

and instruction I owe to the rich and eloquent writings of Professor Nichol. But, like Job's younger friend, I too must take the liberty of showing forth my opinion, and of giving expression to a conviction, on grounds of which my audience must judge, that both Sir Charles and the Professor have suffered the re-action wave to carry them too far.

Mr. Charles M'Laren, in a popular digest of Mr. Hopkins' deductions, which first appeared, if I remember aright, in the *Scotsman* newspaper, and then in Jameson's *Philosophical Journal*, referred, with his characteristic caution, to the narrowness of the base on which they rested. 'Mr. Hopkins' conclusion no doubt rests,' he said, 'on a narrow enough basis. It is somewhat like an estimate of the distance of the stars deduced from a difference of one or two seconds in their apparent position,—a difference scarcely distinguishable from errors of observation.' Let us, however, waive the doubt implied in this remark, however important we may deem it, and grant, for the argument's sake, that the base *is* sufficiently broad for the superstructure erected upon it. Let us freely grant, after first availing ourselves of Mr. M'Laren's protest, and placing it on record, that that equatorial ring, thirteen miles in thickness, which, by disturbing the balance of the earth, is the cause of the phenomena of Precession and Nutation, must be attached to a consolidated crust of at least a thousand miles in thickness, in order to account for the extreme slowness of the peculiar movement which it induces. But let us then inquire how it happens that this equatorial ring at all exists. If our earth was always the stiff, rigid, unyielding mass that it is now,—a huge metallic ball, bearing, like the rusty ball of a cannon, its crust of oxide,—how comes it that its form so entirely belies its history? Its form tells that it also, like the cannon-ball, was once in a viscid state, and that its diurnal motion on its axis, when in this state of viscosity, elongated it, through the operation of a well-known law, at