The Educational Weekly.

THE EDUCATIONAL WEEKLY.

THE UNION OF
THE SCHOOL BULLETIN AND N. W. JOUR. OF EDUCATION, Wisconsin.
THE MICHIGAN TEACHER, Michigan.
THE ILLINOIS SCHOOLMASTER, Illinois.
THE NEBRASKA TEACHER, Nebraska.
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CHICAGO, THURSDAY, NOVEMBER 22, 1877.

Editorial.

If there be any one truth more than another which, from the first, the Weekly has aimed to emphasize, it is that the teacher should become the leader and guide in the great work of educational reform and progress; that he should come to the front, make himself master of his profession in all its bearings, and assert his capability and his right not only to govern his little kingdom within the walls of the school-room, but to form, and in a proper sense, to control public sentiment in all that relates to the welfare and advancement of universal education. We have in terms insisted that he should have a potent influence in shaping school legislation; that he should be judged by, and should become the judge of his peers; that he alone should occupy the high places of trust and executive duty in the system, and that until this policy shall become generally operative we shall fail to realize those great results in education that the necessities of the age and the people so imperatively demand. These truths on reflection will appear so evident, we think, that no argument ought to be required to enforce them; for it is the simple assertion of a principle that controls in all other professions. It is the assertion of the principle that those who make their calling or employment the object of their exclusive study and effort, best comprehend its needs, and are best qualified to discharge the duties it demands.

We hold, too, that the most important function that society has to perform is the training and preparation of its successive rising generations for the duties of a useful and honorable citizenship. This is really the sum of all its obligations, since it may be said in a large sense to include all others. Every child once wisely and thoroughly taught and trained is almost certain to become a good man, neighbor, and citizen. Good citizens will be self-governed and there will be little for the machinery of government to do beyond the performance of its routine functions. But, again, this work of educating the whole people is a vast, difficult, and delicate undertaking. It demands the intelligence, the skill, and the wisdom in all the details of its conception and execution, which only exclusive study, devotion, and effort can give. Vague general notions gathered up from a casual and superficial observation, or from mere reading amid the pressure of other avocations, are totally insufficient to qualify an educational officer of any rank, from state superintendent to school director in a country district. Neither a superficial nor even a thorough knowledge of certain branches of study can suffice to make a truly successful teacher. Utter ignorance of everything pertaining to common schools, except their existence and name, cannot make a wise legislator upon school questions by whatever majority the candidate may have been elected. It is a fatal mistake to assume that because a man has been elected or appointed to an educational office by the present methods, he is therefore fitted for the position. Unfortunately, there are too many presumptions that the facts are all the other way.

Beyond all other interests, we affirm that those which look to the creation and conservation of intelligence, wisdom, and civilization should themselves be guided, controlled, and managed throughout by the highest intelligence and the most consummate skill and wisdom. To place an ignorant, inexperienced, and untrained teacher in charge of any school is to sap the very foundations of usefulness in that school. To place a school system, or any part thereof, in the hands of those who have not an intimate and practical acquaintance with all its details and with the grand objects it is designed to subserve, is to court disaster and defeat from the beginning. Hence it is indispensable that a large class of persons should be set apart, trained, and prepared by special instruction, observation, and experience to guide and control the educational movement, if success is to crown the efforts put forth in its behalf. The relation of cause and effect can never be more intimate and imperative than in the case which demands that intelligence and wisdom can alone be relied upon to produce intelligence and wisdom. Intelligence is not born of ignorance any more than grapes are gathered from thorns or figs from thistles. The most learned of all learned professions should be that whose business it is to promote learning, to instruct, elevate, and form the characters of men. The teachers of the race should be among the leaders of the race. Educators should construct and operate all parts of the educational machinery. They should shape legislation is this direction. They should become superintendents and directors of schools. They should leave the school boards. They should pass upon the qualifications of their professional brethren and test the quality of their work. They should, in brief, be abundantly able to deal with every phase of the great problem of education, whether in its external policy or internal economy, and carry it through to a successful solution.

It is time for all teachers to recognize the fact that there are higher questions than those which pertain to the details of the school-room. It is important to know the best methods of teaching and governing, of preventing irregularities and promoting parental cooperation. But it is quite as important to comprehend the relations of education to the national welfare, to know how to secure judicious legislation and its wise execution, the bearings of supervision and special training of a teacher of a school system, to compare one system with another; to see that every school is self-governed. This is really the sum of all its obligations, since it may be said in a large sense to include all others.
determine what defects exist and what remedies to apply in given cases. In truth, the study of these higher problems by teachers generally would increase their capacity to deal with the minor ones that relate to the details of management and discipline. There is no greater curse among teachers than narrow-mindedness. There is no more beneficent blessing than broad and liberal studies, with a disposition to grapple with those immutable principles that inspire the mind and make the possessor capable of mingling in great affairs conducted by able men. We rejoice to see indications of a general awakening to the importance of these truths, and hail them as harbingers of a good time coming. At the recent meeting of the Connecticut State Teachers' Association, says The New England Journal of Education:

"A spirit of self-assertion of the teachers' rights and prerogatives showed itself, and its uplifted voice was heard in the resolutions which were adopted, in which we find the declaration of these principles:

"1. The necessity of progressive measures in the public school organization.

"2. That teachers are in a position collectively to ascertain and realize, more than any individual or any legislative body, the deficiencies of the present system.

"3. That the Association, in the absence of any well-defined policy for an improved condition of school organization, should examine into systems and methods for local and state work, and should make its efforts felt in guiding public opinion in educational affairs.

"4. The voice of the teacher should be heard in the educational legislation of the state.

"5. The study of measures and methods should be assigned to the members of the Association to report upon, and that a committee be appointed to confer with the Board of Education, and the Committee of Education of the State Legislature, on all matters pertaining to the interests of education in the state.

"6. The County Teachers' Associations and school officers' conventions should be held in the several counties of the state, for the purpose of discussion, conference, and the better prosecution of work, and a greater uniformity of action."

It is a matter of sincere congratulation that the seeds sown by the WEEKLY, as the earnest champion of "the teachers' rights and prerogatives" have begun to bear their legitimate fruits. And now let other associations and educational bodies speak out and follow their utterances with intelligent action, and a new era will arise in the educational history of the republic. Politicians and pretenders of every sort will be sent to the rear, and educators will be generally recognized as the fittest persons to guide the educational work.

POLITICS IN SCHOOLS.

JUST as soon as the minds of his pupils become fitted for abstract thought and metaphysical reasoning, it is the duty of the teacher to instill into their minds some knowledge of that science which treats of the relations and duties of men to each other. Boys and girls should be taught politics just so far as to inform them of the virtues and vices of men upon themselves and society. They should be taught that they live under a republican form of government, and that this American republic has peculiarities which distinguish it from every other republic or government of any kind under the sun. They should be taught that they are Americans, and there should be something in the instruction imparted in the schools, which is distinctively American. It is not enough to give our nineteenth-century children—our American children—the same kind of instruction in the studies which were given our ancestors. We are Americans, and as Americans we are a very different people from the English, or the French, or the Germans. But in how many of our schools is this difference taught to those who are soon to maintain the distinction to our credit or ignore it to our detriment as a nation? What are our children taught of the great duty and privilege which is made universal (among men) in America—that of voting? How are they to determine the nature of their vote—by experience? Alas! too many experimental votes are now cast at our elections, and the vital interests of the country are daily suffering on account of this very lack of intelligent voting. Our schools should make a statesman of every boy who enters them, and a stateswoman, or something of the kind, of every girl. How can the state afford to maintain public schools at such an enormous expense, if it meets no return in cultivated statesmanship? The maintenance of the schools is a public economy, but how can the state afford to neglect the political education of her children in the very schools which she establishes to sustain the intelligence of the people? The study of civil government, then, is of much greater importance than the study of Greek, and Latin, and higher mathematics.

