late commencement address by Bishop Harris. This criticism assumes that this university is largely given over to the study of mediæval rubbish, to the exclusion of subjects that have a living, practical interest to the young men of the day. Well informed persons know that scientific studies receive marked and even very prominent attention in Michigan University; and that a fear is entertained by some of the best friends of sound learning, that classical studies are in danger of being thrust into the background.

In a letter to the Scientific Monthly, Professor Adams shows that while the teaching force in the classical department has remained the same in number for several years, the number of instructors in scientific subjects has been greatly increased within the same period.

It is possible that to be a reformer a man must be blinded to all but one phase of a great truth. Pestalozzi declared that he had "turned the European ear of education quite round and set it in a new direction." Mr. Parker asserts that teachers must have absolute freedom in the choice of methods; and Mr. Adams has discovered that the time table is the deadly foe to progress in the art of superintendence. The astonishing thing about our very recent educational reformers is that those who speak with the most assurance, and whose condemnation of existing systems is most absolute, have no practical acquaintance with the educating art. Ignorance of actual school affairs seems to fit one for an independent criticism of schools, as Charles Lamb's advice to the reviewer was not to read the book he was about to criticise, lest by so doing he might be prejudiced. A safe rule is to distrust all partisan utterances on educational questions. A problem so complex as that of human culture can be fairly discussed only in a catholic spirit. We incur no risk in assuming that a system of instruction which has given to the world so many, if not the greater number, of its wisest men for successive generations, is in the main, a rational course of culture.

One of the pleasantest scenes in our memory is one that we observed in a primary school in one of our smaller cities. It was an unusually cold day in mid-winter. On entering the room, we observed a rack near the stove, over which were thrown the various wrappings of the little ones; hoods, shawls, mittens, comforters, etc., all nicely warming by the fire. The next the wall was a long row of tiny rubbers, each little pair in its place, and these, too, made dry for their owners. When the time for dismissal drew near, several children, selected for the purpose, distributed these wrappings and shoes, and then the robing for the storm was the instant occupation of the whole school. When some little one could not adjust her own clothing, the teacher, like a good mother, would come to her aid, and tie the hood, draw on the mittens and rubbers, and fasten the comforter snugly about the neck. At last, when all were ready, they passed out into the storm, and thence to their homes, where, we doubt not, many a blessing was pronounced on the head of this good teacher.

The impossibility experienced by some minds, of looking at both sides of a great educational question, is strikingly illustrated by a recent attack on Michigan University, made by the editor of the Scientific Monthly, in the course of a review of the
ever read even one book of this character. We have long believed that there is no sufficient ground for including the great mass of teachers in what may be called the literary class. As a class, they have not the literary habit, they neither buy nor read good books.

Mr. Charles Dudley Warner expresses the opinion that "the extent of the reading habit is much overestimated even in reading countries."

"I believe," he goes on to say, "that the majority of business men read a book very rarely; the majority of young men in business and in society I fancy read little—they do not give their evenings to reading, and are not apt to take up a book unless it becomes the talk of society. People who spend a great deal of money on dress, or dinners, or amusements, would think it extravagant to buy a book, and if one is commandeered to them they will wait till they can borrow it or get it from a library. They do not hesitate two minutes about an ordinary two-dollar dinner, but they will wait months to borrow a fifty cent book."

This reference to the habit of borrowing books recalls some advice which Mr. Lyman Abbott gives in his introduction to these "Hints on Home Reading": "In forming a library, if your means are small, do not buy what you can beg or borrow—Depend, as Joseph Cook does * * * on public libraries * * * or on more fortunate friends. Buy only what you cannot borrow." It is not easy to see how one can expect to form a library if he adheres to Mr. Abbott's advice to "buy only what you cannot borrow." In such matters, we do not see what worse advice can be given a young man. We think it should be counted almost as disreputable to be an habitual borrower of books as of clothing. One of the greatest charms of a library is the feeling of personal ownership, "these treasures are mine, bought with my money, and money earned by hard toil and saved with great difficulty." We do not envy the moral state of the man who prefers borrowing books to owning them. Mr. Abbott would have proved himself a safer guide had he said, "borrow only those books which you cannot buy, but which you have need to read."

Another suggestive quotation from Mr. Warner will furnish food for reflection to teachers in our higher institutions of learning.

"A professor in one of our leading colleges told me not long ago that a freshman came to him, after he had been recommending certain books in the literature class, and said he had never read a book." * * * "Another professor in another college, also one of the highest in the country, told me more recently that a sophomore who stood well in his class came to ask him where he had obtained facts which he referred to in the class-room. It came out that the young man never had read a book, didn't know what the sensation was, or how to set about it, and had not the faintest conception of literature. He had no notion of the pleasure and profit to be got from reading; the world of books was absolutely beyond his imagination, and he could not conceive what people found in it."

--- He was sitting in the parlor with her when a rooster crowed in the yard, and, leaning over, he said, "Chanticleer!" "I wish you would, I'm sleepy as I can be." He cleared.

--- A darkey, who was stooping to wash his hands in a creek, didn't notice the peculiar actions of a goat just behind; so when he scrambled out of the water and was asked how it happened, he answered: "I dunno, 'sactly; but Ipears as if de shore kinder h'listed and crowd me."

--- EDUCATION MANY-SIDED.

[The closing portion of an Address before the Worcester County Teachers' Association, Fitchburg, Mass., Oct. 16, 1880.]


THE important part of reading, then, is the power to duly apprehend what the writer means. This power needs a great deal of cultivation. It should be the aim constantly after the very first steps;—and in the early stages as well as all along. The importance of this part of reading should not, however, make us lose sight of the other part—a good expression and management of the voice. After the first has been attained, it is in this last that vocal reading or oral reading consists.

Another sense in which reading is spoken of in connection with education and schools is the silent reading or devouring of books by which we get information and entertainment. Some people clamor for more reading of this kind in order that the pupils may become acquainted with the stores of knowledge laid up in books. This sounds reasonable; and it is reasonable.

On the other hand there are those who claim, not without reason, that it is quite likely many children are stuffed too much. They read, and read, but they do not digest what they read.

The mass of unsorted, unmastered facts with which their minds are crammed, is not assimilated; the mental fabric does not grow; the child is liable to a sort of intellectual night-mare. Is any one prepared to say that this danger is not a real danger? Is it not possible that the time has come to call a halt on the reading craze—this phase of it?

If I have made myself understood thus far, you will remember that the subject of reading has been treated in its elementary, and in its more advanced stages; and that in each of these stages two or three methods or phases of the subject have been considered. Now, my object has been, not merely to give a dissertation on the subject of reading, but to call attention to the fact that each of these phases contains a vital truth, and that no one of them contains all the vital truths on the subject. I have tried to illustrate by these remarks about reading that education even in this branch is many-sided.

In a similar way, the same idea might be illustrated with every other branch of study in our schools—but it would take too long a time.

