

This in Africa is a sure indication of the presence of coal beneath.

In the sands of some of the rivers pieces of coal were quite common. He originated the theory of the rift valley of Lake Nyasa.

It looks as though a sudden rent had been made so as to form the lake and tilt all these rocks nearly over [namely, in the direction of Ruvuma].

His observations would seem to show that the level of Lake Nyasa was once about 55 feet above its present high-water mark. It is possible that at this high level its overflow of waters first of all passed into the basin of Lake Chilwa, and then flowed northwards into the Ruvuma system.

Stanley, by relieving him when he did, gave him at least two more years of life, a certain measure of happiness, and the sweet consolation that he was not forgotten, and that the magnitude of his discoveries was appreciated. In this brief sunset glow of his life he turned his face once more towards Lake Bangweulu in order to trace the course of the Luapula to Mweru, and its junction with the Lualaba, half hoping that he might then travel down the broad stream till he entered the Bahr-al-Ghazal or the Albert Nyanza; but, although he now possessed comforts he had long lacked, and faithful, comparatively disciplined men, his strength gave out under constant exposure to rain, and to soakings in crossing rivers and marshes. Severe hemorrhage set in from the bowels, and he died of exhaustion at Chitambo's village in the swamps near the south shore of Bangweulu on May 1, 1873.

This brief record of his achievements and his sufferings may fitly close with an extract from his last journals, showing that he died a martyr to that form of religion which we call science:

In this journey I have endeavored to follow with unswerving fidelity the line of duty. . . . All the hardship, hunger and toil were met with the full conviction that I was right in persevering to make a complete work of the exploration of the sources of the Nile.

HARRY H. JOHNSTON

LECTURE AND RECITATION METHODS IN UNIVERSITY INSTRUCTION

A REFERENCE to the systems of instruction in Germany, Canada and the United States will most readily bring out the relative value of the lecture and recitation methods in university instruction. In the German and many of the Canadian universities the popular method of giving instruction consists in delivering a series of lectures and following these by a rigid final examination, while in the United States the daily recitation of textbook assignments is much more common than in the former countries. In Canada the term lecturer is frequently applied to a regular member of the faculty, but in the United States it is seldom heard except when applied to a temporary member of the university staff, who has been engaged to give a course of lectures on some special subject, and a college professor is more frequently regarded as a teacher than as a lecturer.

A student, therefore, who has been familiar with the German system or who has spent some time in certain departments of the Canadian universities, and then enters almost any of the American institutions of higher learning, will be impressed by the difference in the methods of instruction in these various countries. He has been familiar with the freedom of the lecture system where he is in a large measure placed on his own responsibility and, as a rule, may attend lectures or not as he chooses. Under this system he is inclined to feel that the professor has no concern regarding his success or failure beyond the duty of providing him with the intellectual substance of the lecture course in the best form and exacting a pound of flesh on the final examination. This notion is, as a rule, due to the lack of intimate contact between the in-

structor and the students because lecture classes are frequently very large. It is also often erroneous because the student is surprised to find later how familiar a discerning lecturer has become with his characteristics, from seeing him day after day in the lecture hall.

The fact that the student feels free during the year to follow his own desires, but at the same time knows that the responsibility for his conduct falls upon his own shoulders, has much in its favor for most students, although it is detrimental to some. In the better class of students it develops a certain independence of action and thought which better fits them for the responsibilities they must assume after leaving college, while in the students who are weak morally it often cultivates undesirable habits which lead to excesses. In Germany, where the university students are left almost entirely to themselves during the first two years of their academic life, the results of absence of restraint are expressed in the large amount of social immorality which is said to exist among German students. No doubt this freedom in college life is largely responsible for the conditions which led Bismarck to say that one third of the German students are never heard of, one third "gehen zum Teufel" and the other third rule Germany.

