[119r]

Ockham.
Monday Morning
16th ['July' crossed out] Augst
['1841' added by later reader]

Dear Mr De Morgan. I send you today, 1stly:
a paper in which I have proved the Theorem
$\int fx\frac{dx}{dt}dt = \int fx.dx$ (of pages 102, 103), backwards.
That is I have assumed $\int fx.dx$, & deduced
from it that when $x = \psi t$, then $\int fx.dx = \int fx\frac{dx}{dt}dt$;
whereas in the book $\int fx\frac{dx}{dt}dt$ was assumed,
& the process was exactly reversed. __
I do not send this as having any advantage
over the other proof. Merely because it happened
accidentally to strike me, & I wrote it down ;
& I now ['may' crossed out] enclose it for inspection, to see that I
have correctly deduced each step. __
2ndly: I enclose you my Second Paper on ['the' inserted] Accelerating
Force subject. This one is the explanation of
$S = \int v.dt$
Tomorrow I hope to send you the one on $t = \int \frac{ds}{v}$.
[119v] I hope I am not plaguing you very much.
I am anxious to read up to a certain point
before moving to Devonshire. __
Believe me
Yours most truly
A. A. Lovelace