

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

C.V. Mosby Company, St. Louis, 1964. 132 pages with 6 drawings, 95 photomicrographs and 105 stereoscopic views on 15 viewmaster reels. Library of Congress Number 64-18430.

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

C.V. Mosby Company, St. Louis, 1972. 256 pages with 240 illustrations and 112 stereoscopic views on 16 viewmaster reels. ISBN 0-8016-0575.

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

Paul B. Boeber Inc., New York.

Volume 1: 1943 - 709 pages containing 512 illustrations including 40 color plates.

Volume 2 1949 - 1512 pages containing 1253 illustrations including 503 in full color.

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.

Braley, Alson E., Watzke, Robert C., Allen, Lee, and Frazier, Ogden: Stereoscopic Atlas of Slit-Lamp Biomicroscopy

C.V. Mosby Company, St. Louis, 1970. 225 pages in 2 volumes with 213 illustrations and 210 stereoscopic views on 30 viewmaster reels. ISBN 8016-0730-2.

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

Cattaneo, Donato: Oftalmoangiopia

L. Cappelli, Bologna, 1947. 636 pages with 71 colored plates.

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

Slack, Thorofare, NJ, 1988. 134 pages. ISBN 1-55642-026-9.

Note: A general text discussing various ophthalmic photography techniques.

Dallow, Richard L.: Television Ophthalmoscopy- Instrumentation and Medical Applications

Charles C. Thomas, Springfield, 1970. 104 pages. Library of Congress number 70-103576.

Note: Describes early work in the application of electronic imaging and computers to ophthalmology.

Dimmer, Friedrich: Der Augenspiegel und die ophthalmoskopische Diagnostik

Toeplitz und Deuticke, Leipzig und Wein, 1887. 175 pages with 73 illustrations.

2nd Edition: Franz Deuticke, Leipzig und Wein, 1893. 206 pages with 91 illustrations.

3rd Edition: Franz Deuticke, Leipzig und Wein, 1921. 633 pages with 10 pages of photographs.

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.

Dimmer, Friedrich: Die Photographie des Augenhintergrundes

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.

Dimmer, Friedrich and Pillat, Arnold : Atlas photographischer Bilder des menschlichen Augenhintergrundes

Franz Deuticke, Leipzig und Wein, 1927. 300 pages with 84 plates.

Note: Dimmer began this, the first photographic atlas of the fundus, before his death; it was completed by his student Pillat. Dimmer's 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

C. V. Mosby, St. Louis, 1966. 170 pages, 83 figures and 105 stereoscopic views on 15 viewmaster reels. Library of Congress Card Number 66-26959.

Volume II: Orbit, Lacrimal Apparatus, Eyelids, and Conjunctiva

C. V. Mosby, St. Louis, 1968. 300 pages, 254 figures and 112 stereoscopic views on 16 viewmaster reels. Library of Congress Card Number 66-26959.

Volume III: Cornea and Sclera

C. V. Mosby, St. Louis, 1971. 476 pages, 83 figures and 112 stereoscopic views on 16 viewmaster reels. Standard Book Number 8016-1432-5.

Volume IV Anterior Chamber, Iris, and Ciliary Body

C. V. Mosby, St. Louis, 1973. 370 pages, 328 illustrations and 112 stereoscopic views on 16 viewmaster reels. ISBN 0-8016-1429-5.

Volume V: The Crystalline Lens

C. V. Mosby, St. Louis, 1976. 210 pages, 129 illustrations and 112 stereoscopic views on 16 viewmaster reels. ISBN 0-8016-1432-5.

Note: A comprehensive set of texts illustrating a wide range of exterior and anterior chamber disease states.

Table 1. Ophthalmic photography bibliography by date.

