halfway up, the old house in which Augusta J. Evans wrote *St. Elmo,* and as we made the first turn in the long climb we passed the site of the old blacksmith shop mentioned in the story.

We did not go on the inclined railway, but at one point the auto road bridges over it. There we stopped and watched one big spider climb up from the bottom of the mountain while another crept cautiously down. Both, it turned out, were at opposite ends of the same big steel string. Have you ever drawn water out of a well with a chain running over a wheel and with a bucket at either end of the chain? If so, then you know how the cars go up and the cars come down at Chattanooga.

As we approached the crest of the mountain, by our zigzag course, I could see a few houses hanging over the edges of the great cliffs above. When we finally reached the summit I was astonished to see a town, on a plateau of several square miles—a town almost as big as Harrisonburg,with street cars, electric lights, schools, pavements, and a water supply: a town of wealth and beauty, where the living is much higher than in Harrisonburg.

The views from Lookout Mountain are superb. South, east, north, west, the eye may leap almost unhindered. Only toward the southwest, the direction in which the long mountain range stretches, one cannot see far. Before I came down I was very glad I went up. I would not sell the memory for the annual salary of a Virginia school teacher.

And there were others who liked the experience no less than did I. Just as we were preparing to embark for the descent I overheard the tail-end of a little talk. This is what I heard: "Yes, it is fine, but you should see the Valley of Virginia!"

Then I could restrain myself no longer. "Madam," I exclaimed, "I am delighted to hear you say that. I am from the Valley of Virginia."

Nobody in the crowd at that moment had a hat big enough to fit me. The lady turned out to be Mrs. Greenwood Nowlin of Lynchburg. She has good friends in Harrisonburg. Ever since that evening I have had a good opinion of her judgment.

In fact, I have seen only one place to compare with Lookout Mountain. That is Peaked Mountain, the end of the Massanutten range, just east of Harrisonburg. If the Shenandoah River were as big as the Tennessee, and if it made a Moccasin Bend or two from Penn Laird to McGaheysville, it would be just as splendid.

JOHN W. WAYLAND

V

THE PROJECT METHOD APPLIED TO GEOGRAPHY

To give to each pupil something he can begin to work at with his ready-made store of ideas, something that will require new ideas for its culmination, and something that may be accomplished satisfactorily, is the crux of teaching method. Every child enters school with a store of ideas that he has acquired by experience of some kind. A few of these ideas he even knows how he got and how useful they are, but most of them he has, as far as he knows, merely because they are there. He has no reason to inquire into their existence so long as he has them. He has every reason to use them so long as they serve him. These ideas increase rapidly both in number and in combinations, until early in the educative process there is such a store as to give a starting place for almost any line of mental activity. Some starting place is always ready for action, some action is always in progress. The method that avails itself of this aptitude and begins here to carry on school work is in exact line with the learning process.

The starting place may be a big broad field of ideas that must be explored and worked into usable condition before the launching into the new takes place. Again it may be a mere hold from which to push off into the new. The amount of elaboration of this familiar substance depends upon the nature of the new ideas to be presented and the individual who is to acquire this knowledge. Teaching should make its first obligation the securing of the greatest number of starting places. The teacher must learn to recognize stimuli and to make use of the best. A poor start often results in failure and always clouds an activity with discouragement and a sense of handicap.

These starting places are always points of interest to the child. They are generally personal and individual. The best ones have a local touch. Any one must be a very real part of the child's life. When these starting places have been built of both school and that there be a desirable terminus. If cirmon to both, the greatest good can be derived and school work is truly vitalized.

A good starting place with nowhere to go is a most doleful thing. Method requires that there be a desirable terminus. If circumstances can furnish the place to go to, it is best; and its worth varies as does the strength of the demands of circumstances. If the teacher can furnish the place to go, it is good; and its worth varies as does her success in making the child feel it as his own.

This place to go is generally clothed in the guise of a question. It is always a question that has an unknown answer. The answer is always a thing to be desired, and to be made use of when acquired.

The answer to the question has magnetism. The more it has the power to pull the mind on ti its satisfaction, the more valuable it is. The answer must be possible, so that each step is shortening the distance to it. It must be true, so that its truth will be felt when it is arrived at.

The first and last stages of method are more the part of the child. The middle stage is more the part of the teacher and her tools. The getting from the question to the answer is the intermediate stage. This may be done for a pupil by the teacher who can tell each fact needed, each step taken. As teaching, this plan would be valueless; as a way of reaching the end it would be both sure and quick.

