Ophthalmic Photography Books: An Historical Bibliography

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Abstract: Historically significant books relating to the specialty of ophthalmic photography are listed and described.

Introduction

Every field of scientific endeavor evolves through multiple pathways. Individual experimental efforts, the publication of results in peer reviewed journals, oral presentations at conferences, and scholarly books are all avenues along which a discipline can progress. This paper documents the books (no journals were indicated) which were important to the advancement of ophthalmic photography as a specialty (Table 1).

Books were selected for inclusion in this bibliography if they:

• contained the work of a pioneer and/or a later significant contributor to the field of ophthalmic photography;
• were an important precursor to ophthalmic photography efforts;

or

• presented unique or definitive work related to photographing the eye.

This bibliography is, of course, not complete. The author recognizes that the field of ophthalmic photography is continuing to evolve—works deemed unsuitable for this list today may become important as further advancements are made. The author also encourages interested parties to write the Journal with suggested additions to this bibliography. An updated bibliography may be published in the future.

Historical Bibliography

Allen, Lee, and Braley, Alson E.: Stereoscopic Manual of the Ocular Fundus in Local and Systemic Disease

Note: A collection of photomicrographs and stereoscopic photographs of the fundus. The first stereoscopic color atlas of fundus photography and first ophthalmic atlas to utilize stereoscopic Viewmaster reels as illustrations.

Becker, Stanley C.: Clinical Gonioscopy - A Text and Stereoscopic Atlas

Note: A comprehensive photographic atlas of gonioscopy.

Bedell, Arthur Joseph: Photographs of the Fundus Oculi - A Photographic Study of Normal and Pathological Changes Seen with the Ophthalmoscope
F. A. Davis, Philadelphia, 1929. 317 pages in 2 volumes, with 95 plates containing 324 single photographs and 272 stereo pairs.

Note: This first photographic fundus atlas published in English contains many stereoscopic views. The reproductions are tipped-in photographic prints containing 8-12 fundus images per page. Bedell used a Zeiss-Nordenson fundus camera for the illustrations.
Berliner, M.L.: Biomicroscopy of the Eye
Volume 1: 1943 - 709 pages containing 512 illustrations including 40 color plates.
Note: A comprehensive and well illustrated discussion of biomicroscopy illumination and technique.

Bothman, Louis, and Bennett, Reuel W.: Fundus Atlas - Stereoscopic Photographs of the Fundus Oculi.
Chicago, Year Book Publishers, 1939. A box and slipcase with 50 numbered cards each containing a photographic print of a stereo pair of the retina.
Note: Not a book, but a collection of cards containing a clinical description and a stereo pair of black and white fundus photographs. A standard stereoscope can be used to view the illustrations. A Zeiss-Nordenson fundus camera and a specially designed 'stereo enlarger' were used to produce the images.

Note: Comprehensive collection of slit lamp photographs including slit lamp photographs of the fundus.

Cattaneo, Donato: Oftalmoangioscopia
Note: The illustrations in this atlas combine a black and white fundus photograph with a painting of the same pathology.

Coppinger, J. Michael, Maio, Mark, and Miller, Kirby: Ophthalmic Photography.
Note: A general text discussing various ophthalmic photography techniques.

Dallow, Richard L.: Television Ophthalmoscopy- Instrumentation and Medical Applications.
Note: Describes early work in the application of electronic imaging and computers to ophthalmology.

Dimmer, Friedrich: Der Augenspiegel und die ophthalmoskopische Diagnostik.
Toepplitz und Deuticke, Leipzig und Wein, 1887. 175 pages with 73 illustrations.
Note: This textbook was published in three editions. The 1921 edition includes 10 pages of black and white fundus photographs, making it the first general ophthalmic text illustrated with fundus photographs.

J. F. Bergmann, Wiesbaden, 1907. 142 pages with 15 plates.
Note: Describes Dimmer's methods for obtaining his pioneering reflex free fundus photographs. Contains a historical survey of fundus photography.

Note: Dimmer began this, the first photographic atlas of the fundus, before his death; it was completed by his student Pillat. Dimmers' apparatus and techniques are described in the introduction. The illustrations are tipped-in photogravures.

Donaldson, David D.: Atlas of External Diseases
Volume I: Congenital Anomalies and Systemic Disease.
Volume II: Orbit, Lacrimal Apparatus, Eyelids, and Conjunctiva.
Volume III: Cornea and Sclera.
Volume IV: Anterior Chamber, Iris, and Ciliary Body.
Volume V: The Crystalline Lens.
Note: A comprehensive set of texts illustrating a wide range of exterior and anterior chamber disease states.
## Table 1. Ophthalmic photography bibliography by date.