Let me illustrate by the methods of teaching. I have in mind a teacher who has been in school fifteen or twenty years. She has acquired by long experience such wisdom and maturity that she would not blush to say that she is thirty years of age. In her school every thing is done with precision. If a boy stands to read in a slip-shod way, he is made to stand erect; if he draws and mumbles, the teacher pronounces the word distinctly and he has to repeat after her; if his figures look slovenly, he must make them neatly; certain statements have to be made, in recitations, after a given formula; and so forth. You will see in this outline, the formal, routine, tread-mill, old-fashioned teacher. And now appears again our educational comet who disappeared a while ago, in his eccentric orbit, into the limitless regions of space. With one sweep of his majestic tail, he would sweep from the educational sky, by the witchery of his philosophy, all the cob-webs of such old-fogy teachers as this. Away with all dril! Down with dull routine! The children must be "interested"! Much study is a weariness of the flesh. Our children look upon school as a prison. They must learn to love their school! And he remodels his schools on that basis. All the children sit and
drink in the knowledge as he deals it out to them, diluted and sweetened.

We can’t help admitting the justness of much that he says about the interest which children should have in study, the irksomeness of dull routine, mechanical teaching, and all that. But what if it turns out, as it sometimes does, that children fed on his pap do not thrive; that pupils taught on his plan do not know much, and are not able to acquire knowledge when they leave school; that not having done any work for themselves they have no self-reliance? What if the pupils of the teacher thirty years old outstrip the others when they enter the high school, and outdo them in the battle of life? What if intelligent parents prefer that old-fashioned teacher? What if the children—all who are not stupid or lazy—like that school? And what if the teachers in the grades above always prefer the scholars whom she has trained to exactness? Now, I have seen something of this kind. Mind you I am a believer in progress; I delight in what is better and in what is new. But I am also coming to believe in some things that are old; not the old of stagnation and stupidity; not the old of rotten trees and toothless senility, but the old of mature fruit; the old of mellow wine.

Our comet comes around again. This time he proposes to change the subjects of study, root and branch. Technical grammar, he pronounces an abomination; geography, nonsense; arithmetic, confusion worse confounded; and spelling, nothing but barbarism. Science, nature, these are the only themes for youthful minds, he says; intellect is supreme; sentiments, feelings, and all that, belong to savages only. And so we fill our school rooms with leaves and flowers, animals, insects, parts of beasts, and all sorts of stones.

Now; what if it shall appear that the boy who has sharpened his wits with the dry rubbish of—technical grammar, to take the extreme case, shall prove able in unravelling the threads of human affairs, to out-wit the other boy, in consequence of this very disagreeable drill? What if our new meteoric light, so diffusive and so wide-spread, proves to have no disc, as the astronomers say, nothing definite and tangible? What if this new luminary, he pronounces an abomination; geography, nonsense? Does a fair field win the victory. A few try and discipline of the family, and have entered college with as high standing, often higher, than has the average boy prepared at the academy, and with as high degree of moral culture and Christian character. Ottawa, Ill., has done this for many years: Peoria, Ill., Princeton, Ill., with scores of towns in the upper Mississippi Valley, are doing this annually. How much better a Methodist or Presbyterian academy be for these boys, or their parents? Even if the same attainments were possessed when they entered college, the students would have been three or four years from home, the father one or two thousand dollars poorer. Nothing need be said of our large cities. Few will pretend that any private school excels, in thoroughness for college preparation, the high schools of Boston, Chicago, or St. Louis.

If it be said, and it is said, that the moral and religious training of the youth is neglected by keeping him from the academy or boarding school, I can best reply by asking the many middle-aged and old men of our land to relate their own experience in this matter. Were the tricks fewer, the meannesses less in quantity or quality, the habits as students better in boarding schools then, than with their sons in public school now? Did enforced attendance at early morning prayers before breakfast make better men of them? But it is useless to enumerate the evils of sending boys from home to school.

Building up denominational schools is tearing down our public schools. If in a town where a majority of the people are Congregationalists, it be determined to establish and support a Congregational school, the people can easily do it. They can put their hands in their purses, pay the bills, and send the chil-

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SUP'T AARON GOVE, Denver, Colorado.

A CLASS of men are found, especially among clergymen, Protestant and Roman Catholic, who believe that a necessity exists for denominational schools below the college grades. The reason most frequently assigned is, "to add to the ranks of Christian ministers." We have read of no convention of a religious denomination, where some party did not put in a plea for academies controlled by sect. Baptist boys must be prepared for college in a Baptist preparatory school, Methodist in a Methodist, and so on.

It is difficult for one who is not imbued with partisan zeal for the success of his own church to see many reasons for establishing denominational schools, and yet many of our good men are yearly working and lecturing for their establishment. Years ago, when public-school education was second rate, when few schools, none outside the cities, could prepare boys for college, private schools were necessary. There is no reason to fear that sectarian schools can succeed; we say fear, for if private institutions of this class could multiply and be prosperous, our system of public schools would proportionally decline.

The writer has recently heard an earnest and eminent advocate for private high schools, affirm his belief that public high schools ought not to exist. He fought them in the Eastern states till the academies of New England became almost obliterated; for the public high school on a fair field won the victory. A few time-honored and excellent institutions, like "Phillip's" at Exeter, N. H., and "Phillip's" at Andover, Mass., still flourish.

The West does need very few private high schools. Our small cities are yearly sending boys from the public school to college prepared without extra expense to their parents; during this preparation they have remained at home with the comforts and discipline of the family, and have entered college with as high standing, often higher, than has the average boy prepared at the academy, and with as high degree of moral culture and Christian character. Ottawa, Ill., has done this for many years: Peoria, Ill., Princeton, Ill., with scores of towns in the upper Mississippi Valley, are doing this annually. How much better a Methodist or Presbyterian academy be for these boys, or their parents? Even if the same attainments were possessed when they entered college, the students would have been three or four years from home, the father one or two thousand dollars poorer. Nothing need be said of our large cities. Few will pretend that any private school excels, in thoroughness for college preparation, the high schools of Boston, Chicago, or St. Louis.

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dren to school. When town meeting arrives these citizens cannot vote a school tax; they do not choose to support two schools; they must provide for their own, it is their duty to church. As a result the public school interest suffers, while the unfortunate non-sectarians, if poor, must have quite ordinary schooling.

The policy of the Roman Catholic Church does not materially differ from that in the example mentioned, although to many Americans the Protestant schools are less objectionable. The Catholic schools, however, seem to be gaining, especially in the education of girls, and it cannot be gainsaid that the scholarship of many of their teachers is of a very high order. And yet they do not teach Roman Catholic arithmetic or geometry; neither do they provide for their own, it is their duty to church. As was shown in the previous six years.

The graded schools were in session on the average 8.3 months; the ungraded, 6.9 months.

The graded schools were in session on the average 8.3 + months; the ungraded, 6.9 + months.

It should be remembered in this connection that the number of schools is recorded as the same as the number of school houses occupied.

ILLEGITIMACY.

The United States census for 1870 showed that there were 27,865 persons in this state between the ages of 12 and 21 who could not write. Accepting those figures as correct, it becomes evident that there must be more than 4,045 between the ages of 12 and 21 in the state who cannot read and write.

Concluded next week.

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**ILLINOIS SCHOOL STATISTICS—1880.**

TAKEN FROM THE FORTHCOMING REPORT OF THE STATE SUPERINTENDENT.

CENSUS OF MINORS.

No. males under 21... 758,186
No. of females under 21... 742,069
Whole number of persons under 21...

SCHOOL CENSUS.

No. males between 6 and 21... 572,871
No. females between 6 and 21... 597,980
Whole number between 6 and 21...

ENROLLMENT.

No. male persons enrolled in graded schools...
No. female persons enrolled in graded schools...
No. male persons enrolled in ungraded schools...
No. female persons enrolled in ungraded schools...
Whole number of persons enrolled in schools...

