The Educational Weekly.

The Educational Weekly.

THE UNION OF
Seven Leading Educational Monthlies in the Western States.

E. O. VAILE, 
S. R. WINCHELL,
Editors and Proprietors,
St. Ashland Block, Chicago, Ill.

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CHICAGO, THURSDAY, AUGUST 29, 1878.

Editorial.

The American Philological Association, comprising the foremost students of language in the country, and we might say in the world, for that matter, at its recent meeting, at Saratoga, July 10, advised the following eleven spellings as a mild, practical initiation of the spelling reform: tho (though), thu (through), gard, catalog, infinit, definit, ar (are), wish, hav, giv, liv. These spellings are endorsed by leading scholars, and it is to be hoped that they will commend themselves to the widespread feeling which seems ready to welcome gradual and moderate reform in English orthography. The changes proposed by the Philological Association are strictly in accord with other simplifications which have found their way into the language within the last two hundred years, without creating any sensation, without any conscious effort, and even without being realized by the public. Two hundred years ago our ancestors spelled mustick, fretliche. One hundred years later the final e was dropped, and the final a has been dropped within the days of the present generation. Now, why not, by agreement and conscious efforts, go ahead in the direction of these beneficent changes, and intelligently press forward a reform which has already made so much advancement under the slow and capricious guidance of unconscious forces?

It is needless for the Weekly to say that it is warmly in sympathy with everything that is reasonable and moderate in this movement, and that it is anxious for the time to come when good business policy will justify it in adopting the changes recommended by such high authority, as well as by good common sense. However, it will be glad to follow "copy" strictly to the extent of the spelling of these eleven words at the desire of the contributor.

The great immediate object to aim at is to remove the reverence for the unreasonable and monstrous irregularities in English orthography, which every school-master, and school-mistress, and respectable person in the land is obliged to feel, or at least to pretend to feel. Prof. Whitney well says: "Break down the false sacredness of the present modes of spelling, accustomed people not to shiver when they see familiar words misspelt, and something good will be the final result." Good contributions employing the spellings referred to above are welcome.

EDUCATIONAL JOURNALISM.

The last part of Mr. Campbell's letter, published in the correspondence column, gives us an opportunity to express our satisfaction at the many words which we receive similar to his own, of commendation of the breadth and scope which we propose to give to the Weekly, and which has been foreshadowed in a measure in the past. So free and full has been the endorsement of our course, brief and experimental as that course has been so far, that it is surprising that educational journals hitherto have persisted in hugging so closely to the shore of the theory and practice of teaching, especially when the remark has been heard so long on every hand that educational periodicals are weary narrow in their limits and monotonous in their matter.

There is no class which has more influence than teachers in molding public opinion,—not the transient opinion of the hour, but the deep, abiding convictions which are planted in childhood and youth, and which develop into the deep conscience and actual sentiment of a generation. Wielding this influence, bearing this responsibility, what matter is there of human interest that is not of interest to the teacher? What subject is there of prominence in politics, morals, society, science, literature, in which the teacher ought not to be interested, and interested in a more deep and general way than other persons? There is no such subject; and it is unquestionably the duty of every periodical which pretends to minister to the highest needs of the teacher to present to him as fully as possible all subjects which should command the attention and the sympathy of the highest culture, patriotism, and philanthropy. It is written, "Man shall not live by bread alone;" neither can a teacher live—that is, be a live teacher—who feeds merely upon the tactics and maneuvers of the school-room; whose needs do not extend beyond the limits of the page of Practical Hints; whose appetite does not relish something besides the directions which tell "how to do it." We do not undervalue the importance of the practical, or the necessity for that element in an educational journal. We shall see that it receives due attention, and possibly a larger share of attention than any other department. But we feel that our full duty requires us ever to bear in mind that the teacher, as the accidental form, is greatly overshadowed in importance by the man and the woman,—the substance within. Character and intelligence in the teacher are infinitely higher than the mere technics of his art; and that educational journal is a poor excuse that does not minister to the former as well as to the latter. In this experiment of giving to educational journalism a wider field of vision, the Weekly is happy to be able to say that it finds gratifying encouragement, and it ventures to indulge the hope.
COLUMN OF CORRESPONDENCE.

THE WEEKLY desires to call attention to its column of correspondence. There is no doubt that every number of the paper is the means of suggesting to some of our readers thoughts which would prove interesting and profitable to many other readers, but which to the thinker seem hardly worthy of the time and labor requisite to clothe them as a formal contribution. Such thoughts ought to see the light. It is for these informal, impromptu efforts, that this department exists. Short comments pertaining to matters discussed in the Weekly, or to the teacher’s calling, courteous and good-natured criticisms, no matter how sharp, upon editorials and contributions, words of commendation, notes of information and experience, anything and everything, brief, pithy, and pertinent, will be gladly received. Send on your letters and let us have a lively budget-box. We shall adhere rigidly to the wholesome rule of ignoring all communications not accompanied by the author’s name. We will not insist upon publishing the name, although that is the course always to be preferred.

SYSTEM IN WORK.

Prof. S. H. White, Peoria, Ill.

An examination of the results of the last competitive examination prompts me to suggest to the managers of institutes the propriety of giving one or more short lectures on details in school work. The topics spoken of might embrace, with others, the following:

1. For written exercises provide paper of uniform size. To defray the expense invite your pupils to contribute five cents each. A dollar and a half will purchase a half ream of foolscap. Obtained in this way there is more likely to be a supply on hand, money and time will be saved, a regard for system will be encouraged, and the teacher’s convenience consulted.

2. In turning a leaf to write on the second page turn it as you would the page of a book. It is no unusual thing to find that a part of the papers of a class were turned bottom upward, a part from right to left, and others from left to right. To the teacher who is to examine the papers the time and labor of handling them is greatly increased by this lack of order, while so varied a plan of writing them renders it impossible to bind them for even temporary preservation.

3. Do not, ordinarily, write two exercises on the same piece of paper. For the purpose of comparing the work of class with class, and especially of school with school, it is desirable that the arrangement be such as to facilitate easy reference. This is secured best when the work in each study is collected by itself exclusively. About twenty per cent of the papers of the ungraded schools have been rejected because of a failure to observe this simple suggestion.

4. After a paper is written do not fold it before handing to the teacher. If papers are to be sent a distance wrap them between thin boards or pasteboards.

5. Accustom pupils to leave a margin of about an inch at the left of the first page and at the right of the second page. A margin of a quarter inch at the other edge will be sufficient.


It may seem to some that these things are trifling matters, but much of the convenience and worth of work depends upon them, and much valuable discipline is gained by pupils in observing them.

SOME POINTS OF THE NORMAL QUESTION.—I.

Pres. ROBT. ALTON, So. Ill. Nor. University.

I had been several years since my excellent Quaker friend, Erastus, and I had met. We asked and answered concerning mutual friends, and then in his plain sect-language, which I do not imitate, he said: “So you have changed your location and entered another line of educational work?”

