

The Normal Review.

Vol. IV. No. 6.

CALIFORNIA, PA., FEBRUARY, 1889.

50c. a year.

Entered as second-class matter.

SPRING term opens March 25.

PRESENT attendance is the largest ever known at the Normal in a winter term.

THOSE expecting to attend during spring term or special course, should send us their names if they have not already done so.

AN institute will be held at Greensboro, February 22 and 23.

A SISTER of Mr. Lee Smith, of the Senior class, will enter school the middle of this term.

MR. JOHN C. OWEN, principal of the Clarkesville public schools, visited California on the 19th of January to make arrangements for entering the Junior class at the opening of the spring term.

THE 56th birthday of Mr. Jas. B. Van Dyke, of this place, was the occasion, January 20, of a pleasant re-union of the entire family. Mr. W. S. Van Dyke was accompanied on his visit home by his wife and daughter. Dr. Geo. M. Van Dyke, made a brief call at the Normal January 21.

A VERY large and interesting local institute was held in Lytle's Opera House, Braddock, January 19. Over one hundred teachers were present. Many participated in the discussions. The California Normal was represented by a score or more of teachers in Allegheny county. Principal Noss was present and spoke on "Geography" and on "Manual Training."

DR. H. R. PALMER, of New York, well known as the author of numerous works on music and as director of musical conventions in larger towns and cities in all parts of the country, has been engaged for ten days' instruction in vocal music at the Normal, beginning June 3. The work will close with a grand concert, which it is believed will surpass anything in the musical line ever given in the Valley.

MR. CHAS. E. PECK, '76, a classmate of Prof. Smith's, visited the Normal at the opening of this term. He lives at Streetsborough, Ohio.

MR. GEO. M. FOWLES, class of '88, will take the special course in methods in the spring term. Mr. F. is meeting with deserved success as principal of the schools of Powhatan Point, Ohio.

THE executive committee of the State Teachers' Association, which will meet at Altoona, July 9-11, has honored our Normal Faculty by inviting two of its members to participate in the work of the meeting. Miss Ruff is placed on the committee on exhibits, and Mrs. Noss is requested to prepare a paper on "Teachers' Training Schools."

MANUAL Training was introduced as a distinct line of school-work at the Normal on Friday, January 18. The Senior class alone will receive instruction and training in the shop at present. Prof. Bryan, of the faculty, is in charge.

IT would be difficult to secure again such a combination of talent as we have for our Special Methods Course in May and June. Think of it—Col. Parker, Dr. Brooks and Dr. Snyder in general school work, and Dr. H. R. Palmer in vocal music. We hope this rare opportunity will be eagerly seized by every graduate of the Normal who is engaged in teaching and can possibly attend, and by any and all other teachers who wish to have their minds quickened with the best educational thought of the day. Invaluable as this course will be the expense for taking it will be slight.

THE Somerset County Institute, held in the first week of January, was attended by all the teachers in the county but four. The audiences were very large at all the sessions, and the instruction excellent. No better institute has been held in the county.

Important Dates. Col. Parker's work at the Normal begins May 13. Dr. Brooks' May 20, and Dr. Snyder's and Dr. Palmer's June 3.

MR. FRANK M. SEMANS, '87, is clerk of the First National Bank, Uniontown, Pa.

MASON'S Music Charts have been introduced into both the Normal and model departments of the school.

MANY new students have entered school this term. The enrollment at the present time far exceeds that of any previous winter term. Our Chapel is crowded, more chairs having been placed to accommodate all.

OUR Librarian, Mrs. Bryan, has new duties added, as she is now assisting in the Normal department as a teacher.

A "NEVER-MISS-AGAIN-LIST" has been begun by Dr. Noss. All miss pronounced and misspelled words are placed on the blackboard and our attention called to them. It is a serious offense to make a mistake the second time.

THE school board has furnished the Model department with pencils, paper, etc. Better work is expected and will no doubt be received.

GREAT preparation is being made for the spring term. A large number of new students is expected. The question is, "Where shall we put them, if many more come?"

MISS RUFF's Public will be given Friday, February 8.

MISS MacPHERSON and Mrs. Noss spent Sabbath, December, 20, in Monongahela City.

THE faculty, desirous that the same regularity be observed in the preparation of lessons, as is observed in the recitations, have given us a "Study Programme" which they earnestly desire that we strictly follow.

MISS FRANCES NICKERSON, '88, writes that she would like to have THE REVIEW appear oftener than once a month.

School Room Helps—For Earnest Teachers.

Caution.

The "Helps" are, for the most part, intended to be merely suggestive hints to be developed and worked out by wide-awake, thinking teachers. Do not attempt to apply anybody's method or device *boldly*. If the soul of it strike you as something likely to be worth the having and using, seize upon it, stamp it with your own individuality and it will pass current. In proportion as a teacher puts *thought into her work* will she be able to get *happiness and good results out of it*.

How to Make Recitations Interesting.

1. Make special preparation yourself beforehand for every recitation of the day.

2. Open the recitation pleasantly, and let it be *social*, devoid of all restraints except those of true courtesy.

3. Let the pupils do the talking; ask questions only to direct the discussion.

4. Call out the backward ones, encourage the timid, and repress (but with great caution), the too forward.

5. Study how to present each subject in the most attractive way. Study merits and demerits of previous recitations by results observed.

Search Questions

1. Who wrote about:—

- (1) Arcadia?
- (2) Happy Valley?
- (3) Pilgrim Fathers?
- (4) The French Revolution?
- (5) The Massacre of Wyoming?

2. Who originated the phrase?

- (1) The Almighty Dollar?
- (2) The Circumlocution Office?
- (3) The Hub of the Universe?
- (4) Yahoo?
- (5) Star-Spangled Banner?
- (6) Dixie?
- (7) Bread-winner?
- (8) To the Victor Belongs the Spoils?
- (9) Inalienable rights?
- (10) The Inexorable Logic of Events?

3. What battles have been made the subjects of poems?

- (2) How many Presidents have married while in office?
- (3) What was the longest continuous speech ever made?
- (4) Who wrote the first telegram ever sent?
- (5) Who laid the first Atlantic cable?

4. To what Authors and books belong the following characters?

- (1) Artful Dodger?
- (2) Friday?
- (3) Ichabod Crane?
- (4) Mrs. Grundy?
- (5) Long Tom Coffin?
- (6) Mrs. Harris?
- (7) Becky Sharp?
- (8) Rowena?
- (9) Dominic Sampson?
- (10) Abel Fletcher?

Fun for Little Folks.

Place the following on the black-board, some day when the little ones get restless:

- | | |
|----|---|
| In | <ol style="list-style-type: none"> 1 Wagon, 2 Pins, 3 Chickens, 3 Boys, 2 Needles, A bed-stead, and A clock. |
|----|---|

How many eyes? heads? hands? feet? tongues? faces? etc.

Such exercises are something more than merely amusing. Try it.

Problems for Little Thinkers.

1. How old will you be on your birthday in 1890?

2. How many apples would you need to give five boys three apples apiece and have two left for yourself?

3. How many oranges would it take to give ten girls a half orange each and have a whole orange left for yourself?

4. Willie bought five 2-cent, and ten 1-cent stamps. She handed the postmaster a half dollar. How many nickles did he give her?

5. How many more letters are there in the names of the winter months than in the names of the summer months?

6. Edgar has ten apples. How can he divide them equally among his three playmates?

7. C. C. had three quarts of chestnuts. He sold them out at five cents a pint. How much did he get for them?

8. In how many years will you be as old as your teacher is now?

9. What three pieces of money make a dollar?

10. What four pieces of money make a half dollar?

Geography Review.

Place the following scheme on the black-board:

- | |
|--|
| <ol style="list-style-type: none"> Capital, Chief Center, Rivers, Mountains, Coast Line, Neighboring States, Occupation of People, Products, Imports, Exports, Manufacturing. |
|--|

To the left write the name of the country or state, and require a pupil to fill out the blank, after which the class criticise.

An Interesting History Review.

Have the pupils bring up each ten questions written on separate slips of paper and signed. Mix these all well in a suitable box, and call upon the pupils in turn to come up and draw a question to be read and answered. If any pupil is not able to answer the question he has drawn he may call upon the proposer to answer it for him, or better be required to look it up for himself. If any pupil draws a question of his own proposing, he may call upon any member of the class he may choose to answer it. Keep a list of questions missed for future use.

The same plan may be pursued in advanced classes in Arithmetic and Algebra. *If slightly modified each time*, the above plan may be used often to great advantage in any of the subjects named.

Friday Afternoon Fun.

Three soldiers with three prisoners once came to a narrow river which they must cross in boats. Now the ferryman was gone, and they could find only one small boat capable of holding only two persons. If one soldier can guard only two prisoners, how can they all cross without giving any prisoner a chance to escape?

Faithfully yours,

TOM F. McBEATH.

Music in our Public Schools.

BY G. A. VEAZIE, JR., BOSTON.

I.—ITS MISSION.

It is about fifty years since the study of singing was first introduced into the public schools of the United States; and still at this late day the true mission of that study seems to be imperfectly understood. It is generally looked upon as a study having no special rights in the school-room,—to which it is admitted with an "apology for the intrusion,"—as was stated in a late lecture upon the topic by an eminent teacher—music being placed on the list as a sort of an ornamental study. School singing is considered something quite superficial, not at all practical, and without any particular aim, except perhaps to furnish a means of pleasant recreation in the school-room, and thus relieve the monotony of school-life. This very narrow view, which in its limitations shuts out the broader vista of possibilities beyond, greatly retards the progress of this most important work.

