THE EDUCATIONAL WEEKLY.

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Editorial.

PUBLIC measures, public institutions, and public men, are legitimate subjects of just and discriminating criticism. Public men are public servants. Public measures and institutions are designed to promote the public good. Hence, each individual in the community possesses an interest in, and has a right of judgment concerning them. The question of their beneficent, and their management being honest and efficient, it is the duty of every citizen to contribute his due share of that material and moral support so essential to the success of every public undertaking for the public benefit. Whatever is for the interest of the public is for the interest of the individual. In no just sense can there be any antagonism between public and private interests. Public prosperity and happiness must necessarily be based upon the prosperity and happiness of individuals. All are members of one body, and if one member suffers, all must to a certain extent suffer together. Could these simple maxims be generally accepted and universally put in practice, public peculations would cease; official corruption and robbery would be unknown; honesty and fair dealing would everywhere prevail; capacity, merit, and efficiency in the public service would become the inflexible rule, rather than as now the rare exception.

Neither our common school system nor any other educational agency can be exempted from the exercise of this right and duty of just, temperate, and discriminating criticism. The common schools were created and are controlled by the people. They exist for the benefit of the people—the whole people. If there be faults in their organization, if they have been found wanting in efficiency, if they have been urged beyond their proper sphere, or, if they have, from any cause, fallen short of their true aim and purpose, it is manifestly the right and duty of the people to reform them, to confine them within their proper limits, or to enlarge their scope and influence, according to the nature of the defects which a careful and dispassionate examination of all the facts may disclose. To this end, criticism is in order. Until evils shall have been discovered and exposed they will not be generally known to exist. Until their existence is generally known and admitted, they cannot be corrected. Star-chamber councils, inquisitions, and edicts are not the methods best adapted to the government of a free people. Public opinion here makes and unmake laws, reorganizes, disinorganizes or modifies the institutions it has created, according as the interests or the wishes of the people may demand the change.

A true critic is a true friend. They who in private life kindly and justly disclose to us our faults, are our best benefactors. However mortifying such disclosures may be to our pride, if sincerely accepted, they are good for the soul, and promotive of true growth in character. This law is equally applicable to public affairs. Criticism in education is the soul of progress. The best teachers are the best questioners and the best critics. The absence of these two swords of the spirit from the school-room is a sure indication of the presence of mental and moral stagnation. They are the one inexorable condition of development and culture. That knowledge only which is exact possesses real value. Vague and inaccurate attainments at school are the prolific sources of innumerable blunders and disastrous accidents in after life. They fail to secure that precision in expression and action which must result from the prior condition of precision in thought. A teacher can scarcely be too critical. Neither a school nor a system of schools is ever in danger of being too good. Indeed, their value depends altogether upon their quality. Those means and agencies which are to secure to millions and to generations of human beings the priceless boon of intellectual and moral integrity cannot themselves be too wisely contrived, too carefully adjusted, or too intelligently, conscientiously, and faithfully managed. Upon the accurate manipulation of these external appliances must, to a great extent, depend the accurate working of that mental and moral mechanism which it is the true function of schools and teachers to aid in developing and perfecting.

It is but just to add that criticism is not denunciation, nor is denunciation true criticism. The methods of the partisan and the zealot are not the weapons of the truthful and discriminating critic. "The truth is mighty and will prevail" when it finds its way to the convictions of the thoughtful and the just. There are few sources of public, or, indeed, of private demoralization, more prolific than the violent and shameless personalities and misrepresentations of a partisan press. This style of criticism is a scandal and a disgrace to our civilization. Nay, it is a remnant of that barbarism from which modern civilization has not yet fully emerged. It is one of those abuses of free speech for which there can be no decent justification. Its prompt and thorough correction will be one of those reforms in public morals which will carry with it many other reforms of "great pitch and moment," and herald a brighter day for the millions that are struggling for the light. A free public press is a mighty power, indeed. But it is a two-edged sword. It may be an en-
gine of unutterable evil, as well as of immeasurable good, de-
pending altogether upon the manner and the direction in which
it strikes.

Approbation is no less an element of judicious criticism than
disapprobation. The true function of criticism is, indeed, to
bring its objects, whatever they may be, to the test of truth; to
vindicate which is just, wise, and expedient, and to condemn
which is unjust, unfruitful, or inexpedient, and to point out the
more excellent way, in a spirit which shall convince the judg-
ment and move the will. Exercised in this spirit, there is no
limit to its beneficent power in correcting faults, in stimulating
reforms, and in promoting the cause of human progress. In such
a spirit it cannot well be too freely employed, nor can those who
judiciously wield its incisive blade be justly held amenable to
the charge of hostility to the persons, interests, or institutions
which form the objects of its righteous strictures. These re-
marks may be regarded as introductory to a series of observations
hereafter to appear in the Weekly upon our common school sys-
tem, with a view of determining to what extent it fails to accom-
plish its purposes, and of suggesting such modifications in its or-
ganization and management as may be necessary to a more satis-
factory fulfillment of its important functions.

The annual meeting of the National Educational Association
for 1877 will be held at Louisville, Kentucky, commencing on
Tuesday, August 14th, and continuing through the two succeed-
ing days. Among the important topics for discussion will be the
Report of the Committee on Course of Study from the Primary
School to the University. This report was presented last year at
Baltimore, but, owing to the great importance of the subject, the
discussion was deferred until the next meeting, to allow ample
time for consideration. As the report is published at length in
the volume of proceedings for 1876, all who desire to take part
in the discussion would do well to obtain a copy and give the
information bearing upon the subject from the active workers in
that portion of the country. The officers of the Association are:
M. A. Newell, President, Baltimore, Md.; W. D. Henkle, Secre-
tary, Salem, Ohio; and J. Ormond Wilson, Treasurer, Washing-
ton, D. C.

We are indebted to Hon. H. B. Wilson, of Minnesota, for a
copy of his speech in the House of Representatives of that state,
against the scandalous school-book scheme recently adopted by
the Legislature. The argument of Mr. Wilson is simply unan-
swerable. His picture of the incompetency of the average school
district clerk, and of the inconvenience and embarrassment of
the people resulting from an attempt to enforce the measure,
is not in the least overdrawn. The speech ought to have a wide
circulation, especially in those states where this hallucination has
not yet had its day. In the face of such an array of facts and
arguments, it was simply impossible for any honest legislator to
vote for such a bill, and we are forced to the conclusion that its
passage was a piece of jobbery, effected by the most discreditable
combinations, and in the conscious conviction that the measure
was a fraud upon the people, and a grievous wrong to the cause
of education in the state. That the future will justify this con-
clusion there is no room for reasonable doubt.

We have received from Hon. Leon Trousdale, Superintendent
of Public Instruction for the state of Tennessee, a circular, con-
taining a stirring appeal to the county superintendents in behalf
of a series of district institutes to be held during the present
year. He has divided the state into ten general institute dis-
tricts, containing from three to seventeen counties. These in-
stitutes are to be systematically organized, and are intended to
be auxiliary to the great work of the State Normal College,
established in the city of Nashville. The Normal College has
been located in the buildings of the University, by the joint
liberality of the General Agent of the Peabody Fund, and the
trustees of the University of Nashville. The highest trained
talent and experience to be obtained in the Union have been
brought into service to render the institution all that a normal
college should be. Tuition is entirely free. The earnest and
active aid of county superintendents throughout the state is in-
voked to assist in filling up the college with those who will
become worthy teachers in the public schools. The institution
is open to both sexes, and the best opportunities are offered for
a thorough professional training. We rejoice to be able to
chronicle this important movement, and to express the belief
that it will result in the highest good to this state, on the border
line between the North and the South. Indeed, its influence
upon the entire South we believe will be incalculable.

PRIMARY READING.

