The Educational Weekly.

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The Union of
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The School, Michigan,
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The School Reporter, Indiana.

Editors:
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Editor-in-Chief.
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Hon. Newton Bateman, President Knox College, Galesburg, Ill.

Managing Editor:
S. R. Winchell, 170 Madison Street, Chicago.

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Editorial.

In the northwestern corner of the territory of Wyoming, bordering on Montana and Idaho, lies a tract of country about fifty-five by sixty-five miles in extent, possessing a greater combination of remarkable features than any other known area of like dimensions under the sun. It contains 3,578 square miles. Its elevation above the sea level is from 6,000 to 14,000 feet. It lies mainly, but not entirely, on the east side of the main range of the Rocky Mountains. By an act of Congress, approved March 1, 1872, this tract was withdrawn forever from sale and set apart as a permanent pleasure ground for the amusement and instruction of the people under the designation of the Yellowstone National Park. The grandeur and variety of its scenery, the salubrity of its summer climate, and the health-giving qualities of its thermal waters will, within a few years, make it the Mecca of the tourist, pleasure seeker, and invalid from all parts of the civilized world. Among its innumerable attractions are some of the grandest cataracts, cascades, canyons, and mountain summits on the continent. Its spouting geysers in number and magnitude exceed all others known. Its numerous mud-springs, solfataras, fumaroles, and beautifully terraced hot springs are beyond description in the magnitude and splendor of their decoration and action. The sources of the Columbia, the Colorado, and the Missouri rivers are all said to lie within this pleasure ground of the nations. Its mountain summits are covered with eternal snows, while many of the valleys are made radiant with the sparkle of lakes whose waters are clear as crystal.

The most magnificent of these lakes is the Yellowstone, the source of the river, lying nearly in the central portion of the park. Its form is similar to that of the human hand with the palm to the front and the fingers pointing downward. The altitude of the lake is 7,427 feet above tide water, and its present depth is about 300 feet. It is fed by the snows on the lofty mountains that flank it on all sides. The length of this beauti-
brilliance of coloring of the finest porcelain, while the waters within the rims and basins of many of the springs are so perfectly transparent that the smallest objects may be seen at the depth of forty or fifty feet.

Our purpose in referring to the Park was not so much to attempt a description of its really indescribable wonders, as to call attention to the work of vandalism already inaugurated within it by tourists and visitors. Many of the magnificent structures built up by the action of the hot springs and geysers are being disfigured and destroyed by trophy-hunters and others, actuated, too often it is to be feared, by a pure love of destruction. This shameless raid upon the varied glories of the "Wonderland" should at once be stopped by the strong arm of the law. Congress ought promptly to take such action as will protect and preserve the decorations that nature for ages past has treasured up among these "everlasting hills" and in the radiant valleys of the upper Yellowstone. A resolution was passed at the recent meeting of the American Association for the Advancement of Science, calling upon our national authorities to act in this matter. It is a subject of as much interest to educators as to men of science, inasmuch as the Park may be justly regarded as a vast museum whose unlimited resources are capable of illustrating almost every object of thought, or subject of study within the range of created existences. Let our educators and friends of education, therefore, add their voices and votes to those of the scientists in the effort to preserve from desecration and for the high purposes of instruction, the grandest heritage of natural sublimity, beauty, and utility ever bestowed upon a nation.

THE COUNTER-CURRENTS OF HOME AND SCHOOL.

Has any teacher the power to work miracles in changing bad habits of pupils into good ones? Yes, he is expected to do so in many cases by parents. All the duty and burden is thrown on the teacher by such parents, and no efficient cooperation is rendered nor attempted, day by day, even to lift the burden with one of their little fingers. It is a clear case of four against one-four hours out of school to every hour in school—or, deducting sleep, of sixteen against six hours. The teacher has done his utmost to teach, train, stimulate, polish, refine, in the matter of knowledge and deportment, but the pupil drops it all the moment he leaves the school-room, and thinks no more, cares no more, learns no more, till afternoon, and evening, and night, and morning have run their rounds, to 9 o'clock next day. The talk, the games, the evening papers, the reading, the associates in street or house, all are in a different world—the real world of the scholar until after many hours' forgetfulness of studies and intense interest in other things. The concert, the fair, the social, the neighbors' children, the horse, the store, the dog, the new game, absorb all the youngster's thoughts from the close of school to the opening of school next day. The father may or may not care to spend even ten minutes in examining the work of the preceding day or of the next day, if only let alone to read his evening paper, or to talk of business, or discuss household matters, or to go off to his lodge, or club, or amusement. The mother may not have physical strength to attend to any evening lessons of the older children, in addition to her heavy burden of the day in household cares or labors. No older brother or sister may be there to lend a hand, or have time to spare for a helping word. No one at home may be really qualified to give the aid required, at the right time. No good place for study may be provided or possible, nor does the child usually care if there is none. Day by day, so it goes. Why does the teacher not do more for that scholar? Because the parent does nothing to cooperate.

The long winter evenings are coming. Parent, will you deal squarely? Do your duty, or else cease to blame the teacher for not achieving greater results than really he, in his unaided power, especially if his best efforts are foiled and thwarted by your home customs and arrangements, is able to achieve.

With all your merits as a parent, you may be a mere critic and not a co-worker in any direct manner to the culture of your child's mental or moral nature, and yet may be quietly assuming the whole credit of his progress, or attributing it to the talents of the pupil as distinguished from the controlling power of the school. Perhaps you claim all the success as in some way directly due to you, when not a particle of it is really to be attributed to you. Be honest, and examine how far you have actually sown the seed of any good harvest in your child's mind or character, or supplied anything beyond physical wants to the child whose inmost soul you never have entered as a benefactor and illuminator. Look into it. It will startle some so-called parents to ascertain that they have not done as much for the culture of their offspring as the lower animals—the hen, the beaver, the bee—do for their young. So far from actually training the noblest powers, you may not even know what the young are studying, what they have really learned, what they thoroughly understand in any single branch of knowledge, any more than if they were the children of a stranger. The fact of seeing them at meal time, well-behaved, neat, and attractive; the fact of seeing them bring home and apparently study an armful of books; the fact of your examining and signing an occasional report, more or less favorable—all this and much more may amount to very little. That parent who cooperates most thoroughly with the school methods, will find his sons and daughters repay his labors tenfold as the recipients of intellectual and moral benefits which no other being can equally bestow, and which the Creator ordained the parents exclusively to impart. If you succeed in this, your success is great and blessed. If you fail of all this, you are to blame, and you alone. All the teachers, and books, and apparatus must in some measure fail, if the family is the foe of the school. Is not that a common sense view?

CHICAGO'S DANGER.

The public display of persons arrested for alleged crime within the city seems to me calculated to foster rather than to arrest crime. Our police stations are upon public thoroughfares. The transfer of prisoners to the "Black Maria" is made near midday, upon the principal street, and in a manner calculated to attract the attention of idlers. The conveyance is allowed to stand for many minutes with its occupants exposed to the gaze of scores of people, many of them children. The sidewalk is sometimes almost obstructed by the crowd permitted to gather. Some of the lookers-on may be friends of the prisoners; if so, they should be required to take their leave of their friends within the station walls. Public morals would be served by a rear exit from the station house to the prisoners' van. To say nothing of the opportunity given by the public display for the interchange of words that burn into the soul of unreasoning childhood, the daily sight begets familiarity which blunts the sensibilities and hardens the heart. It is possible that among the occupants of the van there may be some who, in braving the public gaze, smoother all
better impulses, and sink into despair of ever regaining position, the loss of which has been thus publicly announced. There may be innocent ones, borne down by the weight of shame, and who in this exposure lose self respect and with it all purpose to live above suspicion of wrong-doing.

There may be others, who see in the crowd those whom they know to be more guilty than themselves, and the sense of injustice rankles in their breast to their own injury. The debased ones find no encouragement to better living. They are exhibited to the world, and they endeavor to live down to the reputation they have gained.

But it is of those outside of the van that I would write. Men and women, boys and girls of all ages compose the eager crowd, who are moved by curiosity to attend the free display of the crimes charged with public affairs will not consider the matter suggested, (See San Francisco.

