more easily applied to the latter than to the former method.

In Problems relating to work done in a certain time, the method seems to be better applicable, as, for example, in Ex. 1 : A can do a piece of work in 5 days, and B can do it in 12 days. How long will A and B, working together, take to do the work?

Here $\frac{1}{5}$ represents the part A does daily,

And $\frac{1}{12}$ represents the part B does daily;

$\therefore \frac{1}{5} + \frac{1}{12}$ represents the part A and B do daily:

$\therefore$ they do $\frac{17}{60}$ in one day:

$\therefore$ they do $\frac{1}{60}$ in $\frac{1}{17}$ day.

$\therefore$ they do the whole work in $\frac{60}{17}$ days, or $3\frac{9}{17}$ days.

But the question might fairly be given under Fractions, as involving only a reasonable application of their principles: thus—A's day's work is $\frac{1}{5}$ of the whole, and B's $\frac{1}{12}$.

$\therefore \frac{1}{5} + \frac{1}{12} = \frac{17}{60}$ is (A + B's) day's work.

$\therefore$ they do the whole in $\frac{60}{17}$ or $3\frac{9}{17}$ days.

Or, if we must compare it with our Rule of Three,

A and B can do $\frac{1}{5}$ and $\frac{1}{12}$ in 1 day; how long will it take them to do the whole?

$(\frac{1}{5} + \frac{1}{12}) : 1 : : 1$ day : Ans.

$\therefore 1 \div \frac{17}{60} = \frac{60}{17} = 3\frac{9}{17}$ days is the answer.

I cannot see that *this* suffers in comparison with *that.*

Lastly (in this section), Problems relating to clocks:

Ex. 1. Find the time between 3 and 4 o'clock when the hands of a watch are together.

Now no matter what method is adopted or the solution of this problem, the Unitary, the Rule of Three, or the Algebraic, the *conditions* of the problem, *e.g.*, that the minute hand moves 12 times as fast as the hour hand, must be *known*, and their bearing on the *data* must be considered. The problem will therefore resolve itself into this: How long will it take the minute hand to gain 15 spaces on the hour hand? In the book it is thus solved:

The minute hand gains—

11 minute-divisions in 12 minutes.

1 minute-division in $\frac{12}{11}$ minutes.

15 minute divisions in $\frac{15 \times 12}{11}$ minutes.

$\therefore$ the time required is $\frac{15 \times 12}{11}$ min., or $16\frac{4}{11}$ minutes past 3.

For the Rule of Three it is: if the minute hand gain 11 spaces in 12 minutes, how long will it take to gain 15?

$11 : 15 : : 12 : \frac{12 \times 15}{11} = 16\frac{4}{11}$ minutes (past 3).

In the following sections Interest and kindred subjects are taken up and dealt with "on precisely the same principles" as the preceding; and yet in Simple Interest, after a lengthy (Unitary) explanation, we find this:

"Hence we derive the following Rule: Multiply the principal by the rate per cent. and by the number of years, and divide the product by 100."

The process stands thus, $2,675 \times 4 = 10,700 \times 3 = £32,100$ $\therefore$ the interest is £321, a rule which clumsily misses a very neat application of the Unitary method, for if we take, instead of the rate per cent., the rate per 1, the process will be this, $£2,675 \times .04 \times 3 = £321$, or, expressed *generally*, $Prt=I$, from which, by the very simplest reasoning, we *deduce* expressions for the value of each of these parts; something which our author does not attempt to do.

His method of dealing with Compound Interest is simple, no doubt of that, *very* simple, but eminently tiresome. In the seven pages he gives to the subject, there is no trace of, nor any hint that elsewhere may be found a *general* method.

In Profit and Loss, still the same principles of "section XX."

Ex. 1. I sell for 6*s.* that for which I gave 5*s.*, what is my gain per cent.

On an outlay of 5*s.* my gain is 1*s.*; on an outlay of 1*s.* my gain is $\frac{1}{5}$*s.*; on an outlay of 100*s.* my gain is $\frac{100}{5}$*s.* or 20*s.*; $\therefore$ I gain 20 per cent.

Compare—On 5 I gain 6—5; What do I gain on 100?

5 : 100 : : 6—5 : Ans. = 20 $\therefore$ 20 per cent.

I cannot see that this is not just as clear, and to any *rational* scholar, much more satis-