“Certainly,” I replied, “like a true cosmopolitan Yankee, I had tired of one spot and one sort of work, and I took another.”

“Tired of college teaching and wanted to teach elementary branches in a Normal School! That you mean?”

Not exactly that. The fact is, the section of my state needed, as I most sincerely thought, a school for teachers, and my friends and the friends of the school wanted me to take charge of it. I consented, because after mature deliberation, I really thought I could do my state more good in the new place.”

“Not unnatural for you. I cannot object. But why do you think normal schools are needed? ‘To me it is a grave question, and I have by no means settled it.”

Thus appealed to by a New Englander thoughtful above the average of educated men of that country, I began to go over the arguments which had influenced me in reaching my conclusion. I said:

“There are about six reasons. I should be glad to recount them and hear your opinion on the validity and weight of each; and I desire you candidly to state how far they ought to go toward convincing the public of the propriety of establishing and maintaining normal schools.”

“I should be pleased to hear,” said he with earnestness.

“But I am only a Socratic inquirer and shall not promise to affirm anything.”

I named my points thus without expanding, knowing that the full explication would come out under his catechetical cross-examinations.

1. The state needs trained educational leaders, that it may make no mistakes, lose no time, and do best the work for its children.

2. These teachers need to know the details of their work, and they also need special instruction to supply the lack of experience.

3. They must know children in their natures, and the effect of the different knowledges on mind.

4. They should be familiar with systems and methods of education and grades of schools.

5. They should be skilled to apply motives to all characters and dispositions.

6. They need regular drill in mass that they may acquire the enthusiasm of a profession.

There are other arguments, as the saving to a community by having teachers who lose no time in trying old and disproved methods; by also having a uniformity induced by men who can walk by the same rule and mind the same things.

“Then enumeration will do. I think your points, in the main, well put, but some of them will not carry great force. For instance, your first, in which you insist on leaders trained to be leaders.”

“Is not the great search everywhere for leaders, from railway companies to city schools, from a cotton mill to a department of the government? It was one of the points made by Plato how to find leaders to educate children, and until these are found he asks, ‘Are we not risking our greatest possessions? for our children are our riches.’ No progress is possible but where there are leaders.”

“It is doubtful,” he replied, “if nations in all time have not
suffered as much from their leaders, trained for them, as they have been benefitted. What good has come to the race from your educated kings? How much has it cost for their instruction? and whenever a leader was wanted, except in rare cases, as Alexander and Challemagne, the nation has had to look for him where it found Joseph, or Moses, or Cromwell. The world ought, if any where, to find ecclesiastical leaders among its educated priests. But does it? Have not these as often been in the way of progress as its promoters? We Quakers do not look for leaders.

"And you do not improve. Since the days of Fox, and Barclay, and Penn, what improvement have you made? But when you had leaders how was it? "Very good. I know, I know."

"And as to ecclesiastical leaders or teachers, what of Luther, and Cranmer, and Wesley? They were educated to be teachers of religion, and did they not many times teach it, with a fury even, but which nevertheless made it prevail? As to the princes which you use as illustrations, for what and by whom were they educated? Were they not instructed in all the arts of selfishness and indifference or recklessness of our people in New England, for putting a young man to educate forty or fifty children, without any practice? If not for such plain work, how can accident supply teachers for the more important business of educating the children of a nation?"

"I see," said he laughing, "you are falling back on what you school-men assume as an axiom, that education is the most needed thing for the race, and requires not only a peculiar tact in the soul but a peculiar training in the teacher. This is not always granted. But go on."

"I think no one ought to hesitate as to your second point, that teachers should thoroughly comprehend the details of their business. This is accepted in all other callings—you see I am assuming your own ground and insisting that teaching is a profession or at least an avocation. I have myself too often denounced the indifference or recklessness of our people in New England, for putting a young man to educate forty or fifty children, and supervise them in their studies, plays, speaking, manners, thoughts, aspirations, readings, and actions, when he is known to lack the common sense and qualifications which would fit him to superintend a dozen farm hands at agricultural work. I admit the force of the argument. But the dear people, whose children ought to be the dearest possessions to them, and the most hopeful of all their interests, are not with you."

"I am aware of this fact. It was noticed a long time ago by old Roger Ascham and it is a wonder that, being such a true and self-concluding argument, and in the best of our English literature, it has not been oftener quoted and more influential. Let us recite it, as quaintly as it is written, for your amusement."

"And it is pite that commonl, more care is had, yea and that emonges vere wise men, to finde out rather a cunninge man for their horse, than a cunninge man for their children. They say me norde, but they do so in deede. For to the one the will gladde give a stiped of 2oo crownes by yere, and loth to offer to the other 2oo shillings. God that sitteth in heaven laugheth their choice to skorne, and rewardeth their liberalitie as it should; for he suffereth them to have tame and well ordered horse but wilde and unfortunate children."

"That was printed over three hundred years ago, and it is as true to-day as when Queen Elizabeth ruled the realm, and horses were trained to be gentle and obedient, and children were lef to run wild, as too many do now. It is not only true thinking but honest and pleasant speaking."

"It is very good and as direct and as quaint as George Fox or George Woolman. I have never read Ascham. If there is more like this in him I must do it at my first leisure."
his chances of getting it. The catalogue is divided into five general departments, with numerous sub-divisions, such as home education, school discipline, female education, kindergarten and pre-primary education, school architecture, etc., etc., thus rendering it easy for a person to consult a reliable list of all these available books upon any one of these special subjects. Books known to be out of print are not mentioned. It is to be regretted that Mr. Steiger has not indicated something as to the date when each of the books mentioned was prepared. Suppose a school superintendent or a member of the building committee of a board of education wishes to obtain the most and the best information he can get on the matter of school ventilation. He turns to that part of the catalogue and finds a dozen or more books enumerated, and among them these: W. F. Butler, Ventilation of Buildings. I. W. Leeds, Treatise on Ventilation. D. B. Reid, Ventilation in American dwellings; all with title-page descriptions. Now which book shall he send for? On a subject like this, a difference of a few years between two books, otherwise equal, is a matter of a good deal of importance. The same can be said in almost every other department of the catalogue. If the date of the last edition of each book were given it would be of no little value.

We cannot speak with much approval of the other departments of the Year Book, viz.: (1) A list with notices, of the most important text-books issued during the year; (2) a list of the educational institutions of the country, with the claims of each presented in the words of the proprietor or principal, and (3) seventy full-page advertisements of the book-houses, which, in the artless language of the publisher, represents a new departure in catalogue making,—a fact which we must confess we are unable to see. No doubt these departments have been made to pay the publisher of the Year Book; but will they pay the general purchaser and reader? Hardly. If the sum paid by these various institutions for getting themselves and their products thus handsomely advertised were counted as reducing by so much the cost of the work, and thus lessening the retail price, it would be all right. But the price to be paid for the book, although reasonable, hardly allows that supposition. It is too bad to have so good and so valuable a book shadowed in its appendix so called, even by the faintest tint of a "job." Nevertheless, this "padding" in the work does not detract from the great value of the Year Book proper, and of Mr. Steiger's admirable catalogue.