It is hard enough under most favoring circumstances, to bring children up to the higher plane of right-living. Temptations assail them on every hand. Some are unavoidable. Strength must be acquired to resist them. But when to the unavoidable are added those which might easily be shunned, the acquisition of sufficient strength is often a hopeless task. Trial is necessary to the development of true character, but no one needs to hunt for new trials. Enough will come into our daily life unsought to serve the needed purpose.

Too much care cannot be exercised in covering temptation from the sight of the susceptible child on trial. If those charged with public affairs will not consider the matter suggested in this article, let the friends of education bestir themselves.

A FRIEND TO CHILDREN.

GRUBE'S METHOD.—I.

(Two Essays by Louis Soldan, Principal of the St. Louis Normal School.)

[The first of the following two essays is the same in substance as the one read before the St. Louis Teachers' Association in 1876. It has been reprinted extensively in state and city school reports and educational magazines. It is presented here in a somewhat changed form, because the practical experience in the school-room has shown since what point of the method are in such harmony with established views as to require no further explanation, and what details need full comment and amplification in order to guard against such mistakes as are likely to creep in. In many respects I was guided by many inquiries on part of the friends of the method. I regret to say that I have not always been able to answer these questions as fully as I wished. I hope that my correspondents will find the desired explanation in the following new version of the old essay. I deem it my duty, however, to say in justice to Mr. Grube that the following pages are not in every respect a translation from his work as it has been supposed by some. Mr. Grube has done me the credit to publish my essay over his own signature as a translation from Mr. Grube's work. It should be distinctly understood that the full credit for every one and every idea contained herein belongs to Mr. Grube, but that he is not responsible at all for the many imperfections in the manner in which his thoughts are stated here. In a few instances only the writer has allowed himself to depart from Mr. Grube's ideas. The two essays are, may I be allowed to repeat, not altogether a translation, but rather an attempt to give a condensed account of the 100 pages of Mr. Grube's work.

The second essay was read before the St. Louis Normal School Association in 1876, when it was considered proper to supply the continuation of the course recommended by a method which had attracted the attention of many thinking educators of the land, from California (See San Francisco Report of 1876) to New Hampshire (See State Report of 1876). The second essay contains a recapitulation and continuation of the first essay. It presumes as little as its predecessor to recommend, but simply states a new and important method to the thoughtful consideration of those who are interested in the matter.]

The old, long-established method in arithmetic is calculated to teach the first four processes of addition, subtraction, multiplication, division, in the order in which they are named, finishing addition with small and large numbers, before subtraction is begun, and so forth. A more recent improvement on this method consisted in including the larger numbers altogether at the beginning, and dividing the numbers on which the first four processes were taught, into classes, or so-called circles. The child learns each of the four processes with the small numbers of the first circle (i.e., from 1 to 10) before larger numbers are considered; then the same processes are taught with the numbers of the second circle, from 10 to 100, then of the third, from 100 to 1,000—and so forth.

Grube, however, went beyond this principle of classification. He discarded the use of large numbers, hundreds and thousands, at the beginning of the course, as others had done before him; but instead of dividing the primary work in arithmetic into three or four circles or parts only, i.e., from 1 to 10, 10 to 100, etc., he considered each number as a circle or part by itself and taught it by a method that is to be set forth in the following pages. He recommended that the child should learn each of the smaller numbers in succession, and all the operations within the range of each number, before proceeding to the next higher one, addition, subtraction, multiplication, and division, before proceeding to the consideration of the next higher number. In order to guard against a mistake which has been made rather frequently, it should be stated that such examples only are considered to be within the limit of a number, and are to be taught in connection with it, in which a larger number than the one that is being considered does not appear in any way whatsoever. Thus, for instance, when the number four is taught, the teacher should exclude at the beginning addition and subtraction by fours, multiplication with 4 as one of the factors, division with 4 as the divisor, because these belong to a later and more advanced part of the course, since they involve in the sum, minuend, product, or dividend numbers beyond the limit of the one that is being considered. But all the examples that do not involve a higher number than four are illustrated and taught before passing over to the next higher number, five. Treating, for instance, the number 2, Grube leads the child to perform all the operations that are possible within the limits of this number, i.e., all those that do not presuppose the knowledge of any higher number, no matter whether in the usual classification these operations are called addition, subtraction, multiplication, or division. The child has to see and to keep in mind that

$$1+1=2, \quad 2+1=3, \quad 2-1=1, \quad 2-2=0, \quad etc.$$
cesses are the direct result of comparing, or "measuring," as
Grube calls it, two numbers with each other. Only when
the child can perform all these operations, for instance, within
the limits of 2, can it be supposed really to have a perfect knowledge
of this number. So Grube takes up one number after the other,
and compares it with the preceding ones, in all imaginable ways,
by means of addition, subtraction, multiplication, and division.
This comparing or "measuring" takes place always on external,
visible objects, so that the pupil can see the objects, the numbers
of which he has to compare with each other. The adherents of
this method claim for it that it is based on a sound philosophical
theory, and that it has proved superior in practice to the methods
in use before its invention.

Some of the most important principles of this method of in-
struction are given by Grube in the following:

"1. (Language). We cannot impress too much upon the teacher's mind that each lesson in arithmetic must be a lesson in lan-
guage at the same time. This requirement is indispensable with
our method. As the pupil in the primary grade should be gen-
erally held to answer in complete sentences, loud, distinctly,
and with clear articulation, so especially in arithmetic, the teacher
has to insist on fluency, smoothness, and neatness of expression,
and should lay special stress upon the process of solution of
each example. As long as the language for the number is
not perfect, the idea of the number is defective as well. An ex-
ample is not finished when the result has been found, but when
it has been solved in a proper way. Language is the only test
by which the teacher can ascertain whether the pupils have perfectly
mastered any step or not.

"2. (Questions). Teachers should avoid asking too many ques-
tions. Such questions, moreover, as, by containing half the an-
swer, prompt the scholar, should be omitted. The scholar must
speak himself as much as possible.

"3. (Class and Individual Recitation). In order to animate the
lesson, answers should be given alternately by the scholars indi-
vividually, and by the class in concert. The typical numerical
diagrams (which, in the following, will continually re-appear)
are especially fit to be recited in concert.

"4. (Illustrations). Every process and each example should be
illustrated by means of objects. Fingers, lines, or any other
objects will answer the purpose, but objects of some kind must
always be presented to the class.

"5. (Comparing and Measuring). The operation at each new
stage consists in comparing or measuring each new number with
the preceding ones. Since this measuring can take place either
in relation to difference (arithmetical ratio), or in relation to
quotient (geometrical ratio), it will be found to comprise the
first four rules. A comparison of two numbers can only take
place by means of one of the four processes. This comparison
of the two numbers, illustrated by objects, should be followed by
exercises in the rapid solving of problems and a view of the
numerical relations of the numbers just treated, in more difficult
combinations. The latter offer a good test as to whether the re-
sults of the examination of the arithmetical relations of the num-
ber treated have been converted into ideas by a process of men-
tal assimilation. In connection with this, a sufficient number of
examples in applied numbers are given to show that applied
numbers hold the same relation to each other that pure numbers
do.

"6. (Writing of Figures). On neatness in writing the figures,
the requisite time must be spent. Since an invariable diagram
for each number will re-appear in all stages of this course of in-
tuition, the pupils will soon become able to prepare the work
for each coming number by writing its diagram on their slates.''

It will appear from this that Mr. Grube subjects each number to
the following processes:

I. Exercises on the pure number, always using objects for illustra-
tion.

a. Measuring (comparing) the number with each of the pre-
ceding ones, commencing with 1, in regard to addition, mul-
tiplication, subtraction, and division, each number being
compared by all these processes before the next number is
taken up for comparison. For instance, 6 is first compared
with 1 by means of addition, multiplication, subtraction,
and division,

$$(1+1+\text{etc.}=6; \quad 6\times1=6; \quad 6-1-1\text{etc.}=1; \quad 6+1=6)$$
then with 2, then with 3, and so forth.

b. Practice in solving the foregoing examples rapidly.
c. Finding and solving combinations of the foregoing exam-

in the Public School System of London.—III.

Prof. J. H. Hoole, Prin., State Normal and Training School, Cortland, N. Y.

