

## Correspondence.

## REYNOLDS' "EXPERIMENTAL CHEMISTRY."

To the Editor of the EDUCATIONAL WEEKLY.

SIR,—I have read two letters in late numbers of the WEEKLY, reflecting upon the wisdom of the Education Department in selecting Reynolds' *Experimental Chemistry* as the model upon which to base the teaching of chemistry in the high schools. It seems to me that "Science Master" is rather hasty in such statements as these: "This book is full of mistakes" — "Reynolds' book would not be recognized by competent chemists" — "Reynolds pays no attention to this received view, and hence a great many equations which he uses to explain reactions are entirely wrong." The gist of "Science Master's" objection seems to be that the value of the book is destroyed because atomic formulae are used in representing reactions, instead of molecular formulae. I find on turning to the title-page that the author of the work is not altogether unknown in the chemical world, being, in fact, vice-president of the Chemical Society of London, as well as professor of chemistry in the University of Dublin. *Prima facie*, therefore, he is hardly likely to be ignorant in regard to the point which "Science Master" raises, and with which, as a matter of fact, every tyro in chemistry is perfectly familiar. But I find, also, that chapter V. of Reynolds' book contains a beautifully clear account of the theory of the constitution of matter, based, in accordance with the general plan of the work, upon experiments which may be easily exhibited before a class. If "Science Master" will refer to Roscoe's *Chemistry*, page 70, he will find this statement: "If we wish fully to represent the alterations which occur when a chemical change goes on, we must employ *molecular formulae*, but for the sake of simplicity we frequently use *atomic formulae*." But perhaps Roscoe is not a "competent chemist"; or perhaps the motive of simplicity is not one which commends itself to "Science Master." Let him then refer to Tilden's *Chemical Philosophy*, page 68, where he will find this statement: " $2\text{KClO}_3 = 2\text{KCl} + 3\text{O}_2$ , or more simply,  $\text{KClO}_3 = \text{KCl} + 1\frac{1}{2}\text{O}_2$ ." As a matter of fact he will find instances of such equations as he objects to in all good works on chemistry. They do not deceive anybody, and the notion that any writer on the subject uses them through ignorance is too absurd to be entertained.

I cannot say that I clearly understand Mr Ellis' objections. His first one, that the use of the work is evidently calculated to waste students' time, is a very serious one, if it can be substantiated. I must confess that I have not myself had that idea, and as I respect Mr. Ellis' opinion, I hope he will do his fellow-teachers the service of stating his objection more at large.

The other objection, as to the difficulty of obtaining the apparatus required for a few of the experiments is, I believe, sound as far as it goes, and it is, moreover, recognized by Reynolds himself in his preface. But giving the objection its full weight, (and it might be asked whether any good course in chemistry is not open to the same objection,) it seems to me that the countervailing

advantages of the work are so palpable that the necessity of omitting an experiment here and there is not a vital matter.

Take the work as a whole, I believe it will be admitted by any man who knows from experience the difficulties which beset the scientific presentation of this subject to beginners, that the author has claims upon our gratitude for the elucidation of a method which approaches more nearly to a true scientific method than any hitherto presented. And it must be pointed out that it is not the design of the Department to put this book into the hands of the student. It is expressly stated to be for the guidance of the teacher, and if the obvious intentions of the Department are carried out in the schools, students of elementary chemistry will at length have an opportunity of pursuing the subject in the only way in which it can be of any educational value whatever — they will obtain their knowledge by induction from observed facts — and chemistry, instead of being crammed from a book for examination purposes only, will become, as it should, a valuable instrument for the development of mental power.

Faithfully yours,

H. B. STOTTON.

Collegiate Institute, Barric, Nov. 7th, 1885

## "OUTIS," ON "MODERN INSTANCES."

To the Editor of the EDUCATIONAL WEEKLY.

DEAR SIR,—In your issue of last week, there appeared a paper from the pen of "Outis" on what our books call "False Syntax." The subject is an eminently proper one to be discussed in your excellent paper; but, as treated by "Outis," it would tend, in my opinion, to lead learners from proper paths. In the criticism of English style, there is far too much hypercriticism; and from this fault, "Outis" is by no means free. Nor is this his only fault, as I shall endeavor to show by examining his comments on two of the passages criticised.

Extract No. 6 reads as follows: "If the verb in the principal clause is in the subjunctive mood, the verb in the *si*-clause will be also in the subjunctive."—*Arnold's Latin Prose Composition*.

"Outis" begins his criticism of this extract by saying, "Our text-books ought to be correct." Surely the statement lacks precision. There are more respects than one in which text-books may be correct; but "Outis" here is dealing with text-books only in one respect. It would be better then to say, "The English of our text-books ought to be correct."

Again, "Outis" says: "We look for better English composition from a man who professes to teach Latin composition."

Here the use of "better" leads to confusion. One cannot tell, until the end of the sentence is reached, whether the meaning is that "a man who professes to teach Latin composition" should write better English than one that does not teach this subject, or that such an one should write better English than that of the extract. Further, a purist like "Outis" should write in this sentence "that" instead of "who," and also "one" instead of "a man," unless, indeed, it is intended to exclude women.

Again: "Bradley is here more careful of the Latin subjunctive than of the English."

Does the expression "the English" here mean his composition, or is the word "subjunctive" to be supplied? This is clearly a case of ambiguity.

"Outis" re-writes the extract and reads "be" instead of "is." This is the only fault found with the English of the extract. This is, however, a hypercriticism. The best usage abundantly sanctions the use of "is" in such cases as this. I much prefer the English of Dean Bradley to that of his critic.

In the comments on extract No. 7, "we" is used when the reference is to "Outis" alone. Such a use of "we" ought not to be found in the composition of good writers of English.

"He criticises the London *Queen* using the following words." For awkward English one need not go further; a simple remedy is to insert "for" before "using."

In the extract, the phrase, "cable a thunderbolt," meets with the critic's disapproval. It is surely hypercritical to object to this. It is, true enough, a bold metaphor; but quite allowable.

In this letter, my main object is to protest against such hypercriticism. Hypercriticism is an arbitrary thing, and as such can be only an impediment to sound progress in English study. This study has been too much hampered with what is arbitrary; and it is the duty of educationists to strive to free it from all such hindrances.

Yours truly,

TEACHER.

THE gold medal offered by the Minister of Education to the Petrolia High School, for the pupil who obtained the highest number of marks at the departmental examinations in July last, was won by Henry Trott, of Oil City, who obtained 1,312 marks out of the possible 1,940. The medal has been forwarded and is said to be a beautiful one.

THE Bealton School House is one of the finest in the county. It was erected about three years ago. The main room is 40 feet square. Behind this is a large class room. A private room for the principal, and a room for the library complete the main floor. The basement is well lighted and dry, and forms an excellent play-room in wet weather. The building is heated by a furnace. The site, which contains about two acres, is well fenced, and in time will form a park of great beauty. The total cost was about \$4,000.—*Norfolk Reformer*.

THE teachers of the Simcoe Union School are requiring more written work from their pupils than heretofore, on the ground, first, that the ability to express one's own thoughts or reproduce those of another on paper in good literary form is an art that comes only by practice; and secondly, that written work is a better educational test than oral answers, requiring more mental effort, more independent and concentrative thinking. Written tests are accordingly being made in rapid succession, while not only are the answers valued but errors of whatever sort or kind are indicated, and the work after being criticised in the class is handed back for correction. It is a heresy, therefore, to think that the teacher's work is over at four o'clock. In addition, each high school pupil is required to send in, fortnightly, for criticism, an original composition on a given theme.—*Norfolk Reformer*.