

PRACTICAL COLOR PHOTOGRAPHY

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649086399

Practical color photography by E. J. Wall

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

E. J. WALL

**PRACTICAL COLOR
PHOTOGRAPHY**

PRACTICAL COLOR PHOTOGRAPHY

BY

E. J. WALL, F.C.S., F.R.P.S.

Author of

"The Dictionary of Photography,"
"Carbon Printing," etc.



UNIV. OF CALIFORNIA
SOUTHERN BRANCH

AMERICAN PHOTOGRAPHIC PUBLISHING CO.
BOSTON 17, MASSACHUSETTS

1922

49362

COPYRIGHT, 1932, BY
AMERICAN PHOTOGRAPHIC
PUBLISHING CO.

Entered at Stationers' Hall

PRINTED IN THE UNITED STATES OF AMERICA

Electrotyped and printed, June, 1932

SOUTHERN BRANCH
UNIV. OF CALIFORNIA

THE PLIMPTON PRESS
NORWOOD, MASS. U.S.A.

TR
S10
W15

PREFACE

IN this little work historical and theoretical data have been as far as possible omitted. My endeavor has been to supply an elementary practical manual of the various processes of Color Photography, and no method or formula has been given that has not been personally tested in practice. This has naturally limited the scope of the work to some extent, but it has not entailed the omission of any information of practical value.

E. J. WALL.

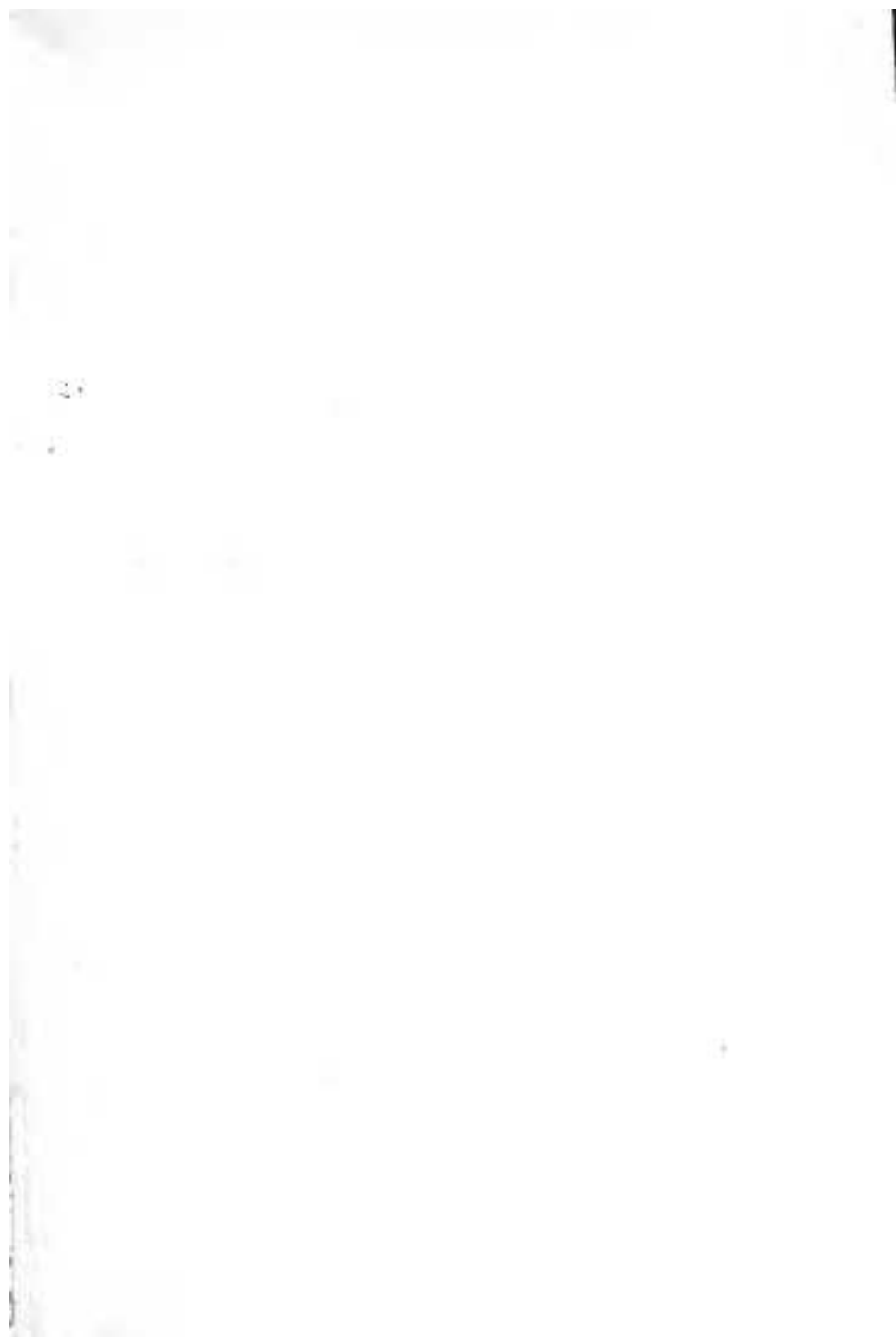
Wollaston, Mass., May, 1927

UNIV. OF CALIFORNIA
SOUTHERN BRANCH

71914

32

Ann. Photo. Part 4.



CONTENTS

CHAPTER I. The Spectrum — Color Formation	1
CHAPTER II. The Sensitive Plates — How to Prepare Them — How to Back Them — Commercial Plates	12
CHAPTER III. Color Filters — Breaking Up the Spectrum — Additive and Subtractive Filters — How to Make Filters — Commercial Filters — How to Cement Filters — Mounting and Using Filters	22
CHAPTER IV. The Darkroom — Safelights — How to Make Them — Desensitizing Plates for Development in Bright Light — Developers and Development — Fixing and Washing	41
CHAPTER V. The Camera and Exposure — Construction of a Single-exposure, Three-Image Camera — Lenses — Ex- posures — Filter Ratios — Marking the Separation Neg- atives for Later Identification	50
CHAPTER VI. Subtractive Processes — Superimposed Carbon Prints — Theory of Carbon Printing — Sensitizing the Tissues — Printing — Development — Transfer to Final Support in Superposition — Cementing — The Raydex Process	60
CHAPTER VII. The Imbibition Process — Pinatype — How to Make the Printing Plates — Sensitizing — Printing — Staining — Pulling the Images — Registration — Im- proving Imperfect Results	75
CHAPTER VIII. Relief Processes — The Positive — Bleach- ing — Staining and Printing — The Etching Process — The Negatives — Etching, Staining and Printing — Developed Relief Processes — Working Details	84

CHAPTER IX. Mordanting and Toning Processes—The Diachrome Process—Manipulation—Dyes and Staining—The Copper Mordanting Process—The Vanadium Mordanting Process—The Chemical Toning Process—The Combination of Processes	95
CHAPTER X. The Three-color Gum-bichromate Process—Treatment of the Paper—Preparing the Coating—Pigments—Coating the Paper—Exposure, Development and Re-coating—Registration	110
CHAPTER XI. Three-color Lantern Slides—Use of Celluloid Film—Making the Emulsion—Sensitizing—Printing—Staining—Pinatype Slides—Assembling—The Photochromoscope.	117
CHAPTER XII. Screen Plates—History—Theory—Separate and Combined Methods—The Compensating Filter—Position of the Film—How to Make the Filters—Flashlights and Appropriate Filters—Exposure of the Screen Plates—Meters—Development—Desensitizing—Reversal of the Image—The Second Development—Intensification—Fixation and Drying—Varnishing—Artificial Light Work—Failures and Remedies—Exhibiting Screen Plates—Projection—Printing from Screen Plates—Filters and Manipulation—Mathematics of Necessary Distances—Stereoscopic Work with Screen Plates	136
CHAPTER XIII. The Bleach-out Process—Fugitive Dyes—Preparation of Sensitive Material—Printing and Fixing	179
CHