because only too frequently illprepared problems are quite outside the related experience of the child. The greatest danger in working with problem solving, therefore is that of losing sight of the main object of learning (33:194; 45:167).

In the field of this particular study it is interesting to note that the objectives of "the new geography" differ widely from those of twenty-five or fifty years ago, when the chief aim was the "learning" of a multitude of segregated facts about the earth, its products, its inhabitants and its activities. In this type of learning and teaching the criterion of success was measured by one's ability to remember the pertinent facts given in the text. But, "modern geo-
graphy is more than a mere catalogue of facts, it is also a study of the relationship of these facts. The old sailors geography answers the question What? and Where? the Modern geography also the question Why? The first two questions call for the exercise of the memory chiefly; the last for the exercise of the reason also" (30:300; 22:120; 4:399).

The objectives of the current geography teachings are perhaps best stated by Miller (quoting Smith and Wright) as follows:

1. An understanding of the effect of man's physical environment upon his life.
2. Correct habits of thinking in the solution of social problems.
3. An understanding of man's relation to man socially and economically.
4. A working knowledge of the information necessary in ordinary life concerning place, surface, features, political divisions, natural phenomena, and how to interpret such information in maps, charts, and so forth.
5. An understanding of the influences of geographic conditions on political events.
6. A sympathetic understanding of the conditions and people (30:300-01; 43:268).

The following objectives for the teaching of geography, as stated by Barrows and Parker, altho clothed in slightly different terminology have practically the same meaning:

1. To show why men live and work as they do in different environments in various parts of the world.
2. To give a knowledge of the location and character of the leading surface features of the earth in their various relationships, but never as isolated facts.

3. To give a sympathetic understanding of the conditions and problems of other peoples.

4. To show the dependence of man on earth conditions and earth resources and bring out the economic interdependence of the peoples of different countries.

5. To point the way to better uses of land and natural resources (2:493-500).

The last objective introduces a most pertinent social phase in our present day geography teaching. It is a phase of vast importance economically, practically and socially when one realizes the significance of such commodities as wheat, iron and coal, for it is not hard to realize that the producers of this wealth are worthy of consideration; that the health, intelligence, and general comfort of the laborers are important factors in the equation of production (21:98).

In order to accomplish these objectives Miller cautions us that number four of his list of objectives be stressed first. Washburne substantiates this contention when he says that a fact course is necessary to make children intelligent concerning commonly known persons, places, and events. These, of necessity, serve to make the fact course organic and help it to lead toward more advanced courses in which problem solving is the guiding principle (46:99-110;
Manifestly problems cannot be worked unless the geographic facts are known hence the necessity for an understanding of important facts as antecedents to functional organization, interpretation, and reflection (30:300-01). After the pupil has this foundation, McMurry affirms that the, "material must be organized around issues, problems, and unanswered questions which the pupil recognizes as important and which he really strives to unravel" (27:294-95).

Or, in the opinion of Snedden one must possess *exact* geographic facts so that he shall have some conscious power of interpreting such commonplace geographical problems as: Why cities have grown on certain sites, or why storms migrate from west to east, or why trade follows the flag (39:550).

Still, from geography as well as from many other subjects the pupils should acquire the power of thinking accurately and quickly and of testing the accuracy of his own thinking and that of others (16:12-13).

But since even under the problem-project method a sufficient number of facts are often not learned as an adequate basis for effective work, neither the factual nor the problem project method of instruction can be justified as the exclusive geographic classroom procedure (30:300-01).

And so we find that this dissention over fact ques-
tions versus thought questions continues on through the ages, for McMurry holds that about 1858 Herbert Spencer complained that instruction consisted too generally of names, dates, and dead, unmeaning facts. Then the "Five Formal Steps" of instruction were imported from Germany opposed the teaching of isolated facts in favor of more effective organization, grouping and generalization. While these Herbartian steps affected a big improvement in teaching and learning, they had one most serious defect in that by accepting generalizations or abstractions as the nucleus for organization, they tended to make all instruction too abstract. More recently the problem plan has tended to remedy this defect somewhat inasmuch as a good problem is a very concrete and specific expression of the learners' need.

Just as the success of a trial lawyer depends to a great extent upon his skill in questioning so also the teacher with her questions and study problems must be skillful in stimulating and guiding her pupils. When the vast majority of these questions and problems test only memory, without provoking thought, they tend to make the pupil merely an educational machine (34:582).

It would seem to the writer, therefore, that general geography might well be cut to essentials, and that these essentials should be determined by rational, human relationships (13:329; 47:70).
Nevertheless, in some geographies, as we shall see in the chapter which follows, major emphasis is being placed either on isolated facts or on thought building, as such, without any attempt being made to strike the desired happy medium between them.
CHAPTER II

A Classification of Questions and Study Problems
in Nine Selected Geography Tests for Grades IV - VII

Having decided on the representative textbooks for grades four to seven, and having reviewed other studies in this field, the writer next assumed the task of classifying a sampling of the questions and problems in each text. In some instances, as might be anticipated, the questions, problems, and exercises were placed at the end of the chapter or of the general geographic divisions. In other cases they were included here and there in the descriptive or explanatory context, while in still other instances, they were indicated somewhat as marginal or sectional headings.

In the remainder of this chapter, therefore, will be presented the questions and problems sampled, with a percentage evaluation of fact questions and problems as against thought questions and problems (with sub-division).

A. Branom, Frederick. K. and Ganey, Helen M., Social Geography Series: Home Lands and Other Lands.

(a) Of 143 questions and problems sampled throughout the book an analysis shows:

(a) Fact questions and problems ------------------ 17%
(b) Thought questions and problems ---------------- 83%
1. Causal reasoning
   (a) Finding relation between cause and effect 8%
   (b) Reasoning based on analogy 1%
   (c) Causal reasoning or judgment 2%
   (d) Causal reasoning based on analogy 1%

2. Comparison or contrast
   (a) Finding likenesses only 11%
   (b) The ability to find differences only 6%
   (c) Finding likenesses and differences 7%
   (d) Comparison and evaluation or choice 4%

3. Reorganization of facts
   (a) Grouping only 13%
   (b) Grouping and evaluating or choice 0%

4. Reorganization of facts
   (a) Reconstructive imagination 0%
   (b) Reconstructive imagination involving constructive expression 0%
   (c) Constructive imagination
   (d) Constructive imagination involving constructive expression

5. Interpretation of the authors meaning
   (a) Meaning of words and phrases 0%
   (b) Inferences
6. Application of a principle or definition ------- 4%
7. Selective recall ---------------------------------- 11%
8. Criticism ---------------------------------------- 0%
9. Analysis ----------------------------------------- 1%
10. Interpretation of map symbols --------------- 0%
    (a) Locate particular place
    (b) Map construction
11. Interpretation of pictures ------------------- 2%
12. Selective reading ----------------------------- 0%
13. Generalizing ------------------------------- 1%
14. Outlining main points ----------------------- 0%
15. Reasoning as to time, distance, or area ------ 0%
16. Miscellaneous ------------------------------- 12%

Examples:

Fact questions and problems:
1. What are some of the uses of wheat straw? (7:26)
2. How is sugar harvested? (7:35)

Thought questions and problems:
1. Why are oranges and other fruits sometimes wrapped in paper? (7:42)
2. What games do you play on a rainy day? On a sunny day? (7:7)
3. Visit a butcher's shop or meat market. Describe what you see (7:38).
4. What fruit trees have you seen growing? (7:41)
5. What articles do you have at home which are made from linen? (7:60).

6. Study the drawings in Fig. 78. Make three lists. In the first list put the animals which the eskimos use in traveling. In the second list put the animals which are used for food. In the third list put the animals which are caught for their furs (7:96).

B. Shepherd, Edith P. Geography for Beginners.

Of the 154 questions and study problems sampled analysis shows:

(a) Fact questions and problems ------------------ 22%

(b) Thought questions and problems -------------- 78%

1. Causal reasoning

(a) Finding relation between cause and effect ---- 5%

(b) Reasoning based on analogy ------------------ .6%

(c) Causal reasoning or judgment ----------------- 2%

(d) Causal reasoning based on analogy ---------- .7% 8.3%

2. Comparison or contrast

(a) Finding likenesses only ---------------------- 11%

(b) The ability to find differences only ------- 6%

(c) Finding likenesses and differences ------- 2%

(d) Comparison and evaluation or choice ------- 3% 27%
3. Reorganization of facts
(a) Grouping only ----------------------------------- 17%
(b) Grouping and evaluating or choice --------------- 0%

4. Reorganization of facts
(a) Reconstructive imagination ----------------------- 0%
(b) Reconstructive imagination involving constructive expression ------------------- 0%
(c) Constructive imagination ------------------------ 0%
(d) Constructive imagination and involving constructive expression ----------------- 0%

5. Interpretation of the author's meaning
(a) Meaning of words and phrases --------------------- 0%
(b) Inferences ------------------------------------- 0%

6. Application of a principle or definition 4%
7. Selective recall ---------------------------------- 11%
8. Criticism ---------------------------------------- 0%
9. Analysis ------------------------------------------ 1%

10. Interpretation of may symbols
(a) Locate particular place ------------------------- 0%
(b) Map construction ------------------------------- 0%

11. Interpretation of pictures ---------------------- 2%
12. Selective reading ------------------------------- 0%
13. Generalizing ------------------------------------ .7%
14. Outlining main points ---------------------------- 0%
15. Reasoning as to time, distance or area --- 0%
16. Miscellaneous ---------------------------- 7%

Examples:

Fact questions and problems:

Thought questions and problems:
1. Can you think why it is that people do not use wood for heating houses as they used to? (42:42)
2. Are all the brick buildings you see every day made of bricks of the same color? (42:33)
3. Have you ever watched men putting up a stone building? How did they raise the stones and put them in place? (42:28)
4. How many things made of cement can you see on your way home from school? Make a list of them. (42:39)
5. Find a picture of a pine forest. Can you tell from the picture why pine trees are so good for lumber? (42:22)
6. Melt a candle and try to make a new candle by dipping a piece of string in the melted wax as our grandmothers did (42:54)


Of the 394 questions and problems sampled analysis shows:
(a) Fact questions and problems ------------------- 35%
(b) Thought questions and problems ----------------- 65%

Causal reasoning
(a) Finding relations between cause and effect --- 7%
(b) Reasoning based on analogy --------------------- 1%
(c) Causal reasoning or judgment ------------------ 4%
(d) Causal reasoning based on analogy and judgment 0% 12%

Comparison or contrast
(a) Finding likenesses only ------------------------ 6%
(b) The ability to find differences only ----------- 3%
(c) Finding likenesses and differences ------------ 1%
(d) Comparison and evaluation or choice --------- 1% 11%

Reorganization of facts
(a) Grouping only ------------------------------- 9%
(b) Grouping and evaluating or choice ----------- 0% 9%

Reorganization of facts
(a) Reconstructive imagination ------------------ 1%
(b) Reconstructive imagination involving constructive expression ------------------- 1%
(c) Constructive imagination ------------------- 1%
(d) Constructive imagination involving constructive expression ------------------- 0% 3%
5. Interpretation of the author's meaning
   (a) Meaning of words and phrases ------------------ 1%
   (b) Inferences ------------------------------------- 4%

6. Application of a principle or definition --------- 1%

7. Selective recall ---------------------------------- 2%

8. Criticism ------------------------------------------ 0%

9. Analysis ------------------------------------------ 0%

10. Interpretation of map symbols
    (a) Locate particular place ----------------------- 15%
    (b) Map construction ----------------------------- 1%  

11. Interpretation of pictures ----------------------- 6%

12. Selective reading -------------------------------- 1%

13. Generalizing ------------------------------------- 0%

14. Outlining main points --------------------------- 0%

15. Reasoning as to time, distance or area --------- 0%

16. Miscellaneous ------------------------------------ 7%

Examples:

Fact questions and problems:
1. Name some articles that were made in Japan (44:307).

