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A STUDY IN OIL.

'TWAS a volume lately bought,
One I eagerly had sought—
A copy rare of Pope:
Hastening homeward with my prize,
To my friend's delighted eyes,
'Its covers fair I 'ope.'

Joyfully we scanned it o'er,
Cut the leaves, nor any tore,
Quickly passed the time:
Then the poet's life discussed,
Every act, or ill, or just,
Quoted many a rhyme.

Soon the striking of the clock
Gave to us a gentle shock;
We must say good night:
Loathfully we closed the book,
Each to bed himself betook
With his candle light.

There the book with others left,
Thought of accident or theft
Was far from all:
Soon each head reposed in sleep,
Dreaming not ere day should peep,
Harm would it befall.

In the morning, ere the dawning Of the coming day, Sought I, sleepily and yawning, Where the volume lay.

Hanging o'er it was a lamp,
Leaking, dripping fluid,—damp
Were the books below.
Horrors! How my blood did boil,
For I knew the reeking oil
Would my precious volume soil—even spoil.
L. T. H.

THE METRIC SYSTEM.

WHEN SHALL IT BE MADE COMPUL-SORY IN THE UNITED STATES.

A paper read before the "Albany Institute" January 5, 1897.

BY PROF. A. N. HUSTED A. M.

THIS discussion may, I think, be best introduced by quoting a brief extract from the minutes of the Fifty-fourth Congress, first session, as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That from and after the first day of July, eighteen hundred and ninety-eight, all the departpartments of the government of the United States, in transaction of all business requiring the use of weight and measurement, except in completing the survey of the public lands, shall employ and use only the weights and measures of the metric system.

SEC. 2. That from and after the first day of January, nineteen hundred and one, the metric system of weights and measures shall be the only legal system of weights and measures recognized in the United States.

SEC. 3. That the metric system of weights and measures herein referred to is that in which the ultimate standard of mass or weight is the international kilogram of the international bureau of weights and measures, established in accordance with the convention of May

twentieth, eighteen hundred and seventyfive, and the ultimate standard of length is the international meter of the same bureau, the national prototypes of which are kilogram numbered twenty and meter numbered twenty-seven, preserved in the archives of the office of standard weights and measures.

SEC. 4. That the tables in the schedules annexed to the bill authorizing the use of the metric system of weights and measures passed July twenty-eight, eighteen hundred and sixty-six, shall be the tables of equivalents which may be lawfully used for computing, determining, and expressing the customary weights and measures in the weights and measures of the metric system.

The bill failed to become a law, but it was considered by the "Committee on Coinage, Weights and Measures," and reported unanimously to the house on March 16, 1896.

It has the active support of the "American Metrological Society," and there seems a possibilty, at least, that it may be law before the final adjournment of the Fifty-fifth Congress. The society has asked for \$10,000 "to put up a metric chart in each one of the 70,000 post-offices in the United States, and to circulate for signatures among citizens engaged in all kinds of business 100,000 copies of its petition to congress," urging the passage of the bill.

The charts are, I believe, already hung in the post-offices; we are asked to sign the petition and urge our representative in congress to work for the proposed law.

The measure is evidently one of considerable importance—far reaching in its application—and affecting, to a greater or less extent, the interests of all our people.

The Metrological Society assumes that people generally are so well informed concerning the matter in hand, that they are prepared to act intelligently concerning it. We have reason to fear that such is not the case and, indeed believe, that, for the most part, the citizens of our country are not at all prepared to say whether such a law would be either a great blessing or a lasting injury to the nation — they have not heard the subject discussed and have but little knowledge on which to base a judgment.

That we may the better understand what we are talking about let us, for a few moments, take a concrete view of the units which will displace those now in use, in case the bill becomes a law.

The base of the whole system is the meter—one ten-millionth part of the distance from the equator of the earth, to the pole, so nearly as men have been able—or rather were able at the time of its adoption—to ascertain.

It is a little longer than the English yard, or, more acurately, 39.37 inches.

Its subdivisions are:

The decimeter = 3.937 inches.
The centimeter = .3937 inches.
The millimeter = .03937 inches.

Its multiples are:

The dekameter 32.8 feet (nearly). The hectometer = 328 feet (nearly). The kilometer = 3280 feet (nearly). The myriameter = 6.2137 miles.

The principal unit of capacity is the liter, which is the volume of a cubic decimeter and equal to about 1.0567 liquid quarts.

Its submultiples and multiples, of course, correspond to those of the meter.

The principal unit of weight is the gram, which is the weight of a cubic centimeter of distilled water at its maximum density. It = 15,432 grains.

The principal unit of surface is the arc = 100 square meters = 119.6 square yards.

The principal unit of volumes or

solids is the stere = 1 cubic meter = 1.3 cubic yards.

The metric system originated in France about 100 years ago.

The circumstances attending its introduction was peculiarly favorable to its ready adoption by the French people—the Revolution of 1789 having repudiated existing institutions, the past was offensive to them and something new was demanded.

No nation could enter upon such a change under conditions more favorable to its ready and full acceptance. The system was *French*; it was new, and it was obviously a great improvement on that which it supplanted, for France had, previously, no system of weights and measures.

Neighboring countries had also been interested, and international exchanges would be promoted by the adoption of cosmopolitan units.

The system was made obligatory for the whole of France after Nov. 2, 1801; but, we are told, that, "owing to the prejudices of the people in favor of established customs and the confusion consequent upon the use of the new measures, the government in 1812, adopted a compromise in the "systime usuile" whose principal units were the new one s while the divisions and names were nearly those formerly in use, ascending commonly in the ratios of 2, 3, 4, 8 or 12."

We should notice in this connection that the report of the committee of the French Academy of Arts and Sciences (1791) — on whose recommendations the metric system is based—contained not only the metric system as we find it to-day, but also the decimal division of the quadrant (giving 400° to the circle) and a time calendar as follows:

100 seconds make one minute.
100 minutes " hour.

10 hours make one day.
10 days " " week.
3 weeks " " month.