This may be done by giving the pupil the materials, the books, the aids, and letting him work for himself. As teaching, this is very fine, but it is uncertain and very slow. The child cannot be relied upon to keep at his question until he achieves its answer from his supplies, nir is there any limit to the errors he may make and the repetitions that may be necessary. This is the kind of teaching which experience gives us. Its value is great, but its cost is great too. The child may be saved this cost by a course between the two. The intermediate stage is accomplished by furnishing the child with everything he needs to reach the answer to his question for himself, but by keeping up with the use he makes of this material and checking up with him his progress from point to point. It is a procedure as vastly different from doing it for him as from letting him do it for himself and discarding as worthless his results.

This intermediate stage is the working place for the teacher. The field between the starting place and the destination is unknown to the child; it is all very well known to the teacher. Her knowledge of it can not be too great. Neither can she require of the child in his first journey through this field all that she has after her experiences. This field, unknown to the child, is very probably minutely surveyed in the books the child must use in his journey. If to acquire all that the teacher knows be too much for the child to give, to acquire all that books contain is over and over again too much. The teacher's part is to select stepping stones and landmarks in this field; to have them valuable, conspicuous, pertinent, and usable; to guide the pupil from one to another.

This intermediate stage is the part of teaching that requires preparation and forethought. This is the work set down in the planbooks or outlines that every careful teacher makes for her constant use and follows wisely and well. It is here that knowledge and method meet. Method uses knowledge and knowledge grows through the use of it that method makes.

The planning of this intermediate stage in learning is governed by both the question and the answer. Its length and its detail are the result of both. But the question itself must be adapted to the child to whom it is to be applied. These questions must be searched for carefully and evaluated before they are used. They do not come easily or rapidly when one wishes them, but through study of pupils and texts and broad reading of current literature a teacher may train herself to see them in numbers and in everything. A ready-made set of questions or problems for a given grade might be a very handy thing for a while, but it would in time be a very harmful thing both to pupils and teachers. The watchful teacher can find her problems in the living of

her days in school and can bring them to the children as things really wrought out of their lives and demanded by circumstances. While this demand is being created, or even before it, the teacher has staked off her progress from the question to the answer in a very logical and complete way. This is her plan for the piece of work. She, too, has settled upon the form the answer must take and shaped her outlines to culminate in the particular form desired.

The time element must enter into this plan as a very vital factor. If the question is very simple and is arrived at very directly, one recitation period may be all that it is worth. But if the problem depends upon numerous facts and conditions and the results are unusual and strange, it is worth many recitation periods. The training acquired through the solving of a problem based upon many conditions is the exact activity required by society, business, and life. The answer to the problems of life that is based upon one or two facts is not going to carry an individual to success. It is the person who can accurately draw a generalization big enough to have reckoned with every possible factor, who is successful.

The project method is equally valuable in every subject in the school curriculum, but carried to its ideal state would eliminate the it is not equally easy in all. This method subjects as separate and individual ends and use them as means of gaining the end demanded by the project. Spelling would be taught when it is needed to help along to the end to be reached in a project. Reading would be mastered because without it the information needed cannot be had. Arithmetic would contribute towards promoting our progress to our end—and so with every subject.

Whether or not the schools are ever so revolutionized as to admit of the full and complete use of the project method, it is a present, urgent need that all the advantages possible be gotten from the method. The fact that our entire school life may not be a single project need not restrain us from the use of this method in such subjects as lend themselves very readily to its use. Maybe it is a chance but maybe it is argument for the method that the most neglected, most untaught and most poorly taught subjects are the ones most easily adapted to the project method.

The Geography Class has only recently become a respected part of the day's work. Only within the past few years has it had a noticeable place upon the daily program and a noticeable number of volumes in the school library or on the magazine table. To no subject does the project method render more service than to geography and to nothing does geography owe so much as to this method. As long as geography study consisted of committing to memory facts about the earth as the home of man, so long it remained uninteresting to the pupils and drudgery to the teacher. To attempt to teach enough to make a child intelligent about the subject is impossible, hence geography has always been scrappy, meager, and unconnected. The remembering of data merely as such or of facts for their own sake is always a fruitless effort. A long list of facts can be safely and easily remembered by using them in problems that can be solved by this means. The become interesting and vital as soon as they seem to be needful in accomplishing a purpose. The limitless field of the subject comes within possibilities when useful types are selected for study. The careful learning of one type translates for us, as it were, endless realms of knowledge that without this tie would be loose, disconnected, and purposeless. In order that knowledge be retained, it must be formulated into concise, comprehensive principles. These are always retained, and with them much of that to which they owe their existence. Reform in geography teaching can accomplish these three points through projects.

