

**AN ELEMENTARY TREATISE ON OPTICS: PART I.  
CONTAINING ALL THE REQUISITE  
PROPOSITIONS CARRIED TO FIRST  
APPROXIMATIONS; WITH THE CONSTRUCTION  
OF OPTICAL INSTRUMENTS. FOR THE USE OF  
JUNIOR UNIVERSITY STUDENTS**

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An Elementary Treatise on Optics: Part I. Containing All the Requisite Propositions Carried to First Approximations; With the Construction of Optical Instruments. For the Use of Junior University Students by Richard Potter

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**RICHARD POTTER**

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*For the Use of Junior University Students.*

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## PREFACE.

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THE author, in the present work, has adopted the plan of separating the more elementary from the higher parts of Geometrical Optics, so as to form, in the present First Part, an elementary treatise carried as far as can be done by taking the propositions to first approximations only. In a Second Part\* he will treat of the problems requiring the differential calculus, the aberrations, oblique pencils, caustics, further corrections of some of the instruments, &c.

He hopes, by this subdivision of the science, to render the elementary part attainable, in a useful and effective manner, to the student who is not very far advanced in mathematics, and also to facilitate the comprehension of the whole to those who are more advanced, by presenting in the first instance to their attention the essential propositions in their more elementary form.

The author has followed the method used by the late Mr. Coddington, to whom the science is under so many obligations, in taking the rays of light positive each in their own directions, as is usual with respect to lines in the mechanical sciences, reserving the analytical rules for the cases where the subject will be treated as an analytical science. The treating a mixed geometrical science on imperfect analytical methods has led, he believes, to much misconception of the fundamental parts of the subject by the less advanced students; and if that method had the advantage of serving for an artificial memory in preparing for examinations, it had the

\* Published January 1851.

overwhelming disadvantage of leaving incorrect ideas upon the actual applications of the science.

The author hopes that he has met the views of other teachers of Natural Philosophy, whilst preparing a text-book for his own classes.

LONDON, JANUARY 1847.



# CONTENTS.

## PART I.

	PAGE
INTRODUCTION . . . . .	1
Division into Geometrical and Physical Optics—definition of a medium, 1; translucent and transparent media—opaque media, 2; the laws of reflexion and refraction, and of intensity for different distances, the foundation of Geometrical Optics—a ray of light—a pencil, 3; origins of light—velocity of light, 4; durability of the impression on the eye—law of the intensity, 5; law of reflexion, 7; law of refraction, 8; ordinary and extraordinary refraction, 9 . . . . .	10
CHAPTER I.	
ON PHOTOMETRY . . . . .	11
Photometers, 12; objects equally bright at all distances—illumination of a small area directly, 13; obliquely, 14; examples, 15 . . . . .	15
CHAPTER II.	
ON THE REFLEXION OF LIGHT BY PLANE MIRRORS . . . . .	16
Parallel rays incident on a plane mirror, 16; diverging rays, 17; virtual image, 18; image after two reflexions, 19; endless gallery, 20; kaleidoscope, 21; deviation by two inclined mirrors, 22; examples, 23 . . . . .	23
CHAPTER III.	
ON THE REFLEXION OF LIGHT BY CURVED MIRRORS . . . . .	24
Parallel rays on a parabolic reflector, 24; diverging rays on an elliptic reflector, 25; converging rays on an hyperbolic reflector, 26; specula, how produced—parallel rays on a spherical	

	PAGE
mirror, 27; caustics, 28; diverging rays on a concave spherical mirror, 29; on a convex mirror, 31; deduction of one case from another, 33; a property of conjugate foci, 34; images by spherical mirrors, 35; errors to be corrected in the images, 37; examples, 38	39

## CHAPTER IV.

ON THE REFRACTION OF LIGHT BY MEDIA BOUNDED BY PLANE SURFACES	40
The deviation increases as the incidence increases, 40; critical angle, 41; parallel rays incident on a plane surface, 42; a ray passing through a plate, 43; the relative refractive index for two media, 44; a small direct incident pencil, 46; a small direct pencil passing through a plate, 47; images by plane refracting surfaces, 49; images by a plate, 50; the refraction by a prism is towards the thicker part, 51; the deviation by a prism, 53; values of the deviation—expressions for determining the refractive index, 54; image by a prism, 57; examples, 58	59

## CHAPTER V.

ON THE REFRACTION OF HOMOGENEOUS LIGHT AT CURVED SURFACES OF MEDIA	60
Surfaces of accurate refraction, 60; parallel rays at spherical surfaces, 64; diverging rays at spherical surfaces, 66; adapting a formula for one case of refraction at a spherical surface to another case, 69; corresponding changes of the conjugate foci, 71	73

## CHAPTER VI.

ON THE COMBINED REFRACTION OF HOMOGENEOUS LIGHT AT CURVED SURFACES, AND THE FORMATION OF IMAGES	74
Lenses, 74; parallel rays refracted by lenses, 75; diverging pencil refracted by lenses, 81; adapting a formula for one case of refraction by a lens to another case, 84; corresponding positions of the conjugate foci, 87; the center of a lens, 89; parallel rays refracted obliquely, 91; diverging pencils refracted obliquely, 92; the refracting sphere, 93; the lenses of accurate refraction, 95; images formed by	

## CONTENTS.

vii

	PAGE
spherical surfaces of media and lenses, 97; the focal length of a number of thin lenses in contact, 100; the lens which is equivalent to two separated by a given interval, 102; the image produced by a refracting sphere, 103; examples on Chapters V. and VI., 104 . . . . .	106

## CHAPTER VII.

ON CHROMATICS . . . . .	107
Analysis of the sun's light by a prism, 107; Fraunhofer's fixed lines of the spectrum, 110; the irrationality of dispersion—measure of dispersive powers of media, 111; achromatic prism, 112; the longitudinal dispersion and the least circle of chromatic dispersion of a lens, 113; the condition of achromatism in two thin lenses in contact, 115; in three thin lenses in contact, 116; achromatic eye-pieces—Huygens's eye-piece—Ramsden's eye-piece, 119 . . . . .	120

## CHAPTER VIII.

ON THE EYE AND VISION . . . . .	121
The form and structure of the eye, 121; the spectra of Purkinje and Wheatstone, 123; appreciation of colours—peculiarity of some eyes in perception of colours, 125; the refractive indices of the constituents of the eye, 125; the adjustment of the eye for different distances, 126; on long and short-sightedness, 127; on vision through a convex lens, 128 . . .	130

## CHAPTER IX.

ON OPTICAL INSTRUMENTS . . . . .	131
The Herschelien telescope, 132; the Newtonian telescope, 133; its magnifying power and field of view, 134; the Gregorian telescope, 137; its magnifying power, 138; its field of view, 139; Cassegrain's telescope, 141; its magnifying power, 141; its field of view, 143; Newton's reflecting microscope, 143; its magnifying power, 144; the astronomical telescope, 145; its magnifying power, 146; its field of view, 147; advantages of an achromatic object-glass—impediments to the use of high magnifying powers, 148; construction of the achromatic day-telescope, 149; the Galilean telescope, 149; its magnifying power, 150; its field of view, 151; the compound re-	