12 months " year.

October 5, 1792, the new calendar and the decimal divisions of the quadrant were legalized. But the law making the use of 100,000 seconds per day compulsory proved too much for even the nimble Frenchman, and it survived only about one year and a half.

In April, 1802, the week of seven days was restored by law, and in 1805 all the rest of the new calendar was finally abolished.

The decimal divisions of the circle and the quadrant also disappeared, although it would seem to have been the part of the system most directly associated with the so-called natural unit.

Thus ignobly ended the scientist's attempt to decimalize time and space.

The other features of the system, we are told, "made their way into use very slowly and with great difficulty, through many years of confusion and countless frauds, until 1839, when Louis Phillippe, by his edict, made the system again compulsory."

We should not fail to notice that, under exceptionally favorable circumstances, France required forty years for the transition from the old units to the new.

Nor is this all: I have been told by travelers in that country that the old systems are still in use to some extent in the rural districts.

Visit Paris to day — almost everything eatable, including fruits, nuts, berries, apples, potatoes, etc., is sold by weight — and you will notice in all the markets that prices are not posted per kilo — which being about 2 1-5 pounds is the most convenient of all the metric units for retail purposes — not per kilo, but

per demi-kilo, always. Now the demi-kilo, as you have doubtless noticed, is I I-10 pounds, and the fact of its use as I have stated, is substantial French evidence that about ninety-nine times in every hundred the pound is more convenient for practical use than any unit of the metric system.

The fact that France, Germany, Switzerland, Spain, Norway, Sweden and various nations, large and small, have adopted the metric system, is often urged as a reason why we should do so. We should remember that the principal reason why the system was adopted in most of these countries does not exist in our own.

"In the German Empire previous to the change, nearly every little state had its weights and measures, differing from those of its neighbors, but of the same name." The same was true of Austria, Brazil and South America generally. Even little Switzerland had about as many systems—if such they may be called—as she had cantons. Railroads and the increased exchange of commodities made such a condition of things no longer endurable and the change was imperative.

Compare the situation as it formerly existed in the countries named with that in the United States at the present time. Here, from the Atlantic to the Pacific - 3,000 miles - and from the lakes to the gulf -- scarcely less than half that distance -- we have the same Gunter's chain, with its decimal divisions for all our land surveying: the same Winchester bushel for all our grain; the same inch, foot and vard: the same pound and the same gallon. So far as home wants and domestic commerce are concerned the system that we have in use seems well adopted to our needs.

We have already noticed that the unit of length — the meter — differs but little from our yard; and the unit of capacity — the liter — is almost identical with our liquid quart; also, that the unit of weight most used in the metric countries is not the kilogram, but the demi-kilo which is but one-tenth greater than our pound.

It appears plain, then, that reasons for a change must be found outside the units themselves. Those usually given are:

1st. "The metric system is a decimal system.

2d. "Its merits are simply related to each other.

3d. "It is international.

Let us consider these points in the order named:

The fact that it is a decimal system. while the English or common system shows so many varying scales, places at once beyond dispute the claim that all operations with its units, involving their reduction, addition, subtraction, multiplication or division, are shorter and more easily performed than corresponding operations in our system. But how many people in the city of Albany, or any other city of our land, find it necessary — outside the school-room — to perform such operations? I am unable to point to any. The question usually is, how many yards, gallons, pounds or bushels? And the "how many" is expressed either in integers or in mixed numbers containing the fractions \(\frac{1}{2}\), \(\frac{1}{4}\), 1, or some decimal division.

John Quincy Adams, in his report to Congress in 1819, says:

"The decimal numbers applied to the French weights and measures form one of its highest theoretic excellencies. It has, however, been proved by the most decisive experience in France, that they are not adequate to the wants of man in society, and for all the purposes of retail trade they have been formally abandoned."

Mr. Adams further says:

"Decimal arithemetic is a contrivance of man for computing numbers, and not a property of time, space or matter. Nature has no partialities for the number 10, and the attempt to shackle her freedom with it will forever prove abortive."

A late publicution, "The Metric System," issued by "The American Metrological Society," illustrates its decimal advantages by the following problems:

1st. What are the contents in cubic feet and inches of a bin

8 ft. 4 in. long,

5 ft. wide,

and 2 ft. 5 in. deep?

2d. What are the contents in cubic meters and decimals of a bin

2½ meters long,

1.52 meters wide,

80 centimeters deep?

Here the advantage in computation is plainly with the metric numbers, but let me ask, How many men in the United States have found it necessary to solve such a problem, in the practical affairs of life, during the past year?

I venture to answer, not one in ten thousand.

Then, too, if it were necessary, is it not as easy to measure in feet and tenths as it is to measure in meters and centimeters?

If so, then the computations may just as well be decimal in one case as in the other, and the advantage in favor of the French system disappears.

More typical — more "true to the life," it seems to me — are the following:

1st. A farmer sold 800 bushels of

wheat at 55c per bushel; how much money did he receive?

2nd. A farmer sold 250 hectolitres of wheat (about the same quantity) at \$1.50 (about the same rate); how much money did he receive?

Problems like these must be solved over and over again, by every farmer in the land, every year. In both cases, as, indeed, in all similar problems, even with our present weights and measures, the computations, owing to our decimal money system, would be in decimals throughout.

If the farmer is selling by weight instead of measure, then problems like the following would be placed in contrast:

1st. Sold $48\frac{3}{4}$ lbs. of butter at 18c; how much did I receive?

2d. Sold 23.16 kilograms of butter at 43c; how much did I receive?

It is plain, here, that both solutions would be in decimals, and that any advantage for either would be accidental rather than fundamental.

The metric system in chemistry, metallurgy and kindred sciences has passed the experimental stage and is now used, almost universally, by writers, students and practical men in these departments. Here its introduction meets but few difficulties and its merits are generally recognized. Science is cosmopolitan, and a cosmopolitan language is necessary in order that its votaries may readily understand each other. For them the language is simple and very easily acquired. They, however, form but a small fraction of our population.