"C. H. L." does not quite get the "drift" of our article on Primary Reading, in No. 5. We have not entered the lists for or against a phonetic alphabet, and we certainly said
nothing in that article which can be fairly construed as either favoring or opposing the "reform." Our points were these:
1. Allowing the use of the word method, the pupil commences
his reading thus: The teacher tells him what a few words are, and he learns to recognize them at sight. As soon as this is
done, and not before, the pupil reads a few simple sentences
containing only these words. Then, when these words are per-
fectly familiar, the teacher tells him how to speak another short
list of words. These are then made familiar, and are used in
short sentences in connection with those previously learned.
This process is continued for some time. We remarked
that just here is one of the first points of failure in attempting to
reach the word system—this plan is adhered to too long. It
is only an initiative. It cannot become a permanent method.
The child must sooner or later learn to pronounce words without the teacher's aid. This, many, it is said
most teachers of the word method fail to mark as distinctly as
they should, and as the authors of such system insist upon.
2. When the pupil has reached this second stage, he must in some
way be taught to find out for himself what a new word is. How
shall this be done was our central thought. We insisted,
and still insist, that it is entirely expedient and best that the child
having reached this stage, should be taught to determine the
pronunciation of a new word in the same manner as "C. H. L."
or "O," or anybody else does it. There are but two
ways in which we learn the pronunciation of a new word
—one by hearing it pronounced, and the other is by the
expedients used in our dictionaries. What we mean,
therefore, is that this simple fact should be recognized; and
as soon as the pupil enters upon this second stage it
should be the systematic purpose to teach him the latter method
of learning to pronounce new words, as this is the method he
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will need to use all his life. This would be done in the follow­ing manner. Teach the sounds of a few letters marked as they are in the dictionary. Suppose the first to be the sounds of m, b, t, l, and e (short). When these five sounds are thoroughly learned so that the pupil can make them, train him to put them together as in such words as mét, bêt, lét. Then add a few more sounds as represented by other letters. Suppose these to be s, i, f, and n. Then these are to be combined, and the pupil taught to recognize by the sounds of the letters such words as mit, bit, lit, fit, slit, nit, it, in, if. As this method is carried forward the reading goes on, only that now the pupil learns to pronounce all new words from their sounds as indicated in the dictionary, instead of having the teacher tell him. We would have the marking used only in the columns of words at the head of the lesson, and from these have the pupil learn the sound so that he could pronounce it without the marks, just as we do when we go to the dictionary. We there learn to pronounce the word by its markings, and then have no trouble in pronouncing it without. So will the pupil. The marked words simply take the place of the teacher’s voice, and in either case the subsequent recognition is to be a pure act of the memory. Nor do we see any difficulty attending this process other than attends the use of the dictionary. Suppose the word though is to be introduced, the pupil sees at the head of his lesson, though (th o).

From this he learns what though is, and then remembers it; just as if his teacher had told him, and he had remembered it from the telling. So he finds the words, seal (sél) deal (del) meal (mel) steal (stél)

and having learned the pronunciation, remembers it. If he forgets, he is to go back to his key. This is the sole way of learning to pronounce English words (save by being told), and why not have the pupil learn it systematically, instead of by haphazard, after he has floundered along for four or five years without any method of learning to pronounce new words? We have incidentally indicated above that we would also make the most of the analogies of words. We were told the other day by a teacher of large experience and keen observation, who has repudiated the word method after long trial, that he found that the pupils could by no means tell what hen was, although they knew perfectly well how to speak men, and pen. Absolutely nothing was made of these analogies by the means of which four-fifths of the work of learning words (doubtless much more) is done away with.

As to syllabication, all we said was that it is exceedingly important both as a means of determining the pronunciation of a word in the first instance, and as the basis of all correct utterance; but that we feared that it is being neglected.

We will add what we consider the central eature of the word method in its best use. It is that the pupil should become perfectly familiar with a word, as such, before he attempts to read a lesson which contains it. This prevents the dragging and drawling incident to attempts to read when the words involved are not familiar. The mere matter as to how the pupil learns what the word is in the first instance is not essential to this principle. He may learn it by being told, or for himself by means of expedi ents used in the dictionary, he having become familiar with the sounds of the language, and this method of representing them. In either case, all new words should be made familiar to the eye and utterance before they are encountered in the reading lesson.

Our children may hope to see the spelling of the English language reformed to some common sense, phonetic system, which shall dispense with the strange jumbles of silent letters, and make the orthography some guide to the pronunciation, so that one who can speak correctly can also spell correctly. Till that time comes, spelling must remain one of the most important, if not, also, most difficult branches of common school study. The methods of teaching spelling are manifold, and each is good in its turn. But there are two primary laws of memory which ought to be held specially in mind by the teacher of any branch so purely formal as this. 1. To pack into memory that which is to be held permanently by mere force of impression, and without any rational association of ideas, demands the most vivid interest, and even excitement of mind at the moment of impression. 2. Readiness of memory depends chiefly on repetitions of impression, and frequent re-calls. The old-fashioned spelling matches have never been surpassed in their power to rouse keen and vivid interest, and to make deep and permanent impressions. They obey admirably the first law. The second will be best met by any method which obtains from each pupil the most frequent and accurate repetitions, by voice or pen, of those words which are most likely to be misspelled. The poorest methods are those which waste time in spelling without interest, those words whose orthography is simple and not easily mistaken.

The spelling reform moves, though slowly. The declaration of such men as Whitney, and Marsh, and Trumbull, leaders of the American Philological Society, in its favor, was a great point gained. The old objections, once regarded as unanswerable, are now shown to be without weight. And while the objections diminish, the arguments increase. The English language is now used by nearly eighty millions of people. It yearly becomes more important to foreign scholars to learn it, and the study of it is spreading in all lands. Why continue the incumbrance of a barbarous orthography? Why perpetuate the waste of time and toil of our own children and their teachers in the attempt to master a spelling which it is notorious that only the educated classes ever do acquire and keep?

G.

MANY EXAMPLES OR FEW.

There exists the widest diversity of opinion among teachers as to the number of examples which pupils in arithmetic and algebra need to find in their text-books. Some teachers demand a very large number, not finding enough in any text-book in use; while others find too many in any such book. Is this accidental, or is there some reason which underlies this diversity?

In the case of arithmetic, especially, there is a strongly marked difference between the two divisions of the subject, viz., Theoretical and Practical Arithmetic, and this difference needs careful consideration when we attempt to answer the questions proposed. By Theoretical Arithmetic we mean those fundamental operations on number which are the basis of all arithmetical operations; it is sometimes—and very properly—called Pure Arithmetic, while the other is called Applied Arithmetic. The range of topics in Theoretical or Pure Arithmetic, as the ordinary pupil needs to study them, is quite limited; they are Addition, Subtraction, Multiplication, Division, Involution, Ex­

olution, and, possibly, Proportion and the Progressions may be added; and all these operations as performed upon integral, fractional, simple, and compound numbers. On the other hand, Practical, or Applied Arithmetic covers a wide range, of which it is practicable for the ordinary pupil to survey but a very limited portion.

In pure arithmetic we notice that the operations usually denominated the
"Fundamental Rules" are of quite a different character from the remainder. The former are operations with which the arithmetician needs a familiarity—which makes the performance of them instructive, or at least exempts it from any conscious operation of the reason. Simple memory and habit, so completely cultivated as to act with as nearly no conscious effort as possible, are the only mental operations demanded, when these "Rules" are thoroughly learned. When we add, subtract, multiply, or divide, for practical purposes, the mental process should be reduced to the minimum, and the mind should act as nearly like a perfect frictionless machine as it is possible to make it. This is the ideal—the end to be sought—in teaching these subjects.

Now, by what training is this end to be secured? If the arithmetical end is the only one aimed at, it can be quickest secured by mere unmeaning mechanical drill from the start. For this end there is no need of any instruction in principles; simply the processes are all that need be taught, and memory and habit relied upon solely. For this end it is not at all necessary that the philosophy of the scheme of notation, the reason for "carrying," for placing the partial products in simple multiplication as we do, for beginning at the right in multiplication, and at the left in division, nor for any other operation, be given. We are not speaking theoretically when we say this; it was the old method of teaching, and is still thought by many to be the best. But if we have in view, not merely the arithmetical end, but the higher aim of mental development, this course is exceedingly pernicious. It is pernicious in that it falls to take advantage of a most convenient opportunity to train the thinking powers, and worse still, in that it begets and fosters thus early a disposition to rest satisfied with processes, instead of a disposition to look for underlying principles. Hence, we hold that even in teaching these subjects there should be as clear an exposition of every principle, and convention, in logical connection, as in geometry. We grant that the arithmetical end will be no sooner secured, nor any better secured, in this manner than in the mechanical method; and to such as can see no higher end in study than this, there remains the practical test. This can be secured only by use of examples which they have not studied, and which they are to solve in the shortest practicable time. For this purpose the teacher needs a large stock of examples from which to draw, but to which the pupil has not access. A class exercise for this purpose may be conducted thus: Let the pupils bring their slates to the class, and, all being ready, let the teacher read an example, each pupil taking down the data. Then let there be allowed a proper time for its solution, say five minutes. When this time has expired let all work stop, and compare results. Then pass to another example in the same way, and so proceed through the hour. If it is found that any considerable number are not reasonably successful, another day's drill on principles and study of text-book with its examples will be needful. This done, follow with other test class exercises. For many purposes, and especially for this—i., computing interest—it is very desirable that the teacher should be provided with actual written notes in sufficient number to supply the class several times, and for several days. This gives an air of reality which can be secured in no other way.

Another class exercise demanding a large number of examples is blackboard solutions by a large class. We may lay down as a general rule that in all test work in the class-room, the exercises assigned for solution should be new to the pupil, and yet the teacher should know the answer in order to hold the pupil to accuracy. Thus a class of twenty pupils could be given each three new examples for blackboard exercise for twenty days from a list of sixty examples in the hands of the teacher. It is a very imperfect test of a pupil's ability that he is able to solve in class the particular examples that he has Looked on for hours in his study.