COMPARING 1878 WITH 1880.

Persons under 21...
Persons between 6 and 21...
Persons enrolled...

It will be noticed that there is an increase shown in the number of persons under 21, also that the number of persons of school age has increased; but the number of pupils enrolled is not so large in 1880 as in 1878. But this decrease is apparent rather than real, and is due to the fact that the close of the year for statistics is now June 30 instead of September 30, as in 1878. When the year ended after many of the schools had begun in the fall the report would include the enrollment for one year, and a large part of the pupils enrolled the second year. Had the year for this report closed Sept. 30 the number of pupils enrolled would probably be 721,000; that is on the supposition that there has been the same growth per year for the last two years, as was shown in the previous six years.

DAYS ATTENDANCE.

Grand total daily attendance...
Same 1878...
Increase...

SCHOOL DISTRICTS.

Number of school districts...
Number of districts having schools five months or more...
Number of districts having schools less than five months...
Number of districts having no schools...

SCHOOL HOUSES.

Built during the year...
Whole number school houses in state...
CHICAGO NOTES.

At the meeting of the Board of Education held Oct. 28, it was determined to open the evening schools Monday, Nov. 8, as indicated in the last number of the WEEKLY. The only specially new feature was the resolution to close any division whose membership falls below twenty. The salaries of teachers are also considerably increased over those recently paid in Chicago.

Mr. Keith's resolution providing for an examination of candidates for principalships, or rather making the possession of principals' certificates a qualification of all future principals, excites considerable attention and has in fact gone through about the same transformation as the story of the Three Black Crows. The number of lady principals in Chicago is to the number of male principals as 2 is to 1 nearly. All the men have, we believe, principals' certificates. No lady principal has a principal's certificate. Hence the discussion of the proposed measure and its possible extension or modification has great potential ramifications, and no one can tell whose ox may be gored.

The fulness of subjecting principals of successful experience to an examination that may lead to a loss of standing is obvious; and the unfairness of requiring a poor friendless man to go through a demoralizing and grimly heartless examination, from which his fair competitors are exempt, is no less obvious. While the plan of letting vacancies become known, and putting up the bars clear to the top before all future candidates may probably meet every essential need— that plan would, so to speak, enable a parcel of eleventh hour high grade lady principals to bite their thumbs at our present fair friends—which would never do.

On the whole, there doesn't seem to be anything better to do than to provide for the examination of future new principals, and permit and encourage present principals, who owe their places to a superintendent's favorable (in some cases perhaps unfavorable) opinion of their work, to go in and place themselves on the same plane in the matter of certificates with their brethren.

Teachers will be paid their October salaries in scrip Nov. 15. A good opportunity will then be afforded our thrifty friends who have saved a little cash to turn an honest penny by discounting the city's paper for their less cash.

--Scene in an Illinois school room.--Sarcastic teacher conducting recitation. Pupil on the floor somewhat dull and supposed to be inoffensive. Subject of recitation, cause and effect. Pupil states an effect as a cause. Teacher, ironically, "Well, Mr. --, which moves the other, the cart or the horse?" Class smile and the teacher is pleased. Pupil, modestly, "Well, Prof. --, that depends on whether the cart is going up hill or down?" Class smile louder than before but teacher is not so well pleased as with former applause.

--Jansen, McClurg & Co., of Chicago, have ready a new edition of Mrs. Swiswelm's Half a Century, in one volume, 12mo, $1.50.

--The third number of the Oriental and Biblical Journal is at hand, and contains an amount of interesting reading. Published quarterly, at two dollars per annum, by Jameson & Morse, Chicago.

--In addition to the $25,000 given to Mr. Moody for his boys' school at Northfield, another man has given $1,000, and another $500, while Mr. Weston, of Boston, who gave the first money for the foundation of the new seminary building, has now given $3,000 to found a scholarship, and three ladies have each agreed to pay the expenses of educating one of the Indian girls. The dormitory building and Mr. Moody's residence having been filled with students, the managing trustee, Mr. Marshall, has already begun fitting up another house for the use of still other students who are coming.

--"There was a sound of revelry by night," and joy unmixed had added its delight, and history grave its grateful record when, the Enterbrooks brought out their Iaconen pen.

--"Did you find Mr. Spiggins, Patrick? " "I did, surr." "What did he say?" "Niver a word, surr." "Not a word?" "Why not, Patrick?" "Because he was out, surr." "Out? I thought you said you found him." "I did, surr; I found him out.""Almost Young Again.

My mother was afflicted a long time with Neuralgia and a dull, heavy, inactive condition of the whole system; headache, nervous prostration, and was almost helpless. No physicians or medicines did her any good. Three months ago she began to use Hop Bitters, with such good effect that she seems and feels young again, although over 70 years old. We think there is no other medicine fit to use in the family."--A lady in Providence, R. I.

OFFICIAL DEPARTMENT.

IOWA.—SUNDAY RULINGS.

1. When school taxes are properly certified; the board of supervisors have no discretion, but are required by law to levy the amounts, under the restrictions indicated in section 1780, Codes.

2. Chapter 143, laws of 1880, amended section 1802 so as to require the treasurer to be chosen outside the board in all independent districts. If this provision has been disregarded, and a member of the board chosen as treasurer, since he cannot hold the office, the board should declare the office vacant and elect his successor. The acts of a de facto office are valid until his disqualification becomes known.

DES MOINES, IOWA, October, 1880.

DEPARTMENT OF PUBLIC INSTRUCTION.

ILLINOIS.

RESULTS OF THE EXAMINATION FOR STATE CERTIFICATES.

The report of the board appointed to examine the papers of the applicants for state certificates has been made, and shows the following results: Forty-one attended the examination at Chicago, 4; at Oregon, 4; at Galena, 4; at Pontiac, 4; at Camp Point, 4; at Springfield, 4; at Paxton, 4; at Mattoon, 1; at Belleville, 10; at Carbondale, 1. Of these, six attended to complete the examination, having passed in all but three (or less) studies at some previous examination.

Upon recommendation of the board certificates have been issued to Miss Ernestine Mergler, Austin, J. Albert West, Blue Island, A. W. Bastian, Tampico, A. R. Robinson, Hinsdale, Henry Rulison, Durand, Fred R. Jeliff, Galesburg, Miss Susie W. Folson, Kewan ee, Miss Emma M. Graham, Geneseo, J. F. Clark, Barry, J. C. McCauley, Champaign, Isaac L. Betzer, Champaign, Emil Dapprich, Belleville, George F. Kenower, Mount top, Miss Florena B. Holden, Greeneville, D. P. Lippincott, Villa Ridge.

JAMES P. SLADE.
Superintendent of Public Instruction.

SPRINGFIELD, ILL., Oct. 30, 1880.

PUBLISHER'S NOTES.

It is excellent.--California.

Mr. Charles Sabin, Druggist, of Rockford, III., has invented a Mucllague Cup for druggists' use which is an ingenious and yet, simple contrivance not suitable for general office use. It consists of a tin box with hinged lid and a contrivance for holding the brush or cleaning the surplus mucilage from it before using. The lid when turned back rests upon a movable support so

--Get out Doors.

The close confinement of all factory work, gives the operatives pallid faces, poor appetite, languid, miserable feelings, poor blood, inactive liver, kidneys and urinary troubles, and all the physicians and medicines in the world cannot help them unless they get out of doors or use Hop Bitters, the purest and best remedy, especially for such cases, having abundance of health, sunshine and rosy cheeks in them. They cost but a trifle. See another column.—Christian Recorder.