I. A SELECTION FROM THE REPORTS OF THE GOVERNMENT INSPECTORS.

In order to give a better idea of what the inspectors do, I subjoin a few
selections from a printed report which was handed to me in the office of the
School Board in August, 1877. All these reports are printed, and thus be-
come history and reference. These selections are made to show the conscien-
tious care of the officers.

1. "CHICHELS A SCHOOL, BLECHYNDER STREET, NOTTING HILL.

"As I expected, the Master here has done all that was possible in the time
with this rough class of boys, and in a temporary and most unsuitable build-
ing. The passes have increased more than 25 per cent. Special commenda-
tion is due to him for the admirable manner in which he trains his Pupil
Teachers. The discipline and moral condition of the school are exceptionally
good. The School Board have scheduled a site for new buildings for this
school, and it is to be hoped that they will shortly be begun. A reduced grant
ought to be paid next year if the present building is in use.

"W. E. Simpson and G. E. Lloyd, Pupil Teachers, have passed well in
their standard examinations." 17th January, 1877.

2. "MILL LANE, BRIXTON HILL.

"This school is in a good state of efficiency, and reflects much credit on Mr.
Cullingford. The Writing is superior, and the Reading, Spelling, Arithmetic,
and Grammar are very satisfactory. The Geography is rather weak, and the
pupils, whose subjects are, with few exceptions, poor and deficient in in-
telligence. The boys should have more practice in writing out what they
have learnt. The discipline and organization are capable of improvement,
but are probably as good as can be expected in premises of such limited area,
and so inconveniently crowded with a superabundance of dual desks.

"E. Burnard has passed fairly, and A. F. Dudley well under the first stand-
ard. A. H. Strelley's name has been removed from the Register of Pupil
Teachers serving in this school."

3. "ST. JOHN'S, LIMESTONE.

"This school has passed a very unsatisfactory examination. The order,
discipline and teaching are excellent. The pupils have "made a good "im-
pression," as is worthy of mention by the side of the two Senior
Departments.

"(Of Pupil Teachers) W. Foster, M. E. Knight, F. E. Harper, and A.
Dun-gate, have passed well, and J. H. Watts, E. H. Knight, C. Allen, M. A.
Moor, C. Marsh, and S. Foster, fairly under their standard; but W. Foster
should attend to map-drawing. J. H. Watts to Grammar and Geography, and
E. H. Knight to Composition. M. E. Knight and F. E. Harper are now
qualified under their advanced standards specified.

"Mr. Wadeson will shortly have two Certificates."

4. "ORCHARD HOUSE, POPLAR.

"This school has passed a very unsatisfactory examination. The order, dis-
cipline, and instruction are imperfect. The staff is too small for the require-
ments of the school. Miss Wild and her Assistant have doubtless worked
conscientiously, though not with much success."

5. "JOHN STREET, FULHAM. 23rd December, 1876.

"Reading and Arithmetic require more thorough attention. The first-class is
fairy intelligent, and has passed a satisfactory examination, but the rest of
the school is not up to the mark, 90 were examined, and 72 per cent only passed.
The boys belong to the roughest and most neglected class of a very low local-
ity. The master appears to work hard, but the state of his health seems to me
be scarcely equal to the strain of so difficult a school.
"I am directed to state that a grant cannot be continued in the present
building after the close of the current school year, as the premises are unsat-
s satisfactory."

"BOYS' SCHOOL.——Very satisfactory.
"MIXED SCHOOL.——Excellent as usual.
"A. Forrest's (pupil) name has been struck off the examination schedule
above age for the grade.")

7. "FINSBURY SCHOOLS, ALLEN STREET, COSWELL ROAD.
"BOYS' SCHOOL.——This school has passed a fair examination only in the ele-
mentary subjects. I attribute this very much to a somewhat weak and cer-
tainly insufficient staff. The Assistant Masters are untrained. Mr. Larver
has produced fair results in the Third Standard, except in Arithmetic. Mr.
Sibley should give his attention to teaching Reading more carefully. The
Pupil Teachers lack power and energy. I am sure the Head Master has done
all possible under the circumstances, and with another Assistant Master cer-
tificates, fixed salary, $1,000, and a total of all his income,
excellent.

8. "WERRINGTON STREET, ST. PANCRAJS.
"BOYS' AND GIRLS' SCHOOL.——The discipline and general tone are excellent,
and the results of the examination show that plenty of hard work has been
done. The attainments of the scholars in Music, Drawing, Grammar, Geog-
raphy, Literature, Animal-Physiology and French are such as to warrant these
schools being classified as thoroughly good middle-class schools.

NOTES ON SALARIES OF TEACHERS.
The salaries are embodied in the quarterly reports under two heads: "Fixed
annual amount on April 30, 1877, exclusive of grant, etc.," and "Total re-
received during April from all sources." 1 note from the quarter ended on the
23rd March, 1877.

Noting somewhat at random, and among the highest, it appears that head
teachers receive as follows:
Francis Sheen, fixed salary, $650—total from all sources, $835. He held
a 2nd class certificate, and had had three favorable reports from the inspector.

Henry Dalley, holding a 1st class certificate, and having had 20 favorable
reports (20 years of experience) and who could teach full drawing, and who
held five science certificates, received a fixed salary at $850—and received a to-
total of $1,150.

Thos. Hopper, B. A., holding a 1st class certificate, having had 17 reports,
(annual), able to teach two drawing subjects, and holding 23 certificates in
special subjects received a fixed salary of $1,000, and a total of all his income,
$1,450.

Miss M. Whittle, holding a 2nd class certificate, having had 9 reports, be-
ing able to teach 3 subjects in drawing, had a fixed salary of $590, and re-
ceived in all, $7,115.

Miss E. Dalison, holding a 1st class certificate, having had 11 annual
reports, able to teach the full drawing course, and holding 1 science certifi-
cate, received a fixed salary, of $860, and a total of $1,245.

Henry Lee, 1st class certificate—7 reports, full drawing, 7 science certifi-
cates, fixed salary, $100, total, $1,515.

George Collins, 1st class certificate, 16 reports, 3 drawing subjects, 3
science certificates,—$1,000, and total $1,550.

Miss Janet Simpson, 2nd class certificate, 6 reports, full drawing, 1 science
certificate,—$500, and total $650.

Charles Spence, 1st class certificate, 12 reports, 2 drawing subjects, 1
science subject,—$1,000, and a total, $1,720. (Highest.)

Miss C. S. Bulcrraig, 2nd class certificate, 1 report, 3 subjects drawing,—
$450, total, $1,085.

John Hodges, Tower street, Seven Dials, 2nd class certificate, 3 reports,
full drawing, 3 science certificates,—$1,000, and $1,060.

Wm. Daddis, Turnin street, Bethnel Green, 1st class certificate, 14 reports,
full drawing, 2 science certificates,—$1,000, and $1,059.

Miss E. F. Varnold, same school, and class certificate, 6 reports, full drawing,—
$500, and a total of $930.

The story is told at the expense of a well-known Westfield church member,
who had an earnest brother Christian visiting him the other day. The latter
is not so demonstrative in his religious fervor as his host, and also is lame, so
that he cannot kneel. The first message was that of a plea to lead the
family devotions, and, seated in his chair, began an earnest appeal to the
throne of grace, while the family kneeled around. The host's son, a lad of five
years fidgeted around on his knees for a minute or two, and finally shouted,
"Stop him, mother, stop him! He don't know nothing how to pray. Let
father show him."

7. "BIRKENHEAD.
"INSTRUCTION.—No satisfactory.
"The discipline and general tone are excellent, and a fair examination
has been passed. Both the boys and girls received a fixed salary of
$600, and a total of all his income, $930.

SOUTH BOSTON.
—A party of vegetarians who were boarding at a water-cure establish-
ment, while taking a walk in the fields, were attacked by a bull, which chafed them
furiously out of his pasture. "That is your gratitude, is it, you great hateful
thing?" exclaimed one of the ladies, panting with fright and fatigue. "After
this, I'll eat beef three times a day!"
Notes.