**Teacher.**

**THE CHILD-LIFE.**

Prof. JOHN OGDEN, Ohio Central Normal School, Worthington, Ohio.

The river, bearing upon its broad bosom the wealth and beauty of empires, fertilizing the valleys, and beautifying the landscapes through which it passes; or stagnant, and dull, and miscellaneous, exalting infection, disease, and death on all sides, is but the same stream that is born upon the mountains amidst the crystals and the snows; the same stream that leaped among the rocks, tumbled and bubbled in the eddies, sparkled in the cascades, and danced from the mountain to the vale, enlarged and strengthened by a thousand additions from heat and brine, from forest and glen, till it became the thing of beauty and power, or of deformity and evil, which we behold—it is the same river still—changed only by time and distance.

So the child-life—begotten in the secrets of nature, allied to her in ten thousand living, loving ways; simple, trusting, pure and sparkling, leaping, and dancing in its restless energies, among the flowers and foliage, and glancing sunbeams of its early existence, gathering additions in education and influence, here and there, good and bad, from these surroundings, until it enriches and gladdens, and beautifies the moral landscape through which it passes, or infects, and poisons, and blasts by its accumulations of evil—it, too, is the same stream, the same life, changed only by time and distance,
the aggregation of forces, begotten of influences, to a large extent, under your control, and mine, fellow teacher.

So, too, the life of society is only the aggregate child-life, nurtured into power, ripened into mastery, to bless by its charities; or, fanned by unholy passions, to blast by its pollutions. The same stream that enriches and beautifies may also impoverish and poison. The same waters that bless may also curse, determined mainly by their communings and comminglings.

That in the child and his surroundings, which is capable of rendering his life pure, exalted, useful, and happy, is also capable of rendering it infectious, degraded, useless, and miserable. It may become the beautiful lawn, the fertile plain, the picturesque landscape, grand in mountain and glen, beautiful in forest and foliage, blessed in the rich verdure and fruitage of knowledge and wisdom, the ingatherings of years of patient culture; or, it may become the stagnant pool of corruption, the seething whirlpool of passion, or the barren waste of ignorance and indolence.

The inquiry suggested by the foregoing is as follows: Aside from man's natural tendencies to go astray—if, indeed, they can be called natural—can this life-stream be kept pure from its source to where it becomes the deep, strong current; the full flow of power, the mighty river of life, bearing upon its broad bosom its burden of wealth, of good deeds, and words, to the far-off mean of eternity; or, must it suffer the corruptions incident to depraved youth, and then be subjected to the uncertain processes of change in after life, or else remain impure for ever? In other words, can educational processes and systems be so fitted to the wants of childhood and youth as to forestall sin and evil habits and wrong tendencies, and, at the same time to promote virtue and religion in the same ratio in which they develop intellect?

These are the great questions of the day, whether we are called upon to settle them or not. If education means anything, it means growth; and growth means increase of power in all those directions in which man's chief excellence lies. I cannot see, therefore, why education should be limited in its sphere of operation, or why it may not be so adjusted to man's needs as, in successive generations, to root out evil, and weakness, and vice, and to establish virtue and religion and goodness permanently in the human heart.

I submit these inquiries with a hope of eliciting a reply from some of the many able thinkers and writers of THE EDUCATIONAL WEEKLY.

SOME OF THE USES OF THE STUDY OF ZOOLOGY.

Prof. Elliot Whipple, Westfield, Illinois.

"WHAT are the advantages of studying zoology?" The questioner was an intelligent, clear-minded teacher, of considerable experience, but the tone indicated a good degree of skepticism. Possibly the reply made may interest some of your readers.

Why should not a practical acquaintance with the development, structure, and habits of animals that are to be our life-long associates be of as much importance as a knowledge of the Equation of Payments, Permutation, the intricacies of Analysis, or the Geography of Beloochistan, facts useful to those who may have occasion to use them, but which not one in a hundred will ever think of again after leaving school?

Nature is a great organism which God has so contrived that each part has its appropriate function. It is a complicated machine, full of checks and balances, wheels within wheels, whose onward progress through the rhythms of the ages never returns like a man-made machine to its starting point.

Man, made in the image of his Maker, able in his measure to create or destroy, and gifted with an intellect capable of studying and understanding the operation of the grand organization of which he constitutes a part, and of adapting his activities to their proper place in it, blindly lays his hands upon the delicate and impressive material, and behold what disasters ensue! He plows and plants, and then in wanton sport, or with misguided industry, proceeds to exterminate the beautiful birds! When the golden autumn should fill his garner to overflowing, he wonders at the mysterious dispensation of providence that has allowed his fields to be ravaged by a scourge of insects. The common house fly is probably the most "vexatiously useful" of all our "poor relations." How many of the graduates of the country school can tell whence he comes, or how he is useful to man?

The fabulous prices received for unusually fine animals by certain stock-breeders should be a hint as to what all our stockraisers might produce.

Read the agricultural department of our newspapers and see what an amazing but saddening mass of blind contradictions they present. Moles' nests are found in a potato patch. Their curiously crooked network of underground galleries leads from one potato hill to another. Some of the potatoes are partly eaten. Did the moles eat them, or did they eat the grubs that ate the potatoes?

Zoology should interest teachers for a reason far more important than any of the so-called practical considerations just mentioned. Our work is not so much to make our pupils masters of facts, however valuable, as to develop and train their faculties so that they may have the power to master facts for themselves. "Having eyes we see not!" is a truth not confined to moral and spiritual things only. How many who have not studied zoology can tell the number of legs of a house fly, the number of wings of a bee, the points of difference between a bee and a fly, the distinction between a larva and a worm? A sharp ob serving teacher of considerable experience, who had just entered upon the study, was asked to write upon the board a list of all the inorganic objects she could see in the room. The distinction between organic and inorganic had just been clearly recited. She could think of only two; within three minutes the rest of the class had suggested a list of twenty. No other branch of study except drawing, when rightly taught, so fully develops the faculty of perception.

Zoology may be taught and studied in such a manner as to be of very little benefit. If pupils are allowed to memorize text-books instead of examining and making out descriptions of specimens, distinguishing accurately the characteristics which mark their location in species, genus, family, order, etc., the performance has very little more value than memorizing facts in geography and grammar. Learning from the book the number of primaries, or the number of tall feathers of some kinds of birds, or the dental formula of some genus of mammals, is not as good employment as committing to memory grammatical rules and exceptions, or tables of heights of mountains and lengths of rivers. But, under the guidance of a skilful teacher who knows the end to be attained and the proper means for reaching it, the observation of important points in structure, the comparison of one group with another, and the arrangement of animals into groups of various grades; in accordance with characteristics of greater or less importance, constitute a process of developing the perceptive, discriminating, and reasoning faculties, whose worth can not be overestimated. The naturalness and propriety of classification is so much more evident in zoology than in more abstract subjects that pupils are here very readily taught the habit of classifying, and, having acquired facility in this, they can much more easily be brought to do the same in other branches.

"Science is classified knowledge," and he who teaches without leading his pupils to study relations, as must be done in making out classifications, should hardly be permitted to occupy a teacher's position at all. Classification is like stringing beads upon a thread; it is no longer necessary to hold the separate facts in memory, the association of ideas involved in the classification enables us to recall them whenever needed.

The naturalist walks abroad in a world of beauty entirely invisible to other men. Repulsive insects and disgusting reptiles present in their perfection of form and finish, and in their delicate and beautiful ornamentation, unnumbered points of interest that appeal to his aesthetic nature. Was Adam's grandfather a monkey, is the most prominent scientific question of the day, and it is a question that seems to possess a great deal of interest for others as well as for scientists. No one who has not studied zoology to a considerable extent is prepared to understand, much less decide upon, the arguments used in this discussion. Morris, in his "Conflict of Science and Religion," quotes from Huxley a statement in regard to the wonderful similarity of certain zoological reptiles to those now living. A prominent minister reads Morris and goes into his pulpit and makes the astonishing assertion that zoological reptiles have been found of the same kind (species?) with those now living. A reference to Huxley reveals the fact that Morris, probably unaware of its importance, has omitted a portion of Huxley's sentence, which would have clearly shown to a student of zoology that they were not of the same species. Moreover, whether Darwin's brilliant guess be true or not, we are closely connected to the inferior animals in bodily structure, and even the operations of their brains often present a startling likeness to the reasoning processes of man.

Looking upon a house in process of construction enables us to understand the structure of the completed building; so the study of animals throws much light upon many difficult questions in regard to our physical and mental being. The child who has become interested in the habits and structure of animals will seldom wantonly injure beings he has found to be so like himself. The adaptations of animals to their various conditions of existence, their perfection even to the minutest microscopic details of structure, and the wonderful provisions of their instincts, reveal the handiwork of a Creator infinite in goodness, wisdom, and power.
THE CHANGE OF VOICE.

