furnish more students on the Dean’s List than chance would allow. In only one case does the “C” group furnish more than expected; that is the case of those who were on the list only one quarter, as shown in Table 2. Chance would give the “C” group 40%—the group actually has 41%.

If we take the number on the list from the “A” group as a basic 100% and compare the quota furnished by the other groups with this basis we have the following display:

<table>
<thead>
<tr>
<th>Mental Test</th>
<th>Percent of quota on Dean’s List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>Any</td>
</tr>
<tr>
<td>“A”</td>
<td>100</td>
</tr>
<tr>
<td>“B”</td>
<td>60.9</td>
</tr>
<tr>
<td>“C”</td>
<td>24.2</td>
</tr>
<tr>
<td>“D”</td>
<td>10.9</td>
</tr>
<tr>
<td>“F”</td>
<td>6.2</td>
</tr>
</tbody>
</table>

Taking one case to illustrate: There were eight on the list for one quarter who came from the “A” group, as shown in Table 2. On this basis the “B” group, being twice as large, should furnish twice as many, but in fact that group furnished only eleven which as shown in Table 5 is 68.7% of its quota. Similarly the “C” group in the same table furnished 16, which in Table 5 is shown to be 50% of the quota of that group.

Another interpretation can be made as follows: The chances of a “B” student getting on the Dean’s List for three quarters are 40% as great as the chances of an “A” student; those of a “C” student are about 11% as great; and those of a “D” student are about 3% as great. No. “F” student has yet attained this ranking.

The fact that an “F” student can attain Dean’s List distinction at all probably needs some explanation. One case can be mentioned to show that there is as much unreliability in average academic success in one quarter as there is in mental test scores. A student who was rated “F” as a freshman failed several classes as she slowly progressed through the third year. She did have considerable determination and a

HOW WE MAY IMPROVE GEOGRAPHY TESTS

PASSENGER traffic in Europe has first-class, second-class, and third-class coaches. This plan provides passenger transportation with accommodations which are unquestionably distinct. The European custom suggests a way of classifying geographic material into first-rate, second-rate and third-rate geography.

Some months ago, teacher-prepared examinations were gathered from nine counties which represented different sections of the state. Because I have found students unable to discriminate regarding the importance of all the material which geography claims, and because of the study of the teacher-prepared examination ques-
tions, I have attempted an evaluation of the subject-matter of geography. This evaluation proposes that the subject-matter of geography may be classified in three divisions such as have been mentioned.

The teacher-conductors of the geography passenger train have crowded coaches in the third-rate division. Here are to be found:

List A:
1. Place locations
2. Boundaries
3. Soil formation and composition
4. Land formation
5. Sun behavior
6. Earth movements
7. Angle of land slope
8. Air composition
9. Wind behavior
10. Ocean movements
11. Rock formation
12. Minerals
13. Earth changes
14. Volcanic behavior
15. Mechanical work of streams and underground water
16. Chemical work of streams and underground water
17. Glacier formation and movements
18. Description of streams, valleys, oceans, mountains, weather conditions, etc.

List B:
1. Statistical information
2. Altitudes
3. Latitudes and longitudes
4. Land forms

Other information similar to that included in the above lists should be grouped with third-rate geography. This is not saying the above subject-matter is valueless. It is material which needs to be known in order to have an adequate basis for first-rate geography. To know the combinations of numbers does not make one a mathematician, but unless a person has mastered the combinations, he has difficulty in becoming a mathematician. First, second, and third-class coaches all provide transportation facilities, but the third-class coaches are very largely patronized by those who perform the hum-drum tasks of life. The items of the two lists belong to the hum-drum phase of geography. The items in list A need to be familiar to the student. But to be able to name them and their sub-divisions gives only a casual acquaintance. Many of the items in list B should not be regarded as the kind of information which would be acquired for keeps. Instead, each person needs to learn where he can readily locate such information and immediately make it contribute to his purpose. Think of third-rate geography as on a par with combinations of numbers. The distinguishing expression to be associated with third-rate geography is information regarded as life-less.