The Philosophy of Arithmetic, as Developed from the Three Fundamental Processes of Synthesis, Analysis, and Comparison. Containing also a History of Arithmetic. By Edward Brooks, Ph. D., Principal of Pennsylvania State Normal School, and Author of a Normal Series of Mathematics. (Philadelphia: Sower, Potts & Co. 570 pp. 8vo, cloth, $2.25. To teachers for examination, $1.75.)—When a prominent teacher, whose experience has demonstrated his fitness for the task, undertakes to write a book on the science of any branch of study which is common to all our schools and which is practiced by all men in their daily transactions in business, it is proper that those for whom the book is written should receive it with due respect and attention. If the work is carefully and accurately prepared, it becomes of great value to all students, and a blessing to community.

Dr. Brooks has spent a quarter of a century in developing the work before us, and has had a special preparation for writing it, in his long and laborious work on the series of arithmetical and other mathematical text-books to which his name is attached as author. In it we find not only the true philosophy of arithmetical, but also much historical matter, which is of equal value to the student and the teacher.

The work is divided into five parts, Part I. treating of The Nature of Arithmetic, Part II. of Synthesis and Analysis, Part III. of Comparison, Part IV. of Fractions, and Part V. of Denominative Numbers; the whole being preceded by an Introduction of four chapters on 1. A Logical Outline of Arithmetic; 2. The Origin and Development of the Science; 3. The Early Writers on Arithmetic; 4. The Origin of Arithmetical Processes. We give one or two interesting extracts:

"It was for a long time supposed that the present system of Arithmetic was due to the Arabians. Among the sacred books of the Hindoos (some of which are known to have been in existence two thousand years ago), there is preserved a Treatise on Arithmetic and Mensuration written in the Sanskrit language, called Lilawati, which was ascribed by them to the immediate inspiration of Heven. It begins with the expression of numbers by nine digits and the cipher. The characters are similar to those in present use, and the method of notation is the same. It contains the common rules of Arithmetic and the extraction of the square root as far as two places."

The first of the following extracts dates as far back as 1596:

Thirtie daies hath September, April, June, and November,
February, eight and twenty alone; all the reste thirtie and one.
Add the upright, reserving every tenne,
And with the digitts down all with thy pen.
Subtract the lesser from the greater, noting the rest,
Or ten to borrow you are ever prest.
To pay what borrowed was think it no paine.
But honesty redounding to your gain.

The work is a valuable one for teachers. To him who wishes to become a thorough mathematician it is indispensable. Besides containing much original discussion, it presents the substance of various ancient works not now available to the common student, and is thus a store-house of mathematical information. It contains also fresh discussions of principles and methods peculiarly interesting to the modern student.

NOTES.

—Up to this date we have waited in vain for a report of the proceedings of the Southern Educational Convention which was held at Chattanooga, Tenn., early this month. We regret to learn that our correspondent, Dr. George A. Chase, of Louisville, has been prevented from writing by illness. We learn from other sources, however, that the meeting was one of promise and encouragement to the friends of education in the South. Dr. Chase was elected both temporary and permanent president. Brother Vance, of the Eclectic Teacher, was chosen secretary, and Supt. B. Mallon, of Atlanta, Chairman of the executive committee. The National Educational Association was endorsed and all sectional aspiration disavowed. The time and place for holding the next meeting will be announced by the executive committee. The correspondent upon whom we had depended for a report of the meeting of the Kentucky Teachers' Association was also prevented from attending that meeting by illness. Our friends in the South are cordially invited to send us educational items and reports of meetings, which will be promptly published in the WEEKLY.

—The WEEKLY enjoyed a call from Mr. H. L. Boltwood, formerly of Princeton, as he passed through the city on his way to Bellevue, Iowa, where he was to conduct an institute. He has a promising field before him in Ottawa next year; although at present the citizens are in the midst of a hot, and we were going to add, unfortunate, controversy as to the location of the high school building which they are about to erect. But sometimes such issues awaken an interest in the cause of education which results in much good. It is to be hoped that such will be
the case in Ottawa. We wish Mr. Boltwood abundant success in his new field.

Prof. T. C. Mendenhall with his wife and son spent the 21st and 22d inst. in Chicago on their way to Japan. The Professor starts for school the first Monday in September, as most other teachers do; but he will not reach his school much before the first of October, the passage between San Francisco and Tokio requiring between three and four weeks. He and his family are in excellent health and spirits, and confidently anticipate a pleasant and useful absence of two years or more, as their hosts of friends wish for them.

Mary P. Thacher contributes an article to Harper’s Magazine for September, entitled "The School-mistress."

The Hon. W. E. Gladstone is to be a contributor to the September-October number of the North American Review. His topic will be, "Kin Beyond Sea." Admiral Porter is to furnish an article on "Torpedo Warfare" for the same number.

PUBLISHERS’ NOTES.

IOWA COLLEGE, 1878.—Opens Sept. 11, in all five Departments. Apply to Geo. F. Malcolm, President.

We want several copies of No. 56 of the Weekly. Will our readers please take notice and return that number to us, with a postal-card, and we will then extend their subscriptions one week.

The list of school and college text-books published by J. B. Lippincott & Co. contains many of the best standard works. Cutter’s Physiology, for instance, steadily holds its own in the schools, while many rivals rise and pass into oblivion.

Messrs. Sheldon & Co. have recently published some new text-books which are worthy of careful examination. They have been prepared by eminent scholars, and are highly recommended. Address Sheldon & Co., New York or Chicago.

The series of articles on Gruber’s Method of teaching number, which have been appearing in the Weekly at intervals for several months, has been completed. It is the design of the publishers to issue the series in book form and those desiring to procure it may send in their names at once. This method is becoming very popular, and there will be glad to answer all letters of inquiry. An error appeared in their advertisement last week, through the carelessness of the proof reader. The price of the New Third Reader should have been 27 cents, instead of 35 cents.

Our readers will notice the half-page advertisement of the popular Bryant and Stratton Business College of Chicago. We have made a personal visit to this institution and confess our surprise at the extent of its equipment, the thoroughness of its instruction, and the excellence of its discipline. If our space shall permit, we intend to present our readers with some sketch of the institution and its workings in an early number of the Weekly.

The enterprise of the Chicago, Milwaukee and St. Paul Railway Company is shown in their promptly pushing forward the new line in Iowa. Already it reaches twenty-five miles beyond Algona, to Emmetsburg, on the Beloit and St. Paul line, the two towns being connected by a direct route from Algona. Before winter it is expected that connections will be made at Sheldon with the Sioux City and St. Paul line, thus opening up a direct route to Vaukon and the Upper Missouri river. Wisconsin and Iowa will thus be brought into closer relations, and the rich fields of Iowa will contribute materially to the commercial interests of Madison, Milwaukee, and Chicago.

