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| 1. Record Nr.           | UNINA9910466114803321                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Autore                  | Dowling John E.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Titolo                  | Vision : how it works and what can go wrong / / John E. Dowling and Joseph L. Dowling, Jr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Pubbl/distr/stampa      | Cambridge, Massachusetts ; ; London, England : , : The MIT Press, , 2016<br>©2016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ISBN                    | 0-262-33356-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Descrizione fisica      | 1 online resource (233 p.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Disciplina              | 612.84                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Soggetti                | Vision<br>Eye - Physiology<br>Ophthalmology - Diseases<br>Eye - Diseases<br>Electronic books.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Lingua di pubblicazione | Inglese                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Formato                 | Materiale a stampa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Livello bibliografico   | Monografia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Note generali           | Description based upon print version of record.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Nota di bibliografia    | Includes bibliographical references and index.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Nota di contenuto       | Contents; Preface; About the Authors; Acknowledgments; 1 Visual Pathways, Eye Development, and Retinal Organization; 2 Focusing Light-Cornea and Lens; 3 Capturing Light-The Photoreceptors; 4 Analyzing the Visual Image-The Retina; 5 Beyond the Retina-Lateral Geniculate Nucleusand Visual Cortex; 6 Higher-Level Processing and Visual Perception; 7 Looking Back and Forward; Glossary; Further Reading; Index                                                                                                                                                                                                                                                                            |
| Sommario/riassunto      | "Over the past fifty years, enormous progress has been made in understanding visual mechanisms and treating eye disorders. And yet the scientist is not always aware of the latest clinical advances and the clinician is often not up to date on the basic scientific discoveries. Writing in nontechnical language, John and Joseph Dowling, a neuroscientist and an ophthalmologist, examine vision from both perspectives, providing concise descriptions of basic visual mechanisms and related clinical abnormalities. Thus, an account of the photoreceptors is followed by a consideration of retinitis pigmentosa and macular degeneration; an explanation of the retina's function is |

followed by details of glaucoma and diabetic retinopathy. The authors begin with the cornea and lens, which project an image on the light-sensitive elements inside the eye, the photoreceptors, and how that process can be compromised by such disorders as cataracts and corneal disease. They go on to describe, among other things, how the photoreceptors capture light; retinal and visual cortical anatomy and physiology; and higher level visual processing that leads to perception. Cortical disorders such as amblyopia are discussed as well as specific deficits such as the inability to recognize faces, colors, or moving objects. Finally, they survey the evolution of our knowledge of vision, and speculate about future advances"--MIT CogNet.

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