Theory as such is of little value. Theory functioning through practise can accomplish wonders. To talk about the project method and all its possibilities is to confine one's self to the realm of speculation and imagination. It is giving the product of the laboratory the test of use that proves its worth. When the plans of the method class are tried out in the schoolroom, their value in calculable and their true worth is accurately appraised. To begin a presentation of problems to cover even a short time for a definite class would be very discouraging, but to submit a few such that have been used may be

helpful and encouraging. It is hoped that these projects can show how the thing may be done and how easily the teaching of geography may be changed to cover the course in this way. The problems submitted are unconnected. There is no sequence in this order. They are simply samples.

To begin with the geography of our own country, here are three outlines that mark out the course for the study of three type problems for a fifth grade. These problems are here presented only through the outlining. They are given in the form they were worked into for the teacher's use. This form is brief, logical, and suggestive. It presupposes a teacher who can handle it skillfully and present it to the pupils in a psychological way.

What Makes New Orleans the Commercial Center of the South?

I. Location
  A. Good and bad points
  B. Why called Crescent City

II. Transportation by water and rail
  A. Nearness to agricultural regions
    1. Cotton
    2. Rice
    3. Sugar
  B. Water facilities
    1. How improved
    2. Government work
    3. Captain Eads
      a. Jetties
      b. Why built
    4. Panama Canal
  C. Mississippi River
    1. French explorers
    2. Flat boats
    3. Growth of traffic
    4. Dangers encountered
    5. Deepening of channel

III. Why do visitors go to the city?
  A. Early history
  B. Why bought by Jefferson
  C. Old Spanish Government buildings
  D. Mardi Gras
  E. Improved health conditions
    1. City drainage

IV. Compared with
  A. Savannah
  B. Galveston
  C. Key West
  D. Mobile

The fact that New Orleans is the commercial center of the South is here based upon four fundamental causes. Each of these must be presented so as to show its relation and force in determining the answer. Each in itself is a stepping-stone to the answer. Each is complete, strong and independent in its development. Still each is the outgrowth of a piece of work for its accomplishment. The first cause can be quickly induced from the map and a few facts. The second requires three developments before it is soundly generalized. Each of these three is of itself a conclusion from three, four, or five facts respectively. The third cause is the effect of five contributing causes. The fourth point is very vital as the truth of the answer is made sound by comparison with four cities that might dispute the claim of New Orleans to leadership in commerce.

A second problem shown in its logical development deals with a different type--one that covers a regional unit of surface and is larger in its scope.

Why Are the North Central States the Great Food Section?

I. Early history
  A. Pioneer settlers
    1. French missionaries
  B. Northwest Territory
    1. G. R. Clark

II. Surface and Soil
  A. Effect of Ice Sheet
    1. Prairies
    2. Uplands
    3. Great Plains
  B. Climate and Rainfall
    1. Continental
      a. Latitude
    2. Prevailing winds
      a. Cyclones
      b. Amount of rainfall

III. Conditions favorable to farming
- A. Crops raised
  - 1. Wheat—flour
  - 2. Corn—meal and by-products
  - 3. Other crops—fruits, vegetables, etc.
- B. Stock raising
  - 1. Dairying—butter, cheese
  - 2. Meat-packing
    - a. Stockyards in Chicago

IV. Other industries
- A. Manufacture of farm implements
  - 1. Raw materials found
    - a. Iron
    - b. Coal
    - c. Oil and gas
- B. Manufacture of other goods
  - 1. Raw materials found
    - a. Copper
    - b. Lead
    - c. Zinc
    - d. Clay for tiling
    - e. Cement for building

V. Transportation
- A. Early ways
  - 1. Indian trails
  - 2. Canoes
- B. Condition favorable for good roads and railroads
  - 1. Turnpikes—toll gates
  - 2. Interurban
- C. Water systems
  - 1. Great Lakes
    - a. Soos Canals
    - b. Welland Canal
    - c. Erie Canal
    - d. Hudson River
  - 2. Rivers
    - a. St. Lawrence
    - b. Mississippi
    - c. Ohio
    - d. Missouri

VI. Great Markets and railway centers
- 1. Chicago
- 2. Milwaukee
- 3. Detroit
- 4. Duluth
- 5. Cleveland
- 6. St. Louis
- 7. Kansas City
- 8. Minneapolis
- 9. St. Paul

The third problem that deals with our own country appeals to the child's imagination so strongly that even though its escape from the hackneyed must rest upon the skill of the teacher it is worth notice. Imaginary trips were the early efforts to put into the form of problem a section of country or even one place.