Practical Hints and Exercises.

HOW TO REGISTER PUPILS.

BY THE EDITOR.

When a school is first called to order by a new teacher it is usually misty and quiet. This first moment is the critical one. The engine is ready, steam is up, and the engineer’s hand is on the throttle-lever. In nine cases out of ten what follows is to be propounded from the first half hour’s management. Let the engineer remember that the engine is made to run; and let the teacher remember that a school is made to wok. Don’t try to keep it in order while you keep it idle. Keep it at work and it will keep itself in order. Most teachers “miss it,” by attempting the very first thing to get a list of the pupils,—one of the most trying things, in the ordinary fashion, for the teacher to undertake, as far as the morale of the school is concerned. In a school of fifty, while the name of one pupil is being written, forty-nine have to be kept in order by mere pressure. Rather than to pass around the usual slip of paper, you had better let your list go, and assign lessons and work the very first thing. But the obtaining of a list can be made serviceable in a valuable way, and be made a means of maintaining order at that critical moment, rather than a temptation to disorder. Before school begins a lot of blank cards—kind of index cards—should be distributed to each pupil, so that if these are not available, cut common foolscap paper into slips of that size, and enough to supply each pupil with one. After every thing is in order and you are ready for this step, announce to the school that you are going to supply each pupil with a slip, and direct specifically what you desire to have written. Put an illustration on the blackboard. Suppose it is this:—

BROWN, GEORGE.

Age 14.

Residence—Sharon Pike, two miles from school-house.

Father’s name, ERASTUS BROWN.

Let it be understood that this form is to be followed exactly. Now don’t step down from the rostrum, and begin to distribute with your own hand, which would be a movement tending strongly to weaken the control which at this moment you have over the school. You can remain at head-quarters, and keep possession of the entire field, and at the same time have a splendid opportunity to use a little valuable strategy, if there is any need for it. While giving directions before hand, your quick eye has not failed to pick out the three, four, or five pupils whose sympathy and cooperation it is of the first importance for you to obtain. Ask these particular cases politely, but not with any affectation of politeness, to come forward and to take each a package which you will hand to him, and to distribute a slip to each pupil in a certain row or section of the room, returning to you the unused slips. Then all are to write at once, to lay down pencil when done and to sit upright that you may understand they have finished. Then ask the same pupils or others to collect the slips, placing them neatly right side up, and to bring them to you. Put an elastic band around the package, or "pin" them close to the left hand end, and you have a register complete. To-morrow it will be another nice bit of strategy for you. Ask some other idle or mischievous pupil, whom you think you can "win," to take the package, to separate the boys’ names from the girls’ names, and to arrange each set of names according to the alphabet. On the next day you will do a wise thing by showing enough confidence in one of the best writers, (whom you can pick out by his own card, if by no other means) to ask him to take your register book and to copy it into the names, etc., as they have been alphabetically arranged.

If you suspect other pupils are going to enter within a few days, you can use your “slip” register, and have their names put in proper places, before the list is copied into your register. The roll can be called and marked on the slips without the least difficulty. The same plan can be pursued in registering classes, if they are large enough to justify it.

The advantages of some such plan as this over the ordinary way are evident at a glance. Besides giving employment to all at once, putting each pupil to his mettle to exhibit himself and his handwriting to best advantage, furnishing opportunities to the teacher to use a little management, etc., it keeps the teacher fully upon his own vantage ground. He gives directions simply and sees how they are followed out. No temptation is given to misconduct. He has a chance, under the most favorable circumstances, to show his own self-possession, and business way, if these qualities are his. By seeing, before the papers are distributed, that every pupil has a pencil or is allowed to get one, that certain pupils are appointed to hand to the little ones and to write their names for them, by foreseeing every emergency and providing for it, the teacher will show his generality—and he cannot show anything that will go further toward securing the good-will and confidence of his pupils.

Such a plan affords an admirable opportunity for discipline. It may be the school knows nothing about system, and that each pupil will grab his pencil and start to work immediately upon getting his slip. If so, the teacher is in position to see it, and to insist upon the point that all shall wait until they hear the word "Write." So the word "Write." So the slips are returned to you as the pupils have written. And the slips are returned they can be looked over in the eyes of the pupils, and the work praised if deserving. If not satisfactory, the defects can be pointed out then and there, and the pride of the school be aroused so that all shall be willing to try again and to do it better. We do not know how the teacher could have a better chance to show good-naturedly just what he wants done, and to insist good-naturedly upon having it done, and thus getting his school well in hand the first hour.
GEOGRAPHY.

The following arrangement of subjects in Descriptive Geography is that used by J. W. Baker, Principal, Public School No. 4, Buffalo, N. Y.  

1. LOCATION. How situated in regard to places known. What latitude and longitude, etc.  

2. SIZE. Figure or shape. Boundaries in detail. Square miles. Compared with something known.  

3. SURFACE. Level or mountainous and hilly. Highlands or lowlands.  


5. CLIMATE. Latitude, zones, seasons. Productions, vegetable, animal, mineral.  

6. INT. DIVISIONS. Countries, states, counties, towns, wards.  

7. FACILITIES FOR INT. COMMUNICATION. By rivers, lakes, canals, railroads, etc. Commerce, exports and imports.  

8. CITIES AND TOWNS. Name twenty in order of size, beginning with the large. Give the location.  

9. INHABITANTS. ETC. Population, nationalities. In what part of the country or state.  

10. GOV. AND RELIGION. Monarchical or Republican. Protestant and Catholic.  

11. MISCELLANEOUS FACTS. History. When settled. By whom. Progress of civilization, natural curiosities, etc.  

PROFESSIONAL FACETE.  

The Bishop of Manchester was present recently at a young ladies' school, and a class in Latin were up for examination, pouring forth a list of Latin words, with the English translation. They came to the word "vicissitudes," and this being new to the high school, and not knowing the new pronunciation, they said promptly, "We kiss-em," we-kiuss-em-by turms." "Oh, do you?" said the Bishop. "Then I don't want you at your adopting the new pronunciation."  

A would-be teacher in Toledo recently replied to an examination question, "Do you think it is round or flatly?" by saying, "Well, some people think one way, some another; I'll teach round or flat, just as the parents wish."  

A little fellow has just begun going to the public schools. His mother, to stimulate him to attention to his lessons, said to him the other day, "Charlie, if you study hard, you may some day become president of the United States, like George Washington. Who knows?" "Don't talk to me about being president!" exclaimed he; "everybody's going to be president. When you go to school the first thing the teacher does she calls the names of all the little boys, and they all say 'president.' I don't want to be president."  

It was the departing college graduate who heaved a sigh. -Louisville Courier-Journal. That was what he beta retreat. -Com. Baldwin. And sung with feeling. -Omeg-n. -Com'Ad. It was the alpha that he left when he did, but after all. Some one should have delta blow at these jokes, which are all Greek to us. -Toledo Blade. This is all gamma n.  