Its opponents find it often an easy task to carry their point, owing to this woeful lack of understanding of the true mission of school-music on the part of its advocates.

No structure is safe unless built upon a firm foundation.

The fundamental principle of the mission of school-music must be perfectly understood and thoroughly appreciated by its advocates, ere they can hope for real progress in the matter.

Even when music is placed in the schools—if it is done under a false idea of its claims—its retention is uncertain, and it is liable to be discarded at the first attack made upon it, merely because its supporters cannot properly defend themselves.

An army that is certain of the right, of the justice of its cause, is the stronger for it always. The friends of music in the schools, were they filled with the enthusiasm which could not but spring from a right conception of its mission, would make an army in its defence that would hold it against all antagonism.

What is the true mission of school-music?

The question may thus be answered:

In our schools all essential studies, so called, are addressed to the intellect, and except in language (reading), which in narrative form may incidentally appeal to the emotional, there is no study that reaches the *sensible*, and through that the spiritual nature of the child.

We are debarred, and perhaps wisely, from the introduction of any religious training, and though lectures upon morals are suggested and undoubtedly given, yet, except in the hands of the teacher particularly gifted, they can but be tame and uninteresting to children and in many cases profitless, because they do not probe beneath the surface, and therefore fail to carry conviction with them.

Thus it happens that the most impressive part remaining more or less dormant, the child-nature grows one-sidedly, and at maturity there is an abnormal condition quite unfavorable to the moral requirements of manhood and womanhood. "There is no light within to shed its radiance upon the labor of the intellect, or to brighten the long day of physical toil.

Evils are sure to follow in the train of a course of study which omits entirely that which is vital—that which is God-given, and which it is our privilege—may, our *duty* to bestow upon our children.

Music, then, has a mission, the sacredness of which no thinking man should ever question; and in our public schools, when properly presented, it acts at once upon that element as yet untouched by the other studies. Under its influence its finer fibres of the child's being are brought into action, and almost unconsciously the spiritual preceptions are awakened, and there begins a natural growth of a love for what is beautiful.

Whatever is truly beautiful is always good. The child will therefore come to love good, not because it is lovable. Through these early impressions he is drawn nearer the Divine Heart; he becomes keenly sensible to all that is the product of unlove or evil; and if he does a wrong act he suffers intensely in proportion to this nearness. His power of resistance to evil inclinations is thereby strengthened, and all purer influences are attracted toward him and he to them in reciprocal action, under the unchangeable rule of the divine law, "like unto like."

It is therefore quite plain that as the result of this spiritual activity within, there will ensue a natural growth in the child toward a healthy moral condition. It is not difficult to foresee the effect upon our nation, for as the child—so is the man—as the man—so is the nation. The child of to-day is the citizen of to-morrow. Shall we not then in justice to the interests of our loved republic give to our school children what may tend towards their moral and spiritual as well as their intellectual advancement where it can be done (as by the introduction of the study of music), without offending the sensitiveness of any creed or danger of sectarian antagonism.

Music is universal. Music *in itself* speaks but one language—the language of love.

It is the Voice Divine. We hear it in the sighing of the breeze; in the singing of the birds; in the twinkling rhythms of the rippling brook, and in the deep diapasons of the ocean storm; we hear it in the sweet voices of our

children; and if in any or all of these phases it finds in us a responsive chord, an attunement of its cadences, we are refined, elevated, lifted out of the lower strata of human desire to a plane of higher and purer endeavor.

May we therefore think more seriously upon this subject of "music in schools," endeavoring to realize the full and complete sense of its important mission; and our object attained, to stay not our voice until every school in the land shall have music upon its list of studies.—*Exchange.*

The Rev. Chas. Kingley's Letter to a Public School Boy.

The following letter referred to the boy having put into the lottery without thinking it any harm:—

"MY DEAREST BOY:—There is a matter which gave me much uneasiness when you mentioned it. You said you had put into some lottery for the Derby, and had hedged to make safe.

"Now, all that is bad, bad, nothing but bad. Of all habits gambling is the one I hate most and have avoided most. Of all habits it grows most on eager minds. Success and loss alike make it grow. Of all habits, however much civilized men may give way to it, it is one of the most intrinsically savage. Historically, it has been the peace excitement of the lowest brutes in human form for ages past. Morally, it is unchivalrous and unchristian.

"1. It gains money by the lowest and most unjust means, for it takes money out of your neighbor's pocket without giving him anything in return.

"2. It tempts you to use what you fancy your superior knowledge of a horse's merit—or anything else—to your neighbor's harm.

"If you know better than your neighbor you are bound to give him your advice. Instead, you conceal your knowledge to win from his ignorance; hence come all sorts of concealments, dodges, deceits—I say the devil is the only father of it. I'm sure, moreover, that the Head-Master would object

seriously to anything like a lottery, betting, or gambling.

"I hope you have not won. I should not be sorry for you to lose. If you have won, I shall not congratulate you. If you wish to please me, you will give back to its lawful owners the money you have won. If you are a loser in gross thereby, I will gladly reimburse your losses this time. As you had put in, you could not in honor draw back till after the event. Now you can give back your money, saying that you understand that the Head-Master and I disapprove of such things and so gain a very great moral influence.

"Recollect always that the stock argument is worthless. It is this: 'My friend would win from me if he could, therefore I have an equal right to win from him.' Nonsense. The same argument would prove that I have a right to maim or kill a man if only I give him leave to maim or kill me if he can and will.

"I have spoken my mind once and for all on a matter on which I have held the same views for more than twenty years, and trust in God you will not forget my words in after life. I have seen many a good fellow ruined by finding himself one day short of money and trying to get a little by play or betting—and then the Lord have mercy on his simple soul, for simple it will not remain long.

"Mind, I am not the least angry with you. Betting is the way of the world. So are all the seven deadly sins under certain rules and pretty names; but to the devil they lead if indulged in, in spite of the wise world and its ways.—Your loving friend,
C. KINGLEY."

School-Room Hints.

At a history class, last winter, I found a hint on school discipline. The passage that gave me the suggestion was this:

"The people are best governed, where there is the least outward show of government." It seems to me if

we change the word people to pupils, we have an excellent thought for the schoolroom. A little pleasant attention shown to a rough boy, who has had little experience of kindness, and who, we might think from his outward appearance, would be incapable of regard for his teacher, has sometimes a happy effect. I had an amusing illustration of this, a short time ago, at the State primary school, where I was teaching. Many of the boys there, are boys, whose early associations have not only been almost entirely without refining influences, but have been an education in evil. A large, rough boy came into school one afternoon, evidently the embodiment of ill-nature. The exercise that day was letter-writing. He did not seem inclined to begin his work. I did not appear to notice his idleness or crossness, but called him by name and asked: "Wouldn't you like to sit at my desk by me to-day to write your letter?" Strange as it may seem, this simple device banished for the time his ill-nature and secured a good afternoon's work. He even wished to write at recess, which at this school is an intermission of half an hour. Children, in public schools, too often come from homes, where they suffer from too much, rather than too little, attention, but possibly there may occasionally be a child, like my poor State primary boy, who can be allured into doing his best, by the privilege of sitting beside his teacher for a few hours and sharing her desk.—*Evelyn S. Foster.*

Do you think when I mark my pupils in writing, I would give a higher mark to the boy who makes perfect work than to the one whose lines are shaky and trembling with effort?—*May C. Duffin.*

God governs in the affair of men; and if a sparrow cannot fall to the ground without His notice neither can a kingdom rise without His aid.—*Franklin.*

Need English Spelling Damage the Mind.

An able teacher finds very few insurmountable obstructions to education. Even the incongruities of our language, if intelligently handled, may be made a means of most valuable mental training. The English tongue of to-day, faulty and irregular as it is, is not an accident. It is a result of other tongues, working, however, under more varied conditions. In other words, it is an organism and if studied as such, it cannot possibly inculcate "the pernicious notion that cram is better than thinking, and that common sense is a treacherous guide." It may, indeed, assist toward defining the limits of that domain that naturally falls under the rule of "common sense." It may aid in showing that logic is vain without adequate premises and lead to the habit of looking for premises, or, in their absence, seeking and accepting authority.

The theory that every fact in the chain of knowledge can be most economically acquired by the pupil through reason or experiment is almost as dangerous an extreme in education as that which proposes the unreasoning memory as the sole gateway to intellectual acquirement. To wholly eliminate faith from the process of school life is to ignore an element in human nature, and to set at naught the patient work of all past investigation. It is to place our children in the garden of Eden and expect them, in one short life apiece, to accumulate all the experience that the race has accumulated in untold centuries.

It is not necessary to thus keep the world beginning over again, in order to cultivate the powers of self-reliant research. On this point, the philosophy of education is to lead the pupil to discover for himself, or to verify for himself all that he can within the limits of his school period, and to take the rest on authority. A child so taught will be an inquisitive child.

He will want to see the reason if he can, but will contentedly resign himself to at least a temporary exercise of "blind faith" when it is clearly shown him that to trace the apparent anomaly down to its "first cause" would take years of study. He will not become in after years an example of that "English orthodoxy" that can be made to "believe anything" but will simply learn to distinguish between those occasions when his present reason can avail him and those when it cannot, because of insufficient premises. This is a most important distinction.

To illustrate this much of theory as it bears on the practice of teaching English.

Pupil—Mama, why must I call this letter double-u? It is not double-u it is double-v.