THE organism of the human voice, and the physiological changes that occur in the same, are matters that should be thoroughly understood by every one who has anything to do with the singing of children; while the management of the voice, during mutation, demands, and should receive, the greatest care. In boys this change generally take place between the ages of thirteen and sixteen, while in girls it occurs somewhat earlier. In regard to this subject, we quote the following from Bassin's "Art of Singing": "The anatomical alteration which effects the change of the vocal tone consists in an enlargement of the larynx, which, in males, goes to such an extent as to give this mechanism prominence in the throat—the so-called Adam's apple. In such prominence, the change of tone, also, being far less marked; for while females, the larynx does not increase so greatly, and, therefore, assumes no trievably volume or fullness of tone. In some instances the voice is entirely lost at this remarkable hoarseness, and young men often lose all control of their voices; ignorance of teachers; while others, which, before the change, were rich, and become transitions should be excused from participation whenever the voice will pitch higher than is perfectly easy; being careful, also, to avoid harsh tones, during this time, through carelessness of their possessors or the ignorance of teachers; while others, which, before the change, were rich, and promised well, through indiscretions of various kinds, become poor in quality and become worthless." In schools, boys whose voices are undergoing this transition should be excused from participation in the vocal practice; being required, however, to continue the study or the lessons, writing exercises, acting as musical monitors for the school by using the pointer, keeping time, placing the exercises for practice on the blackboard, and in many other ways that will interest them, which the teacher can easily devise. If this is done, no difficulty will be experienced in having them reenter the singing ranks whenever their voices will permit. Girls at this period can usually continue singing, but should never do so too long at a time, nor should they sing at a pitch higher than is perfectly easy; being careful, also, to always sing softly. Because the change that occurs in the nature of the female voice is not as apparent, many have erroneously supposed that it was not as important as that which affects boys' voices. Julius Eichberg says: "I am satisfied that the voice of a girl, during transition, requires all the more careful management from the very fact that, not suffering like a boy, from an almost absolute impossibility to sing, she is likely to over-exert herself, to the lasting injury of both health and voice."

—We welcome the American Art Journal (W. M. Thomas, publisher, 10 Union Square, N. Y.) to our table, recognizing the fact that in its columns all matters concerning music and art receive faithful attention by such critics as have a thorough knowledge of the subjects of which they treat. No lover of art, in its varied forms, can well afford to remain long without forming an intimate acquaintance with this sterling journal.

—Chicago has, at last, a musical monthly of which she may well be proud; for in the Musical Review (published at 56 Fifth Avenue), we recognize one, conducted by such ability and scholarly style as cannot fail to soon place it in a high position among the journals of this country.

Practical Hints and Exercises.

Editor, Mrs. Kate B. Ford, Kalamazoo, Mich.

DIRECTNESS IN TEACHING.

If teachers would be careful in their methods of conducting recitations to adopt such as will make each pupil feel addressed all the time, and by everything which is done, they would be surprised at the facility with which a class can be managed, and the deepened interest which will at once be developed. If anything is going on in the class, in which the unoccupied do not feel a necessary interest, they are at least idle—more probably they are in mischief. Suppose the class is twenty pupils in algebra, and the lesson is in Addition of Radicals. Let M go to the board. Teacher reads, while M writes, "Eight into the square root of 9, plus the square root of 60, plus 24 times the square root of 15, plus the square root of 2." Of course there are no books in the class, all eyes are on the board. When the distribution is through, M has written on the board:

\[ 8\sqrt{3} + \sqrt{60} + 24\sqrt{15} + \sqrt{2}. \]

The teacher calls "D." D arises and says: "We will first reduce the terms containing fractions under the radical signs to equivalent forms in which the number under the radical shall be the smallest possible integer, i.e., to their simplest forms." The teacher says: "A," and A arises and continues by saying: "The first of these terms is \(8\sqrt{3}\)." M, still standing at the board, writes \(8\sqrt{3}\) by itself, A dictating where it shall be written. Then A proceeds by saying \(\sqrt{60} = 8\sqrt{3}\times\sqrt{5}\), since \(\sqrt{5}\) is 1, and multiplying by 1 does not change the value of a number.

Now \( \frac{\sqrt{5}}{5}\) equals \(\frac{\sqrt{5}}{5}\times\frac{5}{5}\), which equals \(\frac{15}{5}\) equals \(\frac{5}{5}\times\frac{3}{5}\).

Here the teacher says, "G," and G rises, and continues by saying: "As the square root of the product is equal to the product the square roots, the square root of \(\frac{15}{5}\) equals the square root of \(\frac{5}{5}\) multiplied by the square root of 15, and we write:

\[ 8\sqrt{3} + 8\sqrt{5} + 24\sqrt{15} + \sqrt{2}. \]

The teacher then calls "N." "N" arises and says: "As the square root of a fraction is the square root of the numerator divided by the square root of the denominator,

\[ \frac{\sqrt{5}}{5} = \frac{\sqrt{5}}{5}\times\frac{5}{5}. \]

M, still standing at the board, and A arise, and continue by saying: "The other term containing a fraction under the radical sign is \(\sqrt{2}\). Please write this under the \(\frac{3}{5}\).

In this manner the recitation proceeds. Each pupil called upon taking up the line of thought exactly where the last one left it, and no one being permitted more than a minute or half a minute at a time. Nor does any one know but his turn will come next. The pupil at the board simply acts as amanuensis for the class, and when the analysis is completed, the work is all on the board in elegant form, and each pupil in the class has fully analyzed the example. In this way all the principles of elementary algebra can be discussed in the class. It will at once occur to the reader that this method of recitation will require a thorough mastery of principles, careful attention to the logical order of the steps, and much pains in securing language in which to clothe the exposition. But we are sure we are right when we say that a class prepared to give, in this style, a good analysis of one such problem as the above have done far more for their own culture than they could have done by preparing the mere solutions in the ordinary way of thirty examples. O.

PRACTICAL SYNTAX.

THE following examples, selected from many sources, and from nearly all the ages of English literature, may be made interesting and useful to classes of some advancement in several branches of English language-study, but, particularly, with Grammar classes taking exercises in syntax. They will serve admirably, not only as illustrating the application of important rules, but as pointing intelligent pupils to the fact that the usage—or, more probably, in most of these cases, the careless slip—of an author whose works are classic in our speech, does not justify the use of their forms of words without bringing them habitually to the standards of English grammar. Some of them, as those from the Bible, are also useful as indicating changes in our vernacular; for what was "good grammar" in the time of King James' translators, or at certain other periods of our literature, may not be so now, as in these cases.

Let the following examples be given orally to the class, or written upon the blackboard, and the class put upon inquiry whether the forms are right or not? If not, why not? And what rule is violated?

1. It was remarked by Dr. Noah Webster that he had never ventured to coin but one word—democratize. Haven's Rhetoric.

2. A large stock of these short words are understood by nearly all who speak the English language, and are first learned by children.—Ibid.

3. A network of forces are here given.—Bacon's Philosophy of Rhetoric.

4. Neither law nor custom unites to, etc.—Mrs. Stowe.
5. The poetry and eloquence of the Augustan age was assiduously studied in Mercian and Northumbrian monasteries.—Macaulay.

6. It is not fit for such as us to sit with the rulers of the land.——Sir Walter Scott.

7. Let he that looks after them look on his hand, And if there's blood on't, he's one of their band.—Ibid.

8. And the widows of Asshur are loud in their wail, And the idols are broke in the temple of Baal; And the might of the Gentile unsmote by the sword, Hath melted like snow in the glance of the Lord.—Byron.

9. The nations not so blessed as thee Must, in their turn, to tyrants fall.—Thomson.

10. My sister and my sister's child, myself and children three, Will fill the chaise; so you must ride on horseback after us.—Cooper.

11. She mounts her chariot in a trice, Nor would he stay for no advice, Until her maids, that were so nice, To writ on her were fitted.—Drayton.

12. Both minister and magistrate is compelled to choose between his duty and his reputation.—Justice.

13. Neither Charles nor his brother were qualified to support such a system.—Ibid.

14. The richness of her arms and apparel were conspicuous in the foremost ranks.—Gibbon.

15. How happy that neither of us were ill in the Hebrides.—Dr. Johnson.

16. I do not mean that I think anyone to blame for taking care of their health.—Ibid.

17. The zeal of the seraphim breaks forth in a becoming warmth of sentiments and expression, as the character which is given us of him denotes that generous scorn and intrepidity which attend heroic sentiments of the latter are that: 1. It may be spelt backward and forward with the same letters. 2. The first letters if taken together make the first word. 3. The second letters spell the second word, the third the third, the fourth the fourth, and the fifth the fifth. 4. The last letters taken in reverse order spell the first word, next to the last the second, and so on back to the first letters, which spell the last word.

