

August 16, 1976

Professor Stillman Drake
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University of Toronto
Toronto, Canada

Dear Stillman,

I have fond recollections of our occasional discussions that started before you plunged into the academic pool fulltime. I have had the occasional opportunity to see with pleasure your sustained studies in an area that as time passes have come to interest me more and more, though only on an amateur basis.

Your exchange of correspondence with the erstwhile geneticist Donald Michie in a recent Scientific American hinted that you might be just the person to answer a question that has been bothering me for a while, concerning the history of the idea of compound interest.

Years ago I wondered how Henry Adams could be so profoundly influenced by the idea of "the law of acceleration" unless this was in some sense a novel concept. Or to put the matter back further a little while, one might make a similar point, more strongly, with respect to Malthus.

But then I tried to get a bit better insight into the history of the notion of exponential growth - and I have to admit that I did not check in Malthus for his own sources - and have not known quite how to look. In a brief conversation, Cipolla suggested that the laws of economic growth in medieval times may not have followed the modern exponential form on account of the difficulty of accumulating productive capital. However, it is difficult to see how one could avoid this perception by the mere examination of the proliferation of cattle. And I believe there is a story - but you know the source? - of the Babylonian consultant who bamboozled the emperor into granting him 2^{64} grains of wheat as his stipend.

Since you mentioned that Galileo showed how to use his machine to calculate compound interest, I thought you might be able to give me some further enlightenment on the history of this particular concept, for any path to which I would indeed be appreciative.

I have been working during the past several months in close collaboration with Robert Merton and Harriet Zuckerman on a historical-sociological study of the antecedents of my own scientific work in microbiology. I do not know whether having been part of the story myself makes historical insight even more difficult, but I do have an evergrowing appreciation for the problematics

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of historical ^{*inference*} ~~influence~~ from this experience.

Sincerely yours,

Joshua Lederberg
Professor of Genetics

JL/rr
Enclosure