The second "Reason for adopting the Metric System" is,

"Its units of length, bulk, weight, etc., are simply related to each other."

We cheerfully acknowledge the truth

of this claim, but believe we have already shown that it has little practical value, since operations in reduction are so rare in actual business.

The third "reason" is

"It is international, and intercourse between nations has so increased that it is now as important to have the same weights and measures used in different countries, as it was a century ago to have the same used in different parts of the same country."

That it is "international" to a large extent we know to be true, just as the French language, the English and other languages are international. Various languages are learned by many of our people and are more or less read and spoken without at all interfering with the language used exclusively by the great body of our nation. All of them, however, are subsidiary; they hold an important place in our system of education and in our literature, but no one will assert that any of them should be or could be substituted for what we call our "mother tongue."

The "importance of having the same weights and measures used in different countries" seems to us to depend largely on the size and relative location of the countries. If the countries are small and contiguous—as is the case to quite an extent in Europe—then common weights and measures are, evidently, of great value. For a country large as our own, and so isolated as to situation, the "importance" is greatly diminished. Furthermore, with a table of equivalents at hand, a customs officer can very quickly reduce an invoice in either system, to corresponding units of the other.

[Concluded next month.]

Why was Noah the first electrician? He first used an ark light.

DEPARTMENTAL TEACHINGS IN GRADES BELOW THE HIGH SCHOOL

By R. S. THOMAS.

IRCUMSTANCES have led the writer to give this question some study during the past three months. He has gathered information from leading educators of the East and the West, touching the merits and demerits of this method of teaching; and while the consensus of opinion from those who have not tried the system seems to be against it, yet results have been secured by those who have tried the plan sufficient to warrant us in stating that departmental teachings in the 7th, 8th, and 9th, Grammar grades is at least worthy of some consideration, although not practicable below those grades.

We shall note briefly the development of departmental teaching. In the early college the class room professor taught several branches of study. As these institutions broadened in scholarship, and increased in numbers, specialization in teaching became necessary, and was soon established in all the higher institutions of learning.

From the college it soon found its way to our High Schools, where it has long since passed the experimental stage.

The same causes that led to its adoption in the High School and College plead in its favor in the higher grammar grades. These schools are usually overcrowded, and the demands made upon the teacher are excessive. As all studies in the common branches must be taught each day, little time can be devoted by the teacher either to daily preparation or recitation. When we consider that many of the boys do not go beyond the grammar grade, the necessity for broad and comprehensive teaching increases.

However, we concede without hesita-

tion, that departmental work is not practicable unless certain conditions prevail.

1st. Teachers must be in harmony with the work, and with each other.

2d. The teacher must be adapted, to her subject.

3d. The teacher must be well equipped and progressive.

4th. The Superintendent and principal must keep in close touch with the work.

5th. The relative position of rooms must be considered.

We are agreed that the whole aim of our common school is, the all round development of the child. A training that shall touch *all* of his faculties. We note as one of the first objections to departmental teaching loss of personality of teacher.

Does this system of teaching eliminate from the school the personality of the teacher? *Is* character building sacrificed for knowledge gaining?

The teacher in departmental work has her particular school morning, noon, and night. She is the custodian of that school during some of the hours of recitation, and it is an easy matter to so adjust the schedule of work that the teacher is with her school to some extent during the hours of study. Again, who can tell just how, or by what process the teacher is to touch the child by her personality? Are good results along the line of ethical training of children the product of direct or indirect teaching?

Do you teach him to love the true and beautiful by *talking* about the beauties of nature?

Can you build character without giving knowledge of some kind? Is not knowledge the basis of character? Just how the personality of the teacher is to touch the child cannot be defined any-

more than can the successful disciplinarian tell you just how he governs his school.

In this matter of ethical training we must hold the home responsible for its share of the work.

I protest against rolling *all* the work of child development upon teachers. The school in itself is not sufficient for the *complete* education of the child.

The home and school must work together, and the work of the one must strengthen and supplement the work of the other.

Again, listed as one of the objections to departmental teaching, we note loss of responsibility on the part of the teacher.

It occurs to me that, if the boys and girls in our higher grammar grades have their time fully occupied, their activities wisely directed, either by one, two, or three good teachers, the responsibility of the teacher will largely take care of itself.

In any lesson of the several studies, if clear cut conceptions are formed, the skill of the teacher and the attention of the class are fully employed. Again:

It is said that specialization narrows the teacher. We pause long enough to briefly consider this objection. Is Edison, though a specialist, a narrow man?

Think of Morse. Can narrowness be charged to Kant, the metaphysician; to Gibbons, giving twenty years of his life to one work? If they are narrow, through their narrowness they have become immortal. If a teacher broadens her work by concentrating her energies, she can well afford to be narrow. Having briefly referred to some of the objections to departmental teaching, it is but just that we consider some reasons in favor of this method.

It enables the teacher to make better

preparation for her work. This daily preparation very largely measures the results of a teacher's work. The whole question of teaching is largely one of presentation. Take, for illustration, the subject of mathematics, which is considered the most difficult, if you will analyze it for a moment. Mathematical study is but a study of the quantitative relations of life. It is, consequently, axiomatic, and needs for its mastery only clear statement. As in mathematics, so in all other studies, the teacher should have ample opportunity to invest herself with a clear conception of what she is going to teach in each lesson and a well defined plan for its presentation.

With our present crowded curricula it is extremely difficult for the teacher to prepare herself each evening in all these lines of study. Many failures on the part of the teacher arise, not from lack of teaching ability, but from lack of time for daily preparation.

This larger opportunity for preparation for the daily work will enable the teacher to better reach the emotions of the children—her zeal inspiring a corresponding enthusiasm in them.

Again, some of our best teachers have been in the work many years, they have felt the pressure of added responsibility and their work has become somewhat mechanical. This routine is broken up by departmental teaching. This method gives better opportunity for connected work.