The argument for the study of American civil government is thus put by the Regents of the University of the State of New York:

"A general knowledge of these latter subjects would certainly reward the student with much greater benefits in after life than anything to be obtained from the study of Grecian or Roman antiquities. Yet it not unfrequently happens that scholars who spend quarter after quarter in the study of these antiquities, and who are familiar with all their minutiae, can hardly answer any of the most important questions on our constitutional law and practical civil jurisprudence. The antiquated constitutions, laws, manners, and customs of Greece and Rome are made subjects of regular study in several of our academies, while the study of the living, practical subjects of our own constitutional law, and the every-day occurring principles of our civil jurisprudence, is not admitted as a part of the academic course!"

If there were a more just and proper time devoted to the study of political economy in our public schools, we would be saved the ridiculous blunders which are so frequently made by men in official positions, and the mortification of certain most ridiculous speeches which are made in Congress. "Reform" would not be a matter so difficult to attain, for there would be less dispute as to the best methods and means to secure it.

Let the teacher, therefore, aim to become informed on these subjects himself, and then to educate his pupils according to his ability, if not by authority and direction of the board of education, then by virtue of his own good sense, and the authority imposed in him of exercising a certain amount of his own judgment in the conduct of his school. Let him teach the child the ranks and offices of their intellectual and bodily powers in their various adaptations to art, science, and industry; let him teach them to understand the proper offices of art, science, and labor themselves, as well as the foundation of jurisprudence and the broad principles of commerce, at the same time inculcating a practical knowledge of the present state and wants of mankind. Of course not all of this can be taught to school children, but enough of it to enable any individual to act wisely in any station in life. Beyond this should be taught the impossibility of equality among men, and the good which arises from their inequality; the law of compensation which harmonizes the circumstances of different states and fortunes, the dignity which accompanies every vocation or position in society, however humble, provided only its occupant is worthy
filling his appointed place; the proper relations between the poor and the rich, the governor and the governed; the nature of wealth and the mode of its circulation; the difference between productive and unproductive labor; the relation of the products of the mind and hand; the true value of works of the higher arts and the possible amount of their production; in short, the meaning of civilization, the advantages and dangers which may arise from it, and the true meaning of the term “refinement”—that it is possible to possess refinement in a low station and lose it in a high one. By all means should every young man or woman, before leaving the school and entering into the active world, be taught the significance of almost every act of daily life, in its ultimate operation upon the actor and others.

CHAPTERS IN SCHOOL ECONOMY.

SCHOOL RECORDS.—I

Prof. H. B. Buckham, Buffalo, N. Y.

I PROPOSE to take up next the subject of School Records. These questions will be briefly discussed: 1. Of what should record be made, if made at all? 2. For what purpose should such record be made? 3. How may it be made? 4. What use is to be made of it? What I have to say on these points will be modified, for all schools are graded and upgraded. The same general principles which determine what is best in the first are also applicable to the second; the manner and the extent of application will depend in part on circumstances. All school work is sufficiently similar to admit of the same general treatment, whether the classes in any given school be large or small, whether there be only one teacher or more than one; whether or not there is a prescribed course of study, and whether the school continue through the year or for three months only. 1. Of what should record be made, if made at all? I divide this into the two questions involved.

(a) A record is an account of transactions; either in substance or in detail, it represents what has been done. The transactions of school are of two sorts; all that pertains to study and lessons, or intellectual exercises, which are presented as results in recitations; and all that involves moral action, which is presented as results in behavior. These two include all the actions of schools as schools, and of one or both of these a record is to be made; and if of either, there is no reason that it should not be of both. Recitations and deportment are the data on which the standing of the pupil is determined; whether that standing be only an estimate formed in the teacher's own mind and never given to any one else, or whether it be put in some formal form as a book of records or into some published report. The record, if made, reports the teacher's judgment of the pupil in these two factors, the lessons he recites and his conduct while within the jurisdiction of the school. The questions asked are, how good—that is, how near to perfection—are your recitations, and how good—that is, how near to what it can and ought to be is your conduct?

So far, this seems an easy question to settle, but it is really and seriously complicated by another, viz.: should this be a record of results or of efforts? The lesson is ten problems in arithmetic; Willie has done them all correctly; his lesson, as a lesson, is perfect and he is entitled to a perfect mark. Johnnie has worked twice as long over his problems and has succeeded with five; is he entitled to half a mark only? I suppose him to have done his very best, he has spent all the time he ought to have spent; he has honestly tried to solve all the problems, but they were really beyond his power in the given time, and what he has, cost him twice as much as Willie's perfect lesson. The question is what shall be his credit for this half lesson, hardly and conscientiously learned. Willie is fairly entitled to his perfect mark, for he has done all that was required; Johnnie with a greater effort has done all he could, which was only half what was required. There can be a little question which is more meritorious as there can whose lesson is best; effort, and not success, is the real test of merit; the boy or the man who perseveringly and cheerfully and under difficulties and embarrassments not of his own making does his best, does more nobly than he to whom all things “come easy,” and who, compared with the other, masters his lesson at sight, though his attainments, compared with the other's, are meager. It seems to me that Johnnie is entitled to a half mark for his lesson and to a perfect mark for his effort.

If the record is to be for results only, the “smart” boys get all the honors, while the faithful, hard-workers, who perhaps can get no assistance or even encouragement at home, stand low and feel all the sting of such standing, though conscious of having done their best, and it is the duty of the teacher, just as Johnnie does, and that if his problems in arithmetic cost him hard labor, he would flinch and fail. Here, then, are two factors; effort and result. Shall I recognize only the latter? I see no other way so far as outward distinction in school goes, the head of the class, medals, etc., but the other, as one of the most honorable and promising elements of character, should not fail of certain and high commendation. But here is the difficulty; I can judge of results with sufficient accuracy, because results are all presented for my inspection; of efforts, I can form only imperfect judgment as it comes, incidentally, to my knowledge. And because of my inability to judge, at all times, and fairly, of the most important of the two factors, I have hesitated many times about keeping any record; and when I have read a published or even recorded result, I have often mentally put the first in a lower rank and some of the lowest in the first, and I have not unfrequently said in public or in private that the highest do not stand first in my estimation. I anticipate a protest from many against this doctrine, and hear them saying that you cannot record anything but lessons, and it is none of your business, in one aspect, at least, how much or how little the lessons may cost the pupil, as you are not punishing the slow and plodding, but only rewarding quickness of intellect exerted with reasonable fidelity. I rejoin that effort does not always appear to its full value in what children accomplish, and that this is more important and more hopeful of good results in the future than immediate and easy success.

