they have less conservatism than many of those considered, few college men would doubt. That they are playing a large part in the solution of the elective problem, every student of the question ought to know. On this subject I wish to present the claims of one of these institutions, Indiana University. Twelve years ago there was a general revision of Indiana's curriculum. The committee who had this matter in charge was made up of such men as David Starr Jordan, now president of Stanford, R. G. Boone, now president of the Michigan state normal, and H. C. G. Von Jagemann, now of Harvard faculty. This committee gave to the subject much study, and to the university a curriculum which has stood the test for twelve years. Under the operation of the present curriculum the annual graduating class has increased from an average of twenty-five to an average of more than one hundred. Men have gone from Indiana's faculty to other institutions and have been very instrumental in introducing the elective system into these institutions. A great part of the elective plan in at least three of the institutions mentioned on page 361 of the November Review is due to Indiana men.

A credit in Indiana University is given for the successful completion of a course pursued daily for one term. There are three terms in a year, and a student is expected to carry the equivalent of three full studies each term. Thirty-six credits are required for graduation. These thirty-six credits are to be distributed as follows: (a) Three in English; (b) three in mathematics; (c) three in laboratory science; (d) six in language; (e) twelve in some one department or under the direction of the department; (f) nine as the student may elect. It will be seen that the university actually fixes but six credits, three in English and three in mathematics. In language the student may choose Latin, Greek, French, German, or Italian. He may take his work all in one language, or one year in each of two languages. The year's work in science may be in physics, chemistry, botany, zoology, geology, astronomy, or experimental psychology.

The major study in which twelve credits are required may be selected from any one of seventeen coordinate departments. The nine purely optional credits are usually determined by the bent of the student and the operation of his major study.

This plan gives the opportunity to every student to find himself. It puts a spirit of earnestness and devotion to work into the student body not seen when there are rigid requirements. It allows the student in a large sense to make his college course a specific preparation for his profession. It puts a more earnest spirit into the teaching force, for the departments must live or die on their merits.

Naturally such a plan makes impracticable a variety of degrees. Every student who completes the requirements as above outlined receives the A. B. degree. Of course the conservative is horrified that the hoary old A. B. degree can be received without either Greek or Latin. But for twelve years such A. B. men and women have been at large and no serious harm has yet come. Some of them have even gone to the great Eastern institutions and have carried off with highest honor the highest degrees obtainable. After twelve years' experience, nothing could induce either faculty or students to go back to the old plan.

PAY GOOD TEACHERS.

BY JOHN S. ROESELER,
Prairie Du Sac, Wisconsin.

Good teachers deserve liberal wages. Poor teachers are dear at any price. I would not have a poorly qualified teacher teach my children even if she agreed to do it for nothing, no, not even if she were willing to pay me money for letting her get the practice. I hold the minds of my children too sacred to allow them to be experimented upon by bunglers. I know too well that it will dwarf their minds, give them a distaste for proper study, and fix bad habits that a lifetime of proper teaching cannot eradicate. I would not place a costly watch for repair in the hands of an unskilled every-day laborer, much less the mind of my child, the most complicated machine, possibly, in the hands of an unskilled teacher who knows little or nothing of the workings of the human mind. Teachers who have finished a high school course at least understand a little of the A B C's of the human mind, but it requires normal school instruction to learn to understand something of the necessary combinations.

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*ABRAHAM LINCOLN.**

BY C. . N.

[Decorate the schoolroom with various patriotic emblems. Have a portrait of Abraham Lincoln draped in national colors, centrally located, with "Right makes might," or some other appropriate sentiment, and the figures 1809-1865 beneath. Borrow pictures of Lincoln and his cabinet, Lincoln's family, his birthplace, his home in Springfield, etc., to add to the interest.]

SONG.—"America."

RECITATION.—"Abraham Lincoln."

This man, whose homely face you look upon,
Was one of Nature's masterful, great men;
Born with strong arms, that unfought battles won;
Direct of speech, and cunning with the pen.

Chosen for large designs, he had the art
Of winning with his humor, and he went
Straight to his mark, which was the human heart;
Wise, too; for what he could not break, he bent.

ABRAHAM LINCOLN.
Copyright, 1891, by A. W. Elson & Co., Boston.

Upon his back a more than Atlas-load,
The burden of the Commonwealth was laid;
He stooped, and rose up to it, though the road
Shot suddenly downwards, not a whit dismayed.

Hold, warriors, councilors, kings!—all now give place
To this dear benefactor of the race.
—R. H. Stoddard.

Sketch of Lincoln's humble birth and early life. [Material on this topic may be found in any of the lives of Lincoln.]

