Educational Matters.

The House Fly.

Most of us accept the house fly as a fact which has little relation to other facts. Where it comes from in the spring or where it goes to in the fall are questions which are seldom asked and still more seldom answered.

If we meet with a reasonable degree of success in keeping them out of our houses, we are content, and our attention is given to matters which we deem of more practical value. If we are led to devote a little time to really thinking about flies, the result usually is that we conclude they are unavoidable evils which we will have to endure because we have no means of exterminating them. More thought, coupled with intelligent observation, would lead to a modification of this view.

Modern research has demonstrated that most of the diseases which afflict us are caused by germs of some animals or plants which have been introduced into our bodies. These germs may be alighted with the air we breathe or they may be in the food and water which we use.

In almost every case the germs develop and multiply in filth, especially in the resulting from the rapid decay of animal and vegetable matter. It is a universally admitted fact that personal uncleanliness where little attention is given to cleanliness are especially subject to disease, and especially those diseases which are usually called contagious and epidemic. This filth, which is so dangerous because of the tremendous rapidity with which it develops, is the place for the germs before mentioned, (some the natural food of flies, and of course in eating it, they destroy all of its dangerous properties. In this eating and destroying filth wherever they and it, flies act as benefactors of man. If flies are especially numerous it means that they find a plentiful supply of food, and however disagreeable they may be, we may comfort ourselves with the thought that the disease germs which they are starving to death would do us much more harm than the flies possibly can. A better plan however, than simply indulging in that reflection, would be to join the flies in their self-imposed duties as scavengers, and clean up the premises, and then as one stroke get rid of the dangers of disease and of the flies. It is not only in their mature state that flies act as our friends, but they begin their good work as soon as they are hatched from the egg. Flies lay their eggs around stables. Single females sometimes lay between one and two hundred eggs in a day. The eggs hatch in about one day, and the young fly begins to live as a smooth, boneless, round white worm. It has a voracious appetite and by the time it is one day old it has become too large for its skin, which bursts and peels off. At the end of the second day it sheds its skin again. Three or four days later the little worm begins to contract in length and to assume a barrel-like shape. Its skin now becomes dry and hard, and most of the functions of life are suspended. Naturalists call this condition in *pupa* state. It remains in this quiescent state for about a week. By that time a wonderful change has taken place. The worm has undergone a complete transformation, the digestive system has been changed, the body has been separated into three well defined parts, and legs and wings have been developed and in short a worm has been metamorphosed or transformed into an insect. As a perfect insect the fly may live for several weeks, and a few always manage to live all winter, and lay eggs in the spring for the next generation.

The student will be interested in a close examination of the fly; although it has but one pair of wings which are fully developed, it has a back pair which are rudimentary. Various explanations have been given of the fly's ability to walk on vertical polished surfaces. The truth seems to be that the hairs which are found on the cushions of its feet are hollow and that though these hollow hairs a fluid is allowed to escape on to the smooth surface and that this fluid by means of capillary attraction enables he fly to adhere, whatever its position may be.

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Teaching of Elementary Latin.

The mastery of a foreign language is never easy. Whether the natural or the analytic method of study is used, there is entailed a vast deal of work on the teacher and much hard, careful study on the pupil. This is especially the case with a dead language, because here, for two reasons the natural method, generally considered the easier for the pupil, though perhaps not so efficient as the analytic, is out of the question. But few readers are themselves fluent speakers of the language, its vocabulary and grammatical structure do not adapt it for every-day conversations, such as interest and amuse the students of a living language. Hence the grammatical method must be made the basis of the work. This is necessarily the case with the Latin, the most generally studied of all the dead languages.

The Latin is a language of inflections. Everything in it depends upon these. The meaning of a sentence may be *inverted* by the position of its words; it must be *determined* entirely by their form. For example: the simple sentence "The boy loves his sister" may be expressed with equal correctness in any of the following forms: *Puer sororem suam; Puer suam sororem; Sororem suam puer; or Sororem puer suam.* Since *puer* is always in the nominative and *sororem* in the accusative, the meaning of the sentence cannot be mistaken, and a decided advantage is gained by placing words in that part of the sentence where they will receive their proper emphasis. It will be observed from this that several rules of grammatical structure must be understood before even the simplest sentence can be thoroughly mastered.

This fact naturally leads to the following general method of teaching the language—a method in which, in the abstract, all teachers must continue: First, the laws of grammatical form and structure are grasped, including declension, conjugation, syntax, etc. Second, these laws are illustrated by universal Latin sentences, which must be turned into English; thirdly, English sentences are translated into Latin; and lastly, to fix more thoroughly the knowledge of the language, the student is required to compose Latin sentences of his own. The first, third and fourth processes will, so far as now appears, be practically the same with all teachers. But the second is most important, because the student is preparing to read Latin much more than to write it.

In this process, many teachers have been led into a useless, unnatural way of conducting Latin translations, a method which gives no room for enthusiasm and interest, but demands entirely upon dogged determination and plodding work. While these qualities are expressly essential in the study of Latin, it must be admitted that they are assisted by a properly excited interest. In the method referred to, the sentences are generally selected at random from word analysis.

"Now, find your subject, then (to modifiers) the predicate; to modifiers the object, if there is one, to modifiers then put these together in the English." This is nothing but extravagant. The sentence from which the sentences in every exercise. The life which presents belongs to every language (or even dead languages have lost to living, mostly cannot possibly survive the ordeal, and long before the pupil has understood the meaning of each word, to seek for a corpse on his hands, which has become more or less battered by hopeless mutilations being totally unrecognizable to the delicacy of dissection.

Besides, the Subjunctive formed grows with the progress of the student, and becomes a necessary element of his study of the language. He finds no opportunity to look toward of the mode of reflect translation. He must necessarily lead a severer Orwell, then go back to it again, and again, endeavoring to fit the various parts together, to guess at their meaning, and vainly, to frame life into it.

If, however, the proper method of study is followed from the first, there is no difficulty in the sentence should not be one also to understand a Latin sentence in its entirety pop-gun to his advancement, with no reading. The method referred to is that usually employed in teaching Latin.

Several years ago, in the mystery of all the popular languages, I seized upon it to read or learn, with the exercise that every succeeding word and throw light upon its predecessor, until the meaning of all is determined by the last word of the sentence.

To illustrate: Take the simple sentence, *Nomen et magnum amici magter et nomen habet.* Assume may or nominative or accusative; right is thrown on it by its connection by of with the preceding noun; magnum. This connection shows the second that both words are accusatives, the object of a transitive verb to follow. Amici then by adding, may be genitive singular, or nominative or vocative plural. The last or three grammatical relations is barred, from the fact that the word is not set from the rest of the sentence by comma; but a choice must not be made, as yet, between the other two. Hence, while "nomen" and "magnum" are obscure, amici may be, and "amici" is a friend, or "friends" nominative. Magter means "always," in memory. There is but one word, and the young fly begins to live as a smooth, boneless, round white worm. It has a voracious appetite and by the time it is one day old it has become too large for its skin, which bursts and peels off. At the end of the second day it sheds its skin again. Three or four days later the little worm begins to contract in length and to assume a barrel-like shape. Its skin now becomes dry and hard, and most of the functions of life are suspended. Naturalists call this condition in *pupa* state. It remains in this quiescent state for about a week. By that time a wonderful change has taken place. The worm has undergone a complete transformation, the digestive system has been changed, the body has been separated into three well defined parts, and legs and wings have been developed and in short a worm has been metamorphosed or transformed into an insect. As a perfect insect the fly may live for several weeks, and a few always manage to live all winter, and lay eggs in the spring for the next generation.

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