--If our subscribers will forgive us this once, we promise solemnly never to do so again. We have allowed other work in the printing office to delay the WEEKLY, though far beyond our intention. We saw money in it, but we will never do so again.

--A contemporary acknowledged as at the head of the profession ** our able and universally respected exchange.—Pacific School and Home Journal.

--I have found the WEEKLY a valuable aid in the school-room and would be loath to part with it.—A. W. Watkins, Cheney, Neb.
THE SCHOOL-ROOM.

SCHOOL GOVERNMENT.*

CONDENSED DIRECTIONS.

1. School discipline, like instruction, will take form from the temperament and character of the teacher. A reputation for impartial judgment is the essential requisite of the teacher who governs well.

2. Make but few rules, and do not indulge in much talking about infringements of them. Remember that pupils, as well as teachers, have rights, and that both have duties.

3. Put yourself in the place of your pupils. Recall your own school experiences, your hopes and fears, your impulses, your notions, and the motives that influenced you. If you do so, you cannot become a tyrant.

4. Secure order, if possible, without corporal punishment; but secure obedience at all hazards. In school, as in an army, discipline is essential to existence.

5. The best way to lead pupils to study is, not by threats and compulsion, but by showing them how to use their text-books, by explaining and illustrating their hard lessons, and by appealing to the higher motives.

6. Do not tempt your pupils to become habitually deceitful and untruthful, by making use of the "self-reporting system" in scholarship and deportment. It is a device worthy of the Inquisition. "It is," says F. S. Jewell, "both stupidly ingenious and transparently vicious.

7. Regard all pupils as truthful until you have positive proof to the contrary. Children with a high sense of honor will never forgive you for doubting their word, or for making an unjust accusation. "The only teacher I ever intensely hated," said a noted instructor, "was a young woman who charged me, unjustly, before the school, with telling a lie, when I was only seven years old." Trust your pupils if you want them to put their trust in you. "The sweetest praise I ever heard," said a public man, "was the remark made by my father when I was twelve years old: 'My boy never told me a lie in his life.'"

8. Encourage truthfulness by rewarding full and frank confession with a remission of penalties, so far as is consistent with scholarship and deportment. Severity is one of the chief causes of lying and deceit. It excites fear, and fear seeks an easy refuge in cunning and evasion.

9. Whispering must be repressed with a firm hand. It cannot be entirely prevented, but it may be checked so as to prevent disturbance and annoyance. One good way of checking it is to allow a short whispering-recess every hour or half-hour.

10. As prevention is better than punishment, children should be trained to a general habit of prompt obedience in minor matters, so that finally they will submit readily to prohibitions which curb their strong inclinations and tendencies.

11. Penalties and punishments must be certain, and must seem to be the natural consequences of wrong acts. The child should know what he has to expect, and when to expect it. There must be no caprice, no variableness, no shadow of turning. The child soon learns to yield to the inevitable.

12. Do not worry; do not be discouraged; think that your agitation, your nervousness, will extend to your pupils. Unite patience with hope, gentleness with firmness, equanimity with force of character. Have a pleasant voice and a cheerful countenance, and show yourself the sincere friend of every pupil; let your school be one that will always have agreeable associations connected with it; but if an emergency comes, be prompt and resolute to meet it, but always calm.

13. Take care of the health of your pupils. See that all exercise during the time assigned for that purpose. Keep the room well ventilated, but expose none to draughts. A strong constitution with fair abilities is better than brilliant talents in a feeble frame. Many a brilliant man has broken down from want of stamina. It is the steady worker that succeeds. Industry, patience, perseverance, energy, endurance, are the keys that unlock the door of success, and these qualities cannot be found in weak and sickly bodies.

14. Be tolerant of thoughtlessness, and severe only in cases of willful disobedience.

15. Do not assign mental tasks after school hours as a punishment. The practice of compelling children to commit to memory or to translate, as a penalty, is educational barbarism.

16. One of the most effective means of punishment is to deprive the offender of some privilege, or to cut him off from the society of schoolmates at recess or intermission.

17. Among schoolboys, fighting is a constant source of disturbance. It is next to impossible to entirely prevent it; but it may be greatly lessened by cultivating a true sense of honor, to take the place of the conventional code prevalent among boys. A little good-natured ridicule will sometimes prove very effective.

18. "Strong terms of reproof," says Bain, "should be sparing, in order to be effective. Still more sparing ought to be the tones of anger. Loss of temper, however excusable, is really a victory to wrong-doers, although, for the moment, it may strike terror."

19. Common sense is in the highest degree requisite for the right administration of school affairs. It is easy enough to sit in judgment upon the black cases and the white, but the gray cases are difficult ones. Nothing but sound judgment can determine a large class of school offenses.

20. There is a conventional sense of honor among school-boys which binds them not to inform the teacher of the misdeeds of their fellows. However false this code may be, he is an unwise teacher who takes ground against the school opinion, and endeavors, by threats of punishment, to compel pupils to become informers. Let him put his tact against the brute power of the school, and he may succeed in modifying the school code so as to draw a line of distinction between the minor matters that belong to the "tattling order" and the graver offenses that concern the real welfare of the school.

21. A foundation principle of school government is that every pupil shall be allowed the largest liberty possible, without infringing on the rights, interests, or convenience of others.

22. Do your utmost to prevent faults before you think of punishing them. Be patient and forbearing, for obedience is a habit formed only by long-continued training. "Avoid direct collision with children," says Buxton. "Have tact enough to divert the child's attention from its own obstinacy and in a few moments you will lead it gently round to submission.

23. Do not assume that the parent is your natural enemy, and, above all, do not act as if he were. Parents have rights, and are generally reasonable if those rights are respected.

24. Do not make cast-iron rules with Unchangeable penalties. If you fail to enforce fixed penalties, you lose the respect of your pupils; and if you do enforce them, you may often be guilty of injustice. Give your verdict and pass sentence after the conviction of the culprit.

*From "Methods of Teaching," by John Swett; published by Harper & Brothers; for sale by S. R. Winshell & Co. $1.90.
MATHEMATICAL DEPARTMENT.

DAVID KIRK, Editor, Jackson, Minn.

FACTORS.

A good many teachers say nothing about the process of finding all the integral factors of a number. Of course the process of finding the prime factors is well understood. In the general expression \( a \cdot b \cdot c \cdot d \), let the letters respectfully represent the prime factors. This number is not only divisible by \( a \) and \( b \) and \( c \) and \( d \), but also by \( ab \), \( ac \), \( ad \), \( bd \), \( cd \), and by \( abc \), \( abd \), \( acd \), \( bcd \), and finally by \( abc \cdot d \), the value of the number itself. So to find all the divisors of a number, we multiply the prime factors together two by two, three by three, etc., till we produce the number itself, and count in the prime factors, and also unity. In order that we may know when we have made all the possible combinations of factors let us proceed as follows: Take a composite number, say 360, and find its prime factors; these are 2, 2, 3, 5. Now form several series by writing 1 and the first, second, third, etc., powers of some prime factor, up to the highest power of that factor which is contained in the given number. First let us take 2 and its power and form with it the series thus, 1, 2, 4, 8 another series is 1, 3, 9; another is 1, 5. Multiply the first series by the second, term by term, and the following products will result: 1, 2, 4, 8, 3, 6, 12, 24, 9, 18, 36, 72. Multiply these by the third series, or rather, by 5, as a multiplier is of no service here, and there will arise additional factors, 5, 10, 20, 45, 15, 30, 60, 120, 45, 90, 180, 360. It will be seen that 360 has many integral divisors, which may be the reason why it was chosen to represent the number of degrees in a circumference.