An objection to the lecture-examination system which is frequently raised, is that too much stress is laid on the final examination. It is said that good students often do not do themselves justice because of undue mental and physical strain and that the work is neglected until the last few weeks or months of the term, then crammed up for the final examination and immediately forgotten. It is no doubt true that most students can make a much better showing on daily recitations than when called upon to discuss a whole term's work, but, after all, the test which tries out a man for the larger spheres of his future life, is not that of holding enough matter in his mind to recite one day's assignment, but rather at the end of a term, or year to be able to sum up and round out the whole season's work. The greater benefits derived from a

college course consist not in the abundance of details remembered from the text-books—because that is necessarily small—but rather in the inspiration for achievement and the capacity for work which a man develops by studying under enthusiastic and capable instructors. In preparing for the final examinations, during the last few weeks or months of the year, the student cultivates the ability to do the greatest amount of work in the least possible time, and a man now connected with a large commercial firm in Chicago once remarked to the writer that the best training for his future business career which he ever received was in preparing for the severe final examinations in one of the universities where the lecture-examination system is used.

There are certain features in the lecture system which are of advantage in the development of the instructor. To lecture properly a professor must have his subject well in hand, and, on the whole, he requires a much broader grasp of it than he who teaches from a text-book. While only few men make first-class teachers, I believe there are many men who might pass as teachers who would be complete failures at lecturing. A lecturer, as a rule, aims to eliminate all material not essential to the proper exposition of his subject, and when the subject is properly presented the student carrying a heavy course absorbs and remembers the outstanding features of the subject without having them obliterated by a great mass of unnecessary text-book details. It may be said that when the material is thus presented the student neglects collateral reading and the charge may be made that students educated under the lecture system are deficient in this line of study because the lectures usually contain the information demanded by the examination papers. If the lecture course is properly conducted, however, it is easier to require collateral reading than when a text-book is used, because the student may become familiar with the text assigned, but it is difficult to persuade him to go beyond its covers.

While the lecture system is employed in many of the universities and colleges of the United States the daily recitation of assigned

exercises is the more popular system of teaching. This system has factors in its favor as well as some objections. The reason why this system is more popular in this country is, no doubt, due primarily to the democratic nature of all institutions. There is a tendency to bring the instructors in the classroom nearer to the students and to do away with the aloofness in which English or German professors hold their students, and while this has certain advantages it also often has disadvantages in lowering the faculty from a dignified position in the eyes of the students. Along with this condition there exists a popular sentiment that many students should be graduated from the state institutions whether they wish to go through college or not. It is not at all to be inferred from this statement that all these state institutions have low standards of scholarship, but rather that a student who is continually coached along by an instructor will finally graduate who never would graduate if left to his own resources. It is believed, however, that a rigid examination system would cull out a lot of these men and that a lower percentage of mentally poor students would graduate under such a system. Another reason suggested for the popularity of the recitation method in this country is the fact that many of the students entering college are younger and less mature, from an academic standpoint, than in some other countries and they therefore require more personal assistance from their instructors. The greatest factor in favor of the recitation method—and there are those who regard this of sufficient importance to offset all objections—is that if a teacher be at all efficient even a slow student must get a fairly clear idea of the subject studied. On the other hand, the recitation is liable to degenerate in colleges to a grade-school-system of instruction. Where daily recitations are required the student who recites satisfactorily is quite justified in demanding that the results of these responses play an important part in the calculation of his credits and the result is that many instructors spend too much of their time grading the students instead of giving them the fundamentals of the subject.

If the professor requires recitations on an assigned exercise he must demand that every student respond to a satisfactory degree, because a student's failure to recite for several successive periods has a demoralizing influence on the class as a whole. The professor is therefore obliged to resort to some means of forcing an inefficient student to prepare his work, and in many institutions rash criticisms or severe sarcasm are employed even in dealing with mature postgraduate students. Influences of this sort tend to lower the dignity of the faculty, and, as a rule, little is gained, because a man who will not do his best in college, at least after he has passed his first year, is seldom of much use after he leaves the institution. If he be doing his best nothing more should be expected of him; the results of his work reflect upon himself. The system of questioning students is being carried to such an extreme in this country that text-books are sometimes issued which contain the interrogatives, "why" and "how," inserted in the body of the text, thus taking away from the instructor the credit for having enough ability and initiative to ask necessary questions and develop the subject as a teacher with any enthusiasm or knowledge of the subject might wish to develop it. Fortunately such texts are designed chiefly for use in the grade schools.