Some homes and schools are so void of everything attractive and enjoyable that it is not to be wondered at that children crave and seek escape from them. On the other hand, there are those so full of what is attractive and pleasant to the eye that the room is furnished with the fashion of our times even ventured to say to us that she thought her children safer, more comfortable, and even happier in the school-room than anywhere else; and when she said that, we were the very height of the hearted term. At the risk of being thought foolish we are about to say that we have some sympathy with this strange sentiment. When we hear the plea commonly urged so early in the summer that it is becoming too hot to go to school, or in other seasons that it is too cold, or too wet, or too unhealthy, we begin to suspect an indolent position, on the part of the ingenuous pleader, to the pursuit of any reasonable course of culture. We know a person who waited an entire year for a good opportunity, and in the autumn it was too cool. -A pleasant winter at home (1); in the winter there was too much snow, it was too sloppy in the spring, and in the summer dangerously warm, and so the last year which this young lady intended to her education was wholly lost to her. Upon a foundation not much better than this, rests, we suspect, the great ar- 

Our attention has been called anew to this subject by a proposition, made to the school committee of a neighboring town, to extend this respite from the world over ten or twelve weeks. Now we claim that if all school-going children are more exposed to the sun, and to perils of every kind incident to the summer, in consequence of the intermission of their schools. We think it presumable from the plainest teachings of physiology that all such schools are at the beginning of every summer, and regular habits of living exchanged for irregular ones, the general health, to say the least, is not greatly promoted. Moreover, there is only a small part of our schools that have the misfortune to be in the beginning of the school year. But whether at home or abroad it is certain that the interruption of school produces more or less interference with the system that must prevail in most families at other times, and the longer the interruption and its consequent dangers to health. How much of the sickness that everywhere comes with the late summer and early fall is attributable to this wide-spread derangement of habits we will not stop to inquire into at all.  

The vacation period is an important consideration of the children, and of the time they can claim for their studies, or in their summer's work.  

It is a far-faith from all discipline. Books and other means of instruction are to be utterly neglected and the mind is to lie fallow to gain some imagined rest. The supposition is that the mind is weary out with the toils of the school year, and needs a long period of suspended animation.  

It is noteworthy that those for whose benefit this is most strongly urged belong to the constitutionally-tired class. Vacation is their native element, and they generally manage to make life itself little more than a continuous vacation. Let these folks, strange as it is to us, or even as it is to the average, an extensive and powerful source of influence, and their clamor for long periods of undisturbed repose is unaccountably respected. The truth is, good scholars, under the guidance of wise teachers, do not get weary and diffident of their studies, as they study in accordance with Nature's laws, the better they can and will study. They neither need nor take vacations.  

Whether school keeps or not their instruction given, on the suspension of ordinary work affording them extraordinary opportunities for activity in other equally important researches. If most students were nearly like these, or if these were a fair proportion of the whole, it would be folly to deprive long vacations. But we speak in behalf of the majority, of the average pupil, who needs all the help the best school system can furnish, and needs them almost constantly until some mental habits are established. He cannot be thrown into the world at eighteen or nineteen, or find it easy to prepare for the world at twenty. Vacation must prevail in most families at other times, and the longer this interruption and its consequent dangers to health. How much of the sickness that everywhere comes with the late summer and early fall is attributable to this wide-spread derangement of habits we will not stop to inquire into at all. The thorough discipline, the strict, regular, even, constant work which right mental development exacts is utterly incompatible with the intermissions now so much in vogue.  

The vacation period questions, the following being by a student, is a letter in which he argues for the prolongation of vacation.  

The vacation period, having now for several weeks been under most favorable and picturesque discussion in every mountain nook, and forest walk, and seaside ramble throughout our pleasant land, is likely soon to be taken up, in some quarters, in a more dispasionate way and treated as a legitimate question for proesy debate, with two good plausible sides to it.  

It is not quite clear to some of our matter-of-fact citizens that long vacations, especially in summer, are an unmixed good. Indeed, to not a few of our sorely pestered masses, they sometimes seem almost an unmixed evil. One of these simple-hearted and frank martyrs to the fashion of our times even ventured to say to us that she thought her children safer, more comfortable, and even happier in the school-room than anywhere else; and when she said that, we were the very height of the hearted term. At the risk of being thought foolish we are about to say that we have some sympathy with this strange sentiment. When we hear the plea commonly urged so early in the summer that it is becoming too hot to go to school, or in other seasons that it is too cold, or too wet, or too unhealthy, we begin to suspect an indolent position, on the part of the ingenuous pleader, to the pursuit of any reasonable course of culture. We know a person who waited an entire year for a good opportunity, and in the autumn it was too cool. -A pleasant winter at home (1); in the winter there was too much snow, it was too sloppy in the spring, and in the summer dangerously warm, and so the last year which this young lady intended to her education was wholly lost to her. Upon a foundation not much better than this, rests, we suspect, the great ar-
of superior advantages. Many of them not all the refining and elevating influence in the world could have saved from their vicious tendencies. Some of them we think might have been saved. There are instances of social degradation, which any intelligent observer can cite to himself, where society is much more powerful than individuals. We know of many, where habits of vagabondism, like other confirmed habits, can be traced back to early life, and, where we know the personal history, fully accounted for there. Such habits, to call them such, are not the little name, are at first only habits, but, when allowed to lounge in school, or who is excused by tender parents from rendering those little services about home which ought to be required of every child for his own good, is thus encouraged to keep his children busy sometimes through the year, if we would save them. Now a long vacation may give to some children, as we have already said, an opportunity for great improvement. It may aid them in developing their national character. But to mine children of ten, and to appeal to every teacher's observation during the summer vacation, it is not a means of any improvement whatsoever. Vacation is not a definite, malicious purpose, we can conceive of. Now if a man wished to foster some habits of idleness in his child for some definite, malicious purposes, we can conceive of nothing better suited to his intent than this superabundance of entire successive vacant days. However much children like vacation, the rest of it, unquestionably, is over in a very few weeks. Then time hangs heavy on their hands. They are pressed to know how to improve it. They pass most of it in mere supineness, a state, of which is not a few, lapsing into it every summer, grow excessively and perilously fond. As a question of pure morality we do not object to numerous vacations, but we do object to too many in the school year. So as to have all children in the school the year, "a chance to gain strength for the formidable work that looms up ahead." Now if a man wished to foster habits of idleness in his child for some definite, malicious purposes, we can conceive of nothing better suited to his intent than the vacation. It is not a means of any improvement whatsoever. Vacation is not a definite, malicious purpose, we can conceive of.

The Educationai Weekly, Aug. 9, 1878.

The Modern Languages.

To the Editors of the Weekly:

An article on "Modern Languages," in a recent number of your paper, interested me exceedingly, especially as it deviated from the popular idea of their use.