FRACTIONS.

The funny man of the Detroit Free Press says that not one man in 500 has to use fractions, but every boy is required to study them as if his life depended on a knowledge of them. No doubt there is what President Chadbourne would call "waste in education" in teaching fractions, especially in making them more complex than they are found to be in practical business operations. Still it is not easy to see how a thorough knowledge of the principles of fractions can be dispensed with, if we value accuracy in computation, and desire mental discipline. Text books on arithmetic now in use treat the subject of fractions in a satisfactory manner. The rules in multiplication and division of fractions have been reduced to one in each, and the analyses are more rational than of old.

It would be well to make more prominent the fact that there are two ways of viewing a fraction. We may regard a fraction as an expression representing one or more of the equal parts of a unit (or of several units), or we may look upon it as an indicated division. In the beginning of the pupil's course in fractions, the first view is of course the proper one, but later in his drill it is desirable to make the second more prominent. Let the pupil be required to repeat "denominators are divisors," iterum iterumque, until the great truth is burned into the tissues of his brain, there to remain.

In the language of James S. Eaton, "This is the key to the higher mathematics." The term improper, as applied to some fractions, is not a happy one. The question arises, where is the impropriety. Is it in the thing defined, or in the definition? If improper, why use such fractions? Indeed, the impropriety seems to belong to the fractions whose numerators are smaller than their denominators, for the quotients or values of these cannot be independently expressed. The definition usually given is too restricted. Notice parenthesis above. Let the word "improper," in this connection, be sent to meet the word vulgar.

Another remark. The definition of decimal fractions which regards them as the offspring of common fractions, instead of the decimal system of notation, is most unfortunate. We once elucidated this, and will do so again when we can spare the time.

PROBLEMS.

Some of our readers are doubtful out of temper because mistakes have appeared in their articles. We regret mistakes, but they are unavoidable in a periodical.

It is not in general practicable for the department editor to read the proof, nor is there time to take a revised proof. Most mistakes are of such a nature that they need do no harm. In D. H. Davison's last solution, 16 1-12 was printed 16. 1/2. Now we all know that a body falls 16 1-2 feet in the first second, and we know that D. H. Davison knows it. Mathematical copy is quite difficult to set up. We have an algebra that has gone through four editions, and yet it fairly bristles with mistakes.

But what we set about to say is this, there is not interest enough taken in this department. Like some preaching, there is too much sameness, too much repetition in the matter. Let us have communications that are "doctrinal," "practical," and "experimental."

The following simple problems are here given:

(i.) Required the solidity of a prismoid, height 22 feet, upper base 43 by 23 inches, under base 37 inches square.

(2.) Required the contents of frustum of hyperboloid, transverse 200, conjugate 350, height 14, radii of bases 36 and 20 feet.

(3.) Differentiate \((x^2+y^2+z^2)\).

THE RECESS.

—QUOTATIONS FROM CARLYLE.—"What you see, yet can not see over, is good as infinite."

"Obedience is our universal duty and destiny; wherein whoever will not bend must break; too early and too thoroughly we can not be trained to know that Would, in this world of ours, is a mere zero to should, and for the most part as the smallest of fractions to Shall."

"Not what I Have, but what I Do is my Kingdom."

"Love not pleasure; Love God."

"FUN" PHONETIC.—(Maiden Aunt to a tall nephew who has come to see her.) "While I stood up alone side of you in the pew I could not help noticing your size." (Nephew.) "If I sighed I could not help it either, with such a charming young lady in the next pew."

"Apropos of answers at examinations is the following from a student of literature, attempting to define verse and prose: Verse is known by its feet; prose has no feet, but continues right along."

—When spelling is "reformed" she'll write:

"I'm sailing on the oshun, The sea is hi, no sale in site, It fits me with emoshun."

But one "spell" will not change its name, For she'll be se-sie just the same!

—A person who had obtained a free railroad pass asked the road agent if he could not embrace his wife. "Probably," the official answered, "but I prefer to see her before promising positively."

—What becomes of the phonograph? Would it not be a good thing to require reading pupils to practice their lessons with it? May Edison speed the day when we can receive from each pupil his phonograph exercise.
THE STATES.

OHO. — The annual meeting of the Central Ohio Teachers' Association was held in the high school building of Springfield, on the 29th and 30th ult. There were at least four hundred teachers present, Columbus alone sending one hundred and forty. The address of welcome was given by Mr. D. C. Putnam, member of the school board. Mr. C. D. Loomis, of Dayton, responded in behalf of the association. The inaugural address of Sup't. W. J. White, of Springfield, was replete with solid thought. Mr. Jno. D. Patterson, of Washington College, read a paper on "Elementary Language for Common Schools." The paper was discussed by Sup't. Geo. S. Ormsby, Cole, John Hancock, Ph. D., C. M. Nichols, R. W. Stevenson, Ph. D., and Hon. Jas. J. Burns. In the evening the audience was highly entertained with select readings by Mrs. Eva Child Mason. The association adjourned at an early hour to enjoy the Grand Republican demonstration that was in progress outside. The first paper of the Saturday morning's session was presented by Mr. J. H. Grove, of Delaware, subject—"Latin in the Common Schools." This was earnestly discussed by Miss Anna M. Smith, of Chillicothe, and Messrs. Hancock, Patterson, Sprecher, D. D., Dedeel, Loomis, Ormsby, Stevenson, and Gordon. Col. G. A. Franges, of Columbus, kept the association in good spirits by his pleasing description of the schools in his early days. This paper was discussed by Mr. L. D. Brown, of Hamilton. Mr. Cole, chairman of the committee on nominations reported the following, which was unanimously adopted: For president, Hon. Jas. J. Burns. State Commissioner of Common Schools; for vice president, Miss Jane Blackwood, of Dayton; for treasurer, John Hancock, Ph. D.; for secretary, Sup't. Wm. H. Tibbals, of Columbus; for executive committee, Messrs. C. W. Bennett and Wm. Richardson, and Mrs. W. H. Robinson.

IOWA.—Professor Fellows of the University is supplying the Presbyterian pulpit of Iowa City.

The Central issues up the states in its educational intelligence that we find it difficult reading. Some of its news items still await confirmation. Its practical selections from other journals are well chosen. It now has a circulation of 7,500, and is consequently financially sound. This is the result of good management.

Mrs. Lucy F. Hine, a graduate of the State University, has been chosen principal of the Lone Tree public schools.

The Mitchellville public schools have closed on account of the prevalence of diptheria in the town.

The medical department of the State University is in a flourishing condition. At the beginning of the present term, a few weeks ago, 175 students were enrolled in the allopathic course, 45 of whom will graduate next March. About the same number are taking the homoeopathic course.

Mr. R. T. Smith, former principal of Albion Seminary, is pastor of the M. E. Church at Parkersburg.

Mr. J. E. Webb is principal of the Elkader public schools.

The average age of male teachers in Decatur county is 36 years, and of female teachers is 20 years.