Thought questions and problems:
1. Why do we have more animals than the Eskimo has? (44:6)
2. Which hemisphere has the more land, the Eastern or the Western? (44:31)
3. How did the World War show that each country needs the others? (44:71)

4. Find the ninetieth meridian and the thirtieth parallel. What city is where they cross? (44:31)

5. In the picture of the pasture country (Fig. 52) name all the signs which show that the country is dry (44:41).

6. On the map (Fig. 64) find the following Indian names: Missouri, Illinois, Buffalo, Huron. Which is a river, a state, a city, or a lake? (44:44).


Of the 455 questions and problems sampled analysis shows:

(a) Fact questions and problems ------------------------------- 94.6%
(b) Thought questions and problems ------------------------------- 5.4%

1. Causal reasoning
   (a) Finding relations between cause and effect ------------------ 2%
   (b) Reasoning based on analogy --------------------------------- 0%
   (c) Causal reasoning or judgment ------------------------------- 0%
   (d) Causal reasoning based on analogy and judgment----------- 0%

2. Comparison or contrast
   (a) Finding likenesses only ------------------------------------- 1%
   (b) The ability to find differences only ----------------------- 0.6%
   (c) Finding likenesses and differences -------------------------- 0%
(d) Comparison and evaluation or choice ------------------ 0%

3. Reorganization of facts
(a) Grouping only --------------------------------------- 0.9%
(b) Grouping and evaluating or choice --------------------- 0%

4. Reorganization of facts
(a) Reconstructive imagination --------------------------- 0%
(b) Reconstructive imagination involving constructive expression ------------------------------- 0%
(c) Constructive imagination ---------------------------- 0%
(d) Constructive imagination and involving constructive expression ------------------------------- 0%

5. Interpretation of the author's meaning
(a) Meaning of words and phrases ------------------------ 0%
(b) Inferences ------------------------------------------ 0%

6. Application of a principle or definition ------------- 0%

7. Selective recall -------------------------------------- 0%

8. Criticism ------------------------------------------- 0%

9. Analysis --------------------------------------------- 0%

10. Interpretation of map symbols
(a) Locate particular places --------------------------- 0.9%
(b) Map construction ---------------------------------- 0%

11. Interpretation of pictures -------------------------- 0%
Examples:

Fact questions and problems:

1. What does the miner do? (10:8)

Thought questions and problems:

1. Why has lumber become valuable? (3:23)
2. In what part of the north coast can people best live? (10:177)
3. Where is the chief manufacturing section of our country? (10:85)
4. Name some large articles made from iron and steel? (10:130)
5. What other countries have this form of government? (10:199)


Of the 529 questions and problems sampled analysis shows:

(a) Fact questions and problems ------------------ 93%
(b) Thought questions and problems ---------------- 7%

1. Causal reasoning

(a) Finding relations between cause and effect -- 1%
(b) Reasoning based on analogy -------------------- 0%
(c) Causal reasoning or judgment ------------------- 0%
(d) Causal reasoning based on analogy and judgment 0%

2. Comparison or contrast
   (a) Finding likenesses only ------------------------ 1.5%
   (b) The ability to find differences only ---------- 2%
   (c) Finding likenesses and differences ---------- .1%
   (d) Comparison and evaluation or choice --------- 0%

3. Reorganization of facts
   (a) Grouping only --------------------------------- 2%
   (b) Grouping and evaluating or choice ------------- 0%

4. Reorganization of facts
   (a) Reconstructive imagination --------------------- 0%
   (b) Reconstructive imagination involving constructive expression ------------------------- 0%
   (c) Constructive imagination ---------------------- 0%
   (d) Constructive imagination and involving constructive expression --------------------- 0%

5. Interpretation of the author's meaning
   (a) Meaning of words and phrases ------------------ 0%
   (b) Inferences ----------------------------------- 0%

6. Application of a principle or definition ------- 0%
7. Selective recall ---------------------------------- 0%
8. Criticism ---------------------------------------- 0%
9. Analysis ----------------------------------------- 0%
10. Interpretation of map symbols
    (a) Locate particular places -------------------- 2%
    (b) Map construction --------------------------- 0.1%
11. Interpretation of pictures --------------------- 0%
12. Selective reading ----------------------------- 0%
13. Generalizing ---------------------------------- 0%
14. Outlining main points ------------------------- 3%
15. Reasoning as to time, distance, or area ------ 0%
16. Miscellaneous ------------------------------- 0%

Examples:

Fact questions and problems:

1. How do the people live on the steppes of Russia? (11:5).

Thought questions and problems:

4. On the railroad map point out the location of the Appalachian Mountains, the Rocky Mountains, the
Coast Range (11:52).

5. Give an outline of the railroad connections of Atlanta (11:111).

F. Branom, Frederick F., and Ganey, Helen M. Social Geography Series: Eastern Hemisphere*

Of the 155 questions and problems sampled analysis shows:

(a) Fact questions and problems -------------- 65%
(b) Thought questions and problems -------------- 35%

1. Causal reasoning

(a) Finding relations between cause and effect --- 7%
(b) Reasoning based on analogy -------------- 0%
(c) Causal reasoning or judgment -------------- 0%
(d) Causal reasoning based on analogy and judgment 0% 7%

2. Comparison or contrast

(a) Finding likenesses only -------------- 0%
(b) The ability to find differences only ------- 0%
(c) Finding likenesses and differences ------ 0%
(d) Comparison and evaluation or choice ------ 0%

3. Reorganization of facts

(a) Grouping only -------------- 21%
(b) Grouping and evaluating or choice -------------- 0% 21%

* Included in this text also are lists of problems and projects which appear just before thought questions and study problems.
4. Reorganization of facts
   (a) Reconstructive imagination -------------- 2%
   (b) Reconstructive imagination involving constructive expression -------------- 0%
   (c) Constructive imagination ------------- 0%
   (d) Constructive imagination and involving constructive expression -------------- 0%  2%

5. Interpretation of the author's meaning
   (a) Meaning of words and phrases -------------- 0%
   (b) Inferences ------------------------------- 0%

6. Application of a principle or definition ------- 0%

7. Selective recall ------------------------------- 0%

8. Criticism ------------------------------------- 0%

9. Analysis --------------------------------------- 0%

10. Interpretation of map symbols
    (a) Locate particular places ----------------- 2%
    (b) Map construction ------------------------ 6%  8%

11. Interpretation of pictures ------------------- 0%

12. Selective reading ----------------------------- 0%

13. Generalizing ---------------------------------- 0%

14. Outlining main points ------------------------- 0%

15. Reasoning as to time, distance, or area ------ 0%

16. Miscellaneous ------------------------------- 0%

Examples:
Fact questions and problems:
1. What makes up the British Isles? (8:28).