Thus we have reviewed some of the pros and cons of this question. The nature of it is such that we shall not all come to the same conclusion as to departmental work in grammar grades. It may be practical in some cities, but not in others. The discussion of all questions pertaining to school work serves at least one great purpose, it directs public attention

to the gravity of the problem of education, which is a grave question.

The demands made upon our schools are by no means the same as those of a few decades ago. Our schools must keep step with the life of the people. Life is deeper and swifter than it used to be. Interests and employments have multiplied; methods have changed; energy has intensified; intelligence has broadened, and the æsthetic taste has grown. Our schools to-day must train for intellectual alertness and power.—An abridged address delivered before the Teachers' Association at Canton, Ohio.

"A STRANGE STORY."

NE Summer," "At Sundown," "Lucile," putting on "The Lilac Sunbonnet," strolled "Along the Shore" watching "Ships That Pass in the Night." "Looking Backward" "She" saw "The Black Dwarf" who asked "A Question." She answered "A Word, Only a Word." He "Kidnapped" her, carried her through "Country By-Ways" across, "The Prairie" to "Treasure Island," "An Undiscovered Country." "In Exile" she met "Representative Men," "Henry Esmond," "Adam Bede," "Pendennis," "Donovan," "The Ralstons" and "The Virginians." "Through Unguarded Gates" she escaped into "The Old Garden" to pick "Sweet Clover," "Rose in Bloom," Heartsease" and "Rue." "Sentimental Tommy," "A Man of Feeling," was reading "Dream Life" under "Seven Oaks." "Beside the Bonnie Brier Bush" "Mistress and Maid" were twining a "Daisy Chain" for "Helen's Babies"-" The Heavenly Twins." "Under the Lilacs" "The Blind Musician" "Greifenstein" was playing "The Bird's Christmas Carol"

on "The First Violin." When she returned to the "Golden House" "Mr. Isaacs," who had "Ben Hur" "Sweetheart," introduced "Don Orsino," who "Wooed and Won" her. They were made "Husband and Wife" by "The Little Minister," "The Stickit Minister" assisting. "John Halifax, Gentleman," was best man; "Lorna Doone," 'bridesmaid. "Little Lord Fauntleroy" and "Sara Crewe" strewed "Daffodils." "The Bride" was "In Silk Attire," trimmed with "Point Lace and Diamonds." She wore the veil of "The Bride of Lammermoor," "The Danver's Jewels," "The Diamond Necklace" and "A Chaplet of Pearls." The guests were "The Princess," "The Princess of Thule," "The Prince of India," "Prince Otto," "My Lady Nicotine," "Sir George Tressady," and "My Wife and I." "An Unexpected Guest" arrived bearing "A Letter of Introduction" from "Dr. Claudius." "Their Wedding Journey" was "A Tour in Returning on "Mrs. Cliff's France." Yacht," "Captain January" in command, "The Water Witch" provoked "The Tempest" which wrecked them on "Cape Cod" and sunk them "Twenty Thousand Leagues Under the Sea."

F. M. C.

THE PASSING OF THE BOARDING SCHOOL.

ONE very apparent result of the financial depression which is so general to-day is the marked decrease in the number of pupils who attend boarding schools. This business seems to be affected with a blight quite as serious as it can bear. The great cause of this falling off is doubtless the stringency of the times, but other things have contributed largely to the result.

It is only too true that boarding schools have flourished at the expense

of the public school system, whatever money and interest were given to the former being taken from the latter. It was formerly supposed that, among boys and girls whose parents had the means to bear such expense, three classes in particular were naturally destined to be educated at the private school—those who were either exceptionally bright or correspondingly stupid, and those who were unmanageable at home. There was in addition, a class of pupils whose parents wished them them to be under some

particular religious influence.

As our public schools have been gradually improved, the advantages they offer over the private school have compelled recognition. In the first place, the cases are growing fewer in which the precocious youth is not within reach of some free school that will give him ample opportunity to display his best powers. Then, with the dissemination of method in teaching, it is found that the dull pupil progresses fully as fast under a teacher who has a knowledge of how to reach such ones as under the instructors in boarding schools. But greater than either of these is the superior discipline offered by a properly managed public school. If there are any cases in which it has benefited a boy to be sent away from home to attend school, the fault lay at home. If a child is petted or spoiled at home, it will benefit him little to send him away, with expenses paid, to be humored still more, in order to keep him in school. Let him, rather, be placed where he can learn what it means to be deprived of certain indulgences to which he has been accustomed; where he can learn that, in the eyes of the government, one person is as good as another. Skilled teachers are now paying special attention to the matter of interesting refractory pupils, instead of using the rod or the threat, as a means of discipline. Besides all these gains, the public schools are growing more and more scrupulous concerning the moral influence to which pupils are subjected, so that, on the whole, it is difficult to predict anything but closed doors for private schools if parents can be a little more fully convinced that the public school is what they make it.

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THE LAST TIME.

OR centuries the poets have sung of farewells, while in prose the Bible describes parting scenes as events of great importance; but like most occurrences of human life, the attending circumstances affect very much the breaking of former associations. General Wolfe at Quebec died happy when assured that his forces were being led on to victory. So we, the retiring staff, although many pleasant recollections will always correlate themselves with the NORMAL COLLEGE ECHO, gladly step aside while other hands carry the work successfully forward.

A BROADER NEW YEAR.

In his masterly oration, delivered in this city January 6, Dr. Depew took occasion to remark, in commenting upon the description of the old "Capitol" by Horatio Gates Spofford, that "his ideas had never been broadened by foreign travel." Dr. Depew's sentences will all bear reflection, but this one in particular commends itself to our consideration.

The one thing against which teachers need to contend most strongly is narrowness. The world around us is progressing and we must not accept our own narrow circle as embodying the best that the world holds. We need broad, liberal ideas, whether derived from foreign travel or home study and observation. Although the professional training we receive in our course here is the best that the State affords, and the same methods of teaching that apply here to-day will serve as well a century hence, yet we must not be hampered in their application because we fail to broaden our minds as time goes on. the next New Year does not find us conscious that we have, in a measure, outgrown the narrowness of this and are standing where we can take a broader view of our work and our lives, the year has been a failure for us.