Teacher—A long time ago, little one, the letter v was called u, and double-v was called double-u. The v has changed name, but the double-v has not.

Pupil—Why do people say *himself*, *mama*? It is not *himself* I mean, when I have to say it—it is *hisself*.

Teacher—I do not know, my child. All these strange things have a reason, away back in history, but there is so much to study that *mama* has not had time to study just this. Perhaps, when you are a man, you will have time to read all the books that tell how words are made, and then you can tell *mama* what you find out about them. At present she can only guess, and this is what she guesses: A long time ago people did not know so much as they do now, and did not get even simple things just right. When they made the words, *myself*, *thysself*, *hisself*, *herself*, *itself*, *ourselves*, *yourselves* and *themselves*, they made some of them correctly and some of them incorrectly, and the dictionary makers have not yet put their heads together to make the needed corrections. Perhaps they will, some day, but you and I will not wait for them. We will separate the correct and incorrect forms right now; only, though we sep-

arate them in our minds, we must still content ourselves with the incorrect forms of speech and writing, because you and I are only two people, and not dictionary makers, at that. So we cannot make the language over. Now let us see. You and I will each take a piece of paper and divide it into two columns, heading one "Correct" and the other "Incorrect." Here are the eight words. We will write each in its appropriate column and when we have finished we will compare papers.

Pupil—Mama, why is p-a-n pronounced pan and p-a-n-e pronounced pane?

Teacher—It is one of the laws of our language and also of the German, that e may be used to change the sound of the vowel it follows. Let us see how many words we can find in which the sound of a, e, i, o, u or w is changed by the addition of e.

Pupil—(Two days later.) Mama, how do you pronounce b-a-d-e?

Teacher—Just as if there was no e there. That is one of those little words that have not yet learned to obey the law. The English is a very young language, as yet, and contains a great many of these wild words. Let us hope that some of them will be civilized during our short lives. In the older languages, the laws are much better obeyed, but in none is obedience quite perfect and universal.

Pupil—Why does the o in dough have a different sound from the o in bough.

Teacher—Possibly the two words originated in neighboring townships, which would be quite sufficient to give them a similar spelling with a different pronunciation. Even in our own country, and in these modern times, the o in road gets a peculiar twist in some States and the ou in house gets a queer curl in others. The dictionary makers find out all they can about the origin and history of a word and give us their judgment as to its meaning, pronunciation and spelling, and we

who cannot give our lives to the study of language, must gratefully take their word and follow their advice in a great many things.

Pupil—Why are there three m's in the word "mamma" and only two p's in the word "papa?"

Teacher—I do not know, my child, but a great English novelist, Charles Dickens, always spelled mamma with two m's. With him to lead the way, I think you and I may follow; and, if we call people's attention to the fact that Dickens dropped the unnecessary m, perhaps they will do so too. When a great many educated people persist in a similar spelling for a word, the dictionary makers feel justified in giving it their authority; and when they adopt it, all the rest of the people soon fall in line. This is one way by which languages grow, and perhaps you and I can help the English language to grow by working hard at the word mama. It would not do for us to try to start any change though, because we have not done anything to win us the respectful attention of the people, as Dickens has.

Pupil—Why do we say "It snows," mama? What snows?

Teacher—The word "it" has always been used, in other languages as well as the English, to make certain expressions that are short and convenient for every day use. It is easier to say "it" is dark, than "the time" or "the place" is dark. "It snows" is a quicker means of telling me the state of the weather than "snow is falling." These expressions are very old, and no one has ever found fault with them, because, though not very logical, they are so very convenient.

Pupil—I don't like the study of spelling so well as the study of arithmetic, mama. I have to work so hard to remember so many things that I don't understand.

Teacher—So you will, my dear, when you take up the study of anatomy. If, as you say, you are to be a physician, you will have to dissect the human

frame and learn the name and function of every bone and tissue in the whole wonderful machine. For a great many of the facts you then learn you will immediately see cause and connection, and that part of your study will be very interesting. On the other hand, there will be very many facts that you cannot reach either by examination or inference, but must accept on the authority of older investigators and memorize as you do a part of your spelling. Later on, if you remain as earnest a seeker after causes as you are to-day, you will discover relations among these dry, separate facts that no one else has seen, and possibly help the world on by making anatomical study plainer to students that will come after you. In the meantime, though you love to ride your bicycle and to exercise your reason, you must learn that they cannot take you to the place you have to go.

In conclusion, let me suggest that it is not the teaching of English spelling which is alone responsible for the mindrepression Mr. Fernald so deplors in your November issue, but the inane teaching of other subjects. The same teacher that makes orthography a hurtful mental discipline will, as a rule make a geography and history equally hurtful. The teacher whose aim is to cultivate mind will manage to cultivate it, even if English spelling be one of the enforced means.

To the writer, the modern practice seems good insofar as it begins by teaching a number of words "by sight," then proceed to evolve from these, and from those freshly learned from day to day, the phonetic principles of the language. If this second process could be nearly or quite completed, before taking up with the bugbear, "oral spelling," the latter might thereafter be made a more intelligent exercise, really teaching, through the ear, what many pupils fail to learn through the eye. But this solid foundation should be solidly built upon, great rocks being used for the up-going walls instead of little, separate grains of sand. The

first reader pupil should be led to classify words as phonetically and unphonetically spelled. He should begin to group regularly spelled words and deduce the rules that govern their orthography. The third reader pupil should continue this and also begin to notice that there are analogies, even among the words he has set aside as irregular. By a constantly closer classification, he should gradually sift out those words for which there appears to be no rule. He should be led to account for the orthography of these when this is possible, and to content himself, for the rest with a simple word of the masters. With all this intelligent work at classification and research, the industrious conning of the hard words will not seriously hurt his mentality. But all this can be done without phonetic primers.—*The Teacher.*

Elementary Composition.

Every teacher no doubt, has his own method in teaching this important subject, but I think it is of advantage to vary our methods occasionally so as to create a fresh interest. In the use of stories for reproduction work, most teachers read the narrative twice and then make a few explanations. I find it a good plan to read once, and explain the difficult words and phrases. Then I lay aside the book, and tell the leading thoughts in my own words. This has the effect of turning the attention of the children from the mere phraseology to the thoughts in the passage read. I have often created a fresh interest by narrating some incident that recently occurred in the school, play-ground, or district. Being familiar with the circumstances of the case, the children have less difficulty in clothing it with suitable words.

My greatest difficulty, however, lies in correcting the exercises, so as to be able to explain and expose the errors. No doubt the best way is to examine the exercises individually. Thus, you have an opportunity of grouping the

errors. But the cry of "want of time" comes in here, and take away my breath. In any case, the method should be adopted occasionally, so that you may know where the weak points of the class lie. This may be done at home or in school exercises, written on paper and examined by the teacher after school hours.

In some cases, the exercises are given to the best pupils to correct. But errors marked in this way are seldom looked at, consequently it is lost labour. Another method is to exchange the exercises in the class. It is advisable that the most proficient should exchange with those who are behind. As soon as attention is got in the class, the story is read slowly—for the third time—the examiners are meanwhile carefully following and marking errors. Full allowance is made in the matter of phraseology. One or two slates may then be taken to test the accuracy of the corrections.

This method has these advantages (1) It saves time, as the examination can be done in a few minutes in the largest classes. (2) The thoughts and expressions of the pupils who are blessed with some brains are pursued by those who are lacking in that commodity; and (3) The whole class have got an opportunity of hearing the narrative read after they have gone through the ordeal of trying to reproduce it.

But whatever method is used, the blackboard should be taken advantage of for the purpose of illustrating and explaining how the exercise should be done.

I have found it of the greatest help to read an interesting story in the usual way on Friday afternoon, and ask the children to bring it written out on Monday morning. This weekly exercise is always corrected by myself at home.

The following method I have generally found successful: The exercise should consist of (1) short essays on familiar subjects, (2) reproduc-

ing narratives and letters. To these may be added the summaries of lessons, paraphrasing of easy poetry, and synopsis of any book they may have read. Two things must be specially attended to in these exercises, namely, neatness and accuracy. A letter should occasionally be written on the blackboard by the teacher as a model for the pupils, showing the form, how to begin and end it, how to write the address, etc.

In giving these exercises, of course the leading points should be indicated, and the description of these points should form paragraphs. If possible a "letter" should be given for a home exercise, written on paper and enclosed in an envelope, and addressed to the teacher. This is a valuable piece of training, if we may draw conclusions as to the necessity of it from letters occasionally received by teachers.—*Popular Educator*.

In every lesson there are certain salient points to be borne in mind. There are the hinge upon which the lesson hangs, just as the door hangs upon its hinges.

In reading, the salient points are; (1) Facility for silent reading; (2) Distinct articulation. In spelling: (1) Dispense with difficult words; (2) Dispense with spelling book, and teach the children to write the words in sentences. In drawing: (1) The importance of drawing from the object; (2) The importance of beginning at a very early age. The pencil can hardly be put into the hand of the child too soon. In arithmetic: (1) Accuracy; (2) Rapidity.

Bain says for all kinds of acquirement, three things are necessary:—Repetition, concentration, and adhesive power of mind. Repetition makes up for weakness. Concentration is only another name for attention. Adhesiveness is the power by which Jane will hear, retain, and reproduce, while Mary, who has not this power, lets what she hears "go in at one ear, and come out at the

other." And yet Mary may not have a bad mind—it needs training.