Second-rate geography includes material dealing with that which is living. In order that there may be a more evident comparison between second-rate geography and third-rate, a partial register of the passengers found in the second-rate coaches is given:

1. Description of man's work in any occupation
2. Chronological report of individual or community undertakings
3. Description of man's utilization of any natural resource
4. Description of the growth of a plant
5. Statement of other plant activities
6. Description of animal activities
7. Report of the undertakings of a social group
8. Directions for the construction of any project

In contrast with third-rate geography, this division of geography includes the activities of that which is living; the idea by which this type of geography may be distinguished is description of living activities. First-rate geography is interpretative. The reasons giving the interpretation may include natural, cultural, social, or economic
conditions. It is essential that the undertakings of man or the behavior of plants or animals be related to one or more of these four kinds of environment. Note that second-rate geography omits the interpretation of any activity or behavior. A much more distinguished group of passengers are found in the first-rate coaches:

1. Reasons why surveyor selected specific highway route
2. Explanations of community crop-specialization
3. Conditions producing luxuriant plant growth
4. Causes of adjustments made by animals in any region
5. Explanations of disease-prevention methods
6. Environmental factors affecting transportation costs
7. Reasons for developing specific power-sites
8. Conditions affecting successful pest-control
9. Environmental factors affecting food selection
10. Causes underlying any conservation program

Many other items might have been added to the above list, part of which would have been opposites of those which were given. Interpretation of living activities distinguishes first-rate geography.

Illustrations may help to differentiate the subject-matter of the three divisions. Autumn days have decreasing amounts of sunlight. This statement would be true if there were no life on the earth, and therefore is classified as lifeless information. The leaves on the trees are turning red. This sentence is a description of a life-activity; it classifies as second-rate geography. Since days have fewer hours of sunlight and the sun’s rays are less intense, the green color in the leaves is breaking down and the other leaf colors can be seen. The sun-behavior mentioned in this sentence gives the explanation or interpretation of a life-activity, and the whole sentence belongs to first-rate geography.

Another selection of illustrative sentences includes people. Third-rate geography is illustrated by the sentence: Harrisonburg is in the Shenandoah Valley. The second-rate division includes the sentence: The teacher is driving from Harrisonburg to Richmond. Much might be added to describe the drive from one locality to another, but limited to description, it would remain second-rate geography. When the reason for the drive is given, the sentence would classify as first-rate geography. In order to attend the programs of the Virginia Educational Association, the teacher is driving from Harrisonburg to Richmond. In this sentence, Virginia Educational Association gives the factor which is the social environment. This factor gives the purpose or the interpretation of the drive, so the sentence belongs to first-rate geography.

In studying the questions of the teacher-prepared examinations which were received, those questions which were third-rate geography or belonged to the Inanimate fact or Information type were marked “I.” They are illustrated by such questions as: What city is located at the mouth of the Hudson River? What is the largest island of the West Indies? etc.

Since modern geography is attempting to emphasize man’s Undertakings, the questions which asked for that type of information were classified as “U.” These questions were similar to the following: What is the chief occupation in Cuba? What type of live stock production belongs to the Great Basin? What is the capital of France? The third question tends to the “information” group, but “capital” suggests man’s undertaking in government.

But to go all the way in geography, there should be a study of man’s undertakings as influenced by his environment, whether that environment is physical, cultural, or social. Various geographers have pointed out that geography is a study which considers cause
and result, or one which gives the reasons or shows the relationship between what people do and their environmental conditions. Questions which asked for the Reason or included the Relationship idea were marked "R." In a true-and-false test, this sentence was marked "R": A train from Lima to the Plateau goes to such elevation that some people have to use oxygen tanks to live.

In a multiple choice this question ranks as one including relationship: The people of China and Japan have developed terraced farming because:

a. they think it is beautiful;
b. they can use more land in that way;
c. in that way, they can raise crops on steep hillsides

As an example of a completion sentence, which includes the reason, the following was selected from one test: Three things which hinder the development of Brazil are

From the tests studied, it would seem that the essay type tends quite easily to include reasons. The following question from an essay type is similar to many which might have been selected: Why do most of the people of Canada live along the southern boundary?

It is easy to make general statements regarding what a test should be. Also, since the true-false type seemed to have about the least "R" questions, one such examination was selected to indicate the marking plan used in the study. Excepting for the letters "I," "U," and "R," the test is copied as it was received.