SO NEAR AND YET SO FAR,

POR several years college graduates have sought to obtain a life certificate to teach in the schools of the State without being obliged to pass the examinations of the Department of Public Instruction or attend the Normal College. They have held, and perhaps justly, too, in a measure, that it is unjust to oblige a person who expects to teach French or German or chemistry to pass a third-grade examination in arithmetic and

spelling, even though he may have had special training in psychology and kindred subjects. So far their claims are just, but these are particular cases on the strength of which college people have hoped to secure their demands.

Accordingly, at the request of Syracuse, Columbia and certain other universities, the Department of Public Instruction has submitted for their consideration certain regulations, to which they may conform, and thereby secure exemption for their students from commissioners' examinations. Any student in such institutions as conform to these requirements must, during his course, take not less than 240 hours of work in logic, history of education, psychology, principles of education and theory and practice of teaching, the examination questions in the latter two subjects to be submitted by the department. Previous to entrance or during his course the candidate must have attained a standing in the subjects required by examination for first-grade certificates and must be of good moral character. On fulfilling these requirements and passing the prescribed examinations, a certificate good for three years will be issued, which may be exchanged for a life certificate after the completion of three years of successful teaching.

While college graduates who have taken the prescribed work in institutions having a chair of pedagogy may be enabled to escape the commissioners' examinations, yet attention is drawn to the fact that only on the completion of three years of successful teaching can a life certificate be obtained. Very evidently, for a college graduate contemplating prominence in our secondary schools, the Normal College will continue to offer the surest and shortest means of putting himself in line with the best teachers of the State.

THE LAST CRITICISM.

NE afternoon as the writer was waiting for the hour of three, his mind became lost in revery, in a scene more than a century hence. The picture was, indeed, wierd to one accustomed to such realities of life as our college affords. In imagination I saw a great amphitheater full of the shades of departed schoolteachers, assembled for the final judgment of their work. On a great high rostrum sat the spirit of Pestalozzi surrounded by lesser advocates of his immortal precepts. No roll was called. It was not necessary. The awful suspense regarding their fate had driven every soul to this place of judgment. the judge opened his note-book of observations collected during the centuries, one could almost hear the gnashing of teeth, not to mention the wailing and weeping.

The first name called was that of a woman who was remembered on earth as of spinster appearance and sinister expression. Her spirit had been reflected in her face and no one failed to recognize her. "Often," said the great arbitrator, "have I looked in upon your school-room to find each time an atmosphere stifled with rule and rote, your pupils fearing you because of your threats, and studying only because impunity demanded it. Did you never hear of the privations and sufferings that I endured at Yverdun and at Burgdorf that I might give to posterity those grand and noble principles? In vain have I tried to find one pupil who will testify that you alone helped him to live a fuller and truer life. Your reward shall be to listen, through all eternity, to the din of a disordered school-room, where all the whispering that you forbade, all the hatred that you excited shall have perfect freedom."

Another leaf was turned and another

name was called. The spirit of a pleasant but kindly faced woman came forward. "Yes," said the critic, "your teaching was brief, but the term of your service shall not measure your reward. Your sons and daughters shall speak for you. Go in peace and dwell with them."

An expression of good nature characterized what was immortal of a well known principal as he answered to his name. "Your work was like yourself," said the Father of normal teaching, "you always kept the good will of your pupils; your teachers always respected you because of your personality; you were never brilliant, yet you seldom put the question before calling the name. Had you more carefully and zealously worked you might have earned greater rewards, but your popularity has secured your future.

It pains me to describe the judgment passed upon the next immortal pedagogue. Better things had been expected of him. He had had normal training but to no purpose. Whenever the soul of Pestalozzi looked down upon him he seemed to have forgotten all the precepts learned in former years. The Socratic method seemed unknown. He had become the worst form of professional backslider. He had taught by the text-book method of question and answer. "Sir," said the great judge, "you never procedeed from the known to the related unknown, go now to investigate that awful realm. The clock struck three and I awoke with a start. It was time for criticisms.

L. M. D.

Kepler, when asked how many comets he thought there were in the heavens, replied, "As many as there are fish in the sea."

A CHANGE OF HANDS.

N Wednesday, December 23, 1896, the general college students met for the election of a new board of editors for the ECHO for the ensuing semester. Mr. Arthur L. Cardus, A. B., '97, acted as chairman and Miss Jennie A. Delin, '97, secretary. The following were unanimously chosen: Editor-in-Chief, Edgar S. Martin, '98; Literary and Professional, Edith Esselstyn, '98, Mary Butles, '97, Ottilia M. Beha, '97; News, Walter S, Clark, '98, Emma L. George, '97; Reviews, Alice Jones, '97; Exchanges, Laura P. Stafford, '98, Susan Cutter, '98. After accepting the report of Business Manager Cook, the meeting adjourned.

ONE INDISPUTABLE BENEFIT.

NASMUCH as psychology seemed so far away to the mass of teachers, educators took up the study of children as a more practical substitute in the hope of forming, eventually, something like a science from their study. Even childstudy sounds to many teachers quite like a laboratory, quite as though one needed an advanced education to be able to make anything out of it. It is, however, not far away nor uninteresting, but, on the other hand, one of the very best means of divesting a teacher's work of its humdrum character. A person who remembers that the noblest study of mankind is man and that the more one knows of him the more interesting he becomes, can hardly fall into mechanical school teaching. Those who go forth from among us tell us that the habit they have acquired of making each individual pupil a study has well repaid them for all the time spent in professional training.

PROPOSED CHANGE IN POSTAL REGULATIONS.