In this case, the teacher should know just what exercises to supply for training the needed faculties. For training the attention, I know of no better exercises than the circle with figures placed around it to be added. If you have fifteen figures in the circle, it gives you fifteen different examples to add.—*In Thos. Hunter in School Journal*.

Language Exercise.

By LUCIA RUSSELL ALLEN.

An important part of the teacher's work at the present day is to train the child to express himself clearly and concisely, both in words and with the pen. At the same time I think it is the most discouraging work a teacher has to do and gives the crudest results. I have found the following exercise helpful:

Distribute reading books. If the school has been supplied with two sets of supplementary, distribute one kind to one-half the pupils and the other kind to the other half to give variety.

Let each pupil select a picture and write ten sentences describing it. At the end of twenty minutes, take a copy of each of the readers in your hand and when the child has read what he has written, find the picture from his description and hold it up before the class. The other children will be ready to tell him if there is anything in the picture which he has not included in his sentences.

Profusely illustrated books on natural history are useful in this exercise allowing the pupil to describe his picture without giving the name of the animal.

The same exercise may be wholly oral.

The first mistake in the education of girls, and the one fraught with the saddest results, is made when they are allowed to leave childhood too soon.—*Popular Science*.

Clioian Review.

MOTTO—PEDETENTIM ET GRADATIM.

ELLA SIBBITT, Editor.

THE SNOW that fell two or three inches deep January 20, was welcomed by all.

A BRIEF address to the students, Jan. 21, by Dr. Dodd, of Rochester, Pa., was replete with good thought and good counsel.

MISS McMUNN, it is thought, is on a sure road to fame since she has succeeded in stimulating thought and arousing so much interest in the number work of the E Grade, known to the practice teachers as the "Easy E's."

AN eight-year-old Model School boy's definition of a hill—"A big high thing made out of dirt."

MR. LONG has become quite an artist on the blackboard, for the purpose of arousing interest in his reading class.

MISS HUGG is not dependent on the books for supplementary reading for her class. When there is a demand for something new, she simply writes a story, and hands it in to the office to have copies enough struck off on the cyclostyle.

MISS VARNELL and Darsie have vied with each other in skillfully developing the subject of silk and the silk-worm, in the B and C grades. Charts have been made, upon which the children have placed everything they could find that originally came from the silk-worm. These charts have added much to the Model room decoration.

WINTER term opened December 31, and students are now all hard at work.

THERE was school in the higher classes on New Year's, and we can think of no better place for spending the first day of the new year.

THERE has been several accessions to the Junior class this term, and there will be a very large number next term.

MR. LEE SMITH, an ardent worker in Clio, has entered the Senior class.

THE Seniors have begun the study of Rhetoric and Latin.

THERE was a large attendance at the first meeting of Clio Society this term. The programme for the evening was very interesting and all were enthusiastic in the work. The salutatory address was delivered in a very pleasing manner by Miss Burke, and all present were highly entertained.

MISS LIZZIE MORGAN, of the class of '85, visited the school on the first day of the term.

"SOMETIMES," said the teacher, "history repeats itself; can you give an instance?"

"Yes Sir," said the smart, bad boy, with a slow, pained tone of expression; "it will have to do so at this recitation, if it wants to get repeated, because I cannot do it."

CLIO is glad to see many of her old members in school, and extends to them a hearty welcome.

MISS FLORENCE CROUCH will enter school at the opening of the spring term.

THE Cumberland church in Coal Centre, is now approaching completion.

THE recitations in chapel by the Seniors are almost over, and as soon as all have recited, they will begin delivering original orations.

SEVERAL of the directors visited the Model school on Friday, January 4. They all seemed well pleased with the work being done.

THE American Mechanics presented the Coal Centre school with a flag on New Year's day.

THERE has been a new plan started in the society. This plan is to have all of the performances centre around one theme. For the past few evening the themes have been "Greece and Ice."

MR. G. W. GALLAGHER, of the class of '84, will complete his medical course at Philadelphia the coming summer. He was a staunch Clio while attending the Normal.

MISS BERTIE SPHAR, who is now teaching in Lucyville, will be a member of school in the spring.

MISS ELIZA TAYLOR, who came to school on the train last term, is now staying in town.

MISS LAURA LILLY writes that she likes the State of California very much.

SINCE the commencement of this term, the following persons among others have joined our society. Misses Taylor and Bottomly and Messrs. Hanna, Darsie, Swan and Patton. Besides the persons already mentioned, there has been a large number who have been members of the society before, and have again joined our ranks.

J. H. BOWMAN, of Brownsville, is going to enter school in the spring.

MISS MINNIE McKENNA, who is now teaching in Allenport, will enter school in the spring.

MISS MARIE HALL, a former Clio and graduate, graduated from Duff's College, and has accepted a position as a teacher of short hand and type writing, in Chalfant's Business School, Brownsville.

THE first Juniors are studying general history under the directions of Miss Ruff, and the second Juniors, Julius Caesar. Both classes are well pleased with their studies.

THE boys of the Senior class may laugh at the girls using the tools in Manual Training shop; but wait until dish-washing is introduced into the schools, and then the girls can return the laugh.

MISS OLA HAWKINS and Miss Anna Morton, both of Fredericktown, Pa., will enter school at the beginning of next term.

MISS MARGARET SHEPLAR, a member of the Junior class, is now staying in Coal Centre.

MR. R. C. CROWTHERS, of the class of '85, now a student of Meadville College, paid a short visit to his friends during the holidays.

Philomathean Galaxy.

MOTTO—NON PALMA SINE PULVERE.

MINNIE McMUNN, Editor.

PRINCIPAL NOSS announced to the school, January 22, the engagement with Dr. H. R. Palmer for a course of ten days' instruction in vocal music next June.

MRS. PROF. BRYAN is now teaching some in addition to her duties as librarian.

MR. GEO. FOWLES, class of '88, visited Normal during holiday week. He seems greatly interested in his work.

MR. FOX one of Philo's earnest workers, is teaching in Westmoreland county, near Mount Pleasant.

THE students' returned after their holiday vacation much rested and ready for another term of hard work.

THE Society held by the Model school, Friday, December, 21, 1888, was very successful. The work exhibited was much admired, and the recitations, songs and a Christmas scene, was fully appreciated by the many visitors who were present.

THE members of Senior class are moaning over their orations, which are due in two weeks. By that time the Chapel recitations will have been finished and the orations will be delivered in alphabetical order of the class.

MISS CARRIE WILSON, a former Philo, always faithful in the discharge of her society duties, is teaching school in Fallowfield Township. She is succeeding admirably with her work.

MISS LUCY HERTZOG has resumed her work at the Cleveland Homeopathic Hospital College, after spending a very enjoyable vacation at her home. She is highly pleased with her work and the school.

MISS NELLIE GANS, a former Philo, is attending Bethany College.

MR. HARVEY PARSON and two sisters, of Maple Creek, will enter school at the beginning of the spring term.

MR. MAYHUGH of the class of '87, expects to enter Waynesburg College in the spring.

THE following officers were elected in Philo for the ensuing term. President, Mr. Day; Vice-President, Miss Reed; Secretary, Miss Westbay; Treasurer, Miss Murray; Critic, Miss Crawford; Attorney, Mr. Luckey; Marshal, Mr. Weaver.

THE Philos, much pleased with the new programme, and still desirous of going forward in the march of progress, have added impromptu speeches to their list of performances.

THE members of our society were highly entertained recently by a debate on the question, "Resolved, that the mind of woman is inferior to that of man." Dr. Noss, Messrs. Ghrist and Van Powell took quite an active part in the discussion.

WE are glad that our choir is increasing in numbers, and that they are so ready and willing to furnish the society with music.

THE ladies in our society are gaining for themselves quite a good reputation for debating. We have ladies who debate as frequently as the gentlemen and some even surpass the other sex in their arguments.

THE following new members have been received into our society within the last two weeks: Misses Dague, Guffey and Foster; and Messrs. Mayhugh, Meradith, Thomas, Hawkins, Patton, Lutz and Swart.

MISS EVA TEGGART, class of '88, dismissed school for one week on account of scarlet fever.

MISS LILLIAN BAKER, a former student, is visiting her brother Dr. Baker, in Cleveland, O.

MISSES GAMBLE, Leech, and Lowe, former Philos, have entered the Junior class. Miss Bell Sterling expects to enter in the spring.

THE Contestant Committee has been appointed and great care will be given to the selection of our contestants that we may win many laurels in June.

MISS LEECH and Messrs. Kiehl and Lowers, have again cast their lot with us and are ready for society work.

MRS. JOE CAROTHERS and Miss Leadbeater of Coal Centre, spent Saturday afternoon, January 12, with the Misses Musgrave.

MISS MINNIE ROLEY of Bellevernon, visited Miss Joe Mellon recently. Both were members of the class of '88.

FEMALE COLLEGE, Laurens, S. C.
To the Philo Society:

Some one kindly sent me the NORMAL REVIEW this week, and it was so full of news concerning the school and former pupils that I welcomed it warmly. Though it is now five years and a half since I was an active member of the society, I have never ceased to think of it, and wish for it every measure of success. I only wish that some good Fairy would graciously place me in your midst again some Friday evening; as it is I can only wish that at some future date I may enter your Hall and enjoy some of its pleasures, as of yore. With kindest greetings, I am still a devoted Philo,
STELLA S. BEARD.

We are always glad to hear from those whom time has wafted from us.

BANK OF PROSPERITY.

With surplus stock, and boundless capital secured by the bonds of friendship.

January 1, 1889.