This may be more evident if we consider conduct in the same light. Willie, again, comes from a well-governed, happy family. The obedience and the good conduct required at school are rather below than above what is required at home. He is accustomed to respect of superiors, to doing without grumbling what is asked, to returning good will for good will, and his parents encourage at home, stand low and feel all the sting of such standing, though conscious of having done their best. I am supposing, of course, that he has spent all the time he ought to have spent; he has honestly tried to do all that was required at school, and his lessons are as thoughtless and ignorant as a barbarian. Shall the difference in the circumstances and consequently in the moral condition of the two boys give a different value to their conduct and a different sufficiency of their performance? Shall the one whom obedience is already a habit, if not a principle, and the one who scarcely knows what it is to obey be judged alike, or should the one who knows best be judged by the most rigid standard? But here is a code of regulations, written or unwritten, forbidding whispering, enjoining quiet, prescribing how to walk and how to stand, and when to ask questions, all of which is proper and necessary; Willie, day after day, can report perfect obedience to the whole law, and in all that pertains to good conduct outside of school regulations the teacher finds him without fault; all this he does instinctively and cheerfully, as a result of home-training and a natural bias toward obedience and order. His conduct, judged by all that appears, is beyond comparison better than Willie's, who breaks every rule every day, and in things outside of rule is as thoughtless and ignorant as a barbarian. Willie is a better boy than Johnnie, and still Johnnie's always uncertain and generally indifferent behavior represents a greater effort, more resistance of temptation, more sacrifice of what he would like and is accustomed to, than Willie's. The question set me is how to do both boys justice, and how to give the good boy his full credit, and at the same time to recognize the far greater difficulty of the other boy's being only half as good. If school were to be a place of rewards and punishments simply, I should know what to do; but if it is to be a place of education—if those boys are to be trained to correct habits for all future life, if the influence of school as well as its precepts is to be in the direction of right conduct and habits, then I must take into the account all the circumstances of the case, and while my judgment may be weak, it must be both charitable and circumstance.

I have answered by implication the second question of the first, and the whole will appear in the question of the second.
THE RURAL DISTRICT SCHOOLS.—I.

J. W. Wright, Belleflower, Ill.

I MET an intelligent gentleman on one of my tours through McLean county last summer, to whom I broached the school question. Soon learning that he occupied the position of school trustee, having previously served as director for several terms together, I asked concerning the condition of the schools in his town.

“Oh, I really don’t know much about it,” he replied; “I was elected to this office only last spring.”

“Well, how about your own district in which you served as director for so many years?” I queried.

I really do not know, sir,” he answered, “I have no children of my own to send, and while I was director I was always too busy to visit the schools.”

I then told him, half apologetically for what was to follow, that I was a teacher. I then said: “Teachers and school officers are largely to blame for the bad condition of our country schools, for when anything is said on the subject it is always in their praise, whatever be their real condition, or, if the teacher be conscientious, he prefers to be silent rather than admit the defects of his school. Sir, I honestly declare to you that had I children of my own I should not send them, under any circumstances, to the district schools, for, not to mention the mornin’, the habits the children are forming, by the help of the average country school, are simply pernicious.”

He looked at me attentively a moment, then said: “What you have just said agrees with what has been my convictions concerning these schools, for years, and my wife and I agreed, long ago,” he continued, looking away from me across the fields, “never to send our little Nellie, had she lived. But it’s scarcely safe now-a-days to say anything, except in favor of the common schools,” and here he looked in my face.

Now, the gentleman expressed the whole truth of the matter, for he meant, by the “common schools,” the laws relating to them, the methods of teaching in them, the manner (or, rather, manners, for they are as various as the shades of light) of conducting them, and the influences are exerting over the masses of our youth.

Away with the mistaken love for these schools which leads a man to applaud the most transparent frauds and worst kind of evils simply because they show their ugly visages within the sacred precincts of these humble places of learning! Away with the foolish pride, or inexcusable ignorance, that prompts a teacher or a school-officer to tell the patrons of a district, “Your school is doing splendid work; things could not be in a more flourishing condition,” when it is perfectly apparent that each lesson studied and recited is only another lesson which leads to slovenly house-keeping and careless, bankrupt farming; which never awakens a desire to improve, to be better; which never leads to a close observation of things, to a love of good reading, to an intelligent appreciation of the good, the beautiful, and the true, and to the critical examination of self and of others in relation to the problem of life, and all the varied experiences connected thereto; but which, on the contrary, blunts the faculties, deadens the susceptibilities, darkens the perceptions, and renders those concerned utterly unfit and incompetent in many of the essentials, to discharge the multiplied duties of this wonderfully real, and actively busy life of ours.

The time is now come when something should be done—something may be done for the country schools. But the work, to be of utility, must begin at the foundation, which is the law. There is now a year for the teachers of Illinois to make preparations for the meeting of our next Legislature, when something in earnest should be done. Let the first thing be the reducing of the petty school officers. Why, by actual count, there were 723 school directors in McLean county in 1854, some of whom, to my personal knowledge, were worth two hundred. What an army of incompetents! Two hundred must be elected each year, at a cost, in time, of $8,540.

She came to the spot where they buried her bones, And the ground was well built over, But laborers digging throw out a skull Once planted beneath the clover. A temple of Galen wandering by, Passed to look at the diggers, And picking the skull up, looked through the eye, And saw it lined with figures.

“Just as I thought,” said the young M. D., “How easy it is to kill ‘em!”, Statistics ossified every fold Of cerebrum and cerebellum, “It’s a great curiosity, sure,” said Pat, “By the bones can you tell the creatures?” “Oh, nothing strange,” said the doctor, “that Was a nineteenth century teacher.”

—N. Y. Tribune.
THE CLERGY AND THE PUBLIC SCHOOLS.

The position of the Protestant clergy of the Pacific States in relation to the public schools has, until a very recent date, been very tolerant, not to say liberal. But the scales are evidently falling from the eyes of a few revered gentlemen, and we find them fully in accord with the Catholic priesthood in uncompromising hostility to our system of unsectarian instruction. They denounce our schools because we do not teach arithmetic evangelically, and because the Thirty-nine Articles have no place in the state course. The pastor of one of the largest of the Episcopal churches of San Francisco advocated, a Sabbath or two ago, a division of the school fund, and the establishment of all sorts of sectarian schools. After all, this kind of talk does less harm here than probably anywhere else in the world. Our people are unalterably added to our system and enlightened system of unsectarian education; and ecclesiasticism is not powerful enough on this Pacific slope to make much of one of the largest of the Episcopal churches.

The public school system is the only system possible under our form of government because the Thirty-nine Articles have no place in the state course. The pastor of one of the largest of the Episcopal churches of San Francisco advocated, a Sabbath or two ago, a division of the school fund, and the establishment of all sorts of sectarian schools. After all, this kind of talk does less harm here than probably anywhere else in the world. Our people are unalterably added to our system and enlightened system of unsectarian education; and ecclesiasticism is not powerful enough on this Pacific slope to make much impression, on devout church-members even, when the question is touched.—Pacific School and Home Journal.

Ignorance is the hot-bed in which everything vile flourishes. A secular public school system is the only system possible under our form of government. The logic that would destroy their secularity would destroy them altogether. This is our matured opinion on the subject. The issue is, secular public schools or no public schools. This is the real issue. No one will claim that our present system is perfect, but we will hold on to it until a better way is shown.—Pittler's Home Newspaper.

DEPARTMENT OF PUBLIC INSTRUCTION.

HARRISBURG, NOV. 12, 1877.

To the Editor of the Weekly:

Dear Sir:—Will you be kind enough to publish the following, with such comments as you may see proper, in the next issue of your paper?

A special meeting of the Department of Superintendence, National Educational Association, will be held in the lecture room of the Congregational church, Washington, D. C., commencing on Tuesday, Dec. 11, and continuing two or three days.

Important business will be transacted concerning measures for strengthening the National Bureau of Education, the establishment of a National Educational Museum, the proper representation of the educational interests of the country at the Paris Exposition, the appropriation of the proceeds of the public lands to school purposes, and other equally important.