The German American Teachers' Association which held its meeting last year at Newark, N. J., will meet in Davenport some time next summer. Many distinguished educators will be present.

The Central School News.—The students want a course of lectures from the faculty. — A lot of new microscopes have arrived for the use of the class in natural science. — About 235 students have enrolled for this term and new ones are dropping in constantly. The total capacity of the school is not over 260 students. — It is to be hoped that the next Legislature will do something wise and appropriate for this noble State institution that is doing so much and accomplishing so much each year. — The Normal correspondent of the Cedar Falls Gazette signs himself "Irrepressibles." He is a genius in a mild out-of-the-way, countrified manner. He says: "The editorial corps of the Student's Offering for the ensuing year is as follows: Editors in Chief, W. I. Benham and Lou F. Barrett; Associate Editors, Jesse Overman, J. L. Stanton and Ada Armstrong. Business Manager, Wm. Brown. In the management, the Offering will undoubtedly eclipse its former glory. Subscription price 50 cents per year. Prof. Bennequin is at work upon a revised edition of Dufet's French Grammar. Prof. Hennequin is at work on a very complete series of French text-books. Prof. Watson, of the Washburne Observatory, has greatly improved his facilities for observation. He has strong reasons for believing in the existence of the inter-mellucular planet, Vulcan, and for the purpose of making more accurate observations, is now constructing the Watson Solar Observatory at his own expense. It will practically consist of a large hollow tube sixty feet long, the lower end of which will rest in a cellar twenty feet deep. — Prof. C. K. Adams is replying in a vigorous manner, in the Detroit papers, to the attack upon the University made in a recent number of the Popular Science Monthly."

The Adrian high school has arranged a lecture course. The speakers are to be: E. M. Avery, of Cincinnati; Dr. Frothingham, of Ann Arbor; A. H. Tuttle, Columbus, O.; Prof. L. S. Thompson, of Purdue College.

The Flint high school has also organized a lecture course to consist of six first-class entertainments. Season tickets are placed at $1.50.

A night school has been started at Grand Rapids.

WISCONSIN.—The people of Salem, Kenosha county, voted this week on the establishment of two free high schools in the town.

Our subscription agent, Mr. Alfred Thomas, is succeeding finely in his canvass.
We hope he will be able to visit every graded school in the state. At present he is rambling around in the northeastern counties. He is warmly welcomed everywhere he goes; the principals and teachers of Wisconsin know when they see a good paper in the hands of a gentlemanly agent.

E. S. Richmond, formerly of Oregon, Dane county, is principal at Pewaukee.

The high school at Jefferson has been removed to the Liberal Institute building, which was purchased by the city for public school purposes.

Principal Squires has been made superintendent of the city schools. W. L. Gordon, who was principal of the West Side school, has accepted a position in a normal school in Charleston, S. C.

Geo. W. Carrier is principal at Stoughton.

Sup't H. B. Dike, of Polk county, was elected with a promise of $500 salary. The census shows over 10,000 inhabitants and his salary becomes $500.

Nobody objects, as Mr. Dike's services are worse even more than that.

Professor Sunderland, formerly of St. Croix county, is principal at St. Croix Falls, Polk county. Houses are so scarce in St. Croix Falls that Mr. Sunderland is obliged to reside in Taylor's Falls, Minnesota, and walk two miles to his school.

At Menomonie, J. H. Ingalls is principal, and Janet E. Stuart has been assistant in the high school here for seven years. She is a graduate of the Whitewater Normal. They have two new school houses, well fitted up. In all there are four school buildings. The central building has seven teachers.

Principal Ackerman, of Baldwin, is now editing a paper in that place. We do not know the name of his successor.

The school building at Barron, Barron county was struck by lightning last summer, and the building with its entire contents burned.

J. E. Hoyt, late graduate of the State University, is principal of the schools at Lodi. They have a new school house here, in place of the one that was burned. Mr. Hoyt is assisted by five teachers. The schools are running nicely.

Principal Burton, at Sun Prairie, is a graduate of the University, same class as Prin. Hoyt of Lodi.

Kennedy Scott is principal of schools at Poyntette, Columbia county, "and satisfies the people to a T."

John Kelly, a graduate of the Platteville Normal, is principal at Fox Lake. He reports an attendance of 200 pupils. Mr. E. Marsh, who has been in charge of Albion Academy, is now principal at Reedsburg. Albion Academy is for the present closed. Prof. A. R. Cornwall is teaching a select school on his own premises.

G. A. Rogers, formerly principal at Hudson, is assistant principal of the Kenoshan high school. He and Prin. Leach were class-mates at the Oshkosh Normal.

James Ellis is principal at Sharon, in place of Mr. Germain. Mr. Ellis is from Illinois. Mr. Germain is studying medicine.

James Melville is principal at Weyauwega in place of C. O. Larrabee, who goes into other business.

G. L. Bowman is principal of the Prescott schools. He is assisted by five lady teachers. Mr. Reed, formerly of Prescott, is principal of schools at Lancaster, Grant county.

Principal Corson, formerly assistant in the Monroe high school, is now in charge at Mazomanie.

Sup't Daniels, of Door county, was a candidate for county treasurer, consequently he felt little interest in educational matters. Professor Graham went to Sturgeon Bay to conduct a state institute according to program, and found no superintendent and only ten teachers. That institute closed in just one day, and the said superintendent is not popular with said conductor.

In Kewaunee a new room has been added to the high school. Mr. E. McMahon is principal. A rule of the board here provides that all new teachers shall be employed on trial for five months, and if their services prove satisfactory a permanent engagement is made.

Prof. W. R. Bait, principal of the high school at Two Rivers, and president of the Manitowoc County Teachers' Association, has been absent from duty for two weeks on account of illness.

Principal Strateil, of Watertown, has resigned, and his position is now vacant.

Sup't Viebahn, of Manitowoc county, has resigned his position as principal of the Manitowoc high school, at the request of the people, in order that he may devote more attention to the country schools. His salary has been increased proportionally, and $50 added for superintending the schools of the First Ward. Professor Young, a graduate of Oshkosh Normal School, takes the high school.

ILLINOIS.—Knox County Teachers' Assoc. will hold its annual session at Knoxville, Nov. 26 and 27. The president's address will be given by Mr. McClennen. Mrs. Standish, of Galesburg, is to give a discussion on necessity of County Supervision. Rev. A. R. Thain, of Galesburg, is to lecture on Books and Reading. Miss West will give two addresses, one on course of study for country schools, the other on Our Public Schools vs Saloons. Among the exercises by the teachers themselves we note Primary Exercise, Miss Grimes; History, Mr. Andrews; Tests of the scholarship of pupils, J. D. French and Theo. Axline; Reading, Miss Kitty Clark; School Libraries, W. L. Steele, Reports of committees on county library, county fair, etc., will bring out much valuable discussion, which the program does not announce.

Miss West attended a local institute at Log City Oct. 22, and talked to the people in the evening. Dr. Esteman was received at the depot by the students and faculty at Knox, on his return, Oct. 22. The students hope that his Thursday morning lectures will contain notes of his trip.