On demand please bestow upon each Philo. Three Hundred and Sixty-five happy days. Value received in friendship, and charge the same to the account of

PHILO LITERARY SOCIETY.
*To the Goodness of Fortune.
State of Felicity.*

Quackism in Discipline.

Quackism is the practice of quackery. Quackery is empiricism, which depends upon personal experience alone, neglecting the aid of science; and a quack is an ignorant practitioner in any branch of knowledge. So much we glean from the dictionary, to show that quackism may be properly applied to school management and discipline.

If the common farmer should undertake the duties of the seaman, or the seaman the duties of the farmer, he would make a fool of himself, wreck the vessel and ruin the crop. If the physician should undertake to practice law, or the lawyer to practice medicine, he would not only make a failure, but become responsible for all the consequences. In either case, we should have an illustration of quackism. But the quack figures in school-keeping more often than in any other trade or profession. Hence the importance of "teaching to teach and to govern" all those who are to be admitted to the management or instruction of any grade of school. It is a mistaken idea that normal schools are needed only to train teachers of limited culture, or of primary grades, or even for our public schools. They are needed as really for our higher institutions, academies, seminaries, and colleges. Experience and observation have demonstrated the truth of this statement. But quackism in discipline, of which we speak in this article, does not always result from ignorance of professional methods, but often from natural defects. Even the best normal schools cannot make successful teachers of students who lack common sense, sympathy with the young, love for the office, aptness to teach and control, and that enthusiasm and perseverance which inspire confidence and ignore difficulties. These are natural gifts which can be cultivated, but cannot be created by education. Hence culture alone cannot entirely relieve our profession of incompetent teachers or our schools of quackism.

Discipline, as here treated, is culture in its broadest sense, and may be defined "the art of making pupils perform, in the most appropriate, easy, and useful manner, all the duties of the school." That is the best governed school which does not seem to be governed at all. The disciplinary agencies which operate to produce order, fidelity, and good feeling in the school-room, and to inspire the pupils with the love of study and pride of character, are hidden from view; but they are none the less powerful or effective. This is the result of wise administration. If, therefore, we find a school indolent and inattentive, or in disorder and rebellion, we have a right to infer that there is lack of professional skill in the governing power; positive quackism in the management of the master, principal, or president. A bad school differs from a good school only as the result of mismanagement. To change the one into the other, we need only to dismiss the quack, and to introduce the good disciplinarian. "As is the master, so is the school."

We come now to consider some of the indications of quackism in school-life experience. Where we find disorder and confusion, we have a right to infer that sufficient attention has not been given to organization and classification; that the machinery of the school-room has not been adjusted and lubricated. Hence its working produces friction. We may know that the master or mistress has not established law. "Order is heaven's first law," and it is also the result of law. Law controls the suns and planets, and holds in subjection the very particles of which they are composed. Law regulates all organized society, the civil government, and the family, and it must regulate the school. The teacher who has not established and made known to his pupils a system of fixed laws is a quack. Self-government, even, must be directed by laws suited to such a community as the

school. Judicious laws, faithfully and mildly executed, have also great moral power in the school-room. Again, the quack has not been careful to keep his pupils constantly employed as a means of preventing mischief and disorder. Children and youth naturally love work. If they become indolent and troublesome in consequence, it must be the fault of the master. He does not know that the industrious and laborious school alone is in order, and has failed to organize work and encourage industry as a means to the end in view. Still again, the quack under-estimates the importance of public opinion in school discipline. This must be created and controlled and constantly employed, to check the evil tendencies to disorder and insubordination. The wise disciplinarian keeps constantly before his pupils the ideal school, and appeals to their self-respect and schoolpride, and thus secures cooperation and support. If an evil is to be prevented or removed, it must be made unpopular. If some excellence is to be attained, or some good accomplished, it must be made popular. Nor does the quack understand the importance of kindness in school discipline. By this we mean uniform good-will, earnest sympathy, and hearty generosity, habitually exercised toward the pupils. There is no force on earth so potent as love. It is all-pervading and over-powering when brought to bear upon sympathetic childhood and youth, and the skillful teacher never fails to employ this agency in the management of his school. Nor is this kindness inconsistent with severity when the good of the individual or the school demands it. Severity is kind when properly exercised, and should always be accompanied by the expression of good-will. To prevent evil is the first object the good school disciplinarian has in view, and the necessity of severe punishment, in any case, is evidence of quackism somewhere along the line of pedagogical succession.

This brings us to a positive and prominent defect in school management, as a result and indication of quackism. The quack not only neglects the means of preventing evil, to a greater or less extent, but *he provokes his pupils to do the very wrong which makes punishment necessary.* This, we insist, is unprofessional, is quackery of the most objectional kind, whether found in the primary school or in the college. A quack in medicine would clearly prove his right to the title by applying a blister when the disease requires no counter irritation. Still more clearly would his ignorance be demonstrated, should he apply the blister when there was no disease to be counteracted. Yet many a schoolmaster acts precisely in this way. In case of irritation, he applies the blister in a manner calculated to increase that irritation, and he often applies it when the patient needs no treatment, thus producing the very evil that might have been avoided. We admit the necessity of applying the remedy when the disease is raging, but deny the right to create the disease by malpractice. The Scripture saith, "Ye fathers, provoke not your children to wrath." This command is equally inspired and appropriate when applied to teachers. Yet, we maintain that a large majority of the cases requiring severe discipline in our public schools, academies, and colleges, result from the quackism we have here described. A noisy master usually has a noisy school. His loud voice, heavy step, and boisterous bearing provoke careless and noisy habits in the school. Passionate rebukes, threats of punishment before the crime has been committed, and general fault-finding in the presence of the school, provoke to reckless disobedience. Unnecessary laws and unreasonable restrictions provoke petition, protest, and rebellion. When a primary teacher treats children as though they were men and women, their childish nature rebels, and they seek relief in disobedience.

When a college president treats men as though they were children, they throw off all self-restraint and self-respect, and manifest their irritation by incivility, provoking criticisms, and perhaps downright resistance. If he insists upon governing them in such an unnatural way, how can he expect them to attempt to govern themselves? The question is not under discussion here, how the little or great rebels should be treated after the offence, but how shall the school and the college get rid of quackism in discipline?

—Hiram Orcutt.

Morning Glory Lessons.—4.

I.

MULTIPLICATION AND REPRODUCTION.

What is it doing all this work for? (Let us see!)

47. What comes from a bud? (Stem leaf, bud, etc. etc.) What do we keep plants for in Winter? (Flowers.) Are they young or old plants? (Bring out tho't of *much* earth and air food the *many, many* roots and leaves are taking in; more than the plant needs to grow.)

48. What part do blossoms come from? (Buds)

49. When does a *bud* grow into a flower? (When plant is old enough, and has more than enough food). How many parts have we *now* to our plants? (5).

50. Let us study this *new* and beautiful part. (Provide a flower, or better still a spray of M. G. with a flower for each.) How many ever saw an *ant*? They are fond of flowers as well as we and are all the time climbing up and down and about the flowers. Let us suppose we are ants, and starting for a climb up an M. G. vine, see what we should find. Follow with a pencil or pin. First? (The stem). Then? (Leaf). Next? (Bud), etc. etc. (helpful parts) till we come to *stem*, leaf; what is this? *Another* stem, and just where a *bud* should be! Let us follow this; swollen place,—little green, hairy leaves,—delicate colored leaves,—go down into a deep cup,—little hairy stems: Let us climb one—hard work, knob on top and some nice little white grains to lunch on. Climb down again. Hill in middle, smooth pole on top—climb up,—big, rough, *sticky* top, with some of the *white grains, sticking on it.* The *ant* would find something *nice* in the bottom of the flowers. What? (We shall soon see).

51. (Use of Parts.) What part did the ant find first? (Little green leaves). Of what use are they? (Observe a *bud*). Why in several places? (So as to cover the delicate parts while growing). Ball cover, orange peel. Card 10.

52. (Corolla). What next? Where?

(Inside calyx). In pieces like outside? (No). Shape? Use? (To protect *more* delicate parts.) Card 11.

53. (Stamens). What inside colored part? Parts? (Stalk, knob on top, white grains. Shall soon see its use). Card 12.

54. (Pistil). What *next*? Where? Parts? (Hill at bottom, stalk, sticky top.) Examine hill—three little chambers with little white grains fastened to the sides, (Jewel box, baby in bed, etc.). How *beautiful* it all is, what can it all be for! We shall see. Card 13.

55. Show nearly ripe capsules, with seed. Yes *they can be seeds* if plenty of the white dust gets on flat top and makes the little grains grow. (Repeat and emphasize.)

56. Lone Cornstalk. Cucumbers in hot house. Mixed corn. What now are the uses we know? *Calyx* protects *Corolla*—(Protect? Yes, and something *else* we shall find by and by). *Stamens*? (Give pollen). *Sticky top*? (To catch pollen). Ovary? (To hold young seed). Color! Shape! and something else. What does a bee go to a flower for? (Nectar). But bees can not see far: how do they know where to go for nectar? (Hide some strong smelling candy and let children find by *smell*.)

57. Nectar differs in taste, and a bee likes to get one kind at a time. How is he to know among many flowers which to go to? Cut a number of squares, circles, rhombs, etc., from different *colored* paper. Privately place some word or mark on each *shape*, etc., placing about the room or yard, let each child gather *one* thing: learning that *shape* and not color is the guide.