<table>
<thead>
<tr>
<th>Date</th>
<th>Author</th>
<th>Title</th>
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<tbody>
<tr>
<td>1853</td>
<td>Van Trigt</td>
<td>Dissertatio ophthalmologica inauguralis de speculo oculi</td>
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<tr>
<td>1903</td>
<td>Thorner</td>
<td>Die Theory des Augenspiegels und die Photographie des Augenhintergrundes</td>
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<tr>
<td>1907</td>
<td>Dimmer</td>
<td>Die Photographie des Augenhintergrundes</td>
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<td>1913</td>
<td>Oatman</td>
<td>Diagnostics of the Fundus Oculi</td>
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<tr>
<td>1921</td>
<td>Dimmer</td>
<td>Der Augenspiegel und die ophthalmoskopische Diagnostik</td>
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<tr>
<td>1927</td>
<td>Dimmer and Pillat</td>
<td>Atlas photographischer Bilder des menschlichen Augenhintergrundes</td>
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<tr>
<td>1929</td>
<td>Bedell</td>
<td>Photographs of the Fundus Oculi - A Photographic Study of Normal and Pathological Changes Seen with the Ophthalmoscope</td>
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<tr>
<td>1937</td>
<td>Marzio</td>
<td>Fundus Oculi</td>
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<td>1939</td>
<td>Bothman and Bennett</td>
<td>Fundus Atlas - Stereoscopic Photographs of the Fundus Oculi</td>
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<td>Tille</td>
<td>Atlas clinique d'ophtalmoscopie photographique, syndromes cliniques du fond de l'œil</td>
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<tr>
<td>1940</td>
<td>Bedell</td>
<td>Colour Photography in Ophthalmology. in: Modern Trends in Ophthalmology</td>
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<td>1943,</td>
<td>Berliner</td>
<td>Biomicroscopy of the Eye Volume 1</td>
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<tr>
<td>1946</td>
<td>Berliner</td>
<td>Biomicroscopy of the Eye Volume 2</td>
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<tr>
<td>1947</td>
<td>Cattaneo</td>
<td>Oftalmoangioscopia</td>
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<tr>
<td>1957</td>
<td>Hansell</td>
<td>System of Ophthalmic Photography</td>
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<td>1964</td>
<td>Allen and Braley</td>
<td>Stereoscopic Manual of the Ocular Fundus in Local and Systemic Disease</td>
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<td></td>
<td>Shikano and Shimuzu</td>
<td>Atlas of Fluorescence Fundus Angiography</td>
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<td>1969</td>
<td>Rosen</td>
<td>Fluorescence Photography of the Eye</td>
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<td></td>
<td>Wessing</td>
<td>Fluorescein Angiography of the Retina</td>
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<td>Television Ophthalmoscopy - Instrumentation and Medical Applications</td>
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<td></td>
<td>Wise, Dollery, &amp; Henkind</td>
<td>The Retinal Circulation</td>
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<tr>
<td>1972</td>
<td>Becker</td>
<td>Clinical Gonioscopy - A Text and Stereoscopic Atlas</td>
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<td></td>
<td>Paton, Hyman, &amp; Justice</td>
<td>Introduction to Ophthalmoscopy</td>
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<tr>
<td>1978</td>
<td>Kottow</td>
<td>Anterior Segment Fluorescein Angiography</td>
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<td></td>
<td>Schatz, Burton, Yannuzzi, &amp; Rabb</td>
<td>Interpretation of Fundus Fluorescein Angiography</td>
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<tr>
<td>1982</td>
<td>Justice</td>
<td>Ophthalmic Photograph</td>
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<td></td>
<td>Wong</td>
<td>Textbook of Ophthalmic Photography</td>
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<tr>
<td>1984</td>
<td>Martonyi, Bahn, &amp; Mayer</td>
<td>Clinical Slit Lamp Biomicroscopy &amp; Photo Slit Lamp Biomicroscopy</td>
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<td></td>
<td>Mayer</td>
<td>Clinical Wide-Field Specular Microscopy</td>
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<tr>
<td>1987</td>
<td>Witkin and Burns</td>
<td>Masterpieces of Medical Photography - Selections from the Burns Archive</td>
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<tr>
<td>1988</td>
<td>Coppinger, Maio, &amp; Miller</td>
<td>Ophthalmic Photography</td>
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<tr>
<td></td>
<td>Kanagami &amp; Itoi</td>
<td>Slit Lamp Operation and Photography Technique</td>
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<tr>
<td>1990</td>
<td>Roloff</td>
<td>Retinal Nerve Fiber Layer Photography</td>
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<tr>
<td>1992</td>
<td>Schanzlin and Robin</td>
<td>Corneal Topography - Measuring and Modifying the Cornea</td>
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<td></td>
<td>Vetter</td>
<td>Biomedical Photography</td>
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Hansell, Peter: System of Ophthalmic Illustration
Library of Congress Card Number 56-6392.
Note: The first modern text on ophthalmic photography technique. Includes descriptions of stereoscopic photography of the anterior segment, "keratography" (photokeratoscopy), gonioscopy, and "retinography" (fundus photography).

Justice, Johnny Jr.: Ophthalmic Photography
Note: This text is a revised and expanded version of the author's International Ophthalmology Clinics publication (Summer 1976, volume 16, no. 2, 242 pages). The chapter concerning the history of ophthalmic photography is especially noteworthy.

Kanagami, Sadao and Itoi, Motokazu: Slit Lamp Operation and Photography Techniques.
Note: Japanese text detailing slit lamp photography techniques.