A Trip Through the Plateau States

I. A study of the map to choose cities to visit
- A. Cheyenne
- B. Denver
- C. Phoenix
- D. Salt Lake City
- E. Carson City

II. How to reach these cities
- A. Present day travel
  - 1. Northern Routes
    - a. Northern Pacific
    - b. Burlington
    - c. Great Northern
    - d. Cleveland
    - e. Chicago and Northwestern
    - f. Chicago, Milwaukee, and St. Paul
  - 2. Central Routes
    - a. Denver and Rio Grande
    - b. Union Pacific
  - 3. Southern Routes
    - a. Southern Pacific
    - b. Atchison, Topeka, and Santa Fe
- B. Need of a Railroad
  - 1. Union Pacific built
  - 2. Difficulties encountered
    - a. Procuring materials
    - b. Buffalo herds
    - c. Hostile Indians
  - 3. Route of the road
  - 4. Effect of construction of the system
- C. Earliest travel
  - 1. Prairie Schooner
  - 2. Stage Coach
  - 3. Pony Express
    - a. Buffalo Bill

III. What we see on the trip

A. Cheyenne
1. Grazing and farming
a. Ranches
b. Cattle and sheep

B. Denver
1. Beautiful scenery
a. Gateway to National Parks
1. Yellowstone
2. Glacier
3. Garden of the Gods
4. Grand Canyon

2. Mining
a. Minerals found
b. Mining processes
1. Placer mining
2. Hydraulic mining
3. Smelters
c. Mining towns
1. Temporary
2. Permanent

C. Phoenix
1. Old Santa Fe Trail
2. Dry farming
a. Why necessary
b. Plowing
c. Cultivation
d. Crops
e. Rotation of crops
3. Irrigation
a. Intensive cultivation
b. Gunnison Tunnel
c. Reclamation Service
d. Colleges of Agriculture

D. Salt Lake City
1. Metropolis of Intermountain district
2. Points of interest
a. Mormon Temple
b. Tabernacle
c. Salt Lake Cut-off

E. Carson City
1. Capital of Nevada
2. Carson-Tucker project
3. Comstock Lode

ETHEL SPILMAN

This article will be concluded with lesson plans in the August number of THE VIRGINIA TEACHER.—Editor.

VI

A READING LIST FROM THIS MONTH'S MAGAZINES

"Holidays in the Old South," by Mrs. Elizabeth Pringle. *Scribner's.*

"Relation of Physical Education to Moral Development," by J. M. McCutheon. *School and Society.*

"Strange Career of Ex-Empress Eugennia," Anonymous. *Current History.*

"The South for Hospitality," by Thomas S. Settle. *Survey.*

"Political Culture," by J. Madison Gethany. *The Outlook.*

"Along One Side of the Mexican Border," by Frederick Simpich. *National Geographic Magazine.*

"The Crisis in Our Schools," by George MacAdam. *The World's Work.*

"The Spirit of the Wets," by William J. Foster. *The Atlantic Monthly.*

"Satanism and the World Order," by Gilbert Murray. *The Century.*

"Cotton or Food: Will the South Clothe or Feed the World?" Anonymous. *The Southern Review.*

"The Education of John Marshall," by S. E. Morrison. *The Atlantic Monthly.*

"Ideals and Disillusions," by Phillip Gibbs. *Harper's Magazine.*

DICK BOWMAN

The teaching profession has the right and it is its duty to place constantly before the public the fact that increased expenditures for school maintenance and teachers' salaries are not measures for the selfish benefit of teachers, but for the upbuilding of a public institution which American communities have always been willing to support on the most generous scale.—From resolutions adopted by the National Education Association, Cleveland, February, 1920.

From now on communities will pay for the education of their children or let them grow up ignorant.—M. V. O'Shea.