We have always studied Greek and Latin in much the same way as at present; the modern languages have been treated in a like manner. A close adherence to grammatical rules and a good knowledge of construction has always been a natural outgrowth of these studies when pursued according to the grammar method. But that is all; so further practical good has been accomplished. And now, in the last few years, comes a great change in method. We see the methods of Heness and Sauvete brought forward, and with astonishing success; and their natural or conversational methods, as they have been called, have produced results as much more accompli-

The mental discipline and the success in conversation are alike insured. The results which have been anxiously awaited so many years are at last obtained. A study done from your writings or a statement of what the conversational is the paramount method. We study the modern languages in the school, and another language when we wish to learn a profession in a foreign tongue. Our modern and ancient languages are presented in our public schools, but one only language is taught in both; we cannot prescribe the same treatment; therefore, the methods in each will not bear a like comparison. And thus, while the classics flourish and we have our beautiful treatises according to the grammar method, the study of modern languages becomes a decided failure when presented in the same way; and we need but point to past failures to verify this statement.

X

Aurora, Ill., Aug. 20, 1878.

LETTER FROM INDIANAPOLIS.

To the Editors of the Weekly:

This has been a premonitory summer of cheap excursions, and teachers who have been fortunate enough to accumulate a few spare dollars have been able to secure the pleasure and instruction of travel at exceedingly small cost. One of the most enjoyable and profitable of these was the Lake Superior geological excursion, which sailed from Cleveland, July 11. This excursion was made up largely of teachers and professional men. Unusual facilities were afforded for geological research under the able and enthusiastic leadership of Prof. E. T. Nelson, of the Wesleyan University of Delaware, Ohio. The principal points visited were the Island of Mackinac, Sault St. Marie, Pictured Rocks, Copper and Eagle Harbors, Bayfield, Duluth, and the Dalles of the St. Louis River, on the journey up. The return was along the north shore of Lake Superior to Agate Harbor, Bay of Pines, Pigeon Bay, Prince Arthur's Landing, and other points in Thunder Bay, Silver Ilet, Isle Royale, and Red Rock, at the head of Neipelgon Bay. The geological instructions given on these and some other points were carefully studied, and large quantities of ores and rocks illustrating the various formations were brought home by the members of the party. The great convenience of the journey was that it was made throughout in a chartered steamer, which was wholly at the control of the excursion management. The party consisted of some seventy-five persons from St. Louis, Indianapolis, Cleveland, and various other parts of Ohio.

The first National Congress of Microscopists has just closed a four days' session at Indianapolis. This Congress has been attended by about seventy-five members, among whom are embraced some of the ablest microscopists of the country. The papers have been exceedingly elaborate, and have related to almost every topic pertaining to the science, both to the manufacture and manipulation of instruments and to the study and classification of microscopical objects. A permanent organization has been effected under the following names:—Name—The American Microscopical Society. Object—The encouragement of microscopical research, in all branches of science. Membership—Any person interested in microscopical science is eligible for membership. Officers—Shall consist of a president, vice president, secretary, treasurer, and five members—shall consist of the officers of the society and the past presidents, with three members elected from the society. Meeting—The place and time of meeting shall be determined by the officers—Place—Cleveland, July 14. Fees—Does not exceed $5.00. The next meeting will be held in August, 1879, at Buffalo. The following are the officers: President—Dr. P. H. Ward, Troy, N. Y.; Vice-President, S. W. Hand, Columbus, Ohio; Secretary, J. P. Mansfield, Toledo, Ohio; Treasurer, J. B. Stockard, Chicago. The display of instruments and objects throughout the meeting was large and very fine. Almost every grade of lens and stand in the market was offered for inspection. And the whole force of actual demonstration of most of the topics treated in the various papers.

J. B. Indianapolis, Ind.
Educational Intelligence.

EDITORS.

Maine—Prof. J. Marshall Hawkes, Principal Greely Institute, Cumberland Center.
Iowa—J. M. DeKemps, Principal Grammar School No. 3, Davenport.
Indiana—J. B. Roberts, Principal High School, Indianapolis.
Missouri—W. W. Toulley, Sup't. Public Schools, St. Louis.
Dakota—W. M. Britsoll, Sup't. Public Schools, Yankton.
Ohio—W. W. Stevenson, Sup't. Public Schools, Columbus.
Pennsylvania—Prof. B. B. Palmer, State University, Lincoln.

The East—Prof. Edward Johnson, Lynn, Massachusetts.
The South—Prof. Geo. A. Chase, Principal Female High School, Louisville, Ky.

Orders for subscription may be sent to the above editors, if preferred. Items of educational news are invited from superintendents and teachers.

CHICAGO, AUGUST 29, 1878.

THE STATES.

IOWA.—Muscatine will build a $10,000 schoolhouse.
Mr. H. Steerly, of Oskaloosa, has been elected Professor of Didactics in Penn College.
Marshalltown has been selected as the place where the next session of the State Teachers' Association will be held during the Christmas holidays. Hon. W. T. Harris, of St. Louis, has been engaged to deliver an address.
Miss Lucy Curtis, formerly of Wheatland, will take charge of the State Center School.
Supt. Sabin's lectures are highly spoken of by those who have heard them.
Six presidents have presided over the State University since the organization of that institution of learning. Amos Dean, from 1837 till 1858; Silas Totten, from 1858 till 1862; Mr. E. D. from 1862 till 1867; James Black from 1868 till 1870; George Thatcher, from 1871 till 1877; C. W. Slagle from 1877 till 1878. J. L. Pickard is the present incumbent.

The Council Bluffs school is meeting with much favor in Iowa. Much excellent work is being done at the institute. The Board of Examiners in Kansas remain high. Prof. P. F. Fisk, of Ashmore, continued one week. There were 240 teachers present, and 980 students engaged.

Miss Kittie M. Cage, of Neshua, N. H., and Mr. W. R. Smith, of Davenport, have been elected to positions in the high school at the latter place.

President Pickard's lecture to institutes is on "The Education Demanded by the Times."

Miss Fannie Hollister is favoring some of the institutes with very fine exercises in reading. It is not eloquently training so much as good, common-sense drills in good reading that our teachers need.

Prof. Leonard, of the University, gives his signers concerning the Metric System, and everybody knows that he does it well.

Prof. J. H. Blodgett, of Rockford, Ill., is the conductor of the Clinton county institute. He is an excellent man to have at the head of affairs. Supt. Wilson, of the Illinois superintendent, is one of the most influential citizens of that part of the institute in a first-rate way.

Prof. Robinson, of DeWitt, knows how to teach arithmetic and physiology. Miss Sweet, of Clinton, has few superiors as a teacher of reading. Miss Botze, of Lynn, is doing good work.

At a county superintendents' meeting in Rockford, Ill., there were present 113 superintendents representing 120 counties. An able corps of instructors and a wide-awake county superintendent, everything indicates a successful and beneficial session.

Mr. Sabin's lecture on "Aaron Burr and the Men of His Time" is a grand effort, which reflects great credit upon the able author. He has several lectures, but he considers this one his best.

Prof. Calvin, of the University, is one of the instructors in the Delaware county institute. Over 200 teachers have enrolled.