18. There are but few that know how to conduct them under vehement affections of any kind.—President Edwards.

19. Our Father which are in heaven.—English Bible.

20. Where moth and rust doth corrupt.—Ibid.

21. This is the most unkindest cut of all.—Shakespeare.

22. I know a bank whereon the wild thyme blows, Where ox-lips and the nodding violet grows.—Ibid.

The cheapest and about the best blackboard rubbers in the world can be made by simply tearing a bit of flannel or other woven cloth, old or new, into strips an inch or an inch and a half in width, rolling them like a ball of wool; if desired. They can be beautified by rolling in various colors, according to fancy. They are light and neat, conveniently handled, make no noise if they fall to the floor, and can be washed if desired.

The success of the farmer, who in spring has in view the raising of a crop the following season, knows full well that the preparation of the ground must precede the planting of the seed; he also looks over the ground and asks himself: how much of this kind or that kind of seed should be planted in order that his working force may do what they do thoroughly; he knows, too, that this is to be done for not only one season, but for each successive crop. The mechanic who is about to perform some mechanical work would be considered in a fair way to fail should he attempt the work without giving to his tools that care and attention that they may need in order to work with precision and effect.

So it is with the teacher who appears before his class without having given to the lesson the needed attention. He is in a fair way to fail. His failure in its effects is much greater than that of either the farmer or the mechanic. The effect of the latter is only for a time—the wrong can be righted—the weak places be made strong. But in the case of the teacher, who is expected in all his class recitations to fix in the pupil's mind some point, there is danger of fixing something there that ought not to be there. In a majority of cases the teacher who has not given proper attention to the text knows not what it contains. How is he to teach it? Often the subject is falsely presented. Thus the perceptive and retentive young mind is in danger of having fixed in it untruths.

This lack of preparation places the teacher in a false position. When he comes before his class without the needed preparation he is untrue to himself. No teacher can come before his class in this unprepared state, and possess that one great characterizing feature of a successful member of this profession—self respect. The position is false from the fact that by his very position before the class he is conveying the idea to others that he is able to give the minds before him the needed information on the subject. He is perfectly conscious that he is attempting to do something about which he knows almost nothing, when he should know all about it. He feels himself in a false position. He is false to his pupils. They trust him to a certain extent to give them the thought of the lesson. They take it for granted, by his position before them as teacher, that he is able to give them such light as they in their inexperience are not able to obtain. If he fails in this he is untrue to them. He will not only feel this himself, but in time the pupils will discover that they have been the victims of misplaced confidence. The natural result of this is that the teacher is having undermined the chief corner-stone of his school government. He loses the respect of his pupils. His governmental stock is at a great discount, for it is admitted by all successful teachers in school government that respect precedes proper government.

Such a teacher is false to his employers. In procuring a situation he represents to his employers that he is able to discharge efficiently all the duties of that situation. For this represented ability they pay him the stipulated amount. He appears before his classes, and is unable, by reason of this non-preparation, to give the pupils the instruction that he represented himself as able to give. At the end of the month he steps up like a little man, and gets his funds. He is getting remunerated for something he does not possess. We may say he is getting money under false pretenses.

The unprepared condition of the teacher discourages the earnest, inquiring minds. Such a teacher is not at all anxious that the pupils should ask questions pertaining to the lesson, but, on the contrary, discourages the questioning of the eager, inquiring minds before him. He prefers sailing along the coast. Questions might lead him into the middle of the stream into deep water. This being the case, that great essential element of class recitation, enthusiasm, is lost. All teachers recognize the fact that he who arouses the enthusiasm of the pupils is the most successful, but how is that teacher going to succeed who, sitting by his desk, with book open before him, one hand holding the book, and a finger of the other perchance tracing (for fear he might lose his place") the words as they are repeated by the parrot-like pupil before him, having been made so perhaps by such exclamations as "You left out a word," —the preposition in or some other word of equal importance? 8 or 9 is the measure of that recitation. The little parrot pupil will have that word next time, also a "to." Thus it goes on from recitation to recitation. There is no opportunity for that live, vigorous, enthusiastic work which is the omen of success in a class recitation. The teacher should not only be prepared for the recitation, but should know before the assignment of a lesson what there is in it, otherwise the pupils will be like an overloaded stomach, they cannot digest the food.

I do not think these illustrations are overdrawn. Nowhere is it more difficult to teach than in the school-room, yet there are still too many who are actually "keeping school" in this loose, slip-shod, unprepared way. We must be prepared in his work to secure the needed success. It will not often do to flatter ourselves that he is sufficiently well acquainted with the lesson. He must know that he is. Let him come before his class with his mind lately refreshed on the subject.
Notes.

GENERAL.—The constitution of Colorado provides that “no senator or representative shall, during the time for which he shall have been elected, be appointed to any civil office under this state; and no member of Congress, or other person holding any office (except of attorney-at-law, notary public, or in the militia) under the United States, or this state, shall be a member of either house during his continuance in office.”—Prof. Stearns, of Michigan University, writes to the Detroit papers a warm commendation of the scheme of Mr. Woodruff, of Indianapolis, for a scientific expedition around the world. The financial success of the enterprise, he thinks, is already assured, enough persons of the requisite means having already signified their intention to go. The expedition will probably leave New York next October or November, and make the mouth of the Amazon its first objective point. He makes an appeal to the citizens of the larger towns of Michigan to raise funds to send capable students with it, who would make ample return in the scientific collections they would make for the public schools, libraries, or museums of the towns sending them out. He thinks that twenty towns in the state could do this without inconvenience by the combined action of those who take an interest in matters of education. The scheme seems feasible, and is certainly praiseworthy.—The Vice-President of Cornell University, Prof. Russell, has recently been putting some ideas in the air, in regard to the common schools, which we desire cordially to endorse, and to which we wish to give the ear of the Weekly's constituency. He thinks, for instance, that no one is fitted for teaching who does not feel that it is the most sacred occupation, and would not give to it years of devotion; and that geology, natural history, and philosophy should be taught to a certain extent in our common schools. “These cultivate,” he says, “habits of observation, comparison, memory, and judgment. Teachers must feel that superficiality is the American vice, and that thoroughness, patience, and earnestness are the characteristics which they are to develop. Fathers and mothers must be taught that the education and characters of their children justify every sacrifice and every expense, and that those who can take them and develop them are entitled to any remuneration which will enable them to devote their whole energies to the work.”—Several unhappy cases of undue scholastic ambition occurring in the state of New York have recently attracted much attention. A pupil in the State Normal School at Geneseo, a young lady of but twenty years, failing to pass the requisite examination at the end of the first year, and troubled with the fear that she should not finally succeed, took strychnine, and was found dead in her room. Another case is that of a young man, a student at Cornell, who found eyes and brains giving way as the result of hard study, and ended his life with a pistol-shot through his head. In New York city, a young student in the Ladies' Normal College worked so hard to keep her rank that she broke down with brain disease, and died of over-study. Cannot the greater schools have an officer whose duty it shall be to look out for dangers like these, and take steps to prevent such results?—Representatives from thirteen colleges, including the Northwestern University, were present at the meeting of the Inter-collegiate Literary Association in New York city, on the 30th ult., to consider the subject of incorporating the society under state laws. A number of other distinguished educators were also present. The following examiners or judges were selected for the next annual contest: In Oratory, Bayard Taylor and the Rev. E. H. Chapin; In Mathematics, Profs. Simon Newcomb, P. S. Michie, and A. Hall; Greek, Profs. W. T. Chambers and Charlton T. Lewis; Latin, Profs. J. H. Morse and Myron Maury; Mental Science, Presidents Noah Porter and J. H. Seelye. Some important changes, which are likely to have their effect in time on the schools of the country, have recently been made in the courses of instruction prescribed for the public schools of New York city. More noticeable are the abolition of phonetic lessons, except as confined within the just limits of their practical value as a drill in articulation. In arithmetic, the attempt has been made to adopt a course which, while it affords a sufficient amount of intellectual discipline, and of material for the development of ideas pertaining to number, does not retard the progress of the pupils in practical work. Object teaching has been reduced from its former too prominent position, and the unnecessary minutiae once prescribed have been excluded.—Prof. C. B. Palmer, our Nebraska editor, has been appointed instructor in the State University of Nebraska.—The American Institute or Instruction will meet at Montpellier, Vermont, on Tuesday, Wednesday, and Thursday, July 10th, 11th, 12th.—An article by Prof. Goldwin Smith, in the Fortnightly Review, setting forth the advantages of a union of Canada with the United States, has brought that question quite prominently before both the English and the American people.—At the recent annual meeting of the New York State Association of School Commissioners and City Superintendents, held at Albany, Mr. Charles P. Easton, President of the Board of Public Instruction of that city, delivered an address of welcome, in which he reviewed in a clear and logical manner the present status of educational matters in that state. Principal J. H. House, Ph. D., of the Cortland Normal School, delivered an address on the subject, “A Vindication of the Common School, Free High School, and Normal School Systems as they Exist in the State of New York.” Supt. B. B. Snow, of Auburn, presented the report of the Committee on School Laws, in which a careful revision of the School Code was recommended, with a view to securing greater unity to the various systems actually existing in the state. Several other suggestions were made, respecting the compulsory education law, county superintendents, selection of text-books, and other subjects of common interest to educators.—The resignation of Dr. Boise, at the University of Chicago, does not for the present deprive the University of his services, as he still teaches one college class, and will continue to do so through the college year of 1877-8, the time for which his services in the Baptist Union Theological Seminary are promised. Dr. Boise has accomplished a long and honorable service for higher education, having been prominently connected with Michigan University for many years before coming to Chicago.