Kimura, Ryozo: Color Atlas of Gonioscopy
Williams & Wilkins Co, Baltimore, 1974. 126 pages with 152 illustrations.
Note: Various conditions of the angle are illustrated utilizing a Koeppen Lens.

Kottow, Michael H.: Anterior Segment Fluorescein Angiography
Note: The only comprehensive text on this subject, it includes a discussion of instrumentation and techniques.

Martonyi, Csaba L., Bahn, Charles F., and Meyer, Roger F.: Clinical Slit Lamp Biomicroscopy & Photo Slit Lamp Biomicrography
Note: Comprehensive discussion of the history, instrumentation, and techniques of slit-lamp photography. Originally published as an issue of the Journal of Ophthalmic Photography (Volume 7 Number 1, June 1984).

Marzio, Quirino Di: Fundus Oculi
Rosenberg & Sellier, Torino, 1937. 103 pages with 212 color illustrations.
Note: Described by Keys and Rucker as "the most beautiful of the atlases of ophthalmology", it was published first in an Italian and then a German edition.

Mayer, Daniel J.: Clinical Wide-Field Specular Microscopy
Note: The instrumentation, technique, and clinical application of specular microscopy is described.

Meyner, Ernst Martin: Atlas of Slit-Lamp Photography and Introduction to its Technical Problems
Ferdinand Enke Verlag, Stuttgart, 1976. 142 pages with 155 figures.
Note: Fine color stereo reproductions of anterior segment pathology. The German and English text describe instrumentation and technique for slit-lamp photography.

Oatman, Edward L.: Diagnostics of the Fundus Oculi
Southworth Co., Troy, New York, 1913. 3 volumes - first with text and 234 illustrations, second two are sets of 87 slipcased cards.
Note: The first stereoscopic fundus atlas, the paintings on these cards may be appreciated utilizing a standard stereoscope. This was a precursor to Rothman's Atlas.

Paton, David, Hyman, Barry N., and Justice, Johnny Jr.: Introduction to Ophthalmoscopy
Note: A good, basic atlas for the novice fundus photographer. Many of the fundus photographs were exposed by Johnny Justice, Jr., founder of the Ophthalmic Photographers' Society, who is pictured on page 13.

Perkins, E.S. and Hansell, Peter: An Atlas of Diseases of the Eye
Note: A general atlas of eye disease which includes multiple color fundus photographs by Hansell.

Roloff, Louis W.: Retinal Nerve Fiber Layer Photography
Note: Atlas of nerve fiber layer photography which includes a chapter on technique.

Rosen, Emanuel S.: Fluorescence Photography of the Eye
Note: A comprehensive early atlas of fluorescein angiography which includes a brief description of anterior segment angiography and fluorescein angiography of a cadaver brain.

Schanzlin, David J. and Robin, Jeffrey B.: Corneal Topography - Measuring and Modifying the Cornea
Note: An early summary of the theory and application of corneal topography.

Note: Describes a comprehensive system for the interpretation of fluorescein angiography. Includes chapters on fluorescein angiography history and technique.


Note: This atlas contains excellent reproductions in both color and b&w. Several narrow angle fundus images are serially mounted and rephotographed to simulate a wide angle field of view. Color fluorescein angiography is described.


Note: Companion volume to earlier Atlas of Fluorescence Fundus Angiography, its emphasis is on the retinal vasculature at the capillary level.


Note: This is the first book devoted to retinal photography. It describes instruments for viewing and photographing the retina.


Note: Devoted to retinal changes related to cardiovascular and renal diseases, the black and white illustrations were taken with a Zeiss reflex-free camera.

Van Trigt, Adrian Christopher: Dissertatio ophthalmologica inauguralis de speculo oculi. Traj. ad Rhenum, P. W. van de Weejer, 1853. 87 pages with 4 plates.

Note: This thesis, written when the author was 23 years of age, contains the first printed illustrations of the fundus of the eye. They are in color and skillfully drawn.


Note: The twenty four chapters by as many contributors include a treatise on ophthalmic photography by Lawrence M. Merin.


Note: Translated from the German by Gunther K. Von Noorden, it contains interesting sections on history and technique.


Note: Textbook describing the development, physiology, and disease states of ocular blood vessels.


Note: These reproductions record medical curiosities between 1844 and 1908. Ophthalmic pathology can be distinguished in at least four of the images. Witkin began his career as a medical photographer and produced personal photographic work which was exhibited internationally in the 1980’s. Burns is a practicing ophthalmologist.


Note: A practical book on technique, it also contains a bibliography which includes some 569 references related to ophthalmic photography. Portions of this book first appeared in the Journal of the Biological Photographic Association and then in Eastman Kodak publications N-19: Biomedical Photography and M3-718: Techniques of Fundus Photography. Wong’s portrait is found in the Kodak publications.

Key Words: Ophthalmic Photography, Bibliography, Fundus Photography, Atlas

BIBLIOGRAPHY


About the Author: Patrick J. Same is the Senior Ophthalmic Photographer at Davis Duehr Eye Associates. He has taught and published extensively in the field of ophthalmic photography and currently serves as President of the Ophthalmic Photographers’ Society.