Prof. Witter, of Muscatine, has been a principal in the public schools of his county for twenty years; Prof. R. M. Smith has held a similar position for, as the Dubuque annuals indicate, Miss P. S. Sadlow, recently elected to a professorship in the University, served in the Davenport public schools, as teacher, principal, and superintendent, for over eighteen years.

Prof. Wilson, of Parsons College, Kewanee, has been elected principal of Ferry Hall female academy, at Lake Forest.

Illinois.—Muscatine will build a schoolhouse.
Mr. J. A. Vrooman, of DeWitt, is principal of the Arlington schools, Illinois. Mr. W. B. Vrooman, of Danvers, was recently elected to a professorship in the University, served in the Davenport public schools, as teacher, principal, and superintendent, for over eighteen years.

Prof. Wilson, of Parsons College, Kewanee, has been elected principal of Ferry Hall female academy, at Lake Forest.

Wisconsin.—E. S. Richmond takes the school at Oregon.
Prof. F. A. Parker, Dean of the College of Music in the Illinois Wesleyan University, has accepted a similar position in the State University at Madison.
S. R. Perkins remains in charge of the higher department of the public school at Palmyra.

Kenosha county has seventeen students at the Oskosh Normal School last year. Kenosha stands third on the list of counties, small as it is. Winnebago records 148, and Fond du Lac 32. School opened at Oskosh Normal last Wednesday evening.

State Teachers' Certificates were granted last week to A. A. Miller, of Waukesha; Dwight Kinney, of Darlington; John W. Sercomb, of Milwaukee; and Michael McMahon, of Kewaunee.

Prof. Calvin, of the University, is one of the instructors in the Delaware county institute. Over 200 teachers have enrolled.

Mr. W. H. Sisson, of Iowa Falls, goes to Eldora.
Mr. J. M. Abbott, of Muscatine, will teach in Tama city next year.
Mr. W. M. Colby, for two years the able and efficient head of the Avoca schools, will remain there another year.
Mr. C. B. Alitio, of the University, is called upon to assist in the Williamston Institute. Mr. J. H. Brinkerhoff, of Shebellsburg, has been chosen principal of the Traer school.

Much excellent work was done at the institute at Council Bluffs under the direction of Prof. G. W. Cullison and Supt. W. H. Hatch. About 150 members were enrolled; the daily attendance was good.

The Institute Song Booklet is called upon to assist the Dassel Institute—84 copies. The institute is a grand success; large attendance and earnest work.

We hear good reports from the many institutes now in session all over this state. Mahaska are destined to lead in enrollment again this year. Already 230 teachers have put down their names. Johnson has an enrollment of 1,800; Scott opened with a total of 97. Messrs. von Colinn, Pickard, Sabin, and others are doing grand work in the lecture field.

Mr. N. Messer has been chosen principal of one of the Keokuk schools. Mr. Messer has a good record as a strong, energetic teacher.

The Ripon public school opens Sept. 9, with one more department than last year, making nine in all. The teaching engaged are: Principal J. H. Firchammer; assistant in high school, Miss Lina A. Williams; for Grammar Schools, Miss Helen A. Silver and Miss Hannah E. Davis; for Intermediate Schools, Miss Phyllida Whiting and Miss Nellie Calmes; for Music, Miss May Barnum, Miss Blanche Foote, Miss Ada Webster, and Miss Safford. The outlook now is for a prosperous school year. Rev. J. M. Craig has been engaged as principal of the first ward, or Ceresso school. That school has three hundred members, and is independent of the University. The Institute of Buffalo county, held at Alma, fifty being enrolled. Conductors, Prof. J. B. Thayer, of River Falls, assisted by Mr. F. D. Easing. An interesting and profitable time was had.

E. H. Sprague, formerly principal at Elkhorn, has been admitted to the bar for legal practice in Walworth county.

IILLINOIS.—The McLean County Institute opened for a three weeks' session in the high school building in Bloomington on the fifth instant. About one hundred and fifty are in attendance. The instructors are the County Sup't, H. R. Edwards, of Peoria, Miss, of Leroy, John F. Peterson, of Danvers, John E. Carter, of Peoria, and J. V. Cook of the Normal school. The best teachers of the county are in attendance.

I. E. Brown, principal of the Decatur high school, was married on Aug. 9, to Miss Emma V. Stewart, of Plum Grove, Ill. The WEDNESDAY wishes them abundant happiness. Mr. Brown remains at Decatur with an increased salary.

Miss Grace C. Bibb, for several years connected with the St. Louis Normal School, and formerly a Peoria teacher, has been elected Professor of Pedagogics in the Normal Department of the Missouri University.

Charles DeGarmo and Miss Flora Penne, teachers in the Illinois Normal, are in the joyful Diana Davis. Mrs. F. W. Vrooman, principal of the Cortland schools.

W. H. Robinson is principal of the Arlington schools.

The McLean County Institute was held this year at Charleston, and was under the direction of Supt. Lee. The session continued one week. There were forty-one teachers in attendance. Dr. Fisk, of Greenfield, gave several exercises, and Dr. Steele, of Ashmore, gave a lecture on Physiology, and Dr. Babbott lectured on the laws of health. Supt. Lee enlarged upon his teachers the propriety of organizing township institutes.
Both teachers and schools of Platte County. State Sept. Thompson was expected to spend the week beginning the 19th inst. and every one was expecting to receive something extra in regard to teaching, etc. The Central Normal School of Yankton, S. Dak., begins Sept. 5, 1878, and the present prospects are that there will be a large attendance.

KANSAS.—J. M. Fish has been reflected superintendent of schools at Little Rock. Rev. Andrew Hunter accepts the presidency of the Arkansas Female College, at Little Rock. Gen. L. M. Lewis, former president, goes to Texas State University as Professor of Languages.

CALIFORNIA.—Salaries of grammar school principals have been increased in San Francisco from $125 to $150 per month.
INTERNATIONAL MEASURES. 

THE ENTIRE SYSTEM IN A SINGLE SENTENCE.

Measure all lengths in meters, all capacities in liters, all weights in grams, using decimal fractions only, and saying deci for tenth, centi for hundredth, milli for thousandth, deka for ten, hecto for hundred, kilo for thousand, and myria for ten thousand, and so on.

This sentence comprises the entire system, for surfaces and bulk are simply the squares and cubes of the measure of length, and the "ar" and "ster" are only other names for the square and cube of the meter, and the cubic meter of firewood.

The meter (measure) is one-tenth millionth of the distance from the earth to the pole, and equals the distance from the tip of the fingers to the chest, or the span of the hand. Four fingers equal three meters. The width of the hand is a decimeter; and of the fingers, two centimeters. The liter (capacity) is simply the cube of a centimeter (tenth measure) in the more convenient cylindrical form; and the grain (weight) is simply the weight of a cubic centimeter (hundredth measure) of water.


length meter meter meter like gas meter m.
capacity liter liter as in pique l.
weight gram gram gram as in plication g.
tenth deci deci deci like a decimal d.
hundredth centi centi centi like centimes cent.
thousandth milli milli milli like millimeters m.
ten deka deka deka like decalogues da.
hundred hecto hecto hecto like hectares ha.
thousand kilo kilo kilo like kilograms k.
ten thousand myria myria myria like myriagrams m.