A bill is now before the House of Representatives to curtail, to a serious extent, the amount of printed matter now carried by the postal service as second-class matter. The bill excludes all "books or reprints of books," by which is meant all paper-covered books issued periodically which have done so much to popularize cheap and good literature among the masses of the people. It excludes all "sample copies" of newspapers and periodicals, thus depriving all publications of one of the most valuable means of extending their subscriptions. The first clause alone is sufficient, it would seem, to condemn the bill until more forcible objections are raised than that the carriage of secondclass matter in such quantities entails a deficiency in the postal revenues. Whatever deficiency is thus caused is fully offset by the consequent increase in first and fourth-class matter, the two most profitable of all the classes of mail matter. The bill seems to be framed in the interest of express companies alone.

INSIDE THE WEATHER BUREAU.

SOME subjects have become so threadbare that their very mention almost provokes a smile, and yet they possess a wealth of interest undiscussed. We pass our stock remarks on the daily state of the weather, listen in wonder to the reminiscences of the "oldest inhabitant," and resort to the ever-ready subject, weather, when conversation lags in society, yet not one in a hundred speaks with any intelligence on the subject.

If one will take the pains to explore the post-office building in this city, he will find on the fourth floor an unpretentious office in charge of one of the most courteous public officials in the

service. From this office is issued information, a better appreciation of which would render us more capable of an intelligent view of the atmospheric conditions. This station, like many others scattered abroad over the country, takes. daily, a series of observations, among the most important of which are the following: The temperature, the barometer reading, the velocity and direction of the wind at any moment, the amount of sunshine during the day and the humidity of the atmosphere. Each station, through the central office at Washington, is furnished with the data of every other station, and is thereby enabled to obtain a knowledge of the atmospheric conditions as they exist throughout the country. Each station then indicates these conditions on a map of the United States, and connects all points having the same barometric pressure by a line called an isobar. In like manner the line connecting points having the same temperature at the same time is called an isotherm. On such a map it will be observed that the pressure on the barometer grows gradually less or greater toward certain areas. area having the lowest pressure is evidently enveloped in an atmosphere which for some cause has become more heated and consequently of lighter specific Now, according to natural laws, the denser air surrounding this area rushes in to restore the equilibrium and, obeying the law named Terrel's, each current is deflected toward the right, producing a whirling movement of the air called a storm. This disturbance is as truly a storm as was that which destroyed so much property in St. Louis last year, or the heaviest rainstorm that sweeps the country.

While our storm is thus whirling we must not forget that the less dense air over this area reaches to the upper limits of the atmosphere, and that in this upper region, although next to the earth, the trade winds are practically overcome by the continent, the upper or

anti-trade winds are blowing strong toward the northeast. If the temperature were the same to the north of the storm's course as to the south, its path would be due northeast; but, struggling between a disposition to follow the isotherm and its direct course, it compromises and takes a course midway between.

Supposing now that a storm is moving in this northeasterly direction, very plainly the northeast quadrant will be the first to strike an observer in its path. The wind, in its circular motion, will then be blowing from the southeast. The air in the storm being warmer, will quite probably contain more moisture than it can retain when cooled, and so if the region where our observer is located is cold enough, and the storm contains sufficient moisture, he will probably have use for his umbrella.

The wind soon begins to shift, and becomes an east wind, changing to northeast as the observer passes into the northeast quadrant. The precipitation of moisture becomes less as the storm passes on, until the observer is in the southeast quadrant, when the wind will blow from the northwest. The sky will be clearing and the farmer will begin to consider the prospects good for having if the season be midsummer. Upon the diameter of the storm will depend the extent of country experiencing its effects. As the storm passes by a certain place the barometer will show a higher reading and the weather will be colder.

There are, of course, some other conditions that come in to modify storms and change their course, such as the topography of the country and the temperature of areas toward which they move; but, in general they obey certain fixed laws which enable the observer to forecast the weather twenty-four hours and to approximate the exact conditions eighty-five times in every one hundred. In connection with our work in teaching physical geography our pupils should be encouraged to take regular and accurate daily observations in order to acquire the ability to interpret intelligently Nature's changes of mood, and not be compelled to accept the dogmatic opinions of the "oldest inhabitant," who, in most cases, knows very little about the matter. Young Inhabitant.

COLLEGE GOSSIP.

THE Quintilian Society will give a reception Jan. 30, '97.

The eighth annual dinner of the graduates of the State Normal Schools will be given at New York city, Feb. 20, '97.

The class of '97, at their meeting, Dec. 10, were very pleasantly entertained by a guitar solo by C. S. Gager and a selection rendered on the autoharp by Miss Porter.

A reception will be given in the kindergarten rooms by the class of '98, on Feb. 5.

C. W. Armstrong, '90, has a class in astronomy for those who desired to do supplementary work.

Hon. Peter Walrath, of the State Board of Charities, visited the College Jan. 14.

Mr. Chas. Gregory, a student of '96, returned to College at the beginning of the month.

A new method class has been established on Park Lake. It should delight the hearts of our Professors, for neither development nor drill are neglected. Nothing is done for the pupil that he can do for himself, principally because the instructor does not like to sit down on the ice.

Mrs. Charles Kent, of Providence, R. I., visited her sister, Miss Sherril, Jan. 19.

Miss Susan McDonald spent Jan. 19 with friends in college.

Miss Sloane, '97, was unable to return to college after the holiday recess.

Miss Fitzsimmons is out of college on account of illness.

H. H. Farmer (Syracuse '96) has entered college.

IDEAL OR MATERIAL?

A FOLLOWER of Plato once went skating with some friends,

And thought to air his knowledge on the way.

He talked of mind and matter and the freedom of the will,

And among some other things was heard to say:

"We only live in spirit, there are no real things, you know,

It is only what we think we see and feel!

The world contains no matter, and no matter what you say,

There's nothing that's about us that is real."

Now they reach the ice and eager for the sport they see in store,

They hasten to adjust the shining steel,

And with rosy happy faces beaming in the wintry air,

They give witness to the joyousness they feel.

Their comrade, the philosopher, however, wears a smile,

In which is mingled pity and contempt,

"To think that they take comfort in these fancies of the mind—

In pleasure no more real than if they dreamt."