Date	Author	Title
1853	<i>Van Trigt</i>	Dissertatio ophthalmologica inauguralis de speculo oculi
1903	<i>Thorner</i>	Die Theory des Augenspiegels und die Photographie des Augenhintergrundes
1907	<i>Dimmer</i>	Die Photographie des Augenhintergrundes
1913	<i>Oatman</i>	Diagnostics of the Fundus Oculi
1921	<i>Dimmer</i>	Der Augenspiegel und die ophthalmoskopische Diagnostik
1927	<i>Dimmer and Pillat</i>	Atlas photographischer Bilder des menschlichen Augenhintergrundes
1929	<i>Bedell</i>	Photographs of the Fundus Oculi - A Photographic Study of Normal and Pathological Changes Seen with the Ophthalmoscope
1937	<i>Marzio</i>	Fundus Oculi
1939	<i>Bothman and Bennett</i>	Fundus Atlas - Stereoscopic Photographs of the Fundus Oculi
	<i>Tille</i>	Atlas clinique d'ophtalmoscopie photographique, syndromes cliniques du fond de l'oeil
1940	<i>Bedell</i>	Colour Photography in Ophthalmology. in: Modern Trends in Ophthalmology
1943,	<i>Berliner</i>	Biomicroscopy of the Eye Volume 1
1946	<i>Berliner</i>	Biomicroscopy of the Eye Volume 2
1947	<i>Cattaneo</i>	Oftalmoangiografia
1957	<i>Hansell</i>	System of Ophthalmic Photography
1964	<i>Allen and Braley</i>	Stereoscopic Manual of the Ocular Fundus in Local and Systemic Disease
1966	<i>Donaldson</i>	Atlas of Eternal Diseases: Vol. I: Congenital Anomalies and Systemic Disease
1968	<i>Donaldson</i>	Atlas of Eternal Diseases: Vol. II: Orbit, Lacrimal Apparatus, Eyelids, & Conjunctiva
	<i>Shikano and Shimuzu</i>	Atlas of Fluorescence Fundus Angiography
1969	<i>Rosen</i>	Fluorescence Photography of the Eye
	<i>Wessing</i>	Fluorescein Angiography of the Retina
1970	<i>Braley, Watzke, Allen, & Frazier</i>	Stereoscopic Atlas of Slit-Lamp Biomicroscopy
	<i>Dallow</i>	Television Ophthalmoscopy - Instrumentation and Medical Applications
1971	<i>Donaldson</i>	Atlas of Eternal Diseases: Volume III: Cornea and Sclera
	<i>Wise, Dollery, & Henkind</i>	The Retinal Circulation
1972	<i>Becker</i>	Clinical Gonioscopy - A Text and Stereoscopic Atlas
1973	<i>Donaldson</i>	Atlas of Eternal Diseases: Volume IV: Anterior Chamber, Iris, and Ciliary Body
	<i>Shimuzu</i>	Fluorescein Microangiography of the Ocular Fundus
1974	<i>Kimura</i>	Color Atlas of Gonioscopy
1976	<i>Donaldson</i>	Atlas of Eternal Diseases: Volume III: The Crystalline Lens
	<i>Paton, Hyman, & Justice</i>	Introduction to Ophthalmoscopy
1978	<i>Kottow</i>	Anterior Segment Fluorescein Angiography
	<i>Schatz, Burton, Yannuzzi, & Rabb</i>	Interpretation of Fundus Fluorescein Angiography
1982	<i>Justice</i>	Ophthalmic Photograph
	<i>Wong</i>	Textbook of Ophthalmic Photography
1984	<i>Martonyi, Bahn, & Meyer</i>	Clinical Slit Lamp Biomicroscopy & Photo Slit Lamp Biomicrography
	<i>Mayer</i>	Clinical Wide-Field Specular Microscopy
1987	<i>Witkin and Burns</i>	Masterpieces of Medical Photography - Selections from the Burns Archive
1988	<i>Coppinger, Maio, & Miller</i>	Ophthalmic Photography
	<i>Kanagami & Itoi</i>	Slit Lamp Operation and Photography Technique
1990	<i>Roloff</i>	Retinal Nerve Fiber Layer Photography
1992	<i>Schanzlin and Robin</i>	Corneal Topography - Measuring and Modifying the Cornea
	<i>Vetter</i>	Biomedical Photography

Hansell, Peter: System of Ophthalmic Illustration

Charles C. Thomas, Springfield, Illinois, 1957. 114 pages.
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

Little, Brown & Co, Boston 1982. 277 pages. ISBN 0-316-47731-1.

