

proximating 1.7 per cent. relatively. Consequently the non-fraternity graph—which unfortunately was not published—must have tended downward. The interpretation of this result seems not to have been considered in the paper and if we accept the interpretation of the data as a whole as due to the greater interest by fraternities in grades, the downward movement of the plotted line is undoubtedly due to the transfer of men to the one group at the expense of the other group. Thus one might well regret that there were not subdivisions Alpha, Beta, Gamma, etc., in the non-fraternity group in order to see if the competition engendered would not raise the average grade of all, instead of permitting one to draw on the other for resources.

The statement is made that

in 1909 the chapters were widely scattered up and down the scale, and in 1914 they are closely grouped around the fraternity average. This fact means undoubtedly that during the interval between these years the fraternities have intensified their attention to scholarship.

Such an opinion evidently based on the range between chapters with the maximum and minimum grades, which happens to be smaller in 1914, is of course no criterion of "scatter" as ordinary inspection should have demonstrated. Computing the coefficient of variation based on chapter units, it may be found that this has a value in 1909 of  $2.44 \pm .99$  per cent. and in 1914 a value of  $2.02 \pm .95$  per cent., a negligible difference.

It would have been of considerable interest to have presented data for a discussion of the possible effect the increased interest by students in their marks might have had on grading by the faculty although the latter will deny it and even charge that such a suggestion is heresy. Nevertheless it is not at all impossible that the average gain of 1.11 per cent. for all students is connected with a factor of this nature, however unconsciously the result may have been brought about.

The whole question as to the value of grades as a criterion for scholarship and efficiency in our higher institutions of learning, particularly where based on frequent examinations

throughout the semester, is still an open one, although several interesting papers bearing on the subject have been published. While the individual who would normally "loaf" is thus compelled to retain bookish facts temporarily, there are others in which a distaste for a subject results from such methods. It is evident however that until the grade of instruction in our secondary schools is brought to a much higher standard, we are not in a position to adopt the plan of the German universities and require a single examination period as a preliminary to the conferring of the degree.

The publication of data relative to efficiency in college instruction is to be commended, but the interpretation of the facts will often present many difficulties. The methods of correlation are adapted to solving numerous problems in pedagogy, and it is to be hoped that not only from the University of Illinois but also from a large number of other institutions may data be presented with a clear mathematical treatment.

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#### SENTIMENT VERSUS EDUCATION

For many years our principals, in secondary schools, have been dinning into the ears of the teachers the order to teach, not to "hear recitations." The same bureaucrats have urged the teachers to help the dull ones, letting the bright ones find their own way. It has resulted that by the time the teacher has gone through the five formal steps the bright students know enough to make a passable recitation the next day, at least if the teacher proves as "helpful" as the custom of the school requires. The dull ones know that the matter will be gone over and over again and they see no necessity to study. The teacher has displaced the text-book.

Our pupils do not secure the power to get the meaning of any passage more complex than what we find in the daily paper or popular novel. This is partly due to the fact that the teacher is ordered to use "simple language, the language of all great writers."

We have to define efficiency by "work out divided by work in." The teacher has also replaced the dictionary.

Our school work in what is called, from custom, reading seems to consist in reciting some "pieces," very ultra-modern, calling for some acting and a little thought. Later the pupils are required to learn what some critic has said about the great works, with perhaps extracts from the professor's doctorate thesis. It is then certain that the pupil will not read any of the books which he has heard called classics.

A teacher found that his pupils could not get what was in the book. They said: "Why do the books not present the matter as you do?" He wrote the book; he reported that the reviewers said that it was about as dry a book as they had ever seen.

JOHN N. JAMES

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#### THE COTTON WORM MOTH

I WAS interested in Professor Fernald's note on the cotton worm moth in your issue of November 27. Professor Fernald reports that few of these moths were taken in Massachusetts in 1912. Now in 1912 we had a great flight of them here, the only invasion on a large scale that I have heard of in this locality. They were here by the tens of thousands, literally covering the ground for a space of 100 square feet or so under some of the street lights.

The moths arrived on the night of October 10; the night watchman in the village told me they came in all at once at about 3 A.M. and flew for a time in such swarms round the electric lights "that you couldn't see the lights for the moths." They were reported in large numbers in at least one other village near here; and my father who was then living in London, Ontario, wrote me that there had been an invasion there which arrived two or three days earlier than ours here, but which must have been on the same large scale as to numbers.

It would be interesting to know whether

these were parts of the same front, or separate swarms moving independently.

In 1913 I saw none here, but during the past autumn there were a few specimens, though I have no record of the date of their appearance.

A. P. SAUNDERS

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#### METEOROLOGICAL OBSERVATIONS IN GERMANY

A LETTER dated Berlin, November 30, 1914, from Professor Dr. Gustav Hellmann, director of the Royal Prussian Meteorological Institute in Berlin, advises us that the usual regular observations are being maintained without interruption throughout the German Empire. So far as the internal weather forecasts for Germany are dependent upon cable reports from foreign countries they are made with difficulty; all such reports are at present interrupted, even those from Iceland, since the latter come over a Danish cable that lands at Aberdeen where they are suppressed and are not permitted to reach even Copenhagen. The regular, though belated arrival of the *Meteorologische Zeitschrift*, together with other scientific publications show that the German scientific world is far from suspending its existence during its present struggle.

C. ABBE, JR.

#### SCIENTIFIC BOOKS

*An Account of the Mammals and Birds of the Lower Colorado Valley, with Especial Reference to the Distributional Problems Presented.* By JOSEPH GRINNELL. University of California Publications in Zoology, Vol. 12, No. 4, pp. 51-294, Pls. 3-13, 9 text figures, March 20, 1914.

The report before us gives the results of an expedition undertaken in the spring of 1910 by the California Museum of Vertebrate Zoology. Since the founding of this museum by Miss Annie M. Alexander, in 1908, Grinnell and his staff have spent much of their time in the field, accumulating extensive series of specimens, representing the fauna of California and adjacent states, and