Papers are expected to be read by Hon. John Eaton, United States Commissioner of Education; President J. D. Runkle, of Massachusetts; Hon. William H. Ruffner, of Virginia; Hon. Jas. H. Smart, of Indiana; Hon. William S. Thompson, of South Carolina, and others. Leading officers of the government, and Members of Congress interested in education, have been invited to take part in the deliberations of the Department.

No more important educational meeting has ever been called together in the United States, and it is hoped that every state in the Union will be represented by its leading school officers. A full programme of exercises will be issued as soon as it can be prepared.

The rates for boarding at the Ebbitt House, to Members of the Department, will be $2.50 per day.

JAMES F. WICKERHAM, President.

The East.

FITTING BOSTON GIRLS FOR COLLEGE.

The proverbial complacency with which Boston regards her school system has recently been disturbed by an episode whose history, aside from its intrinsic interest, has a value for every place in which there is a possibility of similar questions coming up for consideration.

It must be presumed that the Superintendent of schools and a majority of the committee have long favored the separate education of the sexes; also, that a little more than a year ago the conditions were as follows: The High Schools of the city proper were three; the Latin School in which boys fitted for college, the English High School for boys, and the Girls High School, which gave a certain amount of classical instruction but did not succeed in fitting its pupils for college. There were also five mixed High Schools in the annexed districts, four of which fitted for college. At the time referred to, something over a year ago, an order was passed by which this preparatory function was removed from all the schools except the Latin school, leaving no place where, in regular course, girls could fit for college. This much by way of prelude.

Now as there are three colleges in Massachusetts alone to which girls are admitted, and at least one in each of the other New England States, this was a serious blunder to make, not to mention the fact that by statute law of the state, every town of more than four thousand inhabitants is required to sustain a school for giving this special training to the children without distinction of sex.

In September of the present year, an organized effort to secure peaceable redress of the grievance was made by the presentation of petitions, some of which asked, as the most immediate remedy, for the opening of the Latin School to girls, while others insisted merely on provision for the girls of similar instruction in a suitable manner and place; and the series of hearings before the committee which followed was characterized by some remarkable features which deserve consideration. The first was a prompt and persistent attempt by those opposed to the granting of the petition to make the issue simply on the matter of coeducation. Hour after hour was spent in the discussion of this topic; letters were read from men known and unknown, and those who had inaugurated this plan had the satisfaction of seeing a very considerable success attend it. The real question was almost buried out of sight under this rubbish, and it was only when the petitioners had so far recovered their heads as to put due stress on the gist of the matter. Even then a good deal of time was consumed in answering points that had been raised as to the general effects and influences of letting boys and girls study in the same room and recite in the same classes.

The tone of discussion was another noticeable feature. It became personal and bitter, as might naturally be expected in a case where the one side was conscious that it defended a cause which lacked both legal and moral support, while the other felt that it was being disingenuously treated and thrust into a position it had never assumed. The injustice had been done, but those who had committed it or approved it now saw that what they had taken away must be restored in some form, and made haste to propose another way than that first suggested by the petitioners. They said in substance, that no one could be more ready to advance the education of girls than they themselves were, and it was on that the way to do it was not to put girls in the Latin School but to give them a place by themselves and a different sort of training. Such at least was the course of most, but some of the more intemperate or more out-spoken said explicitly that girls ought not to study Greek. The petitioners, on the other hand, ran almost as wild as their opponents, although in a different fashion, and though more straightforward, were as bitter in speech and almost as far from sticking to the text.

Again, the nature of the statements made and arguments used was worth notice. For example, President Porter of Yale said in a letter which was read that "the natural feelings of rightly trained boys and girls are offended by social intercourse of this sort." A letter from Charles Francis Adams, after speaking of coeducation as if it were an entirely new experiment, said, "It will go on until some shocking scandals develop the danger." It was said that girls ought not to learn Greek because its literature is immoral, that the decision of this matter should be in the hands of graduates of the Latin School because they understood it and knew what it wanted, and that girls should not be admitted there because the way to teach boys was just the way not to teach girls. Add to the above, mutual charges of mill-statement, and hints of unfair dealing, and a very pretty picture results of an actual educational discussion at the Hub.

The question is not yet decided, but the sub-committee before which the hearings were conducted has reported in favor of opening a separate school for girls to be located in some present school building which has unoccupied rooms. The whole affair has been a striking illustration of the danger of running away with a theory. Men who had taught themselves to dread coeducation, or who, possessing more zeal than knowledge of the matter, supposed that every arbitrary division must be "progress by differentiation," were those who took action which, while conforming to their own theories, was in violation of the requirements of law, and involved an immediate practical injustice which now after more than a year is still uncorrected. They are the ones who, when the results of their action excited universal comment, thought first of all how to beg off the matter and direct attention to side issues, making ready to give as a reason why the concession what they can not retract. They are men of character and standing to whom no suspicion of deliberate wrongdoing, but their theories led them into a grave mistake, and they had not the courage to admit their error frankly. A distinct theory is essential to administrative progress, but it is like fire in being a good servant but a bad master.
NOTES BY THE WAY.

MAYWOOD—ELMHURST—LOMBARD—PROSPECT PARK—WHEATON.

A T Maywood, Prof. Barrett, formerly of Michigan, is principal of the schools. Mrs. M. A. Barber, who has taught for many years in the city schools, has in charge the Primary Department. The written work done in this school is excellent. Cases of tardiness, few and far between. We listened to an exercise in reading in the high school. The teacher, a good reader, read each paragraph before allowing the pupil to read. The youth are good imitators. Miss Benjamin teaches on the north side of the track. On account of incessant rain we were denied the privilege of visiting the school.

The Lutherans have a Seminary at this place. The names are given in regular order corresponding with the youthful voices of his charge rendered as given on the blackboard in the high-school room:

"The Education Weekly. [Number 45 Notes."


Correspondence.

A LETTER FROM TEXAS.

TO THE EDITOR OF THE WEEKLY: I HAVE read the Weekly with interest, but if it reflects the opinions of advanced thinkers among professional teachers your boasted "school system," both east and west, is far from what it should be in the great mission of civilization, enlightenment, etc. There seem to be numerous causes of complaint, e. g., the petty district system, the ignorance of local officers, the incompetency of teachers, and especially the opposition of tax-payers, under the hue and cry of retardation and reform, to anything but commoner houses, cheaper teachers, and to all the new-fangled conveniences, adornments, machinery, etc., devised for more efficient work. These are serious complaints, but with but very natural ones, and the problem is, how under our system of government these demands can be remedied. Now we can readily conceive of a sovereign's being educated up to a point of reform and his applying a remedy complete and effectual to existing evils, but our whole political fabric rests upon another basis, the will of the people, instead of a sovereign; and said basis presupposes virtue and intelligence to begin with. The demand of statesmen has been, educate or perish! But these are not all; other questions are constantly looming up and we, who have no educational system, are beginning to think that our voluntary way of getting along is the better after all. A fierce controversy I see is raging in reference to the studies proper for common schools, and the reverse of the old argument is being urged, viz.: The rich are being educated at the expense of the poor! This draggs in its train the whole question of high, graded, and normal schools, as well as state universities. Years ago we sprung the same question. The high school is the test of intelligence, and its pupils came and demanded tuition in higher branches. We demurred, appealed, Suppt. Dix evaded a decision and advised compromise. The Bible in schools is an old question and flames out betimes like a house afire and springs a whole family of sparks containing elements of religious bigotry which we do not see. The common schools are denounced as Godless. We have no established religion and government must observe a strict neutrality in such matters; but is there any neutral ground?