LITERARY.—A notable exception to the small annual school reports mentioned in these columns not long ago, is that of Supt. J. W. Simonds, of New Hampshire, which numbers 594 pages. This report embraces: 1. Extracts of answers made by the school committees to important educational questions. 2. Historical sketches of education in several towns, and a brief history of education in the state. 3. A brief account of the twenty-second annual meeting of the State Teachers' Association. 4. A report on the State Normal School. 5. An abstract of answers made by school committees to important educational questions. 6. An account of the exhibition from schools in the state to the International Exposition at Philadelphia. 7. Work performed, and recommendations. 8. Statistical tables. The prominence given to historical matters has enlarged the volume considerably, but has contributed much to its value as a centennial report.—The proceedings of the thirty-second annual meeting of the New York State Teachers’ Association, held at Watkins, N.Y., July 25th, 26th, 27th, 1876, have been published in a neat form by C. W. Bartle & Co., of Syracuse. The volume furnishes a valuable addition to the educational literature of the day, being comprised in 119 octavo pages.—Our Home Companion and Canadian Teacher, published at London, Ontario, has greatly improved in its later issues, and we have spent as much time over the pages of the last number—March—as over half a dozen other monthlies that we might name. As a teachers' journal it is worth five times the subscription price charged for it. The department of Educational Intelligence is especially lively and full of information.—The “Educational Department” in the Galesburg (Ill.) Republican-Register, edited by Miss Mary Allen West, is worth as much to teachers of that county as any educational journal published outside of the county. Teachers everywhere would do well to subscribe for that paper. Price, two dollars a year.—The Kindergarten Messenger, published by Miss E. P. Peabody, Cambridge, Mass., has only recently come to hand. We have before called Miss Peabody the apostle of the Kindergarten in America, and we may now add that she is the champion of the true Kindergarten of Froebel, whether it be styled “American” or not. Unfortunately the desire to establish a good “business” has led some ambitious ones to strike out on an independent and semi-original method, and to make “additions” to the true Kindergarten for the sake of getting a temporary and ignorant desire for something more “American,” and yet, quickened. Many people, ignorant of the principles which lie at the basis of true education, have eagerly accepted even a sham for that which is real, and in their ignorance are elated with the appearance of reality, as a child with a picture. But the genuine Kindergarten of this country is to develop most rapidly—not in the East, but rather in the West. The seeds which are to spring into the most vigorous growth have already been sown in St. Louis, Chicago, Milwaukee, Worthington, Cincinnati, Indianapolis, and Los Angeles, as well as in New York, Boston, Philadelphia, and Washington. The Kindergarten Messenger, if sustained, as it should be, will become the exponent of Froebel's ideas in America, and will become indispensable to every real kindergartner. —Book-keeping by Single and Double Entry. A Text-book for Schools, and a Manual of Practical Instruction for Business Men. By C. P. W. H., and R. P. Duff. (New York: Harper & Brothers, pp. 192. Price 75 cents. 1877).—The authors of this little book.
have spared no pains to render the science clear to the student, though it may be unsafe to rely entirely upon it as a manual without a competent instructor. There is very much of explanation, closely printed, and what it lacks in systematic arrangement is supplied by repetition in another form. The study of book-keeping should be made more common in all graded schools, and the teachers who desire to study its principles will do well to consult this work.

The catalog of the Illinois Industrial University at Champaign shows an attendance of 386 students, which compares well with the attendance at much older institutions. The institution is divided into four colleges, which are subdivided into thirteen schools. The principal aim of the University is "to offer freely the richest thorough instruction which its means will provide, in all the branches of learning useful in the industrial arts, or necessary to the liberal and practical education of the industrial classes, in the several professions and life." This includes "all useful learning—scientific and classical—all that belongs to sound and thorough scholarship." A preparatory department will be opened for the first time next September.—With the present number the *Catholic World* opens its twenty-fifth volume, and it would be difficult indeed to open more brilliantly. The first article will attract the attention of every American and every observer of the United States. It deals with the devil worship in this country, and it will be a revelation to many to see how extensively this worship prevails among a people that pride itself on being in the van of progress and enlightenment. The article is entitled "Voodooism, Nagualism, and Crypto-Paganism in the United States." "Presbyterian Infidelity in Scotland" describes what the writer considers to be the rapid dissolution of Presbyterianism in the land of John Knox; the reasons he gives for his view of the subject are certainly worthy of grave attention. "Prof. Youmans vs. Dr. Taylor on Evolution" is a scientific article that deals heavily not only with the professor in question, but with those who are known as "modern scientists" generally; and however the writer may be regarded by the votaries of what is denominated "modern science"—a phrase that has unfortunately become almost synonymous with infidel science—it is plain that he is thoroughly at home in the difficult branch of study which he so ably and vigorously treats. "English Rule in Ireland" is the continuation and conclusion of a former article, on a subject that is ever old yet ever new. The Irish people could desire no abler yet more honest champion. "Tennyson as a Dramatist" is an article whose title explains its scope and purport. It is called for by the English poet-laureate's departure from the old lines in which he won his fame, and while acknowledging his power and beauty there, vigorously denies his admission into the circle of dramatists. A. E. Foote, Philadelphia, publishes a *Monthly Bulletin of his minerals, shells, etc.* Those interested can address him at 3725 Lancaster avenue. The fourth—April—number of Our Young Folks' Magazine is the best yet published. This magazine bids fair to rival St. Nicholas and Wide Awake.—Jones Brothers & Co. have just issued a new edition of *Ridpath's U. S. History*, which brings the record down nearly to the present date. We have spoken of the large sale of this work, though we were in error in stating that 100,000 copies of the school edition had been sold. This larger popular edition has met with a large sale, which should be included in the 100,000 copies.

**Correspondence.**

**COMPETITIVE EXAMINATIONS.**

**To THE EDITOR OF THE WEEKLY:**

I in a recent number of the *Illinois Schoolmaster*, "L.S.E." discusses three arithmetical rules, and, if you will permit me, I think it will not be a difficult task to show that that criticism has resulted from confounding two processes, or division without at least two numbers. The definition and quoted phrase "multiplication is a process of taking one number for another, and the two numbers are to be multiplied as six and four and obtained twenty-four, no matter what names we give to the factors—" is not so plain, when it is considered that this process never makes any more than was at the outset, but changes the unit from higher to lower without alteration of value; nor does it make the least difference with the result of the process what names are given to the numbers operated upon, only, if the idea should be incongruous, we cannot name the answer. Seven, four, and nine make twenty, when added, even though the factors may change, the result is the same. But if we multiply six by four and obtain twenty-four, no matter what names we give to the factors—since this process does not fail even though makers of arithmetics have been unable to confound two numbers, or division without at least two numbers. The criticism on the given definition of multiplication is just, and one that I have frequently made myself, but that "multiplication is a method (process) for finding larger quantities" is not so plain, when it is considered that this process never makes any more than was at the outset, but changes the unit from higher to lower without alteration of value; nor does it make the least difference with the result of the process what names are given to the numbers operated upon, only, if the idea should be incongruous, we cannot name the answer. Seven, four, and nine make twenty, when added, even though the factors may change, the result is the same. But if we multiply six by four and obtain twenty-four, no matter what names we give to the factors—the process does not fail even though makers of arithmetics have invented abstract and concrete numbers.

That division should be defined as a "process (method) for finding larger quantities" is not so plain, when it is considered that this process never makes any more than was at the outset, but changes the unit from higher to lower without alteration of value; nor does it make the least difference with the result of the process what names are given to the numbers operated upon, only, if the idea should be incongruous, we cannot name the answer. Seven, four, and nine make twenty, when added, even though the factors may change, the result is the same. But if we multiply six by four and obtain twenty-four, no matter what names we give to the factors—the process does not fail even though makers of arithmetics have invented abstract and concrete numbers. This definition should be defined as a "process (method) for finding larger quantities" is not so plain, when it is considered that this process never makes any more than was at the outset, but changes the unit from higher to lower without alteration of value; nor does it make the least difference with the result of the process what names are given to the numbers operated upon, only, if the idea should be incongruous, we cannot name the answer. Seven, four, and nine make twenty, when added, even though the factors may change, the result is the same. But if we multiply six by four and obtain twenty-four, no matter what names we give to the factors—the process does not fail even though makers of arithmetics have invented abstract and concrete numbers.
STATE DEPARTMENTS.