ANECDOTE.—"Lincoln a Peacemaker."

One afternoon after school, as a party of pupils were passing along the path, a dispute arose between two of the boys about the spelling of a word, which became so serious that the quarrel ended in a challenge for a fight. But, just as the two backwoods knights rushed at each other with a wounded sense of honor in their hearts, and with uplifted arms, a form like a giant passed between them. It took one boy under one of its arms, and the other boy under the other arm, and strode down the timber.

"He called me a liar," said one of the boys. "I won't stand that from any man." Then followed the usual angry words used between boys who are in a quarrel.

The tall form in blue jean shirt and leather breeches strode on with the two boys under its arms.

"I beg," at last said one of the boys. "I beg," said the other.

"Then I'll let you go and we'll all be friends again." The tall form dropped the two boys, and soon all was peace.

"Abraham Lincoln will never allow any quarrel in our school," said another boy. "Where he is there has to be peace. It wouldn't be fair for him to use his strength so, only he is always right; and when strength is right it is always for the best."

SONG.—"There are many flags in many lands." ["Child's Song Book" (Barnes & Co., Chicago).]

Sketch of Lincoln's manhood. [Material may be found in any of the lives of Lincoln.]

ANECDOTE.—

All through life Mr. Lincoln strove to do right. To one client who had carefully related his case, Mr. Lincoln said: "Yes, there is no reasonable doubt that I can gain your case for you. I can set a whole neighborhood at loggerheads; I can distress a widowed mother and her six fatherless children, and thereby get for you $600, which rightfully belongs, it appears to me, as much to the woman and her children as it does to you. You must remember that some things that are legally right are not morally right. I shall not take your case, but will give you a little advice, for which I charge you nothing. You seem to be a sprightly, energetic man. I would advise you to try your hand at making $600 some other way."

A man who had called at the White House on some important business remarked when leaving, "The trouble with your president is that he is so afraid of doing something wrong." All through life Mr. Lincoln strove to do right, and the world called him "Honest Abe."

William Herndon, Lincoln's law partner, says: "When I began business, I saw no reason why I should not gain a true point on a false plea; but Lincoln never would have it. . . . I never knew him to do a mean thing or a dirty trick."

ESSAY.—"Lincoln as President."

SELECTION.—"Burial of Lincoln at Springfield."

And so they buried Lincoln? Strange and vain!
Has any creature thought of Lincoln hid
In any vault, 'neath any coffin lid,
In all the years since that wild spring of pain?
'Tis false,—he never in the grave hath lain.
You could not bury him, although you slid
Upon his clay the Cheop's pyramid,
Or heaped it with the Rocky Mountain chain.
They slew themselves; they but set Lincoln free.
In all the earth his great heart beats as strong,
Shall beat while pulses throb to chivalry,
And burn with hate of tyranny and wrong.
Whoever will may find him, anywhere
Save in the tomb. Not there,—he is not there!
—James Thomson McKay, in the Century Magazine, 1890.

ESSAY.—"Men Whose Lives Are a Glorious Service."

RECITATION.—Lincoln's favorite hymn, "Oh, why should the spirit of mortal be proud?" [Carrington's "Patriotic Reader."]

SONG.—"Speed our republic."

RECITATION.—

Life may be given in many ways,
And loyalty to truth be sealed
As bravely in the closet as the field,
So bountiful is Fate;
But then to stand beside her,
When craven churls deride her,
To front a lie in arms, and not to yield,
This shows, methinks, God's plan
And measure of a stalwart man,
Limbed like the old heroic breeds,
Who stands self-poised on manhood's solid earth,
Not forced to frame excuses for his birth,
Fed from within with all the strength he needs,—
Such was he, our martyr-chief.
—James Russell Lowell.

WORDS OF LINCOLN.

[To be given by individual pupils.]

1. Let none falter who thinks he is right.
2. Gold is good in its place, but living, patriotic men are better than gold.
3. Let us have faith that right makes might; and in that faith let us, to the end, dare to do our duty as we understand it.
4. No men living are more worthy to be trusted than those who toil up from poverty.
5. Do not worry; eat three square meals a day; say your prayers; be courteous to your creditors; keep your digestion good; steer clear of biliousness; exercise; go slow and go easy. May be there are other things that your special case requires to make you happy, but, my friend, these, I reckon, will give you a good lift.
6. With malice towards none, with charity for all, with firmness in the right, as God gives us to see the right, let us strive on to finish the work we are in; to care for him who shall have borne the battle, and for his widow and orphans; to bind up the nation's wounds; to do all which may achieve and cherish a just and lasting peace among ourselves and with all nations.