Write true or false before each statement:

U 1. The chief wealth of the Southern states is found in their minerals.
R 2. There are many cotton mills along the Fall Line.
R 3. Many tourists go to Maine to enjoy cool summers.
R 4. Rice must be grown in a dry region.
U 5. It is cheaper to transport cotton on cars than on water.
U 6. Fulton invented the cotton gin.
U 7. There are large iron mines in Minnesota.
I 8. Montana is the largest state in the United States.
I 9. St. Louis is the largest city on the Mississippi River.
U 10. North Dakota is noted for wheat production.
U11. Michigan is noted for the lumber industry.
I 12. The North Central States have greater rainfall than the Western States.
I 13. St. Paul and Duluth are called the "Twin Cities."
U14. Chicago has the largest stockyards in the world.
I 15. The Grand Canyon of Colorado is in Colorado.
I 16. The Mississippi River system drain the North Central States.
U17. Arizona and Montana are both noted for copper production.
I 18. There are no forests in the state of Maine.
R19. The rush of water in Niagara Falls is used for making electricity.
I 20. The Mississippi is the largest river in the United States.

In re-writing part of the questions of the above test, if a question was one of the true group in the original test, it was worded so it would remain true in classification in the revised test. Likewise, if a question was false in the submitted test, it is false after its wording was changed to express relationship. It may be observed that three-fourths of the questions can now be labelled with an "R." The unrevised questions of the original test are omitted from the following:

R 6. While visiting a cotton plantation, Fulton invented the cotton gin.
R 7. The University of Minnesota has received support from taxes levied on the large iron mines of the state.
R 9. Since St. Louis is an important railroad center, it has become the largest city on the Mississippi River.

R 10. With a short growing-season, North Dakota has become a well-known wheat-producer.

R 12. Grazing is the occupation of the Western States because of their small amount of rainfall.

R 13. Flour-milling has promoted the growth of the “Twin Cities,” St. Paul and Duluth.

R 14. Surrounded by hog and cattle areas, Chicago has developed the largest stockyards in the world.

R 15. The Grand Canyon of Colorado is a tourist attraction in Colorado.

R 17. The low percentage of copper in the ore of Montana and Arizona favors copper-mining in those two states.

R 18. With no forests in the state of Maine, much lumber is purchased from other states.

R 20. The control of the flood problem of the lower Mississippi is increased by the large size of the stream.

A study of the completion tests which were received showed that nearly all questions classified under “I” or “U.” A sixth-grade examination was selected and it has been copied as it was received, with the labelling letters added.

**Completion**

U 1. The most important industry in New England is

U 2. The chief occupation of the people of the Southern states is

I 3. The Mississippi river flows into the of

U 4. The state that produces the most coal is

U 5. The boll weevil is an enemy of the plant.

I 6. The prairie region is found in the states.

I 7. Mt. is the highest peak in the Appalachian Mountains.

U 8. Rich iron mines are found around Lake.

U 9. Great salt deposits are found in the state of

I 10. The climate is in Florida.

Rewriting this completion test, the author kept the questions to a sixth-grade level, but it seemed well to word them all to show relationship. Often it is necessary to write longer sentences in an examination if they express first-rate geography, but as they explain so much more regarding life behavior, that sentence length is desirable. The above test re-written follows.

R 1. The soil has caused to become the most important industry of New England.

R 2. Because there is a well-distributed rainfall in the Southern states, the chief occupation of the people is

R 3. Because the Mississippi river flows into the of its usefulness for navigation is

R 4. Because is the state leading in coal-production, much is brought there for smelting.

R 5. Many experiments have been made to find how to control the boll weevil, which is an enemy of the plant.

R 6. Large crop returns caused high-priced land in the prairie region of the states.

R 7. Tourists are interested in visiting Mt., which is the highest peak in the Appalachian Mountains.

R 8. The ore from the rich iron mines around Lake supplies much of the tonnage shipped through the “Soo” Canal.

R 9. Chemical manufacturing occurs near the great salt deposits in the state of

R 10. Many wealthy people have moved to Florida to enjoy the climate.

Of the sixty-four tests received, only one deserved to have every question marked
with an “R.” The writer does not mean, however, to say that the essay type is the only one which can be safely used for geography. But probably all types of tests used in geography do need to be continually checked to make certain that there is sufficient testing of relationships. Here is the test which was notable for its questions about relationships:

1. What factors have contributed to the industrial and commercial development of Europe?

2. Describe the climatic and geographical conditions of the Central Plains and show how the lives and occupations of the people in different regions of the Central Plains are influenced by these conditions.

3. Explain why so many small nations, with distinctly differing languages and customs, have grown up in Europe.

4. To what extent has the vast colonial expansion of the English people made possible the great industrial development of Great Britain?