A GRAND international exhibition is projected in Italy for 1879. May America come forward more promptly and sincerely than in case of the French display next year. — The N. E. Journal of Education says that “the days of sophomoric hazing of freshmen are numbered in this country, and the college that cannot stop such practices has small right to a first class rank.” — The salaries of the Philadelphia teachers have been reduced ten per cent. This makes a saving of $126,374 on the yearly estimate. Of these facts the Congressional Directory to Minnesota thusfar rendered to the State Superintendent, eighteen refer to the text-book law with unequal disfavor; five equivocally criticize and doubt; four favor it, while nearly all unite in declaring that thus far the law has produced results the opposite of those intended. Only four or five boards of county commissioners have shown any inclination to make provision for the payment of the price of the books. Nearly all the educators are opposed to the law, and no books are yet ready for delivery. We notice that Donnelly, the author of the scheme, has been returned to the Legislature this winter. Of course, another text-book struggle is imminent. — The subject of school libraries is occupying such a prominent position at present among our educational men that it is with pleasure that we are able to call attention to the first of several articles promised us by Mr. McColl, the manager of Jansen, McClurg & Co.’s Library Bureau, which has become such a power not only in supplying but also in helping to build up and elevate the entire library interest of the Northwest.

LITERARY. — We are indebted to General Eaton of the Bureau of Education for a copy of the Congressional Directory for the Forty-fifth Congress, corrected to October 18, 1877. This Directory is published under supervision of the Joint Committee on Public Printing, and contains over 160 pages of matter indispensable to members of Congress, government officers, and citizens having business relations with the government. It is also an excellent work of reference for all who would acquaint themselves with the organization of different departments and the duties of government officers. A brief sketch of the history of each member of the two houses is given in the alphabetical order of the states and territories. This is followed by a list of the standing, select, and joint committees of the Senate and House of Representatives, officers of the two branches and of their committees and the official reporters. Next come the officers of the Library of Congress and the government telegraph service; the attachés of the Executive Mansion, and of the different departments with their duties; the Southern Claims Commission; the United States courts; Foreign Legations in the United States; United States Legations abroad; Consulates, Consulates General, Commercial Agencies, and Consular Clerks; the District Government, Judiciary and Police; the Smithsonian Institution, the National Museum, and the N. E. Journal as an agent of the education of the public. This is followed by the biographies of both houses, with the exact location of each member, his boarding place in Washington, and his home post-office address, and, in fact, to every particular that can possess interest to the visitor at Washington or to a correspondent with any officer above and including the chief clerks of bureaus and departments. We have already found the Directory quite as useful in its public as its educational value.

HARRIET Martineau’s Autobiography. Edited by Maria Weston Chapman. (Boston: James R. Osgood & Co.) — Harriet Martineau was one of the most eminent of English women. Her autobiography gives a very interesting account of her life and work as estimated by herself. She seems to have been a singular child, surrounded by unloving and unsympathising persons, who failed to comprehend her capabilities, treating her after the manner of the “good old days” when children were supposed to have no rights and no feelings. Being a very delicate child, she was subject to a thousand childish terrors and frights utterly unknown to healthy children. She was lazy after the manner of ordinary children, hated to brush her hair, didn’t want to get up in the morning, preferred to have some one else get the apples in winter, and in her lessons dreaded to use her dictionary. At eleven she was lazy and wanted to do nothing, and send it to the Monthly Repository, a Unitarian periodical. Her topic was “Female Writers on Practical Divinity.” She took for her signature V, though as she now writes about it, she can remember no reason for its use. Her article appeared in the next number, and among the notices to correspondents a request to hear more from “V of Norwich.” This appeared wholly unknown to any of her family. She spent her Sunday evenings with her eldest brother, who was now married. After they had talked awhile, he proposed to read something, and took up the magazine, happening to open to her article at once. He read awhile, commenting very favorably, until, as they wondered at her dictionary, she confessed the article to be her own. He finished it in silence, but when she was returning home, he said, calling her “dear” for the first time, “do you devote yourself to this, and let other women make shirts and darn stockings?” That evening, she says, made her an author. Not long afterward she began her first work, “Devotional Exercises.” She also began a “theologico-metaphysical novel” but when about half done, became aware that it was excessively dull, and abandoned it. Many years afterward she burned it. This piece of work, two others, and a review are all that were not published, in the whole of her career. At the outset of this novel she discontinued the practice of copying, and ever afterward what she wrote at first remained unchanged. Authorship was not to her a matter of choice. She had not done it for amusement, for money, or for fame, but had rather been forced into it, because things needed to be said and she could say them. She always devoted her morning hours to her work. Sometimes she was the disastrous fire that burned up so many noble enterprises in Chicago, attained a larger circulation than had ever before been enjoyed by any juvenile magazine in America, announces a new monthly publication to be called Home Arts. His advertisement appears in the columns of the — The following new publications are announced: By D. Appleton & Co., The Anatomy of the Ivertebrates, by T. H. Huxley; The Ancient Life-History of the Earth, by H. Alleyn Nicholson; Elements of Geology, by Prof. Le Conte. By Jansen, McClurg & Co., Donis’ Housekeeping, by the author of “SixLittle Cooks”; Apple Blossoms, a volume of poems, by Hattie Tyng Griswold. By J. B. Lippincott & Co., Biology, by Dr. Charles Letourneau; New Ireland, by Alexander M. Sullivan; Anthropology, by Dr. Paul Topinard. By G. P. Putnam’s Sons, The Silver Country, or, The Great Southwest, by Alex. D. Anderson; The Flood of Years, by Wm. Cullen Bryant; Sorrento and Inland Work, by Arthur Hope. By Scribner, Armstrong & Co., Upper Egypt—Its People and its Products, by Dr. C. B. Klunzinger; Faith and Philosophy, by H. B. Smith; Political Science, by T. D. Woolsey.

The Flossy and Bosy Stories just published by D. Lothrop & Co. are admirable little sketches for Christmas. Mrs. Margaret Hammond Eckerson, the author, has displayed peculiar skill in portraying the childish characters of “Flossy” and “Bosy,” who are said to be two “really” little girls, the daughters of a “really” clergyman, who, in their parish visiting tours with their parents, contrive very ingeniously to betray the peculiarities of human nature. The price is 75 cents. 15 illustrations. The Monthly Reader for December is now ready—another gem. By G. P. Putnam’s Co., Mr. T. The December number of the Popular Science Monthly is unusually interesting to teachers. — A volume of biographical and critical sketches of “The Great Tone-Poets,” edited by Mr. F. Crowest, is announced by John Church & Co. The papers include Bach, Handel, Gluck, Hayden, Mozart, Beethoven, Weber, Rossini, Schubert, Mendelssohn, and Schumann.

REVIEWS.

The Educational Weekly. [Number 48]
forced to work during the day and night, but it was not her practice to write anything more serious than letters in the evening. She made no calls, but received visitors every day from two to four. Five times in her life she had occasion to publish what she fully believed would ruin her reputation and prosperity. The result, however, was very different from her anticipations.

She closes her life with a hint regarding her last illness, her views and beliefs respecting the future, and her last view of the world, closing with these words: "When our race is trained in the morality which belongs to asceticism, all 'fear and trembling' will be left to children, and men will have risen to a capacity for higher work than saving themselves, to that of 'working out' the welfare of their race, not in fear and trembling, but with serene hope and joyful assurance. The world as it is growing dim before my eyes; but the world as it is to be looks brighter every day."

Thus we see this irreducible, visionary child developed into a strong, noble character, notwithstanding the adverse circumstances which surrounded her. Her genius was varied and remarkable in every way in which it was developed, and was also singularly masculine in its characteristics. She was a poet, a novelist, a political economist, a theologian, and a journalist. The amount of work she accomplished during her life was wonderful. Few could have done it, and endorsed as she did all those years an amount of physical pain sufficient to have worn out an ordinary man.

From her life many valuable lessons may be drawn applicable to humbler walks in life. Perseverance, even under difficulties, will accomplish wonders for any one. Her life is published in two large volumes, rendered attractive by all the modern arts of book-making. The latter half of the last volume is taken up with "Memorials of Harriet Martineau" by Maria Weston Chapman. This review of her life by her friend leaves the reader with a pleasant estimate of her socially than is gained by the perusal of the autobiography. The work as a whole is very interesting.