Thought questions and problems:
1. How can you account for the great number of cattle and sheep? (in the United Kingdom) (8:28).
2. What advantages does Germany possess by being on two seas? (8:47).
3. Locate the Iberian Peninsula (8:72).
4. On an outline map locate the cities in your list. Show the capitals by means of stars (8:104).


Of the 257 questions and problems sampled analysis shows:
(a) Fact questions and problems -------------- 28%
(b) Thought questions and problems ----------- 72%

1. Causal reasoning
(a) Finding relations between cause and effect --- 26%
(b) Reasoning based on analogy ---------------- 4%
(c) Causal reasoning or judgment -------------- 0%
(d) Causal reasoning based on analogy and judgment 0% 30%

2. Comparison or contrast
(a) Finding likenesses only ------------------ 12%
(b) The ability to find differences only ------ 2%
(c) Finding likenesses and differences -------- 0%
(d) Comparison and evaluation or choice ------- 0%
3. Reorganization of facts.
   (a) Grouping only -------------------------------- 14%
   (b) Grouping and evaluating or choice -------------- 14%

4. Reorganization of facts
   (a) Reconstructive imagination --------------------- 0%
   (b) Reconstructive imagination involving constructive expression -------------------------------- 0%
   (c) Constructive imagination ------------------------ 1%
   (d) Constructive imagination involving constructive expression -------------------------------- 1%

5. Interpretation of the author's meaning.
   (a) Meaning of words and phrases ------------------- 0%
   (b) Inferences --------------------------------------- 0%

6. Application of principle or definition -------------- 0%

7. Selective recall ----------------------------------- 1%

8. Criticism ----------------------------------------- 0%

9. Analysis ------------------------------------------ 0%

10. Interpretation of map symbols
    (a) Locate particular places ---------------------- 8%
    (b) Map construction ----------------------------- 1%

11. Interpretation of pictures ------------------------ 0%

12. Selective recall ---------------------------------- 0%
Examples:

Fact questions and problems:
1. What are the six great needs of life and why is each essential? (17:15).

Thought questions and problems:
1. Why did the early settlers in Ohio build log houses while those in Nebraska built sod houses? (17:15).
2. Name five wild plants of your neighborhood and tell which ones die down when winter comes (17:55).
3. Visit a manufacturing plant in your home region. Find out the source of the raw materials used and the products and the by-products made (17:29).
4. Find four large coastal cities at river mouths (17:78).
5. Learn and compare the distance by boat from New York to Buenos Aires, Argentine with that of Valparaiso, Chile (17:88).


Of the 105 questions and problems sampled analysis shows:
(a) Fact questions and problems 20%
(b) Thought questions and problems 80%
1. Causal reasoning
   (a) Finding relations between cause and effect ---  14%
   (b) Reasoning based on analogy -----------------  0%
   (c) Causal reasoning or judgment ---------------  1%
   (d) Causal reasoning based on analogy and judgment  0%

2. Comparison or contrast
   (a) Finding likenesses only ---------------------  0%
   (b) The ability to find differences only -------  0%
   (c) Finding likenesses and differences ----------  0%
   (d) Comparison and evaluation or choice --------  .9%

3. Reorganization of facts
   (a) Grouping only -------------------------------  22%
   (b) Grouping and evaluating or choice -----------  0%

4. Reorganization of facts
   (a) Reconstructive imagination ------------------  21%
   (b) Reconstructive imagination involving constructive expression -----------------------------  5%
   (c) Constructive imagination -------------------  1%
   (d) Constructive imagination involving constructive expression -----------------------------  .9%

5. Interpretation of the author's meaning
   (a) Meaning of words and phrases ----------------  0%
(b) Inferences ---------------------------------- 0% 
6. Application of principle or definition ----------- .9% 
7. Selective recall --------------------------------- 0% 
8. Criticism ---------------------------------------- 0% 
9. Analysis ----------------------------------------- 0% 
10. Interpretation of map symbols 
   (a) Locate particular places ---------------------- 7.5% 
   (b) Map construction -------------------------------- 9% 
11. Interpretation of pictures ---------------------- 0% 
12. Selective recall --------------------------------- 2% 
13. Generalizing ------------------------------------- 0% 
14. Outlining main points --------------------------- 0% 
15. Reasoning as to time, distance, or area ---------- 2% 
16. Miscellaneous ------------------------------------ .9% 

Examples:

Fact questions and problems:
1. Which zone has the slightest change of season? 
   (28:227).

Thought questions and problems:
1. What would be some of the effects upon the climate of the northern hemisphere if the position of the cold and warm currents were interchanged? (28:244).
2. Chile and Texas resemble each other fairly closely in area and population. Which has the better pros-
pects for further growth? (28:278).

3. An interesting industry, which is not described in your text, is carried on extensively in the southeastern part of France. Be prepared to tell your classmates about it (28:317).

4. Draw a cross-section map, or profile of Spain and Portugal running east and west through Madrid and compare it with one across Mexico City (28:364).


