

**HOW TO USE OUR EYES,  
AND HOW TO  
PRESERVE THEM BY  
THE AID OF SPECTACLES**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649451944

How to Use Our Eyes, and How to Preserve Them by the Aid of Spectacles by John Browning

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.  
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

[www.triestepublishing.com](http://www.triestepublishing.com)

**JOHN BROWNING**

**HOW TO USE OUR EYES,  
AND HOW TO  
PRESERVE THEM BY  
THE AID OF SPECTACLES**



HOW TO USE OUR EYES.

# HOW TO USE OUR EYES

AND

*HOW TO PRESERVE THEM BY THE  
AID OF SPECTACLES*

BY

JOHN BROWNING, F.R.A.S. F.R.M.S. ETC.

OPTICIAN TO HER MAJESTY'S GOVERNMENT, THE ROYAL SOCIETY, THE ROYAL  
OBSERVATORIES OF GREENWICH AND EDINBURGH, AND THE OBSERVATORIES  
OF KEW, CAMBRIDGE, DURHAM, UTRECHT, MELBOURNE, ETC. ETC.



*WITH THIRTY-SEVEN ILLUSTRATIONS*

London

CHATTO AND WINDUS, PICCADILLY

1883

*(All rights reserved)*

185. 9. 20.

## P R E F A C E .

SOME months since I wrote a series of papers for *Knowledge* under the same title that I have given to this book. Their publication brought upon me an extensive correspondence, with many requests for further information about spectacles, a subject upon which it has become evident to me that there exists considerable interest.

In republishing these papers in a separate form I have tried to give the information asked for by my numerous correspondents. Owing to this, the matter has grown under my hands to about ten times the original amount, and the illustrations have increased somewhat in proportion.

My endeavour has been to set down, *in the simplest words I could find that would express my meaning*, the results of the experience I have gained

in the construction and adaptation of spectacles during the last thirty years.

In this new and more complete form I sincerely trust that what I have written may prove, if not interesting, at least useful.

JOHN BROWNING.

63 STRAND, LONDON.

*September, 1883.*



## CONTENTS.

	PAGE
INTRODUCTION.—ON THE ART OF SEEING . . . . .	9
The almost Solid Appearance of Photographs, p. 10.—The Importance of Spectacles, p. 10.	
DESCRIPTION OF THE HUMAN EYE . . . . .	11
A simple Working Model of the Eye, p. 11.—Reading with the Book Upside-down, p. 13.—Is Seeing Believing? p. 14.—An Insensible Part of the Retina, p. 14.—The Eye takes a Photograph of every Object it looks at, p. 15.	
A FEW WORDS ABOUT LIGHT . . . . .	15
Light is the Cause of all Colour, p. 15.—Proof of the above Assertion, p. 15.	
COLOUR-BLINDNESS . . . . .	16
Number of Persons who are Colour-blind, p. 16.—Instances of Colour-blindness, p. 16.—Importance of testing Sailors, Engine-drivers, and Guards for Colour-blindness, p. 16.—A Spectroscope for detecting Colour-blindness, p. 16.	
COMPLEMENTARY COLOURS . . . . .	17
How Complementary Colours are produced, p. 17.—Three Ways of Mixing Colours, p. 17.—The Colour Top, p. 18.—Impure Colours, p. 19.—The Use of the Spectroscope for detecting Blood, p. 19.	
HOW TO PRESERVE OUR EYESIGHT . . . . .	
How to look through a Microscope, p. 21.—How to look through a Telescope, p. 21.—To adjust a bright Lamp Flame, p. 21.	

	PAGE
HOW TO READ BY LAMPLIGHT - - - - -	22
The Importance of Position with Regard to the Lamp, p. 23.—Reading by Firelight, p. 25.	
GENERAL CARE OF THE EYES - - - - -	26
The Value of Tinted Writing-Papers, p. 26.—The Use of the Type-Writers, p. 26.—Bad Effect of Wire-gauze Window-blinds, p. 27.	
THE CARE OF INFANTS' AND CHILDREN'S EYES - - -	27
Exposing Children's Eyes to Sunlight, p. 27.—Effects of Deficient Light in Schools in producing Short-sightedness, p. 28.	
THE USE OF COLOURED GLASSES - - - - -	28
The Choice of Different Colours, p. 28.—Defects in Coloured Glass used for Optical Purposes, p. 29.—Coloured Glass Spectacles or Folders should be used at the Sea-side, p. 29.—For Reading, p. 30.	
WHEN SPECTACLES ARE REQUIRED - - - - -	31
The Age at which Spectacles become necessary, p. 31.—"Bradshaw Blindness," p. 32.—Bad Results of postponing the Use of Spectacles, p. 32.—Proper Width of Spectacles, p. 34.—Evil Effects of wearing Single Eye-glasses, p. 37.—Danger of wearing Reading-Spectacles while Walking, p. 38.—Spectacles should be always of the full Strength wanted to give Easy Vision without Strain, p. 39.—The Eyes frequently differ in Focus, p. 43.	
OLD SIGHT - - - - -	44
Spectacles <i>Generally</i> required at about 45 to 47 Years of Age, p. 44.—There is no Fixed Age at which they become Necessary, p. 44.—Superiority of Periscopic Lenses, p. 45.—Diagrams showing the Superiority of Double Convex Lenses, p. 45.—Spectacles with Stronger Lenses should be used to read at Night-time, than are required by Daylight, p. 46.—Still Stronger Spectacles for very Minute Writing or Drawing, and for Read-	

	PAGE
ing excessively Small Print, p. 46.—Pebbles should be cut at Right-angles to the Axis of the Quartz Crystals, p. 47.	
SHORT-SIGHT - - - - -	48
Short-Sight to some extent Hereditary, p. 49.—Often produced by Reading in an imperfect Light when Young, p. 49.—Should never be neglected, p. 49.—Two Pairs of Spectacles required in Short Sight: One for Walking or Riding, and one for Reading, p. 49.—Short-Sight does not always improve with Age, p. 49.	
TEST-TYPES - - - - -	52
A Simple Method of testing the Eyesight to determine whether Spectacles are required, p. 53.	
ASTIGMATISM - - - - -	53
In Cases of Astigmatism Lines can be seen much plainer in one direction than in another, p. 54.—Can be detected by means of a Clock-Dial, p. 54.—How it can be corrected, p. 55.	
SPECTACLES AND FOLDERS COMPARED - - - - -	55
Comparative Advantages and Disadvantages, p. 55.—Both can be used by the same Person with Benefit, p. 56.—The Value of Spring-Folders with Tinted Lenses for preserving the Eyes, p. 59.	
UNEQUAL VISION - - - - -	59
Method of Testing by the Optometer, p. 59.—The best means of Equalising the Vision by Spectacles, p. 60.—The full Correction of the Inequality not always beneficial, p. 60.—The Correction may be gradually increased, p. 60.—A Case described, p. 60.—Curious Experiment with unequal sized Images in a Stereoscope, p. 61.—Experiment with Coloured Discs, p. 61.	
UNSYMMETRICAL FEATURES - - - - -	62
Necessity of Making the Spectacles to fit the Face when there is any Want of Symmetry in the	