The Weekly wonders at Pres. Fowler's late deliverance, and why?

So the state has no right to teach morals, is a natural one.-Is ours a brand new development of civilization? Is human nature changed? Or are we but repeating history? What is the educational, the social status of the oldest nations? Despotism in government; caste in society; ignorance, with all its train of vices, the inculcation of the idea of man's essential superiority in education, wealth, and domination of the few.

The matter of discipline is another question which has had a powerful run, and various theories from Alcott's—compelling the culprit to flog his teacher the old-time one of not "sparing the rod"—and lately this Alcott theory is heloing as the very theory of divine government, so we may expect enthusiasts to run mad over this new deliverance from the pulpit. Compulsory education is a new educational phase, and is reached by reformers thus: Government has the right to conserve itself. Intelligence is the great conserve, hence, education, wealth, and domination of the few. The school-building is a very fine one and shows to the visitor that Wheaton will be up with the times. The WEEKLY AND PRACTICAL TEACHER have found many new homes this week. A. H. P.

A teacher of a Sunday school in the interior of New York was impressed upon the scholars a lesson in connection with the death of one of their number. She told them that little Amy was now a saint in heaven. Whereupon one of the girls spoke up and said, "She will get plenty of preserves there." Astonished to hear her make such a strange statement the teacher questioned her to ascertain what could have put the idea in her mind. It was finally traced to the following question and answer in the catechism: Question, "Why ought the saints to love God?" Answer, "Because he makes, preserves, and keeps them."

I think the paper is excellent.—Wm. J. Sampson, Burlington, Ia.
On each outside row, there must be twelve rows of trees on a side, or 144 trees in the garden. If the questioner asked for information, let him draw a diagram of the garden and he will easily understand it.

H.

Therefore the number of cows will be the number of sheep as one to 10; or, in integers, as 5 to 50. Then if 5 cows, 54 sheep, and 41 hogs be bought, we shall have 100 animals at a cost of $100.

W. M. WHEELEER.

After finding relative ratio of animals for greatest and least price, we multiply by 6 to clear of fractions; this gives the least number of entire animals that can be purchased for an equal number of dollars at these prices. Any number of animals at the average price of $1 can be introduced without changing the conditions of the question; hence we take 41 being the number required to make up the 100 animals.

D. H. D.

This is an example in alligation where the quantity of whole mixture is limited. The price of the hogs being same as mean price, the number can be governed entirely by the other conditions of the problem. Comparing the price of a cow with mean price, we find that in buying one cow there is an excess of the mean price of $9.00 and to balance this excess, as many sheep at $1.50 be taken as the gain on one sheep, $8.75, is contained times in the $9.00 excess, or 10 times. These proportional numbers must be multiplied by some multiplier that will make integral products whose sum is less than the limited number or 100. The only multiplier which will do this is 5, giving 5 cows and 54 sheep. The number of hogs will be 100—$41 =41 which numbers will verify the statement.

H. M. E.

16¢ $1= of a dollar. By usual form of alligation alternate;

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EXPLANATION.—Compare 10 with $ to obtain column 1; multiply 1 by L. C. M. of the denominator to obtain 3; 10 @ $1 =10, 5 @ $ =25, 5 @ $1 =5, 4 @ $1 =4, 1 @ $ =1; total, 100 @ $100.

E. B. F., JR.

We first establish two limitations:

1. The number of cows cannot exceed 9, if it were 10 there would be neither hogs nor sheep.
2. As the whole cost of all the animals, the whole cost of the cows, and the whole cost of the hogs are each whole dollars, the whole cost of the sheep must also be whole dollars, and the number of the sheep must therefore be 6 or some multiple of 6.

Secondly, from the conditions we have

1. A certain number of cows, a certain number of hogs, and a certain number of sheep together equal 100 animals.
2. Ten times as many dollars as cows, the same number of dollars as hogs, and $ as many dollars as sheep together equal 100 dollars.

Therefore the amounts of these two sets of numbers equal each other, both consisting being one 100. "Things equal to the same thing are equal to each other."

From each of these equals subtract a number equal to the number of cows, a number equal to the number of hogs, and a number equal to $ the number of sheep, and the number is what the sheep equal to $ the number of sheep, and on the other a number equal to 9 times the number equal to each other. "From these equals if equals be subtracted, the remainders will be equal." Multiply these equals by 6 and the result shows that 5 times the number of sheep equals 54 times the number of cows. "If equals be multiplied by the same the products will be equal." Hence the ratio of the number of cows to the number of sheep is 5 to 4. Now there are no other two numbers having this ratio within the limitations first established.

The only was there were 5 cows and 54 sheep and consequently 41 hogs. Certification. 5 cows @ $10.00 = $50.00, 41 hogs @ $1.00 = $41.00, and $54 sheep @ $0.75 = $40.50, which sums together make $100.00. Also, 5+41+41 = 100.

W. R. REYNOLDS.

69. Should we say "lie down" to an animal? Should we use "sit" with anything but persons? Lie and sit are intransitive verbs, and may be used with either persons or things; as,

"Where are the books into which you ship must go?"

"As the partridge siteth on eggs but hatcheth them not."

"The little bird sits at his door in the sun."

Lay and set are transitive and causative. Lay—cause to lie. Set—cause to sit or rest.

I lay the book down; that is, cause it to lie down.

He set the turkey on twenty eggs; that is, caused the bird to sit.

The verb set as applied to the heavenly bodies is intransitive.

B.

I believe the "unchanging rule" for which "Ignorance" inquires is this;

Lie and sit are always intransitive, lay and set are always transitive.

If one is in doubt as to which verb to use in any instance, let him ask himself the question; "Is this action performed upon anything?" If it is, then the proper verb is set or set, if the action is not performed upon an object, then the proper verb is lie or sit. The rule is the same whether speaking to or of persons or things. I say to my dog, "Lay down, sir!" or of my hat, "It is lying on the floor!" or of the pitcher, "It is sitting on the table; I set it there."

The only exception to this rule, as far as I know, is when we say; "The sun sets."

W. W.
The Educational Weekly.

STATE DEPARTMENTS.

California: San Francisco State, Public Inst., Sacramento.


Iowa: P. M. Snodgrass, Principal Grammar School No. 2, Davenport.


Michigan: Prof. L. M. Moore, State Normal School, Ypsilanti.

Kentucky: Dr. Geo. A. Chase, Principal Female High School, Louisville.

Indiana: J. R. Roberts, Principal High School, Indianapolis.


Minnesota: Prof. Louis E. Sharp, State Normal School, Yankton.

Dakota: W. M. Brinkley, Sup't. Public Schools, Yankton.

Ohio: R. W. Stevenson, Sup't. Public Schools, Columbus.

Nebraska: Prof. C. F. Palmer, State Univ., Lincoln.


The East—Prof. Edward Johnson, Lynn, Massachusetts.

Musical Department—Prof. W. B. Smith, East Saginaw, Michigan.

Chicago, November 22, 1877.

MINNESOTA.

ChAMPLIN schools commenced the 16th ult., Miss Wells is principal and Miss Ludlow is teacher in the primary room. Miss Wells is a teacher of some experience and a graduate of the State Normal school. The University students are agitating the subject of a college paper, and expect to make some, and lose grace and ease by rejecting as superfluous the words and indications better qualifications and more earnest work on the part of those who give their divestiges. The University is now old enough, and has a large enough number of pupils. The pupils will remember the important events and their dates, his mind being of his study, but loses exactness by regarding the multitudinous dates as quotations, elegant turns of expression, choice words, and becomes a brilliant skeleton; the pupil of the facts that his flesh must have a skeleton to uphold it.