Normal Note.—The choice of contestants for the coming literary "pill" of the societies was deferred beyond the regular time, but here they are at last. The Philadelphians place on debate D. W. Reid and Geo. Howell; on paper Carrie Humphreys and Lizzie Swain; on oration Jas. B. Estee; on vocal music Mattie L. Beatty, on instrumental music Minnie Patter. The Wrightonians are represented on debate by Elmer E. Brown and Jas. V. McHugh, on paper by Jessie M. De Berard and Addie Gillian; on oration by W. H. Bean vocal music by Margaret Dalrymple; on instrumental music by Myrtle Freeman. The question for debate is not yet selected. Mary C. Furry of Class '72 is one of the "stand-bys" at Sterling. She has taught nearly all the time since graduation.

R. A. Childs, class of '70, paid the old school a visit recently. The students took part in the recent Democratic and Republican rallies at Bloomington. At the Republican meeting a prize flag was awarded to the university procession.

J. D. Hubbard is teaching near Milton, Texelwco Co.; Miss Kate Limage near Long Hollow; Jo Daviess Co.—Frank Lanning and W. C. Ramsey teach near Elliot, San Joaquin Co., Cal. Geo. Snapp teaches at Sullivan, Ill.

All the last year's teachers of the Soldiers' Orphans' Home have been retained and one new one has been added. Miss Mattie Hutton is principal and Miss Reed, a former principal, has returned as assistant principal. Miss Minnie Loomis, a former Normalite, teaches a country school west of Decatur.

Miss Martha A. Fleming of class of '72, has been doing excellent work as an elocutionist. She formerly taught with great success in the Peoria County Normal School, and has been more recently engaged in the schools of Hyde Park.

Mrs. Louisa (Allen) Gregory, of Class '70, is announced to take the lecture platform this winter. Principal A. M. Scott of the Normal public school is preparing a new course of study for the two remaining in the institute. The institute, which was to organize at Georgetown, Vermillion county, did not organize. The teachers in that part think they will need more time to prepare themselves for the work.
THE HOME.

THE SAME CANTEEN.

There are bonds of all sorts in this work of ours, Fetters of friendship and ties of flowers, And true-lover's knots, I ween; The girl and the boy are bound by a kiss, But there's never a bond, old friend, like this— We have drunk from the same canteen! It was sometimes water and sometimes milk, And sometimes apple-jack, fine as silk, But whatever the tipple has been, We shared it together, in bane or bliss, And I warm to you, friend, when I think of this— We have drunk from the same canteen! The rich and the great sit down to dine, And they quaff to each other in sparkling wine, From glasses of crystal and green; But I guess in their golden potions they miss The warmth of regard to be found in this— We have drunk from the same canteen! We have shared our blankets and tent together, And have marched and fought in all kinds of weather, And hungry and full we have been; Had days of battle and days of rest, But this memory I cling to and love the best— We have drunk from the same canteen! For when wounded I lay on the outer slope, With my blood flowing fast and but little hope Upon which my faint spirit could lean, Oh, then, I remember, you crawled to my side, And bleeding so fast it seemed both must have died, We drank from the same canteen!—Charles G. Halpine.

THE PEBBLE IN THE WALL.

A PEBBLE, as geologists often use the word, is any rounded stone, without regard to its size. Pebbles may be small enough to be carried in a shepherd boy's pouch as sling-stones, or they may be several inches or even feet in diameter. The cobble-stones paving the village streets are pebbles, and the round stones built into many a mile of stone wall in some parts of the country are only larger pebbles.

How came these stones to be round? An apple or an orange grows round upon the tree. But stones do not grow. Stones begin as pieces broken off from some ledge of rock. At the foot of any ledge one can see that stones break off in angular shapes. Some are flat, some cubical, some are diamond-shaped, and all sorts of irregular forms appear. Just as a workman making macadamized road breaks up the stone into fragments of every shape with his hammer, so rain and frost break off all sorts of fragments from the ledge, and these are broken still again by falling on one another. Among all the pieces at the foot of the ledge you will almost never find a round one.

How, then, has it come about that there are so many rounded stones in all our fields? Did God make them round at the creation? We might perhaps think so, if he did not show us in every mountain brook and on the shores of our lakes and the sea his machinery still at work turning angular stones into rounded ones.

By watching the action of the waves on a pebbly beach any one can see for himself how constantly the stones along the shore are kept rolling over one another by the motion of the water. Almost everything we can now find upon the beach had the angles and corners worn off long ago, but now and then some fragment shows the rounding process still under way.

Brooks and rivers also, especially if they are broken by rapids or waterfalls, will show the observer how "the waters wear the stones." When the streams are high, stones are rolled along in the current and become more or less rounded by striking against one another and against the bottom. Where a stream pours over a ledge a basin will be found below in which the deep water boils like a pot or whirls about in strong eddies, dashing the stones against one another. In every such place the stones will become rounded, for the corners will of course break off more easily than the stones will break in two.

One will seldom find anything larger than cobble-stones in our streams at the present day, and nearly all the stones are small pebbles, while here and there along still reaches of the streams are beds of sand each grain of which is a small particle probably broken from the larger stones in the process of rounding them.

All these things almost any boy or girl, whose eyes are open and who does not live on the prairie, may see right about home, and find the stones worth looking at and talking about. In ways like these we may believe that the pebbles of all sizes, in the fields, the streets, the walls, were rounded by the action of water. We may not only say that God made them round but see how He shaped them as they are. The pebbles are troublesome enough sometimes in the garden, but every one of them tells a long and exciting story of frost and storm and flood to those who know how to read it.—Christian Union.

A HUMMING-BIRD'S NEST.

Dr. Thomas Brewer remarks that of the five hundred species of humming-birds found on the American continent, not one whose nest is known fails to use spiders' silk in its construction, whether in Newfoundland or Arizona, on the banks of the Columbia or by the side of the Amazon,—a remarkable circumstance considering the number and variety of the species, and the vast extent of their distribution. The abundance of humming-birds in this latitude must render their nests common. But how many has the reader ever seen? I never saw but one and this I did not discover myself. It was seated on the rough, mossy bough of a sugar maple in the woods, fifteen feet from the ground. The foundation seen from the inside seems to be pellets of wool laid like a cobble-stone pavement, and the spider's silk is wound horizontally round and round with bits of gray lichens attached until the sides attain sufficient height and thickness. Seen from below the resemblance to a knot or excrescence is perfect; though a cup of tissue paper of the same size would hardly be more pliable. Not a stick of straw appears, the same lichens that cover the branch are apparently growing all over the outside of the nest, and the joining of the branch and the nest it bears is invisible. So if the reader wishes to look for humming-birds' nests, let him pay particular attention to the knots on the upper side of the forest tree's branches; if he chooses to see one an inch and a half in diameter, with a humming-bird's bill projecting out of it, he has probably found one. One may see them gathering the silk from the large webs which reach from one branch to another in the woods, hovering before the web and collecting the threads into their mouths until they have got nearly the whole, when they are off to their nests.—E. S. Gilbert, in Good Company.

DECLIVITY OF RIVERS.

A very slight declivity suffices to give the running motion to water. Three inches per mile in a smooth, straight channel gives a velocity of about three miles an hour. The Ganges, which gathers the waters of the Himalaya Mountains, the loftiest in the world, is, at 1,800 miles from its mouth, only about 800 feet
above the level of the sea, and to fall these 800 feet in the long course the water requires more than a month. The great river Magdelen, in South America, running for 1,000 miles between two ridges of the Andes, falls only 300 feet in all that distance; above the commencement of the 1,000 miles it is seen descending in rapids and cataracts from the mountains. The gigantic Rio de la Plata has so gentle a descent to the ocean that, in Paraguay, 1,500 miles from its mouth, large ships are seen which have sailed against the current all the way by the force of the wind alone—that is to say, which, on the beautiful inclined plane of the stream, have been gradually lifted by the soft wind, and even against the current, to an elevation greater than that of our loftiest spires.