Michigan: Prof. Lewis McLouth, State Normal School, Ypsilanti.
Minnesota: O. V. Towsley, Sup't Public Schools, Minneapolis.
Nebraska: Prof. H. A. Pattison, State U niversity, Lincoln.
Iowa: J. M. Drexelmond, Principal Grammar School No. 3, Davenport.
Indiana: J. B. Roberts, Principal High School, Indianapolis.
Wisconsin: W. C. Ewedy, Sup't Public Schools, Fort Atkinson.
Kentucky: Dr. J. B. Reynolds, Principal Second Ward School, Louisville.
Dakota: W. M. Beatty, Sup't Public Schools, Dakota.
Colorado: Hon. J. C. Shattuck, State Sup't Public Instruction, Denver.


CHICAGO, APRIL 13, 1877.

THE EDUCATIONAL WEEKLY.

THE friends of the common schools in Northern Illinois are making a vigorous move toward securing a normal school for that section of the state. Every friend of the public schools will rejoice to see any additional facilities for preparing teachers for their work. It is sometimes urged against the normal schools that the towns will not send to the town school; in consequence, the district schools receive but little benefit. Nothing could be further from the truth. While it is true that the great majority of the graduates are found in the town schools, and for obvious reasons, it is also true that a small percentage of those who attend normal schools graduate, and the vast majority of these undergraduates find their places in the country schools. The town schools, generally speaking, are in good condition; but the country schools are very far below what is possible for them. We gladly hail any addition to the working forces of our system, and hope the move so recently made may result in success. The compulsory law, and what is known as the "Etter school bill" will not be passed by the present Legislature, if we may judge from present indications. Indeed, it begins to look as if there is to be but little legislation on school matters. Not much is needed, and we think none in the direction of compulsory laws. Should he conclude to accept the flattering offer, Illinois will suffer a loss that she can ill afford. We shall not presume to dictate, but we would respectfully suggest to our Colorado friends that this matter is becoming a trifle monotonous. Not only have our people in general, and several of our most promising citizens, they are continuing their assaults upon our educational force until it is becoming a matter of genuine solicitude. Should the doctor conclude to follow "the course of empire," he will receive a hearty God-speed from his brethren of the prairie, who will have, at least, the satisfaction of knowing that the people of the young centennial commonwealth can never treat him better than he deserves. We have received the annual reports of Peoria and Quincy schools for 1876.

A CORRECTION.

To the Editor of the Weekly:

"G. W. W.," of Oak Park, is mistaken. Wheeling is, and ever has been, the capital of West Virginia. The "reason" is, although the Legislature voted to change the capital from Wheeling to Charleston, the Supreme Court decided that the bill was unconstitutional, and nothing further was done about it. Yours,

J. P. Y.

DANVERS, III., March 30, 1877.

MICHIGAN.

The joint legislative committee appointed last January to investigate the Laboratory deficits of the University, after spending two months upon the work assigned to them, made their report to the Senate and House of Representatives on Tuesday evening, March 27th. The report is very full and in some parts quite severe. It blames the Board of Regents for their alleged loose way of conducting the financial affairs of the Laboratory. It says: "The report of Dr. Rose, the undersigned, concerning the labora-
tories of various Institutes, is very full. It goes to the root of the matter, and shows conclusively that a great deal of money has been wasted in the laboratories, instead of the funds being devoted to the objects for which they were appropriated." The report says: Of this amount, $3,349.73 is made up of "missing tickets, and certifi-
cates having a corresponding stub, with a red line and letter D, certified by Dr. Douglass to have been paid to him. The remaining part of this defaul-
tion is $2,478.09. Of this sum, $1,908.78 was paid by Dr. Douglass to the hands of Dr. Rose." Beyond this, the report says the evidence is "cloudy and conflicting." The report, however, goes on to say that Dr. Rose claims that he has paid the amount traced to him, and states that "the frank manner in which Rose gave his testimony, apparently seeking to cover up nothing, powerfully commends his statement to our fullest credence." The report strikes some as being unnecessarily bitter in its strictures upon Dr. Douglas.---At the commence-
time of the session, Wednesday, March 28th, 66 were gradua-
ted in medicine "regular," 13 in homoeopathy, 8 in dentistry, and 122 in law. The degree of B. A. was also conferred upon Mr. Albert Borchers by recommendation of the literary faculty.---The question as to whether the seniors shall be allowed to dance in the university buildings, unfortunately for the cause of learning, could not be settled at the last meeting of the Re-
gents, as the dignified gentlemen were a tie upon the subject. Miss Lou M. Reed was by vote continued for another year as assistant in the museum, at a salary of $75 a month. The term of the Ann Arbor public schools closed March 23d for a week's recess. The exercises of the High School closed with a junior exhibition that is spoken of by the local papers in terms of the highest commendation. The junior class numbers eighty members. The attendance in the High School has been larger in the term than over the past year. The average attendance, reaching throughout the term, was 66, and the amount of money received for tuition, $1,642. Superintendent Perry has been experimenting somewhat with kindergarten in one of the wards of the city. The First Ward School, on sabbatical leave for some time past, will resume her duties at the beginning of the new term.---One of our exchanges gives an interesting and highly appreciative account of a visit to the regular weekly rhetorical exer-
sion at the Bryant schoolhouse, in Baltimore, on April 13th and 14th. Prof. Dickie, of Hastings, has accepted an invitation to deliver an address before the 13th annual graduates, and is teaching a select school at Irving Station, in Barry County.---The winter
term of the school at Moorville closed on the 23d of March. Mr. W. D. Billmeyer, a normal undergraduate, is principal.—The Dundee Union School closed the winter term on March 23d. Prof. Stayt, the principal, and Miss Finch, one of the assistants, are spoken of very highly.—Mr. Wilson, who has had charge of the graded school at Lambertville, has consented to teach a select school there for the spring term.—Mr. Will E. Bellows, a member of the senior class at the Normal School, closed on the 29th of March a successful five months' term as principal of the graded school in Riga, Lenawee County.

Minnesota.

Teachers will do well to notice the following section in the revised school laws: Sec. 9. County Superintendents shall examine persons proposing to teach common schools in the county, in orthography and orthoepy, embracing the elements of the English language, and the practical elements of hygiene, asking questions to test the general knowledge of candidates, and their ability to impart oral instruction relating to the subjects treated in the school books. Provided, that candidates are of good moral character, and qualified to teach in all the aforesaid branches, certificates shall be granted, the grade of which (second or third) shall be determined by the examination. Provided, that in addition to the above, certificates issued in this section, all applicants for first grade certificates shall be examined in elementary algebra, elementary plane geometry, physical geography, physiology, natural philosophy, civil government, and the theory and practice of teaching; and no person shall receive a first grade certificate who has not taught with success at least one term of school, not less than three months in length.

It may be of interest to some of the readers of the WEEKLY to recall the names that have been given to the Pythagorean proposition, of which several demonstrations have been given by correspondents during the last three months. The proposition has been variously called the Pythagorean Proposition, Heceatombs, Pythagorean Theorem, and the Pons Asinorum of Mathematies. The first is derived from the name of its author; the second, from the sacrifice of one hundred fat oxen which he offered to the deities in gratitude for the successful term of teaching; the third, from a fragment in a Latin poem; and the fourth, from its supposed difficulty. There seems to be some dispute about the last, as to whether it was given to the Vth, the XXth, or the XLVthd of Euclid. I find in an old number of the Mathematical Journal the following: "Professor in his 'Commentaries of Euclid' says that the Epycambrae derived the XXth proposition as being manifest 'even to ass'; for, if a bundle of hay were placed at one extremity of the base of a triangle, and an ass at the other, the animal would not be an ass as to take the crooked path to the hay instead of the straight one, as he would know the direct course to be the shorter; this was therefore called the 'asses' bridge.'

Will some mathematician favor us with a geometrical demonstration of the Problem of Lights as given in Algebra? A. A. Graham, in himself a host, was aided by Miss Finch, one of the assistants, are spoken of very highly.—Mr. Wilson, who has had charge of the graded school at Lambertville, has consented to teach a select school there for the spring term.—Mr. Will E. Bellows, a member of the senior class at the Normal School, closed on the 29th of March a successful five months' term as principal of the graded school in Riga, Lenawee County.

Wisconsin.

