

For the displacements due to rotatory oscillations of the globe, see p. 61 of the print of my Baltimore Lectures. Write down the complete expressions for " η " and " ξ " and for the components of rotation; of which only the "distance-terms" are given in the print. This will show you exactly what there is of propagation along the axis, and how it is that it vanishes at great enough distances from the globe.

I think this will completely answer all your questions; but if anything more occurs to you, write to me and I shall be glad to answer, probably by return of post.

Yours Very Truly
Kelvin

THE UNIVERSITY,
GLASGOW.

10th Nov. '98

23/78

Dear Fitzgerald,

I have been from home for a fortnight - London and elsewhere - and so have been prevented from answering sooner your letter of the 2nd. What is really propagated axially from the sphere, caused to perform ^{of the solid} linear vibrations, is a to-and-fro displacement in the line of the axial diameter; and, at sufficiently great distances from the globe, the velocity of propagation is that of the condensational-rarefactional wave. This is infinite, if the solid is incompressible, and the displacement in the axis is the same whatever be the period of the oscillation. It is in fact the displacement that would exist statically, if the globe were held at rest in any of its positions.