**THE LIBRARY.**

**REPORTS AND Pamphlets received.**

*The Geological and Natural History Survey of Minnesota.* The Eighth Annual Report, for the year 1879. Submitted to the President of the University Feb. 18, 1880. N. H. Winchell, State Geologist.

**NEW BOOKS RECEIVED.**


A Fool's errand. By One of the Fools, New York: Fords, Howard, & Hubert. 1880. $1.00.


New York and Chicago: A. S. Barnes & Co. (Sample copy sent for 35 cts.)

It is more than twenty years since Prof. Sill, then in the Michigan State Normal School, put forth his first modest little book, *Synthesis of the English sentence.* It was as noticeable for what it did not say as for what it said. Without declaring war upon the current technical terms and false definitions of the grammars in vogue, it gave a synthesis of the English sentence, avoiding futilities and words that implied them. He crowns the thirty years or so of study in this branch with this bright book, the very cream of his thought.

In no class of text-books has there been so much to disapprove and condemn as in grammars of every grade. Had the faults been in method only, somebody's method would finally have secured approval. But the differences in grammatical definition have shown want of logical and analytic power in the writer of them; and it has been evident for the last twenty years that the traditions of the fathers and the definitions derived in reality from the Greek and Latin languages must give way to more accurate definitions. The greatest and most acute philologists confess that a faultless definition of this part of speech is difficult, if not impossible, to be formed. A definition like that which is given above [his own definition] may answer in some degree the purpose of distinction; but, after all, we must judge what is and what is not a verb chiefly from our own observation of the sense and use of words.

We always thought it strange that Brown and those learned and acute philologists did not see that the difficulty lay in the preliminary assumption about parts of speech, and in the attempt to bring under one definition words of widely different function.

We hail this book of Prof. Sill as a long and firm step in the direction of permanent improvement in grammatical doctrine. The time is ripe for rational change, we hope and believe. The methods of grammatical analysis of which Greene has been the special teacher and most efficient introducer have now become universally appropriated; and changes in classification and definition, and thus in parsing, may now follow. There is much in common between the common-sense grammar of Prof. W. D. Whitney and this of Prof. Sill; not because Sill has copied from Whitney, but because both used the thoughts that have long been more or less current among all grammarians whose opinions are worth anything.

Prof. Sill, however, has not been rash in the way of innovation. He retains as much of the old views as possible; sometimes, perhaps, too much, as in the enumeration of the parts of speech. Whoever uses the book will find that all suggestions of change are so gradually and skillfully brought in that he will be convinced that the new is as good as the old, before he has fairly become aware that it is new. There is no difficulty in understanding Prof. Sill's definition of a verb, nor in using it; and while the old grammarians used to say that "A verb is a word," etc., that is, one word, and then stultify themselves by calling may have been loved a verb, though consisting of four words, Prof. Sill enables us to use the four together as a verb-phrase; thus at once he saves logic and the logical sense of his pupil, and also has all the convenience of the old method. He deals with the cases of nouns skillfully; the term is not introduced till long after all and more than all it ever means is made familiar. In a similar manner the old difficulties of mode in verbs are dealt with.

As to the method of the book, it deserves high commendation. It begins with the simplest form of sentence, and proceeds synthetically and analytically to the most complete forms, with abundant practical illustrations and examples for use of the pupil. A mode of giving analysis in diagrams is wrought into the lessons. Nor is it a slight matter that the examples for study are sometimes chosen from our best poetry; thus we have, with fine illustrations in each instance, Longfellow's "Children's Hour," and "Sandalphon;" Whitier's "River Path;" Prentice's "Closing year;" and an extract from Macaulay's "Battle of the Lake Regillus."

The printing is excellent, with wise use of a considerable variety of type. In a pretty thorough reading we noticed but one misprint, the word man for tree on p. 157. The paper is smooth and firm and the whole appearance of the book is attractive.

In conclusion, though this is not an elementary book, it is so written that it may be successfully used with pupils of any grade old enough to study grammar at all.
LITERARY NOTES.


—Scribner's Monthly for November is an impressive number of a favorite magazine. It is the first number of a new year in its history, and its publishers have thought best to dress it in a cover very different in design from the old familiar one. The design may suit some people, perhaps those not American, or those who worship mediaeval times, but most people will agree that a good thing has been exchanged for a poor one. The color is pale brown, as far as possible from anything cheerful or pleasing to the eye. The design is in the style of the Renaissance, which means that it is without design or meaning; and the lettering is in the ugly style of the middle ages. The interior of the magazine is sensibly modern. It is peculiarly rich in illustrations. The frontispiece represents "The Sower," Millet's well-known picture. A very fine portrait of Gladstone is printed in the body of the magazine, full page, also a smaller one of Walt Whitman, which will be regarded with interest. The other engravings and the literary character of this number are first class, as usual.

—Students of French will find the little Manual of the French Verb recently published by Robert Clarke & Co., Cincinnati, very helpful in arriving at a clear and thorough understanding of the subject. It is the result of successful teaching and may be used with any text-book. Sent by mail on receipt of twenty-five cents.

—Our Little Ones is a new magazine for very little folks, published by the Russell Publishing Co., 149 Tremont street, Boston. The cover is attractive and suggestive, which is a good thing in itself. The contents are equally pleasing, and we gladly give the younger welcome. Its editor, "Oliver Optic," has long been known as a welcome writer for the young, and we predict a successful future for the periodical under his management. Judging from the first number, we think it would be a good reading-book in the two lowest grades in the schoolroom. The pictures are good, and the prospectus states that the very best artists are to be employed, and only original drawings, made expressly for this magazine, will be used. We hope the hearts of many little folks will be made glad by a subscription for the year.


THE WORLD.

NEWs RECORD CLOSING MONDAY, NOVEMBER 1, 1880.

—Excitement remains at a high pitch in Ireland. Parnell visited Limerick Nov. 1, and was met a mile from the city by the reception committee and corporation, and was escorted by a procession of 50,000 persons, including 3,000 horsemen. Healey, Parnell's secretary, and Walsh have been arrested and committed for trial.

—War between Turkey and Greece is seriously threatened.

—Severe storms and floods are reported throughout Germany.

—President Hayes has appointed the 25th of November as the National Thanksgiving Day.

—U. S. Grant Jr., youngest son of the General, was married Nov. 1, to Miss Fannie J. Chaffee, only daughter of Senator Chaffee, of Colorado. The marriage occurred in New York City. General Grant yielded his vote in Galena, Ill., to attend this wedding.

—Von Moltke celebrated his eightieth birth-day Oct. 26. He that day declined the title of Prince tendered him by the Kaiser.

—The total number of immigrants who landed in the United States during the month of September was nearly 55,000.

—E. D. Mansfield, a well-known journalist and scholar, died at his residence in Morrow, Ohio, Oct. 27. He was one of the ablest political writers in the West, his articles for many years appearing in the Cincinnati Gazette.

—A New York lady was examining an applicant for the office of mail-of­all-work, when she interrogated her as follows: "Mary, can you scour tin­ware with alacrity?" "No, ma'am; I always scour it with sand."