**Ladies' Guide to Needle Work and Embroidery.** By S. Annie Frost.

Henry T. Williams, publisher, Boston. This little book would be a valuable accessory to any lady's library; and should be found on every work table. It contains full descriptions of the various stitches used in embroidery, crochet, etc., and any lady with a little knowledge to begin with, and what is called by some people "gumption," can, with the exercise of the patience and perseverance necessary to accomplish needle work of any kind, soon master all the different varieties described. There are beautiful patterns given with full description for performing the work, and the materials required in embroidery, braiding, appliqued work, canvas work, bead work, lace work, tatting, knitting, crochet work, netting, transferring, perforated card work, Persian rug work, patchwork, tambour work, and wire work. There is a valuable chapter on doll dressing that will be appreciated by all mothers who love to work for the pleasure of the little ones, and also by the ladies who get up fairs, etc. The volume closes with some illustrations of miscellaneous fancy work, full of good suggestions for beautifying home. The book has a neat appearance, and is in convenient shape for frequent reference.

**Pamphlets Received.**

**Eighth and Ninth Annual Report of the Superintendent of Public Schools of Pittsburgh, for the years ending Sept. 1, 1876, and Sept. 1, 1877. Geo. L. Luckey A. M., Supt. Schools.**

Course of Study Pursued and Text-books Used in the Pataskala, O., Public Schools. Rules and Regulations Governing the Schools.

Aug. 20, 1877.

D. R. Thompson, Supt. Public Schools.

Third Report of the Board of Trustees of Public Schools of the District of Columbus, 1876-77.

Chas. E. Hovey, chairman.


Horace S. Tarbell, Superintendent of Public Schools.

First Annual Catalogue of the Michigan Military Academy, 1877-78.

Orchard Lake, Oakland county, Mich. Major J. Sumner Rogers, Superintendent; Alfred Hennequin, M. A. Principal.

**Queries and Answers.**

**Answers.**

[The answers are numbered to correspond with the "Queries" which have preceded.]

60. 4 per cent of 100 per cent = 4 per cent; 100 per cent — 4 per cent = 96 per cent. 5 per cent of 75 per cent = 31/2 per cent; 75 per cent — 31/2 per cent = 71/2 per cent; .56 x 71/2 = .684; 30 + .684 = 34.64.

Ans. 43.8+ yrs.

20X=270, the number of square feet to be lined; 3X=.62X2.88 feet; the length of 1 yard of duck; 11 yard = 2.25X feet; 2.25Xx.95 = 2.1375 feet, width of one yard of duck. Then 2.88X.1375 = area of 1 yard, duck, and of course R will see the remainder. It is from Robinson's Arithmetic, p. 268. It lies between Greenlief's, p. 354, and 72 secularly varied from 43.74.

Is there any new ones?

71. Conceive a triangle constructed at the tops of the towers, an angle being at the top of each, and circumscribed about it the least circle that will contain it, and for the sake of brevity designate this triangle by A, and the triangle at the base of the towers by B.

The triangle A is isosceles, the base or greatest side being the distance between the tops of the towers of 30 and 50 feet in height, respectively. It is evident that a ladder "to reach the top of each tower without moving the foot," must be placed at a point in the plane of the triangle B, where a perpendicular is drawn to the plane of the triangle A erected on the center of its circumscribed circle meets the plane of the triangle B. Designate this line by x, and the length of the ladder by y. To ascertain y five steps are necessary.

1. Given the distance between bases of the towers for the base, the difference in the heights taken in pairs, for the perpendicular of a right angled triangle, to find the hypotenuse or distance between the tops. Apply the theorem. "The square described on the hypotenuse of a right angled triangle is equal to the sum of the squares described on the other two sides; whence the base proves to be 200.0954+ feet and each of the other two sides 200.2408+ feet.

2. Given, one-half of the base of the triangle A for the base, and either of the other two sides for the hypotenuse of a right angled triangle, to find the length of the perpendicular let fall from the vertex of the angle opposite the hypotenuse on that side. Apply the same theorem as in (1), which shows its length to be 173.2050+ feet, which designate as L. Conceive this perpendicular line produced till it meets the circumference on the side opposite the bisected angle, and the product of these two sides, then the diameter may be designated C + D. (2) Given two chords, — the base of the triangle A being one and C + D intersecting it, the other, to find D. Apply the theorem. "When two chords intersect each other in a circle, the rectangle contained by the segments of one is equivalent to the rectangle contained by the segments of the other." D is then found to be 18.3123+ feet. C + D, 173.2050+ feet + 58.31237 feet = 231.51745 feet, and the radius one-half of 231.51745 feet, or 115.758725+ feet. (4) The radius found in (3) is the length of the base, the line x the perpendicular, and the line y the hypotenuse, and the perpendicular of a right angled triangle, to find the vertical distance of the two planes A and B midway between the 30 and 50 feet towers, the perpendicular, the line x, the hypotenuse, and the difference between the points when these two lines meet the plane B, the base of a right angled triangle. Apply the theorem. "The sides of the equal or equivalent circular triangles, taken in the same order, are proportional and the triangles similar," and we find x = 40.1995+ feet. (5) Given, the base = 115.758725+ feet, and the perpendicular = 40.1995+ feet to find the hypotenuse of the right triangle. Apply the same theorem as in (1) and we find y, the length of the ladder =123.54+ feet.

Let x = perpendicular,

200 — x = hypotenuse,

x² + 10000 = (200 — x)²,

x² + 10000 = 40000 - 400x + x².

400x = 30000,

x = 75 = distance tree broke from ground.

200 — 75 = 125 = hypotenuse.

WM. D. P. LOWRY.

72. The tree breaking forms a right angled triangle, with a base of 100 feet, and the sum of the perpendicular and hypotenuse 200 feet. The following rule will solve the example: From the square of the sum of the perpendicular and hypotenuse, subtract the square of the base and divide the remainder by twice the sum of the perpendicular and hypotenuse; that quotient will be the perpendicular.

This example is susceptible of another very nice solution: From the square of the sum of the perpendicular and hypotenuse, subtract the square of the base midway between the 30 and 50 feet towers, the perpendicular, the line x, the hypotenuse, and the difference between the points when these two lines meet the plane B, the base of a right angled triangle. Apply the theorem. "The sides of the equal or equivalent circular triangles, taken in the same order, are proportional and the triangles similar," and we find x = 40.1995+ feet. (5) Given, the base = 115.758725+ feet, and the perpendicular = 40.1995+ feet to find the hypotenuse of the right triangle. Apply the same theorem as in (1) and we find y, the length of the ladder =123.54+ feet.

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WM. D. P. LOWRY.

D. W. MILLER.
CHICAGO, DECEMBER 13, 1877.

MINNESOTA.

The approaching destruction of the venerable State House of Indians has afforded a fine opportunity for the repetition of this famous experiment on a grand scale. The dome of the capitol rises 125 feet in the clear from the floor. For a weight, a 23-inch cannon ball was used, and the wires were attached to it, and extended to the floor. For a weight, a 23-inch cannon ball was used, and the wires were attached to it, and extended to the floor. The present number of certificates granted during the year, 1st grade none, 2nd grade, males 17, females 28. Number of applicants rejected 28.

INDIANA.

POPE county has a monthly institute in good working order. We have received the programme for the December meeting. It will be held at the 15th, at Golconda. We notice that practical questions are to be discussed. Things seem to be approaching a crisis at Springfield. At the last meeting of the Board of Education a preamble and resolution were introduced which are substantially as follows: The former recites that the Board submitted its estimates to the city council calling for $43,516, to meet the necessary expenses for the current year; that the city council refused to levy this amount, and reduced it to $50,000; that the school debt and interest due December 1, and amounting to $15,450, is now due; that the school officers have been furnished with information that there is not now due for school purposes $9,398; that the levy made by the council will not yield more than $20,000; that the board, because of a recent decision of the Supreme Court, is enjoined from making loans or issuing certificates of indebtedness; that there is a prevalence of increasing disaffection on the part of taxpayers to evade the payment of legal taxes, therefore be it

Resolved, That all the city schools shall be closed at the end of the present term, December 21, 1877, and remain closed until sufficient funds are furnished the board to meet their demands. It is proposed, however, to continue it in a lawful manner, and that all salaries paid by this board are hereby suspended until said time.

Resolved, That the Superintendent of City Schools is hereby directed to see that the purposes of the above resolutions are fully executed.

On motion, the further consideration of the preamble and resolution was postponed until the next meeting.

