

of soils produced during the process of reclamation.

These replicated studies have shown that quantitatively the number of Bacteria is different in various plots reclaimed and it is of great interest to note that there seems to be a definite correlation between soil fertility as indicated by the crop growth and the number of Bacteria. Thus different plots of reclaimed soils, namely, those which give a yield of (i) over 20 maunds, (ii) between 12 to 20 maunds, (iii) below 12 maunds show Bacterial numbers of the magnitude of 19,750,000; 14,250,000; 8,250,000; and 5,250,000 per gram of dry soil respectively.

A similar correlation has recently been established by Dr. A. N. Puri [*Punjab Irrigation Research Laboratory Memoirs (in press)*] between the degree of alkalisiation or saline contents and the crop yield, the greater the saline contents, the lesser the yield and *vice versa*.

These observations seem to indicate that during the process of reclamation of Alkali soils different plots giving different Rice yields have Bacterial population also different, the number of Bacteria having a correlation with the crop yield."

JAGJIWAN SINGH AHLUWALIA.

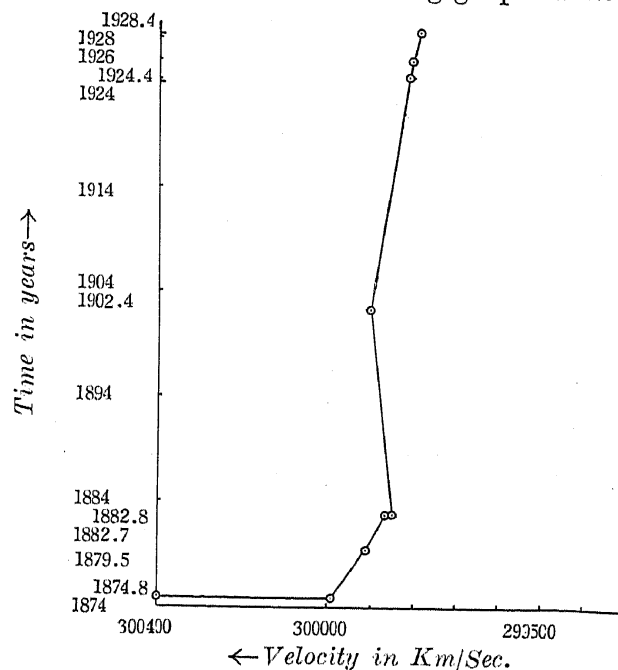
Botanical Laboratories,  
Government College,  
Lahore,  
December 15, 1933.

#### The Velocity of Light.

DR. ALARABY in a brief note on the decrement of the velocity of light<sup>1</sup> mentioning De Bray's article<sup>2</sup> gives us to understand that the details would be published in the *Ind. J. Phys.* and the *Phys. Rev.* Hence it would be premature on our part to question his conclusions, yet we have no hesitation to contend that so far we are not in possession of even a single definite experimental evidence to point out the decrement in the actual velocity of light. So any mathematical account calculated on the basis of the results up till now obtained certainly would prove erroneous. All the experimental results of the velocity of light so far quoted and derived only go to show that each experiment has led to obtain higher accuracy in

the result and we are yet to determine the value of the 'constant'. Michelson himself after declaring his result<sup>3</sup> obtained in 1924 mentioned that in the succeeding year he would be able to 'furnish results four or five times more accurate'.

In *Nature* of Oct. 22, 1927, p. 602, De Bray has provided a table of experimental values of the velocity of light, indicating seven trustworthy determinations. Plotting the results we obtain the following graph which



is something of a sort of a sine curve and not merely a straight line inclined to the axis of time as mentioned in *Nature* of April 4, 1931, p. 522. De Bray secures a straight line in the graph as he only considers the results obtained after the year 1902. We maintain that if the curve fails to tend asymptotically it is because we have not as yet reached the value of the 'constant'.

Admitting for a moment the determinations as indicating the decrement how is it that the velocity of light *invariably* decreases in an 'excellent linear law of variation' in spite of the earth's magnetic field of varying intensity.

Even the General Theory of Relativity is not definite on this issue.

M. KARIM.

C. M. BHASKER RAO.

Aligarh,  
February 6, 1934.

<sup>1</sup> *Curr. Sci.*, 2, 244, 1934.

<sup>2</sup> *Nature*, April 4, 1931.

<sup>3</sup> *Nature*, Dec. 6, 1924, p. 831.