He called to his companions as they skated up and down,

"Ho, there! you act as though you did not know

That all this ice and all the water, too, that shows beneath

Are but ideas—they are not really so."

'You're skating on a fancy, every one of you, and I—"

But here the ice he stood on sudden bent,
And all gave way beneath him with a fearful, cracking sound—

The icy water froze his argument.

And after he was rescued and, all shivering, left the ice,

It made him hot, indeed, but no less cold,

To hear his laughing comrades call in bantering tones and say:

"Your fancy was not strong enough to hold.

MARY BUTTLES.

RESOLUTIONS.

AT a special meeting of the Adelphoi Society the following resolutions were adopted:

WHEREAS, It has pleased our Heavenly Father to remove from this life our beloved friend and fellow member, Robert Matthew Wells; and,

WHEREAS, It is with great sorrow that we learn of his death; therefore, be it

Resolved, That we extend to his brother Ralph and to the bereaved family our heartfelt sympathy, commending them to the care of Almighty God, who alone can comfort them in the hour of affliction; and be it further

Resolved, That a copy of these resolutions be sent to the family, and that they be recorded in the minutes of our society.

RAYMOND JONES, Sec. LEWIS T. HUNT,

Committee.

HOPE FOR NEW YORK.

ESPITE the strenuous efforts of the New York city government to provide additional facilities to accommodate the surplus of 50,000 children that was presented at the beginning of this school year, there are still nearly 15,000 for whom no provision has been made. Mayor Strong, in this emergency, has appealed to the churches of the city to place their vestries and Sunday-school rooms at the disposal of the Board of Education five days in the week. The city agrees to provide teachers, and would care for the rooms offered by the churches, so that the latter will be put to no expense. The expedient is only temporary, of course, as new school houses are being erected as rapidly as possible to accommodate the thousands of children now shut out of school. Many churches have been prompt to respond to the mayor's request. — Ex.

ALUMNI NOTES.

'83. Mrs. Elliott B. Norton, formerly Miss Harriet McFadden, an undergraduate student, called recently upon friends at the College. Mr. Norton, a graduate in the class of '83, is now a student in the Albany Law School.

'80. Dr. Caroline Bristol Kelliher, physician at the Long Island State Hospital, received the \$100 prize for the best examination at her graduation last June from the New York University Law School.

'92. Miss Lucy Smith called at the College Dec. 18.

'91. J. H. Brooks, of the railway mail service, paid us a call Dec. 18.

'93. Henry Emerson Adams, former chief of the Есно, writes us that he is now located at Skaneateles. He does not forget, besides, to wish our journal still further success than it has had in the past.

'93. A. A. Lewis and Mrs. Lewis, *nee* Miss Myrtle Hook, are located at Pittsford, N. Y.

'92. The Newburgh papers have announced the engagement of Miss Luella Galatian, '92, to James W. Terry, a rising young lawyer of that place.

'93. At the home of the bride's sister in Chicago, on Dec. 22, occurred the marriage of Miss Alice C. Mackey, '93, to Mr. Elmon J. Skinner. At home in Westford, N. Y.

'47. Mrs. Belia Krum Collins, formerly of Middleburg, died at Fort Worth, Kansas, Dec, 31, '96. Mrs. Collins was an active worker in charitable circles, and at her death was president of the Woman's Home, Ft. Wayne, which she founded. Mr. Henry W. Collins, '47, husband of Mrs. Collins, died in 1876. Mr. Collins was the founder and the first

president of the Northwestern Life Insurance Company.

'96. Mr. Charles M. Lillie, A. B., Pd. B., has a position at Davenport, Ia., as teacher of mathamatics.

'81. Dr. Edward A. Burt, professor of natural history at Middlebury College, Vt., sent has sent College valuable pamphlets on original researches in cryptogamic botany. Prof. Burt was a former professor of natural sciences in State Normal College.

'96. Evans S. Parker, A. B., Pd. B., has accepted a position as teacher of classics, algebra and geometry at St. John's Military Academy, Delafield. Wis.

'96. Mary E. Boughton and John C. McLaury, '95, were married Dec, 30, '96, at Plainfield, N. J.

'93. Mr. N. P. Banks Johnson and Miss Bessie May Warren, of Middletown, Del., were married Dec. 24, '96. Mr. Johnson is now principal of the upper school at Nyack.

'90. Former literary editor L. Louise Arthur, sends the staff New Year's greeting. Miss Arthur is now a very successful teacher at Woodside.

'74. Harrison Moore, of Little Neck, L. I., was appointed by Gov. Morton, on Dec. 28, '96, to be county judge of Queens county. Judge Moore has held the office of district attorney of Queens county, and for many years has been a member of the Little Neck Board of Education. To his efforts the excellence of the schools there is mainly due.

'96. Intelligence has been received, in a vague way, of the marriage of Miss Mable Tarr to a gentleman in Denver, Colorado.

ALL SORTS.

A SHAKESPEARIAN programme:
Freshman year — A Comedy of
Errors.

Sophomore year — Much Ado about Nothing.

Junior year — As you like it.
Senior year — All's well that end

Senior year — All's well that ends well. — Ex.

— Teacher; "We call a thing 'transparent' when we can see through it. Who can name such a thing?" Peter: "A ladder." — Ex.

Heard in a class-room: Teacher—
"When you get hold of the son (sun)
hang on to him."

Pupil (aside) - "If it's the right one."

"Young man," said the Professor, as he stepped into the hall and caught a frisky Freshie by the shoulder, "I believe Satan has got hold of you." "I believe he has," was the reply. — Ex.

If you have plenty of good points about you the world won't sit down on you very hard. — Ex.

"Capital punishment," said the boy when the teacher seated him with a girl. — Ex.

"Just think of it," she said proudly, as she heard the boy give the college yell. "Just think of what?" asked her husband.

"Why, William and all those other boys conversing in Greek just as naturally as their own tongue." — Ex.