Surely the above is an unfortunate condition of things. It is to be hoped that some arrangement may be made by which the children of Springfield will not be obliged to spend the rest of the year upon the streets. The gravest fact is that if the schools are to be closed the year will be irretrievably lost to a majority of the pupils. It means so much withdrawn from the preparation for the varied duties of life.

TWENTY-FOURTH ANNUAL SESSION OF THE ILLINOIS STATE TEACHERS' ASSOCIATION TO BE HELD IN THE STATE HOUSE AT SPRINGFIELD, DEC. 26, 27, & 28, 1877.

The dome of the capitol rises 125 feet in the clear from the floor. For a weight, a 23-inch cannon ball was used, and the wires were attached to it, and extended to the floor. For a weight, a 23-inch cannon ball was used, and the wires were attached to it, and extended to the floor. The present number of certificates granted during the year, 1st grade none, 2nd grade, males 17, females 28. Number of applicants rejected 28.

We have been furnished the following from the County Superintendent of Education, Mr. B. W. Brayton, formerly of the Cook County Normal School, Illinois, in which he expresses his feeling about the recent decision of the Supreme Court.

"The East—Prof. John Musick, State Supt. Public Schools, Indiana; Prof. W. L. Emery, Superintendents of Public Schools, Illinois; Prof. J. H. Blodget, Rockford, R. II. Edwards, Princeton. A. M.-General Discussion: 1:00 P. M.-Paper:—What should be taught in our Primary Schools? 2:00 P. M.-Paper:—What can we do to make our pupils speak better English? 3:00 P. M.-Paper:—What can be done to make our pupils speak better English? 4:30 P. M.-Paper:—What can be done to make our pupils speak better English?

The State Department is wholly a private enterprise, is under the tasteful, or rather smellful management of Mr. E. F. Brown, teacher of human anatomy hold nightly orgies."

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"The Education of Women. J. L. Pickard, Chicago. 2:45 A. M.-General Discussion: 1:00 P. M.-Paper:—What can be done to make our pupils speak better English? 2:45 A. M.-Paper:—What can be done to make our pupils speak better English? 3:00 P. M.-Paper:—What can be done to make our pupils speak better English? 4:30 P. M.-Paper:—What can be done to make our pupils speak better English?"

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Missouri.

Our Supreme Court is called upon to decide whether the appropriations for the normal schools are meant for calendar or school years. It is a matter of $5,000 to each school. As neither year was mentioned in the act, the question will hinge on whether or not the Court desires to cripple these schools. Our normals are gradually making headway. Never have they been so prosperous. Nearly 800 students are now in attendance.

A new feature in the way of education has been added to S. E. Mo. A district association is to be held at Piedmont during the coming holidays. An extended program is already provided for, and it may look for an interesting time. A plan is on foot to make the meeting an annual affair.

Mr. C. W. Stephenson writes from Warrensburg some encouraging things. I enclose:

Warrensburg Normal Items. This year, Prof. Osborne has set aside Thursday afternoon for the work. These lessons are imperative, and the pupils meet in their respective rooms for the purpose stated. These Thursday afternoon duties are made a part of the school work and the same penalty for failure in lessons is applied here. The exercises consist of recitations, prayers, essays, and in the higher rooms, debates. In the matter of preparation, so far, the plan has been eminently successful. There is a growing emulation among the students, and of the right kind. The year's work will, we think, show a marked improvement, and the general culture of each student be more widely extended. This also makes a very pleasant variation from the old studies. In Prof. Campbell's division of the "Normal Society," embracing every member of the school, we have, fortuitously, a summary of the whole. Our "best" literary notes are in course, and the pupils doing well. This is an important item in literary work, as students are in this manner informed of the results of their labors. The increase in attendance this year has made it necessary to furnish the old "Assembly Room" with desks. There are about seventy students now seated in the University, and they will be of great convenience to all.

An evidence of the success of the Philomathean Association is, that at the last meeting the room was crowded with visitors and students not members. All the advanced graduation class of June, '77, with one exception, are teaching in good positions. Our library of general literature will be at hand by the holidays; Mr. W. T. Williams will have charge of it. This will mark the beginning of the Polytechnic Institute, whose old and new members will also return for the last half of the year. She will complete the course. John Bradley, another of our earnest students, is teaching in Elwood, Saline county, in this state. He will return for the last quarter.

Of these heads is conducted by a single pupil, who, after a few efforts, becomes a successful teacher. This also makes a very pleasant variation from the old studies. Miss Minnie Hedges will also return for the last half of the year. She will complete the course. John Bradley, another of our earnest students, is teaching in Elwood, Saline county, in this state. He will return for the last quarter.

The South.

There are 1,772 pupils in the colored schools of Mobile, and these schools are said to be in excellent condition and very serviceable.

"One of our reporters had occasion to visit Owen county, Ky., the scene of some of the recent lawless acts, and was astonished at the low state of education in that section. School-houses are some evidence of the interest of the people in education, and the increase of learning in Kentucky is a disgrace to a civilized and intelligent state. Crime will not all disappear with ignorance, but the safety and happiness of any people will increase with their intelligence and culture—Chicago Inter-Ocean.

Kentucky is receiving a very many notices of this kind, and while the North is the largest state in the Union, it is not the largest in population, and the people are more widely scattered. Kentucky is the most agricultural state in the Union, and the people are more widely scattered. The state, if they don't want branded upon them Carlyle's 'infidel-tyrants,' will not all disappear with ignorance, but the safety and happiness of any people will increase with their intelligence and culture.

A colored educational convention of North Carolina was held in Raleigh recently. The Committee on Resolutions reported a series of resolutions, stating that the time had come for the colored people to think and act for themselves. The time has come to assume the responsibilities of the American Republic; and that education, morality, and industry must constitute the basis of their elevation and prosperity as a people; that notwithstanding the many obstacles and evils with which they are compelled to contend in their present condition, it is essential to prevent the development of the "color line." One of the resolutions expresses the sentiments of the state press, and the action of the state Legislature and state Executive in providing more ample and efficient means for the education of the colored people of the state. The last resolution was warmly discussed, and finally adopted by an overwhelming vote.
Practical Hints and Exercises.

CLASS TACTICS.

Prest. J. BALDWIN, Kirksville, Mo.


1. Ready. Before giving this signal, the teacher may name the class. This will not be necessary after all become familiar with the programme. Each member of the class instantly takes a position ready to rise. 2. Rise. All rise at the same instant, and each turns in the direction he is expected to move. It is understood that each pupil steps into the aisle on rising. 3. Pass. Quietly and quickly all pass to recitation seats, or to places at the board. At the board, classes will generally pass directly to the board. The teacher will plan so as to avoid all confusion. At the board each stands facing the teacher and awaits orders.

II. Class symmetry. 1. (Position.) 2. (Straight lines.) 3. (Stand erect.)

1. Position. Place the tallest in the middle of the class, and others each way according to height. The reverse order is equally good. You secure symmetry and each pupil always knows his place. Since "turning down" has been abandoned, this arrangement is being generally adopted. 2. Straight lines. By this is understood that pupils shall stand in lines parallel with the boards. It requires tact to train pupils to keep this position. Avoid the mistake of constantly telling Manage. 3. Stand erect. No long neck must be permitted. Appearance as well as health require the erect position. Have your pupils always stand and sit erect, and it will soon become to them a habit of great value.

III. Board Tactics.

1. Board. All turn to the left, to be in position to erase or write. Train all to turn quietly, quickly, and gracefully.
2. Erase. This signal may include the first. When facing the teacher, it means to turn to the board and erase. The eraser is pressed on the board and drawn down, thus avoiding dust. There should be an eraser for each pupil in the class, and a trough beneath the board for crayon and erasers. At the signal, board and erase, pupils pass from recitation seats to board, and erase.
3. Attention. All instantly turn to the right. No one must wait even to finish a figure. All face the teacher and await orders.
4. Write, etc. Before beginning the work, the class will usually be divided into sections of two or more each, and work assigned accordingly. The signal given will depend upon the work to be done.

IV. Concert Tactics.

1. Class. In general exercises of the entire school substitute school for class.
2. Division one, etc. The school and the classes are prepared into several divisions. The division called responds. Section is the signal when a particular section is called.
3. Boys, girls. Sometimes it has a good effect to call on the boys and girls to answer in turn. Ladies, gentlemen, are signals used for advanced classes.
4. Ones to twos; twos to ones. It is an excellent device to divide a class into sections of two each. At the signal, ones to twos, the ones recite to the twos, as directed by the teacher. Much individual work is thus secured.