WORDS OF GREAT MEN ABOUT LINCOLN.

1. By the hand of God he was especially singled out to guide our government in these troublous times, and it

*Stencils of Lincoln will be furnished by the New England Publishing Company, 3 Somerset street, Boston, at five cents each.

seems to me the hand of God may be traced in many events connected with his history.—From Bishop Simpson's Funeral Oration.

2. Abraham Lincoln was the greatest constitutional student of the age, and the noblest pattern for future generations America has ever known.—C. M. Van Buren.

3. The best way to estimate the value of Lincoln is to think what the condition of America would be to-day if he had never lived—never been president.—Walt Whitman.

4. Wealth could not purchase, power could not awe, this divine, loving man. He knew no fear except the fear of doing wrong. Hating slavery, pitying the master—seeking to conquer, not persons, but prejudices—he was the embodiment of the self-denial, the courage, the hope, and the nobility of a nation. He spoke not to inflame, not to upbraid, but to convince. He raised his hands, not to strike, but in benediction. He longed to pardon. Lincoln was the grandest figure of the fiercest civil war. He is the gentlest memory of our world. —Robert G. Ingersoll.

SONG.—"Lord, while for all mankind we pray." School.—

"Lincoln! We love the household name,
Thou'rt lost to earth, but not to fame;
And now for our Union, grand and free,
Let us give three cheers, one, two, and three,
Hurrah! Hurrah! Hurrah!"

[Our next issue (January 13) will contain a full-page portrait of Abraham Lincoln.]

SUBJECTS FOR COMPOSITIONS.

Profit and loss in school.
Tact and talent.
The political influence of America.
Our own town.
The new South.
The jealous man in literature and history.
Summer travel in America.
The traveling salesman.
Light and lightning.

ARITHMETIC—INTEREST.

BY WM. M. GIFFIN, NEWARK, N. J.

The class had just taken up the subject of interest, and had been finding the interest on different amounts, at different rates of interest, for different periods of time, when the following was written on the blackboard: —

Time,	1 yr. 6 mo.
Principal,	$240.
Rate,	6 per cent.
Interest,	?

This the class were told to work, which they did, and found for the answer $21.60. This amount was put in place of the question mark. I then said to the class, "Let us now suppose that these were the conditions": —

Time,	1 yr. 6 mo.
Principal,	$240.
Interest,	$21.60.
Rate,	?

"What is required for us to find?" They, of course, answered, "The rate." "Very well," I answered; "proceed to find it." It was not long before some of the brighter ones had done so. They were then asked to tell how they found it. Being children of an average of less than fourteen years of age, they did not succeed in doing this very clearly, sufficiently so, however, to make a large percentage of the class able to perform the work. Not desiring to have them commit a rule from the text-book, I was in somewhat of a quandary what to do, when it flashed on my mind to write the following exercise on the blackboard: —

F T I O T G P F T G T A O P A D T G I B I.

Then, turning to the class, I said, "I have written upon the blackboard the first letter of each word, in regular order, that will give you the shortest, clearest, and best rule for working this kind of problems. Let us now see who will have this first written out on his slate." In a short time nearly every member of the class had written, "Find the interest on the given principal for the given time at one per cent., and divide the given interest by it." There is no doubt in my mind but that the class understand the rule better than they would have done had they committed it from the text-book; and had the method been reversed,—i. e., rule, then process, instead of process, then rule.

Test questions for "The Ancient Mariner" (College English for 1898-'99) will soon be given in the Journal.

*SOME ANIMALS OF THE NORTHERN HEMISPHERE.**—(IV.)

BY CLARABEL GILMAN.

THE COMMON AMERICAN DEER.—(II.)

While observing the characteristics of the deer, as described in the preceding article, one could not but notice that while they eat only vegetable food, they devour almost every kind of leaf and berry within their reach. The tender young grasses and marsh plants, leaves from the overhanging branches of trees and shrubs, any fruits and seeds that have ripened, as well as pickerel weed and lily-pads, are all food for these voracious eaters. But they do not bite off their food with a snap, as a dog would do, but tear it off with a jerk. If we look at the skull of a deer, we find it would be impossible for him to do anything else, since he has neither canine teeth nor incisors in the upper jaw. Instead, the jaw is covered with a hard, fibrous pad, against which the lower incisors work. But as this vegetable food requires long chewing, we

find six large grinders above and six below on each side of the mouth, with crescent-shaped ledges of enamel on their flat tops, which act as upper and nether millstones. The tough plant-fibres, however, are not yet ready to be chewed; they are moistened with saliva in the mouth, and then pass down into the great paunch, the first of the deer's four stomachs. In this and the second stomach, or honeycomb bag, a slow process of natural cooking goes on in the juices there secreted and under the influence of the bodily heat of a warm-blooded animal. If we could now follow our deer as they go back from the lake into the woods again, we should find them choosing sheltered beds in some hazel thicket, under the low branches of an evergreen, or by the top of a fallen tree, where they will lie and "chew the cud" for hours. The partially sodden mass of food is now returned, a little at a time, to the mouth, is thoroughly chewed, and again swallowed. This time it passes into the third stomach, or manyplies, is strained through its numerous folds, and then sent into the true digestive stomach, where it is acted upon by the gastric juice.