To these ten are sometimes added:

surface ar ar area a.
solidity ster ster stereoscope s.

The names meter, liter, and gram, are from Greek words, understood by the pedagogues to mean a measure (as a gas-meter, water-meter, etc.), a capacity, and a weight. As the metric system is now used by most nations and will soon be universal, the names understood by all nations are used, instead of measure, capacity, and weight, which would be understood only by the English. For the same reason the fractions are not called tenths, hundredths, and thousands in English, but by their Latin names deci, centi, and milli. The large quantities, instead of ten, hundred, and thousand, are called dekam, hecto, and kilo, the Greek words for these numbers. These words are short, avoid all danger of confusion, are understood by all nations throughout the world, and are very much to be preferred. We therefore say, not hundredth measure, but centimeter. Not one thousand grams, but kilogram, etc.

Each prefix is an independent word, accented on the first syllable, and retains this accent in the compound, centimeter, not centimetre, etc. The abbreviation for the compound is simply the letters for the parts, dm. for decimeter, Dm. (with capital) for decameter. For shortening the names of many measurements made every day in commerce, pronounce only the prefix and the first letter of the unit, saying centim, millim, etc. The system will be understood best by knowing that our measure frame is really a part of the metric system. The dollar is value, as the meter is length, the liter is capacity, and as the gram is weight. A dekadollar we call an eagle, a millidollar a dime, and the centidollar and millidollar are shortened to cent and milli. Both the money and metric system correspond perfectly to our arithmetic.

There are no tables, or scales, or complicated relations. With the meter, every possible dimension (length, surface, or solidity) can be measured; with the liter, every possible capacity; and with the gram, every possible weight. The single sentence above takes the place of compound or denominate numbers in our arithmetics; and as a result, large committees of our ablest teachers report that a full year may be saved in the school-life of every child. The gain in connexion is much larger, for a single multiplication or division gives an absolutely accurate result, where the common system requires several operations to get often only an approximate answer.

The metric system, by which so much is accomplished, has now been adopted by twenty-eight different nations, including a majority of the civilized world. In eleven countries it is in exclusive use; and in several, like Germany and France, there are penalties for using any other measures.

This system, after being rapidly introduced into the United States, and within a few years will take the place of the present complicated tables, as dollars and cents have driven out the pounds, shillings, and pence.

The educational society incorporated to secure this result desires the cooperation of every friend of economy and education, and will gladly send full information to applicants.

Addison, American Metric Bureau, Boston.

Illustrations of the Use of the New Measures.

To show that the single sentence above is sufficient for all possible measurements, a few illustrations are given, and with them hints of the most convenient ways of writing and reading metric quantities. It will be seen that with a meter all distances, and the sentence above, an intelligent man can make for himself a liter and gram, and then in the international measures, now used by nearly thirty countries, anything.

A piece of cloth is 54 times the length of the meter stick. Write it 5°25, and read it 5 meter twenty-five. The rule says measure in meters, using decimals, and call hundredths centi. Nothing but decimals are used, and the hundredth is called on the measures. There is no more difficulty, if one prefers it, in using common fractions, than in our currency, where halves and quarters are common, and even eighths are used. The term was found on the stick itself, which is divided exactly like the dollar, into a hundred centimeters, called centim, like our cents. There is no occasion of writing 5 meters and 25 centimeters, any more than to add the word cents to the sum $5.25, which is commonly abbreviated to 5 dollars 25. As in the money we seldom use egale, so certain metric names are seldom used, and no more confusion or loss of symmetry results than in our saying 55 cents instead of 5 dinars and 5 cents.

The abbreviation of the night is kg., takes the place of the decimal point, which may be omitted without danger. The number of figures determines the fraction or denomination. A chain is 7 and 25-1000 meters long. Write 7°25. Read 7 meters, naught-five. A timber is 123-1000 of a m. thick. Write it 123mm. Read it 123 millimeters (or millim). This is nothing peculiar to the metric system, but is used as 123 millimeters, instead of one hundredth of a meter. In fact, all the capacity and weight names are understood as 123 millimeters. In English, but by their metric names, hay, coal, shipping, etc., are weighed by the thousand kilo, which is a ton. The kilo is 123-1000 of a m. thick. Write it 123mm. Read it 123 millimeters. This in case use the decimal point or write 0°123 to avoid any chance of reading it meters 123, which might be understood as 123 meters.

For very small units, the millim is the more convenient term to use, as we use the thousand-second of an inch, or better the decimals of a foot or inch. For distances less than a meter, the centimeter or millimeter is used. For long distances where the number of meters would be large, the 1000 meter, or kilo, is used. Decim, decam, and hekto, are seldom used. A sheet of glass is 2-1000 of a meter thick. Write it 2mm or .002. The distance between two cities is 45033 meters. Write 48°538. Read 48 kilometers (or kilom.) 538.

In weight the thousand gram (kilogram) is almost always called Kilo. The kilogram is the common term. Hay, coal, shipping, etc., are weighed by the thousand kilo, which is a ton. A ton is 2500 pounds. Write it 2500 lbs. Read it 2500 pounds.

In measuring surfaces or solidity, it should be remembered that they are the squares and cubes of the measures of length, and therefore the scale of ten is squared and cubed, and the system is really a part of the metric system. The dollar is value, as the meter is length, the liter is capacity, and as the gram is weight. A dekadollar we call an eagle, a millidollar a dime, and the centidollar and millidollar are shortened to cent and milli. Both the money and metric system correspond perfectly to our arithmetic.

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The "e" is seldom added to terms denoting measurements, which is sometimes forgotten. Metric quantities being simply tangible arithmetic serve to make the law more clear. It is simply the law of squares and cubes, puzzled over in invention and evolution. If the metric square measure frame or cube root blocks are looked over for a few minutes, this matter will always be understood.

In capacity, the liter is more useful than any of its multiples or divisions. It is almost exactly our quart. For small measures, decil and centil, are used. For very small quantities, the dragists and chemists have the habit of saying a millitimeter or cc., which is simply naming the quantity in linear units, instead of calling it a milliliter.

The liter might be called a cubic decimeter, only it is too long a name. In fact, all the capacity weight names are only abbreviations for the original length or meter names, and were not for the longer expression, we should have nothing to learn but the "meter." A liter might be a cu. m.; the hectoliter would be one hundred cu. dm., etc. The gram would be "weight of cc. of water;" the kilo would be "weight of a cu. dm. of water;" the kilogram would be "weight of a cu. m. of water;" etc. So the metric system is properly named, for it is simply knowing the one thing, the meter or measure, by which everything may be measured.

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