NOTE ON MR. POTTER'S REPLY

By

William Rowan Hamilton

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Note on Mr. Potter's *Reply. By* WILLIAM R. HAMILTON, *Esq. Andrews' Professor of Astronomy in the University of Dublin, and Royal Astronomer of Ireland**.

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From Mr. Potter's Reply, published in the April Number of the London and Edinburgh Philosophical Magazine, I collect some additional facts respecting his experiment of prismatic interference, which do not seem to have been stated in his first account of that experiment. In Mr. Potter's first paper, the stress of his objection to the undulatory theory of light seemed to be laid on the *observed direction* of a certain deviation; to which he opposed his *calculated decrease* of a certain hyperbolic ordinate. I showed that *this* observed fact, of deviation in the observed direction (towards the thickness of the prism), could be accounted for by the prismatic aberration of figure, which changed the decreasing hyperbolic ordinate to an *increasing ordinate* of a certain other curve. But I was of course aware that this prismatic aberration, though a cause acting in the observed *direction*, might not be energetic enough to account for the whole, or even for the greatest part of the observed effect; and that whether aberration was, or was not, an *adequate* as well as a *real* cause (on the undulatory theory of light), must depend on the comparison of my calculated formulæ with the *observed magnitude* of the deviation, of which Mr. Potter had not given any measure, or even any estimate. I am happy to have been the means of inducing Mr. Potter to bring forward some additional testimony on this important point: and willingly admit, that, according to this new testimony, there remains, after allowing for my suggestions, a large residual phænomenon.

Dublin, April 13, 1833.

* Communicated by the Author.