In conclusion it may be said, as a result of observations in the different countries mentioned, that the chief objections which can be made to the lecture and rigid examination system are that it is hard on the weak student and gives the profligate too much freedom. As a rule it cultivates a greater independence of action and at the same time places the faculty in a more dignified position in the eyes of the students. It is the best system for imparting a broad knowledge and promoting enthusiasm for a subject.

The recitation of assigned text-book exercises assists the student who is mentally weak, as he can thus get a clearer grasp of the subject. This method is the most desirable for teaching subjects in which reference is made to a large amount of technical details, and it

is no doubt better for the average student during his first year in college, since his actions may be more carefully observed by the members of the faculty.

To offset the tendency of many young students who are away from home for the first time, to be led astray by the freedom and glamor of college life, some American colleges and universities have adopted the Freshman Adviser system. With this scheme the freshmen are divided into groups and each group assigned to some member of the faculty, preferably an instructor of experience, who acts as a counsellor and adviser to the students in his charge. If the paternal interest be wisely exercised many students may be started right in college life and succeed where otherwise they would fail, and the system becomes a great help to students and faculty. There is often a tendency, however, in the smaller institutions, for the advisers to pamper the students and make them as dependent as they would be in a preparatory school. The writer would, therefore, recommend this system, in a properly restricted form, as an excellent addition to the administration of a college or university in which the freedom of a lecture system permits the ignorant and immature student, away from guardianship for the first time, to develop bad habits which lead to undesirable excesses and a careless attitude towards his academic duties.

E. S. MOORE

THE KAHN FOUNDATION

"THE Kahn Foundation for the Foreign Travel of American Teachers" has issued Vol. I., Nos. 1 and 2, of its "Reports." The benefaction is unique enough to be interesting, and broad enough to invite debate, if not criticism. The deed of gift, dated January 6, 1911, was executed by Mr. Albert Kahn, of Paris, who had already founded *bourses de voyage* in France, Germany, Japan and England, and who contemplated similar action in Russia, China "and elsewhere." The trustees are Mr. Edward D. Adams, of New York City, or a successor to be nominated by the founder or by his personal representatives;

the President of Columbia University; the President of the American Museum of Natural History; the President of Harvard University; the Secretary of the Smithsonian Institution; or their respective successors. The purpose, which seems to be somewhat indefinite, is stated as follows:

For each year . . . the trustees shall in their discretion select two or more American teachers, scholars or investigators . . . preferably from the professors of such American colleges or universities as the trustees may from time to time designate . . . who will enter into and appreciate the spirit of the foundation and look upon their travels as preparation for the performance of high duties in the instruction and education of the youth of their country, and not as affording a mere vacation or pleasure trip. . . . The founder suggests that the itinerary of such travelers shall be regulated by the trustees in their discretion and shall, if deemed practicable, involve an absence from America of at least one year and include the various countries of Europe and Egypt, India, China, Japan, Ceylon and Java. The founder further suggests that each recipient of a "bourse de voyage" shall agree to furnish to the trustees a report containing the impressions and results of his travels, which report shall not exceed fifty printed pages. The reports of these travelers may be published by the trustees . . . or by the founder, in Paris, at his own expense.

The benefaction amounts at present to \$3,000, and four fellows have been appointed.

In 1911-12, the beneficiaries were Dr. Francis Daniels, professor of Romance languages in Wabash College, and Dr. J. H. T. McPherson, professor of history and political science in the University of Georgia; for 1912-13 they are Dr. William E. Kellicott, professor of biology in Goucher College, and Dr. Ivan M. Linforth, assistant professor of Greek in the University of California. The "Reports" before us are those of Drs. Daniels and McPherson. Dr. Daniels carried out the letter of the deed, going *via* Great Britain, Europe and Egypt to the Orient, visiting Ceylon, India, the Malay Peninsula, Hong Kong, China and Japan, returning thence to San Francisco. Dr. McPherson confined himself to Europe, with the purpose of acquaint-