Later in the season our deer will feast on wild apples and plums, rose hips, seeds of all kinds, acorns, chestnuts, and beechnuts. They can even grind up the hickory nuts, a feat that no other of the smaller American deer can perform. When the frosts have come, they will leave the neighborhood of the lakes and streams, where the tender water plants are now dead and decaying, and migrate to the forests of the higher ground. Here, they can browse on the buds and twigs of low trees and shrubs, on hemlock and arbor vitae, and some of the mosses and lichens. But when nuts are plentiful, they feed chiefly upon these during the winter, finding them by pawing up the snow under the trees. In very cold seasons a herd of deer will winter in one place till the food supply is exhausted, then all move off to some other feeding ground. In such places, called yards, not only is the snow beaten down by the trampling of many hoofs, and paths made in different directions, but the forms of the deer may be seen in the snow where they have made their beds. The "bed" of a deer is simply the spot where it has lain down to rest.

By their feeding habits deer may even add a definite feature to the scenery. Around many lakes in the Adirondacks is a dense border of arbor vitae—which the natives call "white cedar"—whose lower branches almost touch the surface of the water. On approaching many of these lakes, some years ago, one would be struck by a distinctly marked line extending wholly or partly around them at the height of a man's head, below which the branches of the cedars had all died. For some time various conjectures were offered to account for this strange fact, but finally it was ascertained that deer had wintered in these places and had been seen browsing on the low branches of the cedars, the line being at the height to which a full-grown deer can reach when standing on the snow and ice.

Our leisurely examination of the deer has given us several external characters by which they may be recognized, and which may now be briefly summarized as follows: The common deer is an animal of remarkable grace and beauty, with its slender legs and small pointed cloven hoofs, its red coat and broadly spreading antlers. The shape of the antlers on which the tines all point backward, the length of the flat tail, which is twice that of the ears, and the tuft of hair over the middle of the cannon-bone, all are unfailing marks that distinguish it from other American deer.

We have also learned that they chew the cud. But the mention of this recalls the fact that cows, sheep, and goats have the same peculiarity, and, therefore, are to be classed with deer as ruminants. Most ruminants also have horns, but while deer have solid horns, or antlers, cast and renewed every year, all the others have hollow horns that persist through life. Again, they are all hoofed animals, and in this they are like the pig and hippopotamus. Once more the class of hoofed animals broadens to include the horse and the rhinoceros with their allies. The horse, however, has but one hoof, the forms related to it have three, and whatever the number of toes, the axis of the limb always passes through the third, on which the weight chiefly rests. In all the cloven-footed animals, whether ruminants or not, the axis of the limb passes through the cleft between the third and fourth toes, throwing the weight almost equally upon them both. Here, then, are the two great divisions of the ungulates, or hoofed animals, the odd-toed and the even-toed. The latter may or may not chew the cud; that is, may be ruminant or non-ruminant. The deer is a ruminant with antlers.

Our common deer, the most beautiful of the native animals of America, ranges through the whole of this country as far westward as the Missouri, and on the north through the southern parts of Canada. It makes its home alike in the forests, among the hills and mountains, and on the prairies. In the northern part of this range, as, for instance, in the Adirondacks, adult bucks have an average weight of from 200 to 225 pounds, while much larger ones are occasionally found, but in Florida they are scarcely half that size. Still, whether large or small, whether living in the forests of Maine or on the prairies of the West, its life-history is very much the same.

When the little fawn, born in May or June, is only a month or two old, in its red coat spotted with white, with its bright eyes, its proud carriage, and the exquisite grace and delicacy of its movements, it is even more beautiful than it will be when it bears its crown of antlers. The wonderful charm of its little measured trot is thus described by Judge Caton: "A foot is raised from the ground so quickly that you hardly see it, it seems poised in the air for an instant and is then so quietly and even tenderly dropped, and again so instantly raised that you are in doubt whether it even touched the ground, and if it did, you are sure it would not crush the violet on which it fell." Let a man approach the mother doe, even if only to bring

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