58. How is the pollen to get on the sticky top? (Falls, wind).

59. Sometimes it *cannot* fall (show), and the wind does not always blow. What then?

If you want help how can you get it? Can flowers *talk*? How do business men get help? Do they run about *asking* people? (Advertise.) Read some "Help wanted" ads from paper. Then show colored, pictured, perfumed and odd shaped ads. Why not plain black and white? Why colored? pictures? queer shapes? Odors? (More apt to attract notice). Why do people work for each other? (Pay). Suppose after working they got no pay? Would they work again? (Poor man, large family, works, no pay, no food, etc).

60. Our Morning Glory flower evidently needs help. How does it get it? (adv's). How? (by bright colors, shape, odor).

61. Who will work for a flower? Did you ever see anything at work about a flower? (Bees and Butterflies). Do you suppose *they* will work for nothing?

THE FLOWER.

62. What has the flower to pay with? (Show honey in comb). What is this? How did it get in these nice little cells? Who put it there? Where did the bee get it? Did he get it for nothing? What work did he do? (Pollen on sticky top). Suppose he

was lazy or dishonest; could he not take the honey without doing the work? (Examine the body of a bee. Note its big, hairy body). Have a boy with a shaggy coat get candy from a flour barrel.

63. Where is the nectar in a flower? Now, as he crawls in to get the nectar what must he get all over him? Can he help it? Does he get nectar enough in one flower? What then happens when he pushes his big, hairy body into the next flower? Is there any danger of the bees not doing the work?

64. Now what three ways for the pollen to get on the sticky top? Falls. Wind. Bees and Butterflies. Card 15.

65. When this gets on the sticky top, what happens? The little white grains in the middle "box" grow, and grow till they are? Card 16.

66. What then is it the roots, stems and leaves were all working for? (To build a plant, which can bear seed!)

MORNING GLORY LESSONS—5.

J.

PARTS AND USES OF THE SEED.

67. We will now study this curious seed. What can you see about it? (Black outside, scar, shape.) These seeds are very hard. Let us soak them.

68. Here are our soaked seed. Open carefully with a pin and see what you can find! Black coat, white skin, two little leaves all crumpled up, a little white point, some jelly.

69. Allow some of the seeds to sprout one-half inch and then give to examine. Examine as before, Any new part, (bud). Anything gone, (Jelly.) Where is the black coat? Two little leaves. Little point. Where was all this plant before the seed sprouted? Packed away in the seed, snug and tight.

70. What is the use of having the little plant so snugly packed away? What happens to our plant in the fall? (Frost). Are the seeds killed too? What will they do when it gets warm in the Spring.

71. But how can a seed grow when it has no roots nor leaves to feed by? Does it not need food? If you see a fat little boy growing bigger and bigger, do you think he has no food? But he is too small to work, how does he get it?

72. Do you think these seeds can start to grow without food? Were the second plants you had larger than those in the soaked seed? How did they get larger? Then it does grow. Look and see if there is anything like food in the soaked seed. (Jelly). Yes, that is the food. Where was it before the seed began to grow? Who packed it there? What a kind, thoughtful mother. What parts have we found to our seed? (5 fingers).

73. What kind of food must kind mother have packed away? Speak of small space; could be no waste.

74. What kind of food did we find the plant must have to eat? But this is hard. What was needed besides warmth and air to make the seed

sprout? Yes, water, to make the food thin, for the little plant.

75. How does the little plant live after eating up all the jelly?

The Study of Molecules.

AN OUTLINE OF EXPERIMENTS TO SHOW HOW "SHARP STONES" CAME TO BE IN NATURE.

Prepared for Teachers of Cook County, Illinois, by Edward G. Howe. Experiment 1. To show size. Very small.

Ex. 2. To show shape. Probably round.

Ex. 3. Molecules do not touch; and have space between them.

Ex. 4. Same with gases.

Ex. 5. Same with solids.

Ex. 6. Cohesion binds like molecules together, acting at short distances.

Ex. 7. Adhesion binds unlike molecules together and acts at short distances.

Ex. 8. Gravitation draws all things at all distances.

Ex. 9. Solids, characterized by form and hardness.

Ex. 10. Liquids characterized by mobility, surface and no hardness.

Ex. 11. Gases characterized by occupying space and absence of cohesion, &c.

Ex. 12. Molecules can move in three ways.

Ex. 13. The more work, the longer the swing and swifter the motion.

Ex. 14. Work can be turned into heat, sound, light or separation of molecules.

Ex. 15a. Work changed to sound.

Ex. 15b. If work does one thing, it does not at same time do as much of something else. State illustration of a rod going faster and faster, round and round in a dark room. Blows, sound, heat light, &c.

Ex. 16. Heat (or molecular motion) expands solid.

Ex. 17. The molecules of liquids and gases occupy more room when heated.

Ex. 18. Molecules may swing so far apart that cohesion can't hold them, and a solid melts, liquid vaporizes.

Ex. 19. How vibrations are conducted from and through things.

Ex. 20. Some things carry heat faster and better than others.

Ex. 21. Heat expands with great force.

Ex. 22. Sudden heating or cooling tends to break solids.

Ex. 23. "Sharp stones" might have been made by suddenly heating or cooling rocks. How did the rocks get hot?

Ex. 1.—Put 100 cc of water in a bottle; add a few drops of ammonia and one drop of copper sulphate solution. Compare this mixture with a bottle of clear water and notice if it is colored. Now drop 5 cc of water with a "dropper" and find into how many parts the drops of copper sulphate has been divided.

Record all about the experiment in your note book.

Ex. 2.—Examine a bottle of fine shot

and consider the probable shape of a molecule.

Write your conclusion in your notes.

Ex. 3.—To 77 cc of water add 25 cc of water (measured separately) and record its volume thus, 75x25=

Now to 75 cc of water add 25 cc of alcohol and record their vol.

To 77 cc of water add 10 cc of salt and shake till it is all dissolved. Measure the mixture. Write notes.

Ex. 4.—Find how much water your bottle will hold. Empty and pour in 25 cc of water and mark the place it rises to. Now fill full and invert in a saucer of water; if it stays full, run in C gas till the water stands at the 25 cc mark. Cork under water and then shake for a couple of minutes; open under water; the water rises. Why?

Ex. 5.—Squeeze a piece of sun flower pith and see if it can be made smaller. Pound a large shot and see if you can make it smaller in bulk. What do Ex's 3, 4 and 5 teach about molecules? Record.

Ex. 6.—Try to stick two pieces of chalk together. Two pieces of glass. Two pieces of clean lead. Two pieces of clay (moist.) Two pieces of cold wax. Warm and try. The force which holds molecules of the same kind together is called cohesion. Does it act at long distances—or short?

Ex. 7.—Try to shake a lead pencil mark off a piece of paper. Wet two pieces of glass and see if they stick together. Dip a glass tube in water and explain what you see. The force which holds different molecules together is called adhesion. Does it act at long distance. Give other examples of adhesion and record.

Ex. 8.—Lift something 1 cm and let go; 1 m and let go; as high as you can and let go. Repeat with two other substances. What did it do at all distances? The force which causes this is called gravitation. Record other examples.

Ex. 9.—Try to twist, stretch and squeeze together a piece of wood or iron. Does it keep its shape? Has it any hardness? Such a thing is called a solid. Write about this and name 5 other solids.

Ex. 10.—Take 100 cc of water and pour it into four different shaped dishes. Does it fit each one equally well? What kind of a surface has it in each? Has it any hardness? Such substances are called liquids. Name 5 others in your notes.

Ex. 11.—Push an "empty" bottle, mouth down, into some water. Why does not the water enter? Has air any shape? Any level surface. Any hardness? Does it stick to things? Does it seem to have any cohesion? Such things we call gases. Heat some iodine in a bottle and see what happens.

Ex. 12.—Make a pendulum of a bullet and thread. Watch it swing back and forth. Each swing is called a vibration. Make it vibrate in a circle. Take a "return ball" and see how it vibrates up and down. What three ways can a thing vibrate in?

13.—Take the 3 things in Ex. 12 and make them vibrate the least you can; then make them vibrate the

most you can. Which took the most work, to cause a great or small vibration? Which moved the fastest? The more work, and what kind of swing and motion.

14.—All work does something or is turned into something.

Pound a piece of lead; what? Pound a nail hard; what. Rub a button on woolen cloth. Rub your hands hard? Strike a bell; what? Strike a match? Did you work in each case. What was the effect?

Ex. 15.—Hold a shoe button on a thread by a bell and gently tap the other side. What happen? Tap a tuning fork on the table and touch the prongs to the bottom. Stretch a piece of India rubber and make it sound by pulling. Watch it. Write what you saw in each case. Did you do work? what was the effect?

Ex. 15b.—In experiments 14 and 15 did the lead and nail give much sound? Did the bell, tuning fork or rubber grow hot or flatten? If work does one thing, does it at the same time do as much of something else? Which took the most work, to make a thing ring or make it hot?

Ex. 16.—A thing gives sound or is hot because its molecules have been made to vibrate. Heat a copper rod; does it grow longer? Heat a brass ball; does it become larger? Heat a rod; does it fit its tube? This is called expansion. Do you see why the molecules take up more room?

Ex. 17.—Heat some water in a flask with a glass tube in its cork. Does it expand? Hold an air bulb in your hand and see if the air expands. Why does a "pulse glass" flow from the bulb in your hand? Do all the things you have tried expand when heated? What do they do when cooled? Prove this with a thermometer.