V. Remarks. (1) No one must answer unless called individually, or designated by one of the concert signals. (2) The running fire kept up between a random teacher and his class is absurd enough. (3) Avoid much concert work. Use it for spice and drill, but do not rely upon it. (4) Let concert answers be given in a low, distinct tone. Nip all tendencies to sing-song.

I. Dismissing classes. 1. Ready. 2. Rise. 3. Pass, or seats.

1. Ready. The board will be clear before this command is given. As this signal is never given except when the pupils are about to move, no misunderstanding can occur. If at board, the pupils deposit crayons and erasers and turn in the direction to move; if at seats they prepare to rise.
2. Rise. The pupils rise and turn. If the class is at the board this order is omitted.
3. Pass, or seats. In dismissing a class, pass is always used; in sending the class from boards to recitation seats, seats is the signal. The order of passing will be so arranged as to consume the least time and produce no confusion. Some teachers have the pupils stand after passing to desks. At the signal, seats, all take seats at once.

To young teachers. By a few hours patient study and a few weeks careful practice, you may master this system of tactics. Soon you can work vigorously and easily, and you will find that you have almost doubled your efficiency as a teacher.

SKETCHES OF LESSONS IN PRIMARY READING. FIRST YEAR.

Miss ISABEL LAWRENCE, State Normal School, Whitewater, Wis.

SKETCH IV.

NOTE.—Sketches are the skeletons of the lessons. The individual teacher must supply flesh in the form of variety and spirited work, or the lesson will lack life, however correct may be the questioning. The sketch is the back bone—the system. The life comes from the teacher, and must be original with her.

Object.—To cultivate perception, conception, and language.

Point.—To teach words this and is.

Matter.—This is a mat. This is the rat. Is this a hat? Is this the cat? Other similar statements.

Method.—Tr. presents the objects, if convenient. Point to any object you please, and state its name. Ch. This is a mat. Tr. prints the sentence on the board. Ch. read, always pointing to the mat, or marking the sentence true.

If Ch. fail to emphasize mat, Tr. asks.—What is this? Ch. This is a mat. Ch. select the word this. Drill on that word apart from the sentence.

Tr. Take this hat and ask me if this is a hat.

Ch. Is this a hat? Drill as upon previous sentence, leading Ch. to notice the difference between this and this.

Similar, for remainder of matter.

Treat is and is in the same manner as this and this, apart from the sentence.

NUMERAL FRAME.

The Greek school-boy learned to write and draw on a board strewn with sand, on which marks were made with a stylus, or sharp-pointed stick. The board was called an abax. For arithmetical calculations, the board was used without sand, and the calculations were performed by means of counters. These counters were pebbles, beans, or coins. Pythagoras, the great mathematician, it is said, hated beans, and as coins were costly, pebbles were used without sand, and the calculations were performed by means of counters.

The accounts of the Egyptians, the Assyrians, the Greeks, and the Romans, but the Egyptians were not acquainted with the use of the abacus. The Chinese have used the numeral frame or abacus, strung with wires, with glass or wooden beads as counters, nearly in its present form, for ages. It was doubtless invented by them, whence it passed westward through India and Arabia into Europe.

The accounts of the Kings of Egypt before the Conquest, (A. D. 1066), were calculated by means of the abacus, or counting board. The Normans
improved the form by ruling a table in squares or "chequers," hence the term, "chequer" became a name for financial finances. The person who made the calculations was called the teller, and coins were used as counters. It is easy to see how one vertical row of squares was made to represent the places of farthings, another of pence, another of shillings, another of pounds, and another of tens of pounds, etc., and how examples in addition and subtraction could be easily performed.

Accounts were kept by merchants in Roman numerals until the close of the sixteenth century, although the Arabic figures were introduced into England about the year 1253. The abacus was used to a great extent in England for the purpose of calculation, at least fifty years after the landing of the Pilgrims in 1620.

At the Norman conquest the "tally" system of keeping accounts was introduced from Normandy, in France. It received its name from the French word, teller, to cut. Square "tally-sticks" of hazel or alder were prepared, and the account was kept by notches cut on the stick in Roman numerals.

The stick was then split longitudinally, leaving notch-marks on each half. One part was given to the creditor and the other part was kept by the debtor. When the stick was presented by any person, if it was "stalled" or fitted the other part, the claim was admitted, and when paid the stick was preserved as proof of payment. This system of keeping accounts survived the introduction of Arabic numerals in Europe about 670 years. The "tally-sticks" of the English Government were not destroyed until the burning of the Houses of Parliament in 1834.—Educational Calendar.

VOX POPULLI

A CORRESPONDENT in Minnesota sends us the following extracts from the examination papers of an applicant for a First Grade certificate in that state. He is now a county superintendent, having been elected to the office by a vote of the people! Truly, the cause of sound learning in that part of our country must be in the enjoyment of a flattering prospect. We give the whole, verbatim, et librationem, et punctamination. As the law of the state providing for the election of county superintendents by the people fixes no standard of qualification for the office, "the good time coming" appears already to have come there.

Verily, it is a truth universally acknowledged that marriage is universal and ignorance is not to be found in the schools. The teacher, the school committee, the town; or some one else who is in charge of the mind of a pupil, should be the head of the school in good spirits as well as good conduct. Let every teacher try it. Begin the school as if you had just heard good news and took pleasure in imparting it, and keep this up all day. Those whom we teach have a right of an intelligent handling of the mind and inviting it to study. The powers of the mind in learning are, first, detecting difference; second, observing sameness; and third, retaining what is seen. These, however, cannot be exercised all at once, and yet how often are the retentive powers put to work, while the observant and discriminating powers are kept standing by idle. The heedless handling of the mind is not yet over with. I maintain the right of the taught to such a quality in the teacher's character as will command their respect. The one who is in charge of the mind to lead it into knowledge will only fail, if at every turn of the way, he cannot show himself the master. If a teacher fails in trying to explain a study to his pupil, he instructs that pupil no longer. If the narrow and selfish mind is discernible, the taught see it as soon, sooner than others. "Let no man despise thee," was Paul's advice to Timothy. The taught have a right to the absence of a suspicion of questionings in their teachers. How are the taught to be led into doing, if the teacher talks at the alphabet of the lesson? There is a hidden truth which makes the taught perceive the worth of his teacher. Knowledge itself is an instrument merely, and as ready to serve wrong as right. What is wanted is a training that will operate upon habit. The school is emphatically a great training school of manner, in perseverance, in punctuality, in veracity. There is an ethical training in the very discipline of the school. Moral harangues need not be frequent. Not the seeming, but the being is the hidden force that compels the taught to own the genuine worth of the master.

A MODEL PRIMARY SCHOOL

IT IS at Elgin, Kane county, III. The teacher is Miss Eva L. Lamming, a graduate of the Elgin High School. She has not taught long, and never attended a normal school nor visited a primary school outside of the city. She arrives at the school room promptly on time, is good-natured, dresses neatly, speaks kindly to all, moves about the school-room quietly and gracefully, and seldom sits down. Pupils come in promptly at ringing of the bell; the teacher stands at the door; pupils come in singly, quietly, so quietly that before one is aware the school-room is full of pupils in their places. There are no meaningless delays; each understands the other well; teacher sits and reads about five short verses of Scripture, each pupil being seated at the end of the seat, erect, with hands clasped upon the desk directly in front, giving attention to what the teacher distinctly, and yet in a low tone, reads. At the close of the reading, all rest the head upon the hand, covering the eyes, with elbows upon the desk; teacher and pupils all recite in a way that means something the Lord's Prayer,—a full, distinct tone throughout the room—the teacher at times not reciting, that the independent voices of the children may be heard. The first position is promptly resumed, the roll-call follows at once, the children promptly responding to the teacher's announcement of "number;" few absences, no cases of tardiness, though the rain is pattering upon the roof; a bright little song breaks suddenly upon the ear like the sparkling sunbeam through the clouds. The teacher says "one," the right hand down; "two," the left comes down; "three," the slate comes quiet from under the desk; it comes quietly, because care and system were exercised when it was placed there last night. The slates are all covered, many home-made covers. "Four," slates placed upon the desks, almost literally without any noise. None wait to be told to commence work; black-boards all around the room, well filled with work for the children, placed there last night by the teacher, ten minutes copying, studying, quietness, no recitations. Promptly at 9; 20 teacher says in a very low voice, "Four," pupils turn; "Six," pupils rise and step into the middle of the aisle, forming a straight line, two aisles fall on one side of the room; "Six," the file at the left march and the second column file in the rear and come to place in front, forming a straight line. Slates left at the desk. The recitation is in reading and writing numbers from one to one hundred. The little fellows have attended school but a few weeks, but the lesson is well learned. These little five-year olds have studied their lessons with just as much earnestness as a class in their teens are expected to study in preparing a lesson in history. They do not turn round in their seats, nor laugh, nor raise their hands and snap their fingers, nor step off from the line, nor answer without permission. The teacher says; "Jane, go to the board and point to figure 8, number 18. How do you write ten, twenty-six, etc." The numbers are arranged in regular order in columns of ten. The exercise to be appreciated must be witnessed.

