My dear Lady Lovelace

I have of course but little to say on your report of progress up to the 21st.

With regard to your music, if you have any wish to begin the study of acoustics, you may find an elementary compendium of the most material points directly connected with music, in the following articles of the Penny Cyclopaedia

Acoustics, Cord, Harmonics, Pipe

The last will appear at the end of this month and contains a correction to be made in each of the first and second. I should recommend to you, out of the same Cyclop\textsuperscript{a} the articles

\begin{itemize}
  \item Infinite; Nothing; Limit; Negative andImpossible Quantities;
  \item Fractions, Vanishing;
\end{itemize}

With regard to the only point to which you have alluded your finding that ‘I do not insist in zero being something’ the matter is as follows. Zero is something though not some quantity, which is what you here mean by thing. Some writers on the differential calculus use not 0, but \( \frac{0}{\text{0}} \), in an absolute sense, as standing for a quantity. The difference between them and others consists mostly in phraseology. One person will say that \( \frac{a^2-a^2}{a-a} \) is 2a; a second will say that the appearance of \( \frac{a^2-a^2}{a-a} \) denotes a misapprehension to have taken place during the process, which being avoided in a repetition of the process, 2a comes out rationally as the answer. If the first be pressed to prove his assertion, he will tell you that the two words underlined are the abbreviation of all that is afterwards underlined. You will see more of this abbreviation in the article Infinite to which I have referred. Absolute modes of speaking, which are false, are conventionally used in abbreviation of circumlocutions.

I forwarded to Lord Lovelace the other day a prospectus of a Society now in process of formation for printing scientific manuscripts which have not been hitherto printed. The works of this society are not to be published, but only distributed
among the members. As you will certainly take
an interest in the results of its labors, if you
continue your studies, I should recommend
your being a member, with Lord Lovelace as
your proxy.
There is another Society also forming, of the same
kind, and on the same terms, the Percy Society
for the publication of ancient inedited
songs and ballads.

I remain
Faithfully yours

ADeMorgan

3 Grotes’ Place
Blackheath
ThursdY m8

My wife desires kind remembrances.