The institute at Oregon was successful, at least as far as numbers (166), attendance, and earnestness were concerned. Prof. Graham made the work largely suggestive. A general sentiment prevailed for two weeks of such work, instead of one. Supt. Frawley has an earnest corps of worthy teachers.—As before noticed, the Fond du Lac institute numbered over 300. The room was literally packed each day. There was much enthusiasm and good earnest work. Prof. Graham, in himself a host, was aided by President Albee and Regent Chandler, who contributed largely to the success of the institute. The topical work presented by the Oshkosh normal pupils was alike supposable difficulty.

The second evening was occupied with a paper by Miss Mary M. Elcock, of Dakota City, called "The Garden of the Heart," read by Dr. Robert Currie, Ph. D., Principal of the State Normal School, on "Special Education." Among the papers presented in the day sessions were the following: "Progress," Miss M. Sawyer, Lincoln; Report on Course of Study for High Schools, Prof. W. W. Sayer, W. W. Currie; "How May the Condition of Education in Texas be Improved," by Dr. A. D. Williams, Kenesaw, opposing a change in the mode of election of these officers. Several of these papers were quite fully discussed. One of the best was "How May the Condition of Education in Texas be Improved," by Dr. A. D. Williams, Kenesaw, opposing a change in the mode of election of these officers. Several of these papers were quite fully discussed. One of the best was "How May the Condition of Education in Texas be Improved." The question was asked, "What is the condition of education in Texas?" and the reply was: "A. A. Graham, in himself a host, was aided by Miss Finch, one of the assistants, are spoken of very highly.—Mr. Wilson, who has had charge of the graded school at Lambertville, has consented to teach a select school there for the spring term.—Mr. Will E. Bellows, a member of the senior class at the Normal School, closed on the 29th of March a successful five months' term as principal of the graded school in Riga, Lenawee County.

Texas.

The annual meeting of the Nebraska State Teachers' Association was held at Fremont, March 27th, 28th, and 29th. The exercises of the first evening consisted of an address of welcome by Mayor Marlow, of Fremont; response by the President, C. B. Palmer, of Beatrice; and a lecture by Chancellor Fairfield, of our State University, entitled "Learning and Labor."
Kansas.

Kansas has a permanent school fund of $1,145,706 which is invested in five per cent. Kansas state bonds, and in ten per cent. district school bonds. The Congressional grant of the sixteenth and thirty-sixth sections in every township in the state amounts to nearly three millions of acres. The proceeds of this land, when sold, will make our public school endowment amount to nearly ten millions of dollars. The State Superintendent of Public Instruction, Secretary of State, and Attorney General constitute a board of commissioners for the management and investment of the school funds. The income of the state school funds is disbursed annually, by order of the State Superintendent to the several county treasurers, in equitable proportion to the number of children and youth resident therein, between the ages of five and twenty-one years. If a school district does not maintain a common school at least three months in each year, it is not entitled to receive any portion of the state fund. The total amount disbursed to the several school districts during the year ending December 31st, 1876, was $829,970.70. Total amount disbursed from all sources for public schools, $1,165,638. There were 5,576 teachers employed in the public schools during the year. The average monthly wages paid male teachers was $33.66; female teachers, $27.63.

The average daily attendance in public schools was 89,896; total enrolled, 147,224. According to a law enacted at the recent session of the Legislature, the board of county commissioners is authorized to appropriate a sum not to exceed one hundred dollars in any one case for the support of such institution as they deem necessary; and if they deem it necessary; and if when pupils have registered as members of the normal institute, and have paid the required registration fee, the state will pay into the normal fund the sum of fifty dollars per annum to each pupil enrolled, and we hope to realize considerable benefit from the work done in the normal institute, but dare not expect as much as we would if we had a greater number of efficient county superintendents. Few very of the county superintendents receive more than six hundred dollars per annum, and many of them receive less, which is too much compensation for those who are incompetent, and not half enough for those who are willing to labor, and qualified to do efficient work. Politics, poverty, and piety have too much influence in the selection of our county superintendents.

LOUBSROG, KAN., March 19, 1877.

JONAS M. ROSS, State Superintendent of Public Instruction.

Colorado.

OFFICE OF SUPT. OF PUBLIC INSTRUCTION.

DENVER, COLORADO, March 20th, 1877.

The General Assembly having revised and refactored the School Law, I desire to call the attention of school officers and teachers to some changes which it is important they should know immediately.

School officers are especially notified that the annual school election is changed from the third Tuesday in June to the first Monday in May, and the notice of the annual meeting must state at what hour business other than election of officers will be transacted.

No person can be designated as a candidate for public instruction are requested to hold annually in their respective counties, for a term of not less than four weeks, a normal institute for the instruction of teachers. The conductor and instructors for the normal institute are to be selected by the county superintendents with the advice and consent of the State Superintendent. No person is to be paid from the institute funds for services as conductor or instructor who has not received a certificate from the State Board of Examiners as to his special qualifications for that work. To define the expenses of the county superintendents it is required to collect a fee of one dollar from each candidate for a teacher's certificate, and a registration fee of one dollar from each person attending the normal institute; the board of county commissioners is authorized to appropriate a sum not to exceed one hundred dollars in any one case for the further support of such institute, if they deem it necessary; and if when pupils have registered as members of the normal institute, and have paid the required registration fee, the state will pay into the normal fund the sum of fifty dollars per annum for that purpose. The law is a good one, and we hope to put our schools on a more satisfactory basis at an early date. Yankton county looses its popular school superintendent this week. Nathan Ford, a practical teacher and for five years a resident of this city, is to succeed him. Should the county commissioners ratify this choice, the district schools of the county will suffer no neglect.

E LK POINT has two schools, a Primary and a Grammar, with two teachers in each. E. Jennie Williams is the Grammar Principal and Sarah L. Higbee the Primary Principal. Miss Williams has an enrollment of 107 and an average attendance of 60.—(Ross School) also has two independent schools, with Newton Clark at the head of the first and Louisa Bryan of the second. Total enrollment, 117; average attendance, 98. Like Elk Point, Sioux Falls has no prescribed course of study and the schools are working as they please. Districts recently granted them a request of the people of Sioux Falls hope to put their schools upon a more satisfactory basis at an early date.—Yankton county loses its popular school superintendent this week. Nathan Ford, a practical teacher and for five years a resident of this city, is to succeed him. Should the county commissioners ratify this choice, the district schools of the county will suffer no neglect.

Fark, New Hampshire.

The Educational Weekly. [Number 15]

Teachers are requested to examine the following extract from section 60 of the new law, and carefully execute the same: “And it further shall be the duty of every teacher in a public school to report to the district secretary, and also to the county superintendent the average number belonging to his or her school for the term. (In graded schools the assistants report to the principal). The average number belonging shall be determined at the close of each week as follows: In all cases of absence, except only cases of transfer to some other school in the same system, the average shall be kept up for the term. When a teacher, during the whole day, and drops out of his class he does not return on the seventh half day; but a pupil who recites lessons in school shall be considered as belonging for the day, although the lessons may have been studied elsewhere. The average number belonging for the term shall be found by dividing the sum of the weekly averages by the number of weeks in the term.”

As this has not heretofore been required, teachers should give it their attention, and should make the average since the commencement of the year as nearly as they are able.

Dakota.

Publisher's Notes.

OUR friends will do us a favor, if, in dealing with our advertisers, they will always mention the WEEKLY.

To those who have not the full subscription price to spare, or who do not know whether the WEEKLY is such a paper as they want, we will send it for three months on trial for fifty cents. This offer is made only to new subscribers.

—Remember that the WEEKLY is not sent to subscribers beyond the time paid for. A large number of our Indiana subscribers will find "14" following their name on their list this week, which indicates that this is the last number to which they are entitled until they order a renewal of their subscription. Please send in the subscription price at once, so that you will not miss a number.

We have received a somewhat discourteous and impertinent note from Mr. C. Harris, of Niantic, Illinois, complaining that an article forwarded by him to one of the state editors had failed to appear in the WEEKLY. As a fair sample of its style we quote:

"I do not wish my article to remain in your office, to be used as the themes for illogical and vapid editorials. This is a kind of theft that does not receive my commendation. The subjects which I discussed in my paper have, since I sent it, been taken up by the Editor-in-chief, but where his manipulations have made any improvement upon the original, I am too blind to see. I think your paper is controlled by Nathaniel[s] [sic] who think that no good thing can come out of N—[.]"

It is sufficient reply to Mr. Harris's complaint to state that his manuscript has never been seen by the Editor-in-chief. Hence his assumption that it has been used as "the source of themes for illogical and vapid editorials," is totally gratuitous and unfounded. Whatever of those qualities may have permuted the material, he can console himself with the comforting reflection that he is not even indirectly responsible for. But we beg respectfully suggest to Mr. Harris, a safe rule of action, "Be sure you are right, and then go ahead."—In the right manner.

—Those who wish to renew their subscriptions, as well as those who wish to subscribe for the first time, will please notice (in our "terms of subscription," page 11) that the paper will be sent to clubs of ten yearly subscribers for $15, or $1.50 each.