Ex. 18.—If you make the molecules of a solid like lead vibrate very fast, what happens? Heat a shoe in a flame and see. Heat a piece of ice in a spoon till it is all turned to steam. Explain about these experiments.

Ex. 19.—To explain how the heat of the flame could do this through the spoon, place five or more equal sized marbles in the groove of a piece of flooring, and when all touch, gently tap one end of the row and note, what happens. Do this five times. Write what you saw. How does this help you to understand the way sound got from the bell to your ear?

Ex. 20.—Take a long slate pencil, and rods as nearly as possible of equal size and length, of iron, copper and wood. Place a piece of wax or tallow the size of a No. 5 shot on the middle point of each. Now, in turn, hold one-half inch of the rod of each in the same part of a lamp or gas flame, and record the time it takes to melt the wax or tallow, up to 3 m. Do all things carry heat equally fast? Which not at all?

Ex. 21.—A bridge made of a great iron tube has its ends on rollers. Why? Washington monument nods each day. What makes it? The straps of iron which unite railroad rails have O shaped holes for the bolts; why not make them round? Brooklyn bridge is very heavy, yet its middle

risers and falls several feet each day. What can do so much work?

Ex. 22.—Take a cold glass marble and suddenly heat it in a hot flame or fire. Record and explain what happens. Now drop a marble whose molecules are in rapid vibration in cold water. Record and explain.

Ex. 23.—Look over your notes of the 22 experiments given, and note how you think sharp pieces of stone could be made.

Household Hints.

SANITARY SUGGESTIONS.

Ninety-nine people out of a hundred never think about their skin, though the health of all their internal organs depends upon its condition. It is no use washing your hands and face and leaving the rest of your body untouched. It is little better to stand in front of a basin and spatter yourself from head to foot with water. You must cleanse every part of your skin thoroughly once a day. Have the room warm, and the water only a few degrees cooler. Stay in the bath five minutes, keeping yourself either under water or pouring wet all the time. But it is after you leave the tub that the really important part of the bath begins. Dry yourself thoroughly with two towels; then take a stiff flesh brush and try with all your might to rub your skin off. A coconut-fibre brush is the best; and to get at your back, it is a good thing to have a coconut-fibre mat hung against the wall to rub yourself against. Keep up this friction for at least ten minutes. You could not invest the same amount of time more usefully. There is no such remedy for a feverish habit as this, nothing like it to relieve the internal organs from undue heat and congestion of blood, and to free the lungs from oppression. Moreover, it actually increases the muscles, and makes them firmer, by causing the blood to circulate more vigorously in them. As to the effect upon the elasticity and beauty of the skin itself, that will be obvious enough at a glance. It is the brush, not the toilet bottle, that furnishes the only true Bloom of Youth. But the morning bath and rub-down alone are not sufficient. If, during the day, you get into a perspiration, do not allow the moisture to dry on the skin. Never come in from a walk or a horseback ride, or a row, and sit down as you are. Go to your room, take off everything, and use the brush. It may seem inconvenient at first, but when it is done you will rejoice, and soon it will become a matter of course to you. If your under clothing is damp it is, of course, best to change it; but if the skin has been brushed red you may venture to resume the same clothes with comparative impunity. This friction after exercise is of great importance; so much so, that it may be affirmed that three-fourths of the benefit of any exercise is lost without it. If you foresee that it will be impossible, after your exercise, to take a rub-down, then it will oftener be better to choose

the rub-down instead of the exercise.

DEATH PREVENTABLE—Why should men, women, and children die of disease at all? There is no provision for death in early life except by accident, ignorance of the laws of health, and neglect of duty towards our neighbor on the part of somebody. * * * Why do some die, and some recover? Why should disease be fatal at all? Fatality is connected to some extent with the surroundings in which the patient had lived before he became affected, and is living at the time at which the disease commences in a given district. If there has been a large number of fatal cases of inflammation of the lungs, you may be certain that the air of that district is not so pure as it ought to be, and the habits of the inhabitants are not so prudent as they might be. No man dies of inflammation of the lungs in the middle of life, or indeed of any acute disease, be it what it may, if he has lived healthily both as to habits and character of surroundings. If a district has a death rate of 24 in the 1,000, it is double what it ought to be. The half of the deaths which take place might have been prevented if the people would obey the laws of health, keep their houses and their persons clean, dispose of their excreta in a proper way, and be temperate in their habits of living, and at the same time do their duty to their neighbor by avoiding the sophistication of articles of diet, or the mischief of adulteration.—*Dr. Alfred Carpenter.*

Object Lessons.

An object lesson, which lately delighted my class, was one upon sugar. Three kinds were given each child to be examined with eyes, hands and tongue. When it had been discovered that one kind was brown, moist, rather sticky, very sweet; another, white, not very sticky and in little grains; and the third like cubes made of these tiny grains, the manner of producing each kind was described. Very much of this description, volunteered by the children themselves, was doubtless a memory resume of a lesson in their last year's reading book. When the subject had been thoroughly talked over, lists of words were prepared and the written exercise accomplished. The copy below was one of the best.

"We had three kinds of sugar, moist brown, granulated, and lump sugar. Sugar tastes nice and sweet, and feels pretty sticky. The white sugar was not so sticky as the brown

kind. All kinds were made from a plant called sugar-cane. The sugar-cane grows in some warm countries, and gets ripe in March. Then men cut it down. After it is cut down it must be crushed to make the juice come out. The juice is boiled a good long time, and then it turns into brown sugar. If you want to make white sugar, you must boil the juice and use something to make it nice and pure. After a long time the white sugar comes. Sugar is vegetable. We use sugar for cooking and to make our drinks taste sweet."

Still another lesson was one upon a seemingly useless weed that had grown so large as to be harmful to the plant in the same jar. It was pulled up, freed from dirt, and presented to the children, who, with delight, discovered the color, form of the roots; the number and comparative length of the runners, what they bore and the partial use of all the parts. As usual, an oral exercise preceded the written, and a list of words made, together with drawings, which were appended to the exercise. As all worked with me, each sentence was written as soon as formed, and all papers uniformly alike in consequence.

"There is a plant. It has a root and six runners. The roots are white, and look like very fine threads. Three of the runners are long, and three are short. The runners are covered with green, heart-shaped leaves, and tiny buds and white blossoms. The roots grow in the ground and the runners above the ground. All parts of the plant collect food from the ground and air. This food makes the plant live and grow."

Number.

Addition is the process of finding the sum of two or more like numbers. The sum of two or more like numbers is a number which contains as many ones as all of the numbers. Addition is the most common of processes. Facility depends upon knowledge of certain facts as has been said in a

previous article. These facts are the sums of any two numbers, each of which are less than ten. The later work is based upon these facts. When a pupil knows that 7 plus 7 equal 14 he is well on the road to 17 plus 7, 27 plus 7, etc. Finger counting is not an unusual sight in any intermediate, or even grammar rooms. The readiness that some children acquire in finding sums with the assistance of their fingers is quite astonishing. The practice should in no case be permitted. If the primary work has not been done, then problems should be prepared that involve the troublesome combinations, and these should be drilled upon until the converted facility is acquired.

When pupils can readily unite numbers by twos, an effort should be made to secure more rapid work by adopting some system of grouping. Lightning calculation is based upon this idea. Rapid accountants do not plod laboriously along a column, a number at a step, but the eye is taught to see three or four numbers as one. Such readiness is, of course, the result of long and patient practice. Teachers may give material assistance by introducing the combination slowly. For example, have the pupils begin by grouping any two whose sum is ten.

Double-column addition is a valuable exercise for the readiness which it gives in single column addition. This is based wholly upon the essential facts to which such frequent reference has been made. The following will illustrate the method of work; 48 plus 96 plus 64 plus 77 plus 83 plus 25 plus 66 equals? 48 plus 90 equals 138; 138 plus 6 equals 144; 144 plus 60 equals 204; 204 plus 4 equals 208; 208 plus 70 equals 278, etc. Three-column addition may also be introduced with profit since the effort required to retain results makes the ordinary operation extremely easy by comparison.

The so-called "proofs" are merely tests of accuracy and are by no means infallible "proofs." The test upon which accountants usually rely is an addition in reverse order, since the chances for the same mistake to occur in unlike combination are very rare.

A device for keeping the results of each column, so that when a mistake is discovered it will not be necessary to begin *de novo*, may be new to some of our younger readers.

ILLUSTRATION.

26845	16	
79864	22	
52743	33	Result, 222326.
62874	22	
	22	

The illustration will explain itself. The foregoing is so simple that it seems unworthy of a place in a school journal, yet an intimate acquaintance with many of the class for whom these articles are intended, encourages the writer to believe that it may be of some service to some.—*Illinois School Journal.*

Blackboard Work.

The solution of problems, unless they be occasional test-problems, first-hand, at the blackboard, during recitation time, is a wastrous mode of employing recitation time. One of two things will generally happen, either one or two will drag along after the others are done and keep them waiting, or part of the class will go on reciting while some are still working at the board. Either condition is wastrous expenditure of teaching force. Waiting always demoralizes a class. A part of a class go on reading, and part work at the board; that part at the board gets no good from the recitation. Practically, those pupils who spend the hour at the board, might, unless there be some disciplinary reason, better be at their seats. Figuring at the board is a bungling mode of administering discipline.

The only conditions under which pupils are properly sent to the blackboard are to put on it problems, or other work, previously solved or determined, and to do test-work of such a nature as will permit the use of the blackboard. There are not many kinds of work that will do this. After all, the main use of the blackboard is to furnish the teacher means of illustration and other forms of aid.—S. S.