Let us make our primary schools good, then our intermediate and high schools will be better, and the discipline and culture obtained there will improve the standard of our citizenship.

A. H. P.
THE RECITATION AND ITS OBJECT.—II.

I believe it requires much wisdom and judgment to know the extent and the limit of profitable explanation without detriment to the pupil's thought. And this suggests a duty of the teacher which is far greater and more necessary, and that is how to teach pupils to think. It may, I think, be done in the class-room. There are certain and successive steps that lead to conclusions, and the pupils should be taught these. The more active minds being given the first steps, will reach the height at a bound, losing intermediate steps which may be of essential importance in solving other problems; others require a helping hand to the very last. To most minds, to think out a problem, or to think on some abstruse statement, means to stare at it and repeat it over and over, conscientiously but hopelessly. The idea has not come to them that certain paths lead to certain places. When a pupil has made the discovery and knows the arcanial steps, he has a more valuable acquisition than the contents of a library would be. The following seems a common complaint: “My class will not think, they are completely at sea when they are submitted to an examination on particular examples or principles that they have not already known.”

Have they been taught to think? If not, what else can be expected? If we have made storehouses of brains, the brains are not to blame if an article is called for that has never been stored there. But if we make them factories—teaching processes and furnishing material or showing where it may be obtained, we have a right to expect that some articles will be made to order.

But the imparting of knowledge, including all that has been said thus far in this essay of its reception and expression, is not the only important object of a recitation. The requiring of correct and concise answering inculcates a habit of truthfulness and exactness in all departments of speech. The very distinctness required in utterance gives a zest and interest to general conversation or to any public effort. The grace of courtesy and the charm of respectfulness can be engrafted or encouraged through the precepts and example of the teacher. Respectful obedience to the teacher and courteous treatment of class-mates being insisted on, the young American of slang and impudence would soon give place to a manly chivalry and womanly nobility which would far exceed the deference and servility of the old pedagogical days. A true teacher finds time and means without encroaching upon the duties of the vocation to inculcate a love for the pure, noble, and good, and a reverence for the right and divine.

The crown and glory, however, of a teacher's duty lies in the personal interest taken in each pupil. In this, I believe, is the secret of successful teaching. There are teachers, scholars in every sense of the word, who are wedded to the subjects of which they treat; in recitation they are wholly absorbed in subjects, and sentences on the board, and calling upon different members of the class. Others are patient, careless, and anxious only for immediate results. The dull and slow of the class have to give place to the quick, (especially if visitors are in). Many a slow intellect ceases to act; many a dormant ambition sleeps forever for want of a patient, friendly hand to spur to action or rouse to grand possibilities. One of the requisites for a teacher's certificate should be the possession of a heart—a warm heart but a strong one strengthened by wisdom and judgment. The brilliant pupils should feel the joy of the teacher, but also the steady, guiding hand. The dull and slow should expand and quicken under the loving eye discerning their various needs, and the careless and conceited should feel that the restraining and prancing hand is impelled by a wise and generous heart.

I have purposely avoided all allusions to the mechanical part of the recitation; whether a class should walk or march into the class-room; whether they should sit or stand; and the hundred and one minutiae which some regard as the sine qua non of all teaching.

These seem to me arbitrary, depending largely on individual taste and ability.

A. A.

TEACHERS' SCRAP BOOK.

We wonder how many of our teachers keep an use scrap books. Not bulky, unwieldy folios, filled with thrilling stories or sentimental poetry, but small books easily carried, in which you paste such scraps of information, hints as to methods of work, apt illustrations, or anything you may chance to find which will be a help to you in the school-room, or in your preparation for the work to be done there. Few things are more useful to a teacher than such a book; if you once try keeping one you will never wish to do without it.

There are two advantages arising from this plan: one, the obvious one of having always at hand the useful items you have gathered; the other, though not as obvious, is quite as great. The formation of the habit of being ever on the lookout for anything bearing on our profession is of itself an invaluable aid. We always see what we are looking to see.

If you have never tried keeping such a book begin at once. Don't choose a large book, for it will be so unwieldy you will not use it as often as you should, and don't wait until you can arrange your scraps all in “apple-pie order,” for you will never find time for that, but commence right away, paste in the first useful hint you find, then the next, and the next, and so on. Of course it would be nice if we could have all our scraps scientifically arranged and indexed; but life—especially a teacher's life—is too short and too busy for that.

A good way is to have several little scrap books, each devoted to some particular subject. For example, I keep one for items bearing on the financial and legal part of my work; another for general facts, such as teachers and scholars ought to know, and a third in which I am teaching exercises and illustrations for use in the class-room. Several exercises given at the drill, which proved especially popular with the teachers, were taken from this scrap book.

—Mary Allen West.

I give one-fourth day each week to composition exercise. The pupils are provided with paper and pencil, several subjects are placed upon the blackboard, and every pupil required to write all he can on one subject. The subjects are selected so that all pupils are able to write. The following were used last week: Maple sugar making, ghosts, telling stories, faces, domestic animals, rats, peanuts, observations in a railroad car. During this exercise the strictest order is observed. Pupils that experience difficulty, write their subjects, and then are aided by the teacher, who is constantly among them. He does not write, however, but suggests what may be said on the several subjects, and aids them to form the first sentence. The writing continues just one hour, when compositions are folded, superscribed, numbered, and handed to the teacher. The pupils then receive compositions of the previous week, and are required to correct the errors noted on the outside. Fifteen minutes is given, then the remaining fifteen minutes is given to the correction of mistakes which the pupils failed to rectify. This is done by placing the words and sentences on the board, and calling upon different members of the school for correction. The facility with which young pupils write after a few months' practice is surprising, and while it proves a profitable exercise, it is no less agreeable to the scholars.—N. E. Journal of Education.

PUBLISHERS' DEPARTMENT.

Back numbers of the Weekly, from one to twenty inclusive, will be furnished for five cents each. All back numbers, from No. 90, ten cents each. Any who have extra copies of Nos. 45 or 46 will confer a favor on us by returning them. We will extend their subscription one week for each copy so returned. After Jan. 1, 1878, our charges will be $1.50 for five subscriptions, and $1.00 for ten or more. For six months, $1.35 and $1.00.

—H. B. Nims & Co., whose advertisement of the Franklin globes appears in our columns this week, have long enjoyed a national reputation, and can be relied upon with confidence to do promptly everything which they promise.

—By oversight, the article on Class Tactics in this week's Practical Hints and Exercises is not credited, as it should be, to the American Journal of Education.

NEW ADVERTISEMENTS THIS WEEK.

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It is a pity there are not more educational periodicals like the Educational Weekly. Your editorials strike home,—your ideas are of and for to-day. They are not stuck in a fog bank of old theories and fixed conditions. You don't walk in the smooth, much-tramped road of the mere theorist, but where the school, the pupil, the patron, each element of educational condition and influence, is ideal—schools and children and parents—all, what the brain of the theorist thinks they should be and therefore must be. Your editorials indicate that you see the school's condition as it is,—children as they are, and patrons and teachers of schools as they are, and you propose to reach and supply wants as they exist, and not as you imagine they should exist. I like your journal because its editorials are full of practical common sense, the rarest of all human virtues.—Hon. Chaite S. Smart, State Commissioner of Common Schools, Ohio.