

Ox, sheep, elephant, hare, rabbit, dog.....	99.	100
Narwhal, (lowest temperature of any mammal)...		96
Ape and bat, (highest temperament of any mammal)		104
Birds.....		104.5
Gull (lowest temperature).....		100
Great titmouse (highest temperature).....		111

Cold-blooded animals have a temperature three or four degrees above the medium in which they exist.

All animals, strictly speaking, are warm-blooded; but in those only which possess lungs is the temperature of the body quite independent of the surrounding medium."

(To be continued.)

### The Dictionary in the School.

In all well regulated systems of education, three objects are principally sought. Educators may differ in regard to the relative importance of the three, but all recognize them as the great objects of pursuit. Without deciding which is most important they may be named in this order.

First, the acquisition of positive knowledge.

Secondly, a vigorous and healthy discipline of the mental powers while acquiring this knowledge.

Thirdly, the reception of so much pleasure from the pursuit of knowledge that the pupil may love study for its own sake, and always desire, not to limit his mental labor, but to push it farther.

It is proposed to show in what way the use of the Dictionary tends to secure these desirable results.

1. In the acquisition of positive knowledge, the most desirable things are exactness and completeness. The former may be defined as a perfect conception of an object in itself; the latter, as a perception of its bearings, relations and connections. The exact definition of a pendulum would not include all its properties or its uses; it would not include its history, or trace out its connection with the general law of gravitation. But a complete knowledge of the pendulum must include all these, and we may say, that there is, perhaps, no subject which we completely know. We cannot set our metes and bounds and say, "No truth beyond." But we cannot be complete unless we are exact, and the very first step to completeness is exactness. Every teacher who understands his business, labors to make his pupil exact in his understanding of elementary truths. We even push Geometry into our primary schools that pupils may be exact in their first conceptions of form. Now the very idea of definition is that of exact limitation. The ideal of a perfect definition, that it should exactly describe the thing specified, distinguish it clearly from everything else, and be expressed as briefly as possible, is also an ideal of exact knowledge. The exact sciences, so called, are those whose terms, from their nature admit of sharp and clear definitions. Other sciences may become exact as their terms are defined more skillfully. Many wordy controversies arise from a difference in definition. The science of definition is among the most valuable ever taught or studied. The dictionary as the repository of this science, must always be an indispensable companion of every student, from the beginner in learning up to the most accomplished of scholars. Especially do young pupils need the study of definition to limit an exuberance of imagination which often leads them to think they know a thing because they can talk about it. Precise definition tends necessarily to clearness of expression, and is an antidote to unmeaning verbosity. Once clearly understanding that every word has significance and meaning, the pupil interests himself to know what they mean singly and collectively. The teacher's duty to the pupil requires that he teach him how to use the dictionary as soon as he is capable of reading with tolerable facility, and when the habit is once formed, it endures. The pupil goes to his dictionary to seek information as naturally as to the table to seek his daily food. The teacher thus saves his own time. He does not need to act as dictionary for the pupil when each has access to a better one than he can often be, and when each has learned to consult his own.

Prominence is given to definition as the most important thing to be learned in regard to any word. But as the pupil advances, other things may be learned. Spelling, too much neglected at the present day; pronunciation, a matter of great importance; derivation, unsurpassed in instructiveness and interest, are better learned from the dictionary than from any other source. And while complete knowledge is not imparted by the dictionary, the pupil, by its use in the love of it, learns to use the larger dictionaries, such as Encyclopedias, Gazetteers, and Biographical diction-

aries which every school-room needs, and will have, too, "in the good time coming." A library is necessary to make knowledge complete, but from a single volume,—the dictionary—the pupil may learn the most important lesson of the school-room,—namely, *how to study*.

2. The principal object of educational discipline is the formation of the best habits of study. Attention, critical observation, research and originality are all important parts of discipline, and are all evoked and encouraged by the use of the dictionary.

Many wise educators hold that mental discipline is the primary object of school training. Information, they say, is not education, or *drawing out*, it is rather pouring in. A man's education is shown, not in the mass of information which he possesses, but in the use which he is capable of making of it. And this power of usefulness will depend on his mental discipline. Without discussing this subject, it will be readily admitted that the training of the mind is often undervalued and neglected in our common schools. Many teachers imagine that mental training is acquired from only mathematics, and do not think it can be gained from Geography, or History, or Reading, in a great, if not in an equal degree. It is my own opinion that discipline, and the most profitable discipline, may be combined with the acquisition of information, and that the combination will be highly productive of good results.

Attention and critical observation are essential to exact knowledge. And whenever a pupil, by close and sharp questioning is driven to feel the insufficiency of his loose and inaccurate statements, when every deficiency in his knowledge is exposed, he is made to see that vague general notions cannot take the place of exact knowledge. Compelled to seek some definite idea, he betakes himself to the dictionary, and for the first time, perhaps, feels himself on firm footing. It is an epoch in a scholar's history when he first dares to contradict a statement on the ground that the dictionary states the matter differently. He feels that he has got his foot on a rock. And even if beaten from his position, he has learned the power of his weapons, proved his armor, and taken a step toward independence in thought and in investigation. He will soon learn that a word may be grappled with like a proposition, and that there are reasons for its use in certain connections. He gains new impressions in every act of research. In finding one word he may learn a dozen others, and each will cling in his memory far better than when spoken by others. Pupils who will never remember what is told them, will fix truth by investigating it for themselves, and teachers will do well to bear in mind that the saving of a pupil's labor is not, in every case, *helping*. The labor may be necessary to fix the fact and secure the attention, to cultivate a love of research, and secure originality of expression. We require our pupils in their translations of the classics to use their own words, not because they will be likely always to choose the best, but that they may learn to think and speak in their own language. And by means of a good dictionary, the same discipline which is justly esteemed profitable in classical study, may be extended to English literature. There are many passages of our best authors which convey almost nothing to the minds of the children who blunder over them in their reading-books, as they would repeat a passage in Choctaw. The child's vocabulary is limited, his ideas are superabundant; he wants words to express himself, and he can find them nowhere so well as in the dictionary. For want of this early expansion of the vocabulary many persons group several ideas into one word, and never separate them. They may afterwards acquire a superfluity of words, but they are not likely to get the right word in the right place. No exercise is more profitable than to require a pupil to change the words of an eloquent writer into his own. Let any teacher try it for the first time with an intelligent class, and there will be a searching of dictionaries such as he has seldom witnessed. It is wonderful to see how, kaleidoscope-like, the same ideas may be shifted and varied, continually producing pleasant combinations, and pleasant most of all, because original.

3. Nor are we to undervalue the pleasure of gaining knowledge. It is the ready spur to constant exertion; it is the refreshment amid toil, the reward when the toil is over. And let us always remember that it is the pursuit which gratifies us most, and not the attainment. It is the race that interests us, not the paltry prize. The hunter of the fisher is interested in the pursuit of his victims, not in the mere possession of their lifeless bodies. Let us hear Sir William Hamilton, no contemptible authority in mental sciences.

"A truth once known falls into comparative insignificance. It is now prized less on its own account, than as opening up new ways to new activity, new suspense, new hopes, new discoveries and new self-gratulations. It is not knowledge—it is not truth