Methods are the tools of the teacher, and he is expected to use them, any of them, judiciously, as the nature of the case may demand.—H. N. Hailmann.

How to Teach "Language."

I never saw "grammar" studied in an ideal manner but once. A well-educated young man once came to ask advice of me as to what he had better turn his hand to, to get a living. He had helped edit a paper, had written stories, for which he had been well remunerated, and yet had never studied grammar. Having lost his position as clerk in a commission house, he wished to make use of his literary attainments in some work more agreeable to his literary tastes. I advised him to take a country school and follow up the profession of teaching. He protested that he could not pass a written examination in grammar, as he had never studied it. I lent him a grammar, and told him he might sit in my school room, as a visitor, for one week and read the book, and I would converse with him on any of the topics he did not understand. He read several hours per day until the book was carefully read through, when he said, in a laconic way, "I see nothing in that which wants explanation." I questioned him, and found he was ready at every point. From this instance, and similar ones, I conclude that grammar is a science which needs more mature mind and less of cramming for comprehension.

"Language" seems nothing more nor less to me than an affectation to dodge the word literature. The best results I have ever had in language were results I did not seek.

Language for language's sake means nothing more nor less than trying to get children to say something for the sake of talking, rather than to say something because they have something to say. It seems to me that life is altogether too precious to waste very much time on the "how" a thing is done. The point is, the "what" is done, and not the "how." When children read to get a "point" instead of a "manner," they will get the manner and the point too. It is far more important that they should

have the idea than they should express it. It is far better to express a large idea, even badly, than to express a small idea well. "The horse runs." Well, what if it does? What has that to do with building of a child's aspiration to be or do good? "The farmer sows his seed." She passed on her way singing the songs of former years, "I hope they will accept this proposition," "He will return very soon,"—are all well-made sentences from Wells' Grammar. But what have such sentences to do with the development of a child's interest in the great humanity that lies about him? Grammar and language, too, as taught to young children who are to go out and do hard work in the world, is all bosh and an imposition, except as it involves that sort of thought which is to wake up a child's imagination so that he may see and love the beautiful and the good; or the thought which shall call forth his reasoning powers concerning the important things with which he must grapple; or the thought which shall set him on the search for the wonders in nature.

Here is a sentence from an essay which one of my pupils, at the Jones School, wrote to me:

"By hearing something read from the book, called *Prue and I*, I learned how to entertain myself when alone, by looking into the sky and imagining myself building Castles in Spain, and I learned something that I never knew before for when I went out and looked up into the sky I saw clouds (as green as grass) the color of Paris Green, and the sun was just setting and the reflection of the sun's rays on the clouds made them look like gold."

I hold that it is far more important that the girl has learned to "entertain" herself by observing the colors in the sky, than that she should have expressed the thought correctly.

"I am inclined to believe I like the Golden Age somewhat better for mythology knowledge."

"Mythology knowledge" is certainly better than a fine sentence not having any "Golden Age" back of it. That the child can compare "Golden Age" with "Wonder Book," as a better source of certain phrases of "mythology knowledge," speaks more for the quality of her thought, than any number of well-made detached sen-

tences having no relation to each other. In those few words she had handled two well-written classics.

"I was very much interested in 'The Sad Little Prince' because it teaches us that we are not so unhappy but there are some one unhappier."

This sentence would surely be much "unhappier" if it came from the dry bones of "language," instead of an aroused sympathy.

"Horthorn is my favorite author."

The boy who wrote this sentence has read one volume of Hawthorne's works and several volumes by other authors. He has made a choice. It is worth a great deal to a boy to have an idea of selecting a favorite. He who has "Horthorn" for a favorite is on the royal highway to good "language."

"If I had \$10 to spend for books to a boy and girl off in the country I should buy Boots and Saddles, Prue and I, Music and musicians, the Wonder Book, Birds and Bees, Geography, Physiology, Life of William Lloyd's Garrison, Green Mountain Boy's, Konrod of Jaystonfield, The Sad little Prince, and Twilight thought."

This little girl is 12 years old, and the books she has learned to care for she has come into a knowledge of at school. Her sentence was written with the intention of giving me some information in regard to her taste. It is full of mistakes, but there is no mistake in the thought that underlies the sentence. She has a clear conception of what she would like to share with a boy or girl off in the country.

"If I was to leave school I would buy books and finish educationing myself."

That a boy should wish to continue "educationing" himself after he leaves school, and should know how to do it, is far more important than that he should leave school beautifully finished."

The object of all "language" work, and of all school work, as far as I know anything of it, is growth—a growing into the love of whatever is kindly and beautiful. When children care to be kindly and unselfish, their phrases of speech will soon correspond with the dignity of their thought. The thought, badly expressed, will soon seek to right itself. The child will naturally try to clothe his good thought in appropriate dress. A good thought badly clad will seem rude to him. If the thought is taken care of the "language" will soon take care of itself.—*Mary E. Bart.*

"THE art of a thing is, first its aim, and next its manner of accomplishment." Have I, then, an object I desire to accomplish in every branch that I teach? asks the wide-awake progressive teacher. What is the domain of my work? inquires the specialist.

That all the educational chisels applied upon the unshaped marble are intent on "setting free the angel," does not preclude many misdirected strokes, and ineffectual hits, arising no doubt from the artist's not knowing whether the tools used are adapted in form and material to the setting free of the particular features of the statue, the educational tools in this case being the special branches or department of which the teacher has charge. Everybody knows that *all* the means of instruction have but one aim, development, but it is sometimes valuable to inquire, has a certain branch of study a special work in the discipline of mind? Is the domain of Literature aesthetic and spiritual? Has historical matter served its purpose as an educational means, when memory alone is cultivated? Are the branches that you teach especially fitted to address the feelings, the imagination, the reason, or the perception? Having once ascertained the adaptation of certain lines of work to certain functions of the mind, the genius of the teacher next endeavors to present the subject in such a way as to arouse and vivify this faculty. This is method; this the teacher may work out for himself, and here lies all the difference between the inventive, inspiring teacher, and the dull routine imitator. What shall we do then? Study the domain of our work. Have clearly in mind what powers of mind we are dealing with. Know educational principles; then set to work to present the subject in a clear, attractive manner. Surely no one need then be a great bungler in the use of educational tools; by system and energy all may be artistic workmen in the realm of thought.

THERE has been several weeks of protracted meeting at the Methodist church of this place.

PRINCIPAL J. J. HUMBERT, '84, of Connellsville, writes "I am learning to prize the REVIEW more and more."

HE who never changed any of his opinions, never corrected any of his mistakes; and he who never found out any mistakes in himself, will never be charitable enough to excuse what he thinks are mistakes in others.

THE best part of human character is the tenderness and delicacy of feeling in little matters, the desire to soothe and please others.

A YOUNG lady becoming very much alarmed because of the storm a few days ago exclaimed: "O! this is a regular Encyclopedia!"

THEY who tread life's pathway ever bearing on their faces a look of cheerfulness, are radiant ministers of good to mankind. They scatter sunshine on all they meet; depression and gloom fade away in their presence.

THE longest tunnels in the world—Mount St. Gothard, Italy, is about seven miles long, and is the longest. Hoosac Tunnel, Mass., is about four and a half miles long; Thames and Needway, England, about two miles long.

THE Christian Association of the Normal observed the week of prayer. The meetings were well attended, and a growing interest was manifested during the week.

THE College Orchestra, recently organized by the young men of the two societies, will furnish both Clio and Philo with string music. This will make our very interesting programme still more interesting.

THE manner of doing things is often more than the things themselves, and the very same thing may become either pleasant or offensive by the manner of saying or doing it.

THE authorities of the Normal have done the best possible thing for the spring term students in securing for them the instruction and inspiration of such men as Col. Parker and Drs. Brooks, Snyder and Palmer. Our permanent faculty is stronger than ever before, and these special instructors among the foremost educators of the country.

"IN teaching, the teacher should always have a definite aim in view."

BE willing to do good in your own way. We need none of us be disturbed if we cannot wield another's weapons, but our own must not rust.

ON Friday, January 18, the Senior class, consisting of thirty-one young ladies and five gentlemen, began a course of manual training. The work is modeling in wood. Many were the jokes about bruised fingers and other accidents liable to occur when amateurs are working. The ladies work with ease and grace. The gentlemen are almost professional. The true objects of industrial work will be attained—"Power to turn from words to things," "Trained brains and skillful hands," "Power of attention," "Ability to think." There will be no idle members of society in this class, no non-producers to prove a detriment to their country's welfare; but all will be earnest, energetic, and skillful in whatever line of labor they may engage.

AT present a record is being kept of the common words that are misspelled or mispronounced in the school. These are placed on the chapel blackboard and are *never to be missed again*. The following are the mispronounced words so far reported: Edinburgh, fungi, character, America, equation, elite, pumpkin, pronunciation, process, column, hearth, sacrifice, Africa, gets, gather, catch, can, foreign. The misspelled words: There, vegetable, linen, two, equation, too, governor, very, persecute, hear, ascend, Canada, through, territory, where, bronchial, Quebec, oxygen, women, colony, allotted, artisan, development, board, until, stateliness, carry, heart, veins, called, separate, getting, buried, which, vessels, physiology.

DANISH PROVERBS.—"Death does not blow a trumpet."

"Better whole than patched with gold."

"When the fox preaches, take care of your geese."

"If lies were Latin, there would be many learned men."

"When it rains porridge, the beggar has no spoon."