Prof. — "Give an illustration of the law that heat expands and cold contracts."

Sophomore — "The days are long in summer and short in winter." — Ex.

A little boy whose father was away from home asked his mother if he might say grace at luncheon. She con-

sented, and very gravely folding his hands, he said: "Dear Lord, bless this food and make it taste good to our tasters."

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Every lover of nature will be glad to learn that the "Observer," edited and published by E. F. Bigelow, Portland, Me., will resume publication at once and be even better in the future than in the past. Financial depression forced Mr. Bigelow to surrender the ownership of the magazine, but such a journal cannot long remain silent.

Mrs. Hodgson Burnett's son, Verian, the original "Little Lord Fauntleroy," is a Harvard student. — Ex.

EXPERIENCE.

A Normal girl, a graduate,
A little school marm gay—
Before her forty urchins stood
One February day.

"Now children tell me why," said she Scanning every one,

"Do all Americans celebrate
The birth of Washington?

"Why don't they do the same on mine?"
She said and sweetly smiled,
She watched the deep and earnest gaze
Of every thoughtful child.

Now Johnny in the corner stands Quite anxious to reply,

"I know," said he "' cause Washington He never told a lie."— Ex.

EDUCATIONAL NOTES.

To cultivate the faculties, to develop the best there is in us, "to yield ourselves to, and yet master the circumstances in which we are placed," is the broadest conception of education.— Ex.

Everything is not learned from books or within four walls, but much under the great dome of the heavens. This is what gave Shakespeare his marvelous character. His schooling had been meager, but that man saw, as no other man before or since, the true purpose of this wonderful creation.— Ex.

It sometimes takes more grace to wait than to work, even among teachers—but it must often be done. Too frequently we destroy the effect of our explanation, or the influence of what we have said, by too close or rapid a pursuit of our own thought or word—when we should have waited for it to sink into the child's mind. Often use the "wisdom of waiting."—New Education.

The boy whose character is developed in the line of integrity, truth, honor, becomes a reliable man; but if he is trained to mere sharpness, to figuring, to parsing, to penmanship, he may become only the more skillful rogue or forger. Hence the training of character should take precedence of the training of intellect.— The Normal News.

Look after the common and the public schools, and the colleges and universities will take care of themselves.

Do not place too much emphasis on examinations. Let your ambition be to train your children to become true men and women, worthy citizens of this country, and fit for the duties of life, rather than to point your finger at an examination which they must pass before they can be promoted.

Make your school-rooms bright and attractive. Think how many hours your pupils must spend in these rooms. Take plants in the school-room, and place on the walls pictures of the great men and statesmen of this country—whose deeds and lives are an inspiration.— Ex.

"Studies serve for delight, for ornament, and for ability. Their chief use for delight is in privateness and retiring, for ornament, is in discourse; and for ability; is in the judgment and disposition of business; for expert men can execute, and, perhaps, judge of particulars, one by one; but the general counsels, and the plots and marshalling of affairs, come best from those that are learned. To spend too much time in studies is sloth; to use them too much for ornament is affectation; to make judgment wholly by their rules is the humor of a scholar. They perfect nature, and are perfected by experience; for natural abilities are like natural plants, that need pruning by study; and studies themselves do give forth directions too much at large; except they be bounded in by experience. Crafty men condemn studies; simple men admire them; and wise men use them. For they teach not their own use; but that is a wisdom without them, and above them, won by observation.

"Reading maketh a full man; conference a ready man, and writing an exact man; and, therefore, if a man write little, he had need have a great memory; if he confer little, he had need have a present wit; and if he read little, he had need have much cunning, to seem to know that he doth not." — From Bacon's "Of Studies."

Question in evolution.—Were the Copts of Egypt the ancestors of our "cops"?

AMONG OUR EXCHANGES.

THE December Vidette contains an account of the thirty-sixth annual contest between the Wrightonian and Philadelphian societies. The question discussed read: "Resolved: That the Government of the United States should own and manage its railroads." The account is very interesting and well worth reading.

In the Spectator for December there is given a full and interesting article on Christmas customs. It contains many suggestive thoughts as well as historical facts.

The December Argus comes to us in a very attractive covering, and it also contains much that is of interest within its covers.

The members of the History class will find an interesting account of Fort Crailo in The Cue.

Many of our exchanges contain among the jokes much matter that is purely personal, and for the benefit of those not initiated, should furnish an appendix where we may find an explanation. A good joke is appreciated by all, but when the point is so smothered in personality that you can not find it, the whole thing is not so funny.

We are glad to welcome among our exchanges The School News from Ishpenning, Michigan.

Read "How One Insect Mother Manages her Children" in the December Observer.

COLLEGE NOTES.

THE petition made by the president and faculty of Middlebury College. Vt., asking for the adoption of the metric system of weights and measures, has been presented to Congress. — Ex.

The first Danish University in America was dedicated in Des Moines, Ia., on September 28. The university is to be opened on a modest scale in December, but the purpose is to make it an educational institution for all the Danes in America. — Ex.

Chauncey M. Depew says that sixty per cent of the positions of high trust in this country are filled by college graduates, and the other forty per cent are very largely controlled by college men. - Ex.

A National University will soon be established in China. The instructors will all be foreigners, and the president will be an old tutor of Li Hung Chang. — Ex.

The oldest college in the world, Mohammedan, at Cairo, was 1800 years old when Oxford was founded. — Ex.

Two Chinese girls who came to America three years ago, hardly knowing a word of English, stood the highest in the recent medical examination at the University of Michigan. - Ex.

The class of 1900 at Vassar is the largest ever enrolled. It numbers 550. The library has received an addition this year of 300 volumes, making a total of 25,000. - Ex.

That the Normal College Echo is from Has it ever occurred to you That the Normal College Echo is from our press. An Indiana couple, after a courtship of twenty five years, were married the other day. It takes some people a long while to make up their minds. Make up your mind at once that we are the best printers for you and turn your order over to us. College work a specialty.

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