5. What conditions made possible the development of Germany into a great industrial nation?

6. Explain the industrial growth of Russia since the World War.

7. Why are the Balkans called “The Powder Keg of Europe?”

8. Why are there no large inland cities in the Scandinavian Peninsula?

9. Name the chief occupations of the people of Denmark and give the geographical conditions which determined the rise of this occupation.

10. a. Why is it extremely important to France that she have a seaport on the Mediterranean?
b. Give four reasons why France desired to possess a colonial empire in Africa.

It may be noted that all of the above questions can be stated objectively, so they indicate geographic material which might be included in other types of tests.

Certain questions may be asked regarding the planning of geography tests. How much of any test may be asking for information? How much should group around man’s undertakings? How much should deal with reasons or relationships for man’s undertakings? This study was not planned to get an answer to the three questions, and the writer does not know of an answer which has been secured as the result of an investigation. So he will suggest a plan of procedure and hope that some investigator will soon supply the answer.

By the end of the fifth-grade geography, a minimum of one-fifth of the geography test should deal with relationships, three-fifths should be man’s undertakings, and not more than one-fifth should test information.

During the sixth-grade geography an increasing amount of relationships should be taught, so that by the end of that year, a minimum of two-fifths of the geography test should ask for reasons for the specific undertakings of man in the areas studied. If man’s undertakings claimed four-ninths of the test, almost one-seventh would remain for information questions.

During the seventh year, there should be additional emphasis on relationship, so that by the end of that year, at least three-fifths and perhaps three-fourths of that test would come up to that standard. It is observed that both information and man’s undertakings are included in relationship questions, so a reduction in information questions and undertaking questions is not omitting that material. The teacher in arithmetic finds out whether a seventh-grade pupil can add or multiply without depending on a problem in addition or a problem in multiplication. In much the same way, well-planned questions in first-rate geography will find out whether the pupil has the basic geographical information and the needed knowledge regarding man’s undertakings. Since the study of relationship is the distinctive
contribution of geography, it is desirable that such material should become the greater part of geographical consideration.

A proposal giving numerical divisions is open to criticisms, but the fact remains that unless some one suggests some definite standards to be realized, it is easy to continue in previous habits and not make the desired improvement.

Two comments bearing on the questions studied may be added. One teacher named the publication which had been her guide in the preparation of the questions used. While titles of various publications suggest that they will reduce the difficulty of geography teaching, such books may be responsible for leading teachers astray in the preparation of geography tests. Often such publications omit mention of the weaknesses of true-false tests, for instance, because such mention may invite opposition to the sale of the "teacher-help."

The other comment recognizes the desire of teachers to improve in their geography teaching. With a number of the submitted questions was a note from the supervisor saying the teachers were anxious to have the results of the study and that they had been glad to co-operate. A few teachers who had been in the classes of the college since the writer joined the faculty added a note saying that criticisms would be appreciated. It is with the hope of supplying some help to those who co-operated that this article has been written.

The teacher who keeps her geography teaching linked with relationships is more certain to lead her classes to an appreciation of the principles of geography. Otherwise, too often, she will be satisfied with having taught some significant facts. As a guiding idea, it may be said that first-rate geography should be taught and then relationships should be emphasized in the tests.

DID HOMER NOD?

"For thus I estimate the qualities of the mind: 1, good humor; 2, integrity; 3, industry; 4, science. The preference of the first to the second quality may not at first be acquiesced in, but certainly we had all rather associate with a good-humored light-principled man than with an ill-tempered rigorist in morality."—Thomas Jefferson in a letter to Dr. Rush, January 3, 1808.

The schools stand between the generation which is passing out and has no adequate understanding of the new social order and the oncoming generation which is eager to take its part in the world and unwilling to be bound by the fetters of a narrow program conceived and established in a day when machinery was new and cities were uncommon. Our present task is one of consolidation and organization of improvement and amplification of education.—Charles H. Judd.

There is always something green and immature in an institution that hangs much on a single person. It is in unstable equilibrium. Solid organizations welcome great men, but are not dependent on them. A Western college may die if it does not get a suitable president; the great universities of Germany change their rectors every two years, and are totally unaffected.—George Herbert Palmer, in 1887.

The reactionary is like the man who has missed his train, in that both have been left behind. There is this difference, however; the man who missed the train knows why he missed it. The reactionary doesn’t know why the world has gone off and left him.—Leslie D. Kline.

Every democratic citizen’s life is a chain of moments in some of which he initiates and leads and in some of which he appreciates and follows.—Henry Suzzalo.