It seems a duty of the teacher, then, in a recitation, to guide the thought—by the pupil who has lost interest in that subject which he thought was the most profitable to infuse interest in that subject which he thought was the most profitable to his pupils. Miss Wells is principal and Miss Ludlow is teacher in the primary room.

A lesson must be assigned beforehand; there must be time for the pupils to look at it, think about it, and reason over it, and to extract the meat that shall nourish. According to their quickness of apprehension they will see what they need and discard the rest. A chapter in history may be assigned and required to be memorized. It may be accomplished faithfully for the day, but if unguided, the pupil will remember the important events and their dates, his mind being of that order; he will reject all the meat and the richness, and will serve his name and his classmate with the meagre in his way to his pupils.

Another remembers the events as having important bearing on the life and character of nations and individuals, and becomes copulent on the meat of this study, but loses exactness by regarding the multitudinous dates as quotations, elegant turns of expression, choice words, and becomes a brilliant skeleton; the pupil of the facts that his flesh must have a skeleton to uphold it.

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tention, comparatively, which they deserve. Physiology is gathering ground and taking a practical turn. Correct ideas of the theory and practice are not to be found. We were not acquainted with them eighteen months ago. Correct ideas of either the theory or practice of reading are rarely found. We would urge a diligent study of the fundamental ideas of reading, from emphasis on the practice. Reading aloud. It is probably the best exercise known. In cases in which the rules are known the pupil does not always show so much excellence in practice as one would expect. The reading is too lifeless, and the important words are not made sufficiently emphatic. Miss Betsy Clapp of New Richmond, was elected superintendent of St. Croix county.

Michigan.

The State Teachers' Association will hold its next annual session at East Saginaw, December 27, 28, 29. The programme of exercises will soon be published. The executive committee has arranged to select gentlemen and ladies to make addresses and papers in such a way that all the classes of schools in the state shall be represented. We are assured that the University, the denominational colleges, the Normal School, and the graded schools are all to have their representatives upon the programme, and that the specialists shall also be represented. An effort is also being made and with considerable promise of success, to have the public schools represented at the meeting by complete sets of blanks in use in each, by full statistics of condition and progress, and by sets of examination papers of pupils, specimens of penmanship, and drawings. We trust the following paragraph from one of our exchanges, the Adrian Daily Times, Oct. 19, and to express our satisfaction that the really valuable work of Prof. Payne, 'Chapters on School Supervision,' is receiving the attention it deserves. Prof. Payne has received a very marked recognition of the value of his late work on 'School Supervision,' and of his well-earned reputation as an educator, in the purchases of the following books: 'A Letter on Reading' a distinguished Italian educator, highly commending his 'Chapters on School Supervision,' expressing the hope that the work 'will fall into the hands of all who are engaged in the work of schools,' and asking him to be one of the associates editors (compilers) of the Archivio di Pedagogia e Scienze Affini, an influential educational review, published at Palermo, Sicily, of which he is the editor. Emanuele Latino is a member of several societies for the promotion of science and learning, and is the author of a valuable work on the Science of education in its harmonies and contradictions.

Illinois.

In Pulaski county, Colwell was elected superintendent over Lippincott by a majority of ninety-seven. Mr. E. L. Krape was elected superintendent in Stephenson county. His address will be Winslow until spring. Mr. Potter is a candidate for the Champaign county superintendent. He is a gentleman of excellent breeding, and was born in Johnson county. David Karracker is the superintendent-elect in Union county. R. Williams is reflected supt. of LaSalle county. J. P. Amoett is reflected superintendent of Brown county. John H. Black is reflected supt. of Stephenson county. The Illinois County Teachers' Association was held at Creighton the tenth inst. The exercises were conducted by Prof. S. G. Haley, Miss Ceryv, Mr. Niess, and Miss Walker. The chief topic under consideration was "Uniformity of textbooks." Judging from the following, we are confident that the different teachers and schools may be looked for from Iroquois. Why should they be so ungenerous as to clothe the matter in mystery? Come, out with it, friends. If you have discovered the "clue" pass it around. The committee on Uniformity submitted a copy of a study with the names of text-books, a private copy of which has been sent to any one who will address the Secretarv requesting it. This committee, consisting of the County Superintendent, four school principals, and two teachers of county schools, after having given much labor and thought to the work, believe that the best results are attained by a system of uniformity, in which cheaper books are sent into the hands of the children; which will introduce methodical and separate work into every school-room in Iroquois county, and save to the people at least one half the present cost of school books.

The Teachers' Institute of DuPage county held a session at Downers Grove, Thursday and Friday, October 25 and 26. There were about seventy-five different teachers present during the session. Instruction was given in civil government, rhetoric, penmanship, chemistry, and history, by Messrs. Herrick and Hawley of Chicago; Prof. C. D. Cross of Naperville, and Miss Stocking, formerly a teacher at Hinsdale. The intermission was too long, but was occupied with instructions and discussions of the necessities and methods of teaching analysis, evolution, penmanship, arithmetic, grammar, geography, morals, and manners. The difficulties presented were also discussed. The amount of punishment used in school, especially that of "colding," was considered. The amount of work done, and the numerous benefits resulting from this limited session, ought to be an assurance of future meetings sufficient to insure their attendance. At the close of the session the following resolutions were adopted:

We, the teachers of DeKalb county, and state of Illinois, in convention assembled for the purpose of mutual improvement in the profession of teaching, and also to exchange suggestions for the advancement of education generally, do hereby resolve:

First: That our hearty thanks and congratulations be extended to our worthy superintendent; C. W. Richardson, Esq., for having so ably discharged the duties of that office, and for his kind disposition toward the teachers under his supervision during the term of twelve years; and that we deeply regret that our relations as superintendent and teachers are now soon to be severed.

Second: That we censure those teachers who have willfully absented themselves from our County Institute.

Third: That, in our opinion the late action of the Board of Supervisors of DeKalb county, in reducing the salary of County Superintendent, was an innovation, greatly detrimental to the educational interests of the county, and should at once be reconsidered.

Fourth: That the sincere thanks of the teachers are due to the citizens of Downers Grove for the hospitality that has been extended to them, adding thereby pleasure to profit.

B. H. Gamon, P. A. Downey,
M. H. F. Hynd,
Committee on Resolutions.

Friday evening the teachers and residents of Downers Grove and vicinity were highly entertained and deeply interested by an able lecture delivered by President Bateman of Knox College, former State Superintendent. DeKalb county allows the superintendent $200 a year.

Educational News.

Illinois.—Albert G. Lane was elected superintendent of schools in Cook county. James P. Slade's majority over the opposing candidate for county superintendent (there were two of them) in St. Clair county was only (!) 4,098. It is evident that the voters of St. Clair county thought best to let well enough alone.

Michigan.—The Weekly was misinformed in regard to the engagement of Supt. G. M. Clayberg of Pontiac as instructor in mathematics at the Michigan Military Academy. Prof. Hennequin informs us that the Academy has a complete academic staff and the department of mathematics is conducted by Capt. Horace Conant. The Michigan Educational Union, Officers for the promotion of science and learning, and is the author of a valuable work on the Science of education in its harmonies and contradictions.
Practical Hints and Exercises.

SCHOOL TACTICS.

Pres. J. BALDWIN, Kirksville, Mo.

PROPER SCHOOL TACTICS save time, impart vigor, improve the appearance and spirit of the school, and train to the habit of exact and prompt obedience. Order results from system. A want of system in the movements of the school is a prolific source of confusion. The teacher, not less than the general, needs to be master of a well-adapted system of tactics.