As stated in the introduction, as a matter of interesting comparison, a geography used in 1885 was examined in order to compare its questions and problems with those of texts to-day. In Monteith's revision of Barnes' Elementary Geography the lessons themselves were made up of questions, some of which were not answered anywhere in the text. A sampling was made from the questions and problems designated either as review exercises, or merely as questions. In a great many instances the answer came immediately after the question or exercise. The result of this analysis follows:

I. Monteith, James, *Barnes' Elementary Geography*. Of the 52 questions and problems sampled analysis shows:

(a) Fact questions and problems -------------- 59%
(b) Thought questions and problems --------- 41%

1. Causal reasoning
(a) Finding relations between cause and effect ---- 0%
(b) Reasoning based on analogy ----------------------- 0%
(c) Causal reasoning or judgment ------------------- 0%
(d) Causal reasoning based on analogy and judgment-  0%

2. Comparison or contrast
(a) Finding likenesses only ------------------------ 0%
(b) The ability to find differences only ----------- 7%
(c) Finding likenesses and differences ------------- 0%
(d) Comparison and evaluation or choice ---------- 0%

3. Reorganization of facts
(a) Grouping only --------------------------------- 19%
(b) Grouping and evaluating or choice ------------- 0%

4. Reorganization of facts
(a) Reconstructive imagination ------------------- 0%
(b) Reconstructive imagination involving constructive imagination -------------------------- 0%
(c) Constructive imagination --------------------- 0%
(d) Constructive imagination involving constructive expression --------------------------------- 0%

5. Interpretation of the author's meaning
(a) Meaning of words and phrases ---------------- 0%
(b) Inferences ----------------------------------- 0%
6. Application of principle or definition -------------------- 0%
7. Selective recall --------------------------------------- 0%
8. Criticism --------------------------------------------- 0%
9. Analysis --------------------------------------------- 0%
10. Interpretation of map symbols
    (a) Locate particular places -------------------------- 1%
    (b) Map construction --------------------------------- 11%
11. Interpretation of pictures -------------------------- 3%
12. Selective recall ---------------------------------- 0%
13. Generalizing ---------------------------------------- 0%
14. Outlining main points ------------------------------ 0%
15. Reasoning as to time, distance or area ------------ 0%
16. Miscellaneous -------------------------------------- 0%

Examples: 

Fact questions and problems:
1. What is the great body of land on the Western
   Hemisphere called? (32:20).

Thought questions and problems:
1. Write a letter about our continent naming the
   countries which are older than ours; then 
   one or two which are warmer (32:18).
2. What is an orchard? What fruit trees have you seen?
   (32:9).
3. Point out on both the picture and the map, 
   moun-
tain, a volcano, a hill, a plain (30:15).

4. From what plants do we get most of our food? (32:9).

In the following chapter an attempt will be made to analyze more critically the questions and study problems investigated and classified in this division of our study. An attempt will also be made to answer, in so far as our date suffice, the questions propounded in our introductory statement. Also in Chapter III will be included the customary sections of summary and conclusions.
CHAPTER III

A Further Analysis and Comparison of the Questions
and Study Problems Found in Nine Representative Geography
Texts with a Summary and Conclusions

Perhaps the most effective manner of presenting a cumulative view of the data included in Chapter II is by means of a summary table. In table I, which follows, therefore, is presented a condensation of the fact versus thought data which have just been classified in more complete detail.
TABLE I

A Summary of the Percentage of Thought Questions and the Percentage of Fact Questions and Problems Included in Nine Representative Geography Texts for Grades IV -- VII.

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Average 48% 8% 10% 13% 3% 5% 1% 51%
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Notes: 
- Facts: 17% of total thought
- Generalizing: 1% of total thought
- Outlining: 0% of total thought
- Reasoning: 0% of total thought
- Miscellaneous: 12% of total thought
Even a cursory analysis of this table shows that four texts: D: Brigham and McFarlane, first book; E: Brigham and McFarlane, second book; F: Branom and Ganey, Eastern Hemisphere; and I: Monteith's revision of Barnes', have included from approximately 60 per cent to 90 per cent of sheer fact questions and problems. Text C by Smith has about 33 1/3 per cent of fact questions and problems; while Texts G, H, and A, by Dodge and Lockey; Branom and Ganey, Home Lands and Other Lands; and McMurry and Parkins have from 17 to 25 per cent respectively.

Just why there should be such disparity in the number of thought as against fact questions and problems in books in common use at the present time is something which the writer cannot easily comprehend. In this day of individualized instruction; of socialized education; directed study; and of emphasis upon individual leadership and initiative all along the line, it is somewhat discouraging to find that our learned authors will ignore in textual construction the principles and concepts which they advocate in practice. And surely, there is not one of our authors who would countenance the preponderance of fact questions and problems which analysis has shown to exist in some of the texts investigated. Rugg criticizes this tendency to place undue emphasis on fact questions when he says that,

"Materials from the fifth grade on are organized by countries and by regional divisions. Children
canvass systematically all the physical features of such land divisions, but rarely have the materials been organized so as to aid them definitely in either remembering them or in using them in the solution of problems later on. Countless facts are learned about states and their boundaries, their populations, and capitals; chief cities, their location, industries, and farm products. Lists of products are memorized in precise connection with the cities or regions from which they come. Similarly, mountain systems, and facts of longitude and latitude are learned by note. Veritable encyclopedias are these geography texts with which we teach children about the important physical, economic, and social surroundings in which they find themselves. But tests have shown that children cannot and do not remember these facts; and studies of social demands show furthermore that there is no need to be able to remember most of them" (37:1-27).

And again, in the terminology of Dewey,

"The mere amassing of information apart from direct interests of life make pupils wooden and cause elasticity to disappear. When geography is made to appeal to the imagination, it shares in the wonder and glory that attack to adventure, travel, and exploration. The variety of people and their environments, their contrast with familiar scenes furnish infinite stimulation. The mind is moved from the monotony of the customary" (15:245-48).

Nevertheless, even recent geography text books mention prominently more than five hundred cities, with the presumption that teachers are going to have children master the important facts concerning them. Likewise, detailed information is given about fifty to sixty river systems and a like number of mountain ranges. This type of textual procedure, to be sure, gives the pupil something to learn but not something to do, and careful inspection of methods which are permanently successful in education reveal that
they depend for their efficiency upon the fact that they go back to the type of situation which causes reflection upon facts in ordinary life. These problem situations, moreover, must be large enough to challenge thought and yet small enough, so that, in addition to the confusion naturally accompanying the novel elements, there shall be numerous familiar spots from which helpful suggestions may spring (15:181).