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

Medical Aol Shuppan Co., Tokyo, 1988.

Note: Japanese text detailing slit lamp photography techniques.

Kimura, Ryoza: Color Atlas of Gonioscopy

Williams & Wilkins Co, Baltimore, 1974. 126 pages with 152 illustrations.

Note: Various conditions of the angle are illustrated utilizing a Koeppel Lens.

Kottow, Michael H.: Anterior Segment Fluorescein Angiography

Williams & Wilkins Co, Baltimore, 1978. 270 pages. ISBN 0-683-04757-4.

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 Biomicroscopy

Time One, Ann Arbor, Michigan, 1984. 80 pages with 266 photographs and illustrations. ISBN 0-683-04757-4.

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. 1

Mayer, Daniel J.: Clinical Wide-Field Specular Microscopy

Bailliere Tindall, London, 1984. 117 pages. ISBN 0-7020-1018-9.

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 slip-cased 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

Upjohn Co., Kalamazoo, MI, 1976 92 pages containing 160 color figures. Library of Congress Card Number 76-520.

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

Little Brown and Co., Boston, 1957. 91 pages with 102 drawings and photographs.

Note: A general atlas of eye disease which includes multiple color fundus photographs by Hansell.

Roloff, Louis W.: Retinal Nerve Fiber Layer Photography

Slack, Thorofare, New Jersey, 1990. 174 pages.

Note: Atlas of nerve fiber layer photography which includes a chapter on technique.

Rosen, Emanuel S.: Fluorescence Photography of the Eye

Butterworths, London, 1969. 345 pages. Standard Book Number 407-17500-8.

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

Springer-Verlag, New York, 1992. 185 pages. ISBN 0-387-97539-X.

Note: An early summary of the theory and application of corneal topography.

Schatz, Howard, Burton, Thomas C., Yannuzzi, Lawrence A., and Rabb, Maurice F.: Interpretation of Fundus Fluorescein Angiography.

C. V. Mosby, St. Louis, 1978. 752 pages with schematic chart. ISBN 0-387-97539-X.

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

Shikano, Shinichi and Shimuzu, Koichi: Atlas of Fluorescence Fundus Angiography

W.B. Saunders, Philadelphia, 1968. 200 pages with 247 figures. Library of Congress number 68-31059.

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.

Shimuzu, Koichi: Fluorescein Microangiography of the Ocular Fundus

Williams & Wilkins, Baltimore, 1973. 156 pages with 146 illustrations.

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

Thorner, Walther: Die Theorie des Augenspiegels und die Photographie des Augenhintesgrundes.

Hirschwald, Berlin, 1903. 134 pages with 3 plates.

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

Ille, Henri: Atlas clinique d'ophtalmoscopie photographique. syndromes cliniques du fond de l'oeil

et A. Couadau, Paris, Masson et Cie, 1939. 193 pages with 196 photographs.

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 Wecjer, 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.

Vetter, John Paul: Biomedical Photography

Butterworth-Heinemann, Boston, 1992. 531 pages with color and b&w reproductions. ISBN 0-240-80084-2.

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

Wessing, Achim: Fluorescein Angiography of the Retina
C.V. Mosby, St. Louis, 1969. 222 pages containing 463 illustrations in 120 figures. Standard Book Number 8016-5388-6, Library of Congress Card Number 72-79861.

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

Wise, George N., Dollery, Colin T., and Henkind, Paul: The Retinal Circulation

Harper & Row, New York, Evanston, San Francisco, London, 1971. 566 pages. Standard Book Number 06-142767-5, Library of Congress Card Number 79-156133.

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

Witkin, Joel-Peter and Burns, Stanley B.: Masterpieces of Medical Photography - Selections from the Burns Archive

Twelvetrees Press, Pasadena, 1987. 100 pages containing 40 illustrations. ISBN 0-942642-21-x.

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.

Wong, Don: Textbook of Ophthalmic Photography
Inter-Optics Publications, New York, 1982. 120 pages. ISBN 0-935726-02-0.

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

1. Keys, T.E., and Rucker, C. W. The Atlases of Ophthalmology. American Journal of Ophthalmology. 49:5. May 1960. Pages 880 - 894.

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.