School tactics should not be arbitrary. Principles should determine the movements and the signals. Even children ought to be able to perceive the fitness of the tactics.

I. PRINCIPLES.

1. School tactics should be uniform. So far as applicable, the system of tactics should be the same in all schools. The tactics of the army are the same throughout the nation. The combinations and changes of teachers and pupils continually going on demand the same uniformity for the schools. Variety in instruction, but uniformity in movement, is a desideratum in school management.

2. Each movement should be necessitated by the school work. All movements for show will be discarded. The necessity for each movement should be apparent. All changes will be effected in the shortest time consistent with perfect order.

3. The signals should be few and significant. The correctness of this principle will hardly be questioned; but, in practice, its violation is almost universal. Some schools use more than one hundred arbitrary signals daily. The waste of time and energy is immense.

(a) Few. The signals are for children. Many signals confuse, and to master them wastes much of the energy of teachers and pupils.

(b) Significant. Pupils are continually entering the school. Significant signals need no explanation. Arbitrary signals, such as counting, or tapping, the bell, must be explained many times. From force of habit many teachers allow sufficient time for prompt execution.

4. A signal should be used for but one movement. When a signal is always used for the same movement, the pupil learns to respond almost mechanically. Confusion is avoided, and the utmost simplicity is reached. Without thought, this almost self-evident principle is constantly violated.

5. The signals should be given with the falling inflection, and in a low, firm tone. The elocution of the teacher is an important factor in the government of the school. The thin, faltering tone and rising inflection cause even the children to smile.

6. All movements should be executed quietly, quickly, and with military precision. The noisy, slovenly movements of some schools are distressing. The results are a lack of interest, disorder, and bad habits. Precision gives interest.

7. Movements should follow signals. This principle requires the observation of the following points:

(a) No movement is permitted except in obedience to a signal. Otherwise confusion reigns.

(b) The movement ordered must be executed before the next signal is given. Allow sufficient time for prompt execution.

II. GENERAL TACTICS.

We will consider school tactics under two heads—general and class tactics. General tactics include the movements of the entire school; also such tactics as are common to the school and the class.

1. Calling school.

(a) Ring bell. In small schools the teacher ordinarily rings the bell. If a pupil can be trained to do this it is better, as it enables the teacher to devote his time and energies to other work. But it must be considered an honor, and one pupil should not be continued in the position too long. No one must touch the bell except the pupil designated.

(b) Give time to assemble. From two to five minutes are necessary. Small schools can assemble in from two to three minutes. In large graded schools the pupils form in columns and march to their respective rooms. In all schools the pupils must pass orderly to places.

2. Attention. The clock indicates that the time is up. The programme clock strikes. At the word Attention, there is absolute stillness. The teacher gives the necessary directions, and all enter upon the work of the hour.

3. Remarks. (1) The same order is observed, morning, noon, and after each recess. (2) Those not in seats when the word Attention is spoken, are tardy.

4. Remind. (1) The hand raised must be answered. (2) Everyone wishing to offer a criticism raises the hand. (3) Pupils not raising hands should be asked distinctly.

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4. Remarks. (1) The same order is observed, morning, noon, and after each recess. (2) Those not in seats when the word Attention is spoken, are tardy.

5. Rise. (1) When recognized. (2) When one is called.

6. School, attention! All sit erect and await orders. A slight tap of the bell may be substituted for this signal.

7. General Business. Here the teacher makes such remarks as may be deemed necessary, and attends to any matters pertaining to discipline, etc. The building is properly arranged this is unnecessary, as each one can get his place.

8. March. (1) The hand should be held as high as the head and held still.

9. Remarks. (1) The hand should be held as high as the head and held still.

10. Remarks. (1) The hand should be held as high as the head and held still. (2) Snapping fingers must never be tolerated.

11. Remarks. (1) The hand should be held as high as the head and held still. (2) Snapping fingers must never be tolerated.

II. Hand tactics.

1. Hands. No one speaks without permission. This regulation is imperative and absolute. In all cases the desire to speak is indicated by raising the right hand.

2. Ready. (1) When the teacher recognizes the pupil, the hand is dropped. (2) When any one is called to answer, all hands are dropped.

3. Remarks. (1) The hand should be held as high as the head and held still.

4. Remarks. (1) The hand should be held as high as the head and held still.

5. Remarks. (1) The hand should be held as high as the head and held still.

6. Remarks. (1) The hand should be held as high as the head and held still.

7. Remarks. (1) The hand should be held as high as the head and held still.

III. dismissing school.

1. School, attention! All sit erect and await orders. A slight tap of the bell may be substituted for this signal.

2. General Business. Here the teacher makes such remarks as may be deemed necessary, and attends to any matters pertaining to discipline, etc. Be exceedingly brief.

3. Arrange Desks. Quietly books to be left are placed in desks, and others are arranged for carrying. Division leaders distribute hats, wraps, etc. If the building is properly arranged this is unnecessary, as each one can get his things as he passes out.

4. Ready. All prepare to rise. The teacher passes a moment. All is readiness and stillness.

5. Rise. Simultaneously all rise, and each turns in the direction he is to go. A signal for turning is unnecessary.

6. March. It is best to count, 1, 2, 3. 4. . . . 2, 3, 4, and at the second step off with the left foot. Keep time to counting. After the first walk, the school will be able to march to music. Let the divisions follow each other, so as to have all move at once.

7. Remarks. (1) Observe the same order in dismissing at all recesses, at noon, and in the evening. (2) Order in dismissing adds much to the character of the school.

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12. Remarks. (1) Observe the same order in dismissing at all recesses, at noon, and in the evening. (2) Order in dismissing adds much to the character of the school.

LESSONS IN INDUSTRIAL DRAWING.—I.

MARY E. BRADLEY, Akron, Ohio.

T IS not my purpose to write a series of articles upon the value, to the scholar, of the study of Industrial Drawing—that would be unnecessary, as the demand for this branch is not only great, but daily becoming greater, and all must sooner or later see the importance of it. My desire is to give such lessons
that the teachers who wish to take this work into the school-room and are at a loss how to begin may be aided thereby, and who, by spending ten or fifteen minutes a day or evening may give it to their scholars and thus lay a good foundation for future work. Children, large and small, like drawing—it should be taught to them step by step and should be always industrial.

See that scholars provide themselves with long sharp pencils and good rulers, and if they have no paper, use slates. By a very few minutes' work you can teach them the names of different lines—such as horizontal, vertical, oblique, and the names of these lines must be repeated over and over at every lesson, holding the ruler before the class and changing its position to suit the line you are describing. You must teach them how to measure the different parts of an inch etc.—and if your children are very young, this will be no slight task. Besides, they must learn to tell the right from the left side—the upper and lower left and the upper and lower right corners of their slates or paper. Now tell them to draw upon the slate, beginning at top, a vertical line three inches in length, thus:

You draw the same line on blackboard making yours one foot. Now every one in the room place pencils on top of the line and draw three inches to the right.

Now all take up slates quietly, hold out at arms' length to see if lines are straight and clear, if not, correct. Now all ready, place pencils on the end of horizontal, draw down three inches.

This forms a square and will answer for the first lesson, your work on the board will be a square. In reviewing this lesson, give it as a dictation exercise, not drawing yourself. Let all who draw it well in the second lesson put it on the black-board and multiply the dimensions you have given them by four, -teach them what a square is—how many angles and what kind.

VIS VIVA—STRIKING FORCE.

