



Opticks

ISAAC NEWTON

JVA EDITORA



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Opticks

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OPTICKS:

OR, A

TREATISE
OF THE
Reflections, Refractions,
Inflections and Colours
OF

LIGHT.

The FOURTH EDITION, *corrected*.

By Sir ISAAC NEWTON, Knt.

LONDON:

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TITLE PAGE OF THE 1730 EDITION

SIR ISAAC NEWTON'S ADVERTISEMENTS

Advertisement I

Part of the ensuing Discourse about Light was written at the Desire of some Gentlemen of the Royal-Society, in the Year 1675, and then sent to their Secretary, and read at their Meetings, and the rest was added about twelve Years after to complete the Theory; except the third Book, and the last Proposition of the Second, which were since put together out of scatter'd Papers. To avoid being engaged in Disputes about these Matters, I have hitherto delayed the printing, and should still have delayed it, had not the Importunity of Friends prevailed upon me. If any other Papers writ on this Subject are got out of my Hands they are imperfect, and were perhaps written before I had tried all the Experiments here set down, and fully satisfied my self about the Laws of Refractions and Composition of Colours. I have here publish'd what I think proper to come abroad, wishing that it may not be translated into another Language without my Consent.

The Crowns of Colours, which sometimes appear about the Sun and Moon, I have endeavour'd to give an Account of; but for want of sufficient Observations leave that Matter to be farther examined. The Subject of the Third Book I have also left imperfect, not having tried all the Experiments which I intended when I was about these Matters, nor repeated some of those which I did try, until I had satisfied my self about all their Circumstances. To communicate what I have tried, and leave the rest to others for farther Enquiry, is all my Design in publishing these Papers.

In a Letter written to Mr. Leibnitz in the year 1679, and published by Dr. Wallis, I mention'd a Method by which I had found some general Theorems about squaring Curvilinear Figures, or comparing them with the Conic Sections, or other the simplest Figures with which they may be compared. And some Years ago I lent out a Manuscript containing such Theorems, and having since met with some Things copied out of it, I have on this Occasion made it publick, prefixing to it an Introduction, and subjoining a Scholium concerning that Method. And I have joined with it another small Tract concerning the Curvilinear Figures of the Second Kind, which was also written many Years ago, and made known to some Friends, who have solicited the making it publick.

I. N.

April 1, 1704.

Advertisement II

In this Second Edition of these Opticks I have omitted the Mathematical Tracts publish'd at the End of the former Edition, as not belonging to the Subject. And at the End of the Third Book I have added some Questions. And to shew that I do not take Gravity for an essential Property of Bodies, I have added one Question concerning its Cause, chusing to propose it by way of a Question, because I am not yet satisfied about it for want of Experiments.

I. N.

July 16, 1717.

Advertisement to this Fourth Edition

This new Edition of Sir Isaac Newton's Opticks is carefully printed from the Third Edition, as it was corrected by the Author's own Hand, and left before his Death with the Bookseller. Since Sir Isaac's Lectiones Opticæ, which he publickly read in the University of Cambridge in the Years 1669, 1670, and 1671, are lately printed, it has been thought proper to make at the bottom of the Pages several Citations from thence, where may be found the Demonstrations, which the Author omitted in these Opticks.

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THE FIRST BOOK OF OPTICKS

PART I.

My Design in this Book is not to explain the Properties of Light by Hypotheses, but to propose and prove them by Reason and Experiments: In order to which I shall premise the following Definitions and Axioms.