In answer to this persistent criticism by Rugg, Dewey and others the authors past and present would undoubtedly give one of two replies. First, they would insist that the questions and study problems are included in many texts essentially as "filler" material to satisfy the few who still insist that teachers in service make some use of the questions and problems for practical purposes. A superior teacher, they will argue, will always create her own study, laboratory, and supplementary situations and problems, hence why should authors be particularly concerned over them. Then they add that it is not their intention that all the 3,000 to 5,000 facts found in the average book be learned as such. If this be true, how can a modern geographer justify the retention of such exercises as the following:

Review of cities: Locate the following places: Boston, Providence, Worcester, New Haven, Fall River, Cambridge, Bridgeport, Hartford, New Bedford, Lynn, Lawrence.

In the opinion of Branom one of the purposes of a textbook is to have it provide problems for solution, hence every good text should contain problems and exercises. He states further that in some of our books in the past the questions and study problems have been rather inadequate, but an improvement has been noticed during recent years. If the questions and problems are not of the functional type, the pupils should not take them. The resourceful and skilled teacher, he continues, may neglect them all together in favor of questions and study problems of her own and for those which arise in the classroom (6:406-18).

Another author in writing on evaluating and selecting textbooks suggests that all textbooks be scrutinized carefully to see if provision is made for varying types of teaching such as the project method or original reflective work (19:46).

In reply to these criticisms geographers may insist that in some instances the writers of the actual context do
not prepare the questions, exercises, and problems, hence in evaluating the questions and problems, one is measuring up the efficiency of persons other than the authors of some texts.

But, fearing that the writer may be accused of scolding and of idle, destructive comment, she will pass on to an investigation of the content of thought questions and problems included in the texts according to the classification used throughout this study.

Questions and problems involving comparison were used most frequently in two cases: Branom and Ganey, *Home Lands and Other Lands*, and in Shepherd, and frequently in the case of Smith, Dodge and Lackey, and Monteith.

Questions which involve *causal* reasoning were found to be employed most frequently by Dodge and Lackey and by McMurry and Parkins, and frequently by Branom and Ganey, *Home Lands and Other Lands* and by Smith.

Map interpretation, which included map drawing, was found to be most frequent in Smith and Monteith and frequently employed by Branom and Ganey, *Eastern Hemisphere*, Dodge and Lackey, and McMurry and Parkins.

Reorganization of facts represents the division of thought questions most frequently employed by Shepherd, Branom and Ganey, *Eastern Hemisphere*; McMurry and Parkins and by Monteith. While Branom and Ganey in *Home Lands and*
Other Lands, and Dodge and Lackey used this division frequently.

Miscellaneous questions and problems, as previously explained, seemed to be of such a nature that they did not fit easily into the writer's classification. Fortunately, they occur rather infrequently.

If we turn now to a comparison of questions and problems suggested for use in grade IV as against those suggested for use in grade VII, we may use Branom and Ganey, Home Lands and Other Lands, and Advanced Geography by Dodge and Lackey.

In the higher grade level there is manifest a predominance not only of thought questions, but also of the most desirable subdivisions of this section that is of causal reasoning and of comparison and reorganization of facts. If the junior high school is to accomplish its commonly accepted objectives, it should cultivate that which is indicated in an analysis of this text, the development of conceptual thinking, of problem solving, and pupil organization.

In commending Dodge and Lackey, no attempt is being made to cast aspersions on the beginners text by Branom and Ganey. From a psychological point of view the balance of fact versus thought questions and problems is entirely satisfactory for grade IV, for at this level geographic
facts are most essential if the pupil is to make progress in the grades to follow. Of interest, too, is the fact that questions and problems of comparison or contrast are given precedence and that map interpretation was not employed at all.

A more comprehensive view of the comparative merits of these two texts follows:

For Grade IV - Branom and Ganey, Home Lands and Other Lands:

1. Causal reasoning.
   (a) Finding relation between cause and effect ---- 8%
   (b) Reasoning based on analogy ------------------ 1%
   (c) Causal reasoning or judgment ---------------- 2%
   (d) Causal reasoning based on analogy ----------- 1%

2. Comparison or contrast
   (a) Finding likenesses only --------------------- 11%
   (b) The ability to find differences only ------- 6%
   (c) Finding likenesses and differences ---------- 7%
   (d) Comparison and evaluation or choice -------- 4%

3. Reorganization of facts
   (a) Grouping only ------------------------------ 13%
   (b) Grouping and evaluating or choice --------- 0%

4. Reorganization of facts
   (a) Reconstructive imagination ----------------- 0%
(b) Reconstructive imagination involving constructive expression -------------------------- 0%

5. Interpretation of the author's meaning
   (a) Meaning of words and phrases -------------------------- 0%
   (b) Inferences ------------------------------------------ 0%

6. Application of a principle or definition -------- 4%

7. Selective recall --------------------------------------- 11%

8. Criticism --------------------------------------------- 0%

9. Analysis --------------------------------------------- 1%

10. Interpretation of map symbols
    (a) Locate particular places -------------------------- 0%
    (b) Map construction --------------------------------- 2%

11. Interpretation of pictures --------------------------- 2%

12. Selective reading ----------------------------------- 0%

13. Generalizing ---------------------------------------- 1%

14. Outlining main points ------------------------------- 0%

15. Reasoning as to time, place, distance or area ---- 0%

16. Miscellaneous -------------------------------------- 12%

For Grade VII - Dodge and Lackey, Advanced Geography:

1. Causal reasoning
   (a) Finding relations between cause and effect --- 26%
   (b) Reasoning based on analogy ------------------------ 4%
   (c) Causal reasoning or judgment ---------------------- 0%
   (d) Causal reasoning based on analogy and judgment 0%

2. Comparison or contrast
(a) Finding likenesses only 12%
(b) The ability to find differences only 2%
(c) Finding likenesses and differences 0%
(d) Comparison and evaluation or choice 0%

3. Reorganization of facts
(a) Grouping only 14%
(b) Grouping and evaluating or choice 0%

4. Reorganization of facts
(a) Reconstructive imagination 0%
(b) Reconstructive imagination involving constructive expression 0%
(c) Constructive imagination 1%
(d) Constructive imagination involving constructive expression 0%

5. Interpretation of the author's meaning
(a) Meaning of words and phrases 0%
(b) Inferences 0%

6. Application of principle or definition 0%
7. Selective recall 1%
8. Criticism 0%
9. Analysis 0%

10. Interpretation of map symbols
(a) Locate particular places 8%
(b) Map construction 1%
If we compare next a text written for the intermediate grades (V and VI) such as Smith's *Human Geography*, book one, with another text intended for the junior high school level, such as *Advanced Geography* by McMurry and Parkins, we are encountered again with a most interesting study. In each case major emphasis is placed on thought questions and problems, but again the per cent of questions and problems for grade VII far exceeds that of the grades just beneath. Altho the *Human Geography* contained 11 per cent and the *Advanced Geography* only 9 per cent of comparison or contrast questions and problems, the latter had 22 per cent of reorganization of fact type of thought question whereas the *Human Geography* had only 9 per cent of this type. Besides, the junior high school text places only half as much emphasis on the interpretation of map symbols, including the location of particular places and map construction, as does Smith. Manifestly there is no royal road to a sub-division of thought questions and problems.

A more comprehensive view of the comparative merits of
these books follows:

For Grades V and VI, Smith, Human Geography, book one:

1. Causal reasoning
   (a) Finding relations between cause and effect --- 7%
   (b) Reasoning based on analogy ------------------ 1%
   (c) Causal reasoning or judgment ---------------- 4%
   (d) Causal reasoning based on analogy and judgment 0%

2. Comparison or contrast
   (a) Finding likenesses only --------------------- 6%
   (b) The ability to find differences only ------- 3%
   (c) Finding likenesses and differences ---------- 1%
   (d) Comparison and evaluation or choice ------- 1%

3. Reorganization of facts
   (a) Grouping only ----------------------------- 9%
   (b) Grouping and evaluating or choice -------- 0%

4. Reorganization of facts
   (a) Reconstructive imagination ------------------ 1%
   (b) Reconstructive imagination involving constructive expression ------------------------- 1%
   (c) Constructive imagination ------------------- 1%
   (d) Constructive imagination involving constructive expression ------------------------- 0%

5. Interpretation of the author's meaning
   (a) Meaning of words and phrases -------------- 1%
(b) Inferences --------------------------------- 4%

6. Application of a principle or definition ------- 1%
7. Selective recall ----------------------------- 2%
8. Criticism ----------------------------------- 0%
9. Analysis ------------------------------------- 0%
10. Interpretation of many symbols
    (a) Locate particular places ------------------ 15%
    (b) Map construction -------------------------- 1%
11. Interpretation of pictures ------------------- 6%
12. Selective reading ----------------------------- 1%
13. Generalizing --------------------------------- 0%
14. Outlining main points ------------------------ 0%
15. Reasoning as to time, distance or area ------ 0%
16. Miscellaneous ------------------------------- 7%

For Grade VII - McMurry and Parking, *Advanced Geography*:

1. Causal reasoning
   (a) Finding relations between cause and effect -- 14%
   (b) Reasoning based on analogy ------------------ 0%
   (c) Causal reasoning or judgment --------------- 1%
   (d) Causal reasoning based on analogy and judgment 0%
        15%

2. Comparison or contrast
   (a) Finding Likenesses only --------------------- 0%
   (b) The ability to find differences only ------- 0%
(c) Finding likenesses and differences ------------ 0%
(d) Comparison and evaluation or choice ------------ 0.9%
             0.9%

3. Reorganization of facts.
   (a) Grouping only ----------------------------- 22%
   (b) Grouping and evaluating or choice --------- 0%
             22%

4. Reorganization of facts
   (a) Reconstructive imagination ---------------- 21%
   (b) Reconstructive imagination involving constructive expression ---------------- 5%
   (c) Constructive imagination ------------------ 1%
   (d) Constructive imagination involving constructive expression ------------------ 0.9%
                    27.9%

5. Interpretation of the author's meaning
   (a) Meaning of words and phrases ------------- 0%
   (b) Inferences ------------------------------- 0%

6. Application of principle or definition ----------- 0.9%

7. Selective recall ------------------------------- 0%

8. Criticism -------------------------------------- 0%

9. Analysis ---------------------------------------- 0%

10. Interpretation of map symbols
   (a) Locate particular places ------------------- 7.5%
   (b) Map construction -------------------------- 0.9%
                    8.4%
If we accept the fact that thought questions and problems should take the precedence over fact or memory questions and problems as we approach the higher grade levels, it is particularly significant that this study does not substantiate such contentions. In the case of Shepherd's text for beginners, for example there were over three times as many thought questions and problems as fact questions and problems. It must be admitted that in this text as in others for use in grade IV, little attempt was made by those who prepared the questions, exercises, and problems to have the pupils reach as high a stage of organization, investigation, and analysis as is shown in the case of the junior high school pupils. Nevertheless, the data of this thesis point to the fact that some of our textbooks are not especially concerned with a differentiation of fact and thought questions and problems at different grade levels. But they should be so concerned, for as Rugg insists, if the pupils of the eleventh or twelfth grades are to deal effectively with problems, it is necessary that through all the grades of previous years,
they shall have read episodes and historical narratives, studied and made maps dealing with geographic and pictorial matter. Besides all this they should have had exercises in solving problems and debating questions which were adapted to their stage of development and designed especially to develop an acquaintance with, and appreciation of, the problems they are to meet in the higher grades (38:263-66).

In the fourth grade, according to Packard, the "how" should be emphasized since it opens the way to as much causal relationship as these small children can stand. In the higher grades the "why" may be more commonly stressed, yet for introducing the subject, for gaining interest, and for the association of ideas so that the knowledge may function, the study of the "how" must hold an important place (35:147-52).

It is significant, too that in the light of this study there is little agreement upon the type of thought question or problem which is best adapted for the various grades. Although the general trend, as manifested in this investigation, is not only towards the inclusion of more thought questions and exercises, but also towards those involving higher mental processes as we advance from grade four into the junior high school, there is practically no consensus of opinion whether such questions should involve causal reasoning, comparison or contrast, reorganization of facts, map interpretation or outlining.
And this brings us to a consideration of whether or not the questions and problems in geography texts have, on the whole, any pronounced practical or social value? If the child is simply assigned problem after problem and told that he must master each one, the pupil is being adapted to the material. While sound pedagogy affirms that socially valuable problems must be taught, equally sound pedagogy holds that the problem, if possible, should make an appeal to the child's interests and experiences (1:56; 26:69; 5:239).

Rugg criticizes geography texts because the larger economic questions are too frequently omitted. Such topics as the problem of the distribution of goods, the question of prices, markets, transportation, co-operative associations, money, banking and profits may indeed bear fruit if handled in a practical way in geography classes (37:12).

This same contention is made by McConnell in an article reported in the Journal of Geography for February, 1924 in which he says that if the questions and problems do not have practical and social value, they are not fulfilling the new aims in the social studies of which geography is one of the most important.

As stated by Wilson, one composite aim of education is good citizenship, and if geography is to make its contribution toward this end it must help prepare people to participate in social, economic, and political life as it
exists to-day. For a citizen is called upon to take a certain stand on international problems, as for example, when one hears that Germany objects to paying so large an indemnity because it has been robbed of its farming lands and other natural resources. Unless we know geographic conditions, we cannot intelligently decide whether or not this is true. Or, what should be our attitude toward the proposed changes in our immigration laws? These are but typical of numerous present day problems, both national and international in character, that would require a knowledge of geography at every step in their understanding and solution. Especially in the junior high school should we expect to find such problems being solved, because such teaching would lead to disentanglement of primal factors and principles which would otherwise be lost in a mass of irrelevant details, and give stability and endurance to learning, since tests have shown that children do not remember the mass of encyclopedic facts now required of them (25:49-58).

In this day of socialization and utilitarianism in education it is only natural that the most recent geography texts should place more and more emphasis upon questions, problems, and exercises which have a socializing influence.

This fact may best be illustrated by the following example:

1. Are there more or fewer trees in your community
than there once were? What is the effect? (17:15)

2. Write a composition on the subject: Liberty does not mean freedom to do anything one pleases (28:358).

3. Make a list of the things to be considered in estimating the cost of a ready made dress (17:29).

4. Can you think why it is that people do not use wood so much for heating houses as they used to? (42:42)

5. Of what importance is the Suez Canal to the trade of the world? (8:176)

6. In what direction is your home from the school? (32:3)

7. How are the cities along the Gulf coast benefiting from the Panama Canal? (17:150)

We pass on now to an inquiry into the value, if any, to the teachers in service of geographic questions and problems of any type or character. Should they constitute an essential part of any good text? Are they ever used to any great extent by a resourceful teacher? Are they merely "selling aids" from the publishers point of view?

To answer these questions scientifically would necessitate a series of additional research studies, but this writer is just old fashioned enough to assert that good questions and problems have a definite place in any widely approved text. To substantiate her belief that the best questions and problems given either in the context, or at
the end of the chapters or sub-divisions, are actually utilized even by city teachers, the writer sought the opinion of thirty-two Chicago public school teachers of geography at different grade levels, and in twenty-four instances these teachers favored the inclusion of good questions, problems, and exercises because of their value to her as well as to the pupil.

It is not being asserted that the opinion of these twenty-four teachers represents a sampling of the convictions of Chicago public school teachers of geography on this problem, yet it is heartening to know that others substantiate the writer's belief.

Finally, an additional word should be said concerning Monteith's revision of Barnes' Text which was published in 1885. For the most part, as has been previously mentioned, the lessons themselves were frequently made up of questions, or the complete answer followed each question asked in the context. No definite aim at the development of reflective thought is apparent in this type of text which aimed primarily at catechetical learning. No attempt was made to develop questions of a psychological nature.

An investigation of Barnes' work makes one appreciate the vast strides which have been made in textual writing, editing, and printing during the last half century. The writer's findings in this regard are substantiated by those
reported in a new text in geography by Crawford and McDonald in which they show that all earlier geography books were of the memory type, and that many of them were organized on the question and answer basis and were to be studied in much the same way as catechism (14:1).

All in all, the situation with regard to the questions, study problems, and exercises in our most widely used current geography texts for grade IV - VII is entirely hopeful. Not only the most recent texts, but also many of the somewhat older ones are including questions and problems of recognized educational, psychological, and sociological value. Nevertheless, it is not to be doubted, that there is still room for improvement in this field as in other divisions of textual preparation and revision.
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REFEREES' REPORTS

It is the practice of the Graduate School to have theses read by three referees. If the first two votes are favorable, the third reading is sometimes omitted. The Graduate Council regularly recommends for the degree all students who have a majority of favorable votes.

Students are frequently required to rewrite portions of their theses because of the referees' criticisms. This will explain why references to pages are sometimes inaccurate and why shortcomings concerning which comment is made in the reports are found not to exist.
THESIS: AN ANALYSIS OF THE QUESTIONS AND STUDY PROBLEMS FOUND IN GEOGRAPHY TEXT BOOKS FOR GRADES FOUR TO SEVEN

1. The problem impresses me as a good one.
2. I am not convinced, however, that it has been adequately treated.
3. The bibliography can no doubt be extended.
4. The study is superficial - sketchy.
   I cannot recommend its acceptance.

Wm. H. Johnson
THESIS: AN ANALYSIS OF THE QUESTIONS AND STUDY PROBLEMS FOUND IN GEOGRAPHY TEXT BOOKS FOR GRADES FOUR TO SEVEN

I recommend the acceptance of the revised M. A. thesis of Miss McCue.

Wm. H. Johnson
THESIS: AN ANALYSIS OF THE QUESTIONS AND STUDY PROBLEMS FOUND IN GEOGRAPHY TEXT BOOKS FOR GRADES FOUR TO SEVEN

This thesis errs from the point of view of exclusion. After performing the most tedious task of diagnosing the questions, problems and exercises in nine texts, the writer fails somewhat to make the most of this vast array of data.

From a purely scientific point of view I believe that this study is entirely acceptable. Finally, from the viewpoint of documentation and mechanical details, I commend it, for the most part.

Thesis approved

Howard Egan