Prof. Elliot Whipple, Westfield, Ill.

VARIOUS terms are used to name the power a moving body possesses to do work, or to penetrate against a constant resistance; vis viva, striking force, living force, penetrating power, etc. The existence in a moving body of some property differing from mere momentum, or the quantity of motion it can impart to another body at collision, is evident in many familiar phenomena; the destructive effects of a bullet whose momentum may be very insignificant, shooting a bullet through a pane of glass without shattering the glass, shooting a tal low candle through an inch board, etc.

Yet the authors of our text-books seem to have as many different conceptions of its nature and proper measure as names by which to express it.

Some make no mention of it, some confound it with momentum, some state that it varies as the product of the mass into the square of the velocity, some that it varies as the product of the mass into the square of half the velocity, and a few that it is measured by the product of the mass into half the square of the velocity.

To get at the heart of the matter, let us consider a case that may be divested of all non-essential circumstances.

The motion of a falling body acted upon by gravity alone is in accordance with simple and easily-understood laws. A body projected upward being resisted by the same force conforms to the same laws, the spaces being taken in the reverse order, and disregarding the varying resistance of the air and the variations of gravity arising from a variation in the distance from the center of the earth, we have an excellent illustration of the workings of vis viva.

It is our purpose to investigate the relation of velocity to vis viva, and the absolute measure of the latter.

Constructing a table according to the laws of falling bodies, we find that

<table>
<thead>
<tr>
<th>Times</th>
<th>Velocities</th>
<th>Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>In one second the acquired velocity is</td>
<td>32</td>
<td>and the space 16.</td>
</tr>
<tr>
<td>In two seconds</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>In three seconds</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>In four seconds</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>In five seconds</td>
<td>160</td>
<td></td>
</tr>
</tbody>
</table>

That is, a body projected upward with a velocity of 160 preceding the second would rise to a height of 400 1/2 feet; if the velocity be 128, the space will be 256, and so on.

In this case we disregard mass, because any variation in the mass of the projectile produces the same variation in the work to be done that it does in the working force. We may simplify still more by discarding another element; namely, gravity; for it is the resisting force, and might be changed without affecting the vis-viva; for example, a body projected from the surface of the moon with a given velocity would have the same vis viva as if projected from the surface of the earth, but the resisting force, or gravity, being only about one-fourth as great, it would rise about four times as far; or a cannon ball shot from a cannon with a certain velocity would possess a certain amount of vis viva which would not be affected by the fact that it would penetrate much farther into a sand bank than into a granite rock.

By experiment it is known that the earth's attraction diminishes the velocity of a body, projected upward, 32 feet per second.

Dividing the successive velocities and spaces in Table I, by this constant, we obtain:

<table>
<thead>
<tr>
<th>Velocities</th>
<th>Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/4</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3/4</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5 1/4</td>
</tr>
</tbody>
</table>

In this we have the relation between velocity and space, or work performed, divested of all non-essentials; and here we may discover by inspection what that relation is.

Any number in the column of velocities squared and divided by two produces the corresponding number in the column of spaces; for instance, 1 squared and divided by two equals 1/2; 3 squared and divided by two equals 9/2; 4 squared and divided by two equals 16/2; and so on.

Hence the relation of vis viva to velocity is half the square, or vis viva varies as half the square of the velocity. But vis viva also varies as the mass, hence its measure is the product of the two; that is, vis viva equals the product of half the square of the velocity multiplied by the mass.

A law that will always hold, whether the resistance be the gravity of the earth, the moon, or the sun; the resistance a cannon ball meets in penetrating a sand bank, a stome fort, or an iron-clad; or the friction of a train of cars on a railway track.

PARSING.

That we deem this a matter of paramount importance, but a subject of secondary importance, rather, that we freely give our method of teaching written parsing.

Take the sentence, "The boy's father purchased a book which contained Longfellow's Hiawatha." Have your pupils prepare on paper, with pen and ink, or lead pencil, (ink preferred), the parsing of all words italicised.

Model—"Boy's" is a n., com., mas., 3d, sing., possessing the noun "father," R. III. (Harvey).

"Father" is a n., com., mas., 3d, sing., nom., to the verb "purchased," R. I.

"Book" is a n., com., neut., 3d, sing., obj., obj. of the verb "purchased," R. VI.


"Contained" is a verb, reg., trans., act., ind., past, 3d, sing., R. XIII.

"The" is an art., def., and limits the noun "father," R. XII.

No one should go to extremes in enforcing such models, otherwise he be...
The Educational Weekly.

RULE FOR EXTRACTING THE CUBE ROOT.

By Prof. Werden Reynolds.

FIRST SERIES.

1. Point off the given cube into periods of three figures each, beginning at units.
2. Find the greatest cube in the left-hand period, and take its root for the first root-figure. (See Note 1.)
3. Subtract this cube from the left-hand period, and to the remainder annex the next period for a dividend.

SECOND SERIES.

1. Take for a divisor three times the square of the part of the root already found, considered as tens.
2. Divide the dividend by this divisor, and take the quotient for the next root-figure. (See Note 2.)
3. Multiply the divisor by the last root-figure; also multiply three times the preceding part of the root considered as tens by the square of the same figure; also cube this figure; subtract the sum of these results from the dividend, and to the remainder annex the next period for a new dividend. (See Note 3.)

NOTE 1. Square.-1 4 9 16 25 36 49 64 81
Cubes.-1 8 27 64 125 216 343 512 729

NOTE 2. As this quotient is only approximate, it will often be necessary to diminish it by one or two units.

NOTE 3. In the square root, both multiplications can be performed in one, by first putting the last root-figure in place of the unit zero of the divisor.

Direction. Repeat the second series till sufficient accuracy is obtained, annexing periods of ciphers if necessary.

Prof. Reynolds has published the above in tabular form, including instructions for extracting the square root, which reduces the whole to a very simple process. Ed.]

Publishers' Department.

PACK NUMBERS of the Weekly, from one to twenty inclusive, will be furnished for five cents each. All published since No. 20, ten cents each. Any who have extra copies of 21, 31, 31, 41, or 41 will confer a favor on us by returning them. We will extend their subscriptions one week for each copy so returned.

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—Maynard & Noyes' Ink is recommended by literary men and educators in every part of the country. It is the standard American ink.

—We published no index to the first number, but shall furnish one for the whole year in our first number for 1878. The fifty numbers in one year make a volume, when bound, of about the right proportions.

—County superintendents and agents will please balance up all accounts for subscriptions, as we wish to enter upon the new year with our books clear. Please notice our revised clubbing rates above. The present low rate of $1.50 is below cost, and cannot be extended beyond Jan. 1, 1878.

—Post the canvass for new subscribers and renewals before the end of the year. Any subscribers may renew now in clubs at the present rates, though their present subscription may not expire till after the first of January. Every principal and superintendent should make an effort to have his teachers subscribe for some good weekly educational journal.

—Those who are getting up clubs for the Weekly or Teacher should remember that the names must either be taken all at one place or the papers all sent to one post-office. This has been understood by some, and we have not strictly enforced the rule, but hereafter please bear it in mind. If any exceptions are desired to the rule, please consult the publishers and have an understanding beforehand.

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It promises to be of great value to teachers.—Sept. Mary Allen West, Knox Co., Ill.

I like the Teacher very much. It is handsome and piquant.—Prof. Edward Johnson, Lynn, Mass.

You have hit it squarely with The Practical Teacher. It is a gem, and must meet with favor everywhere.—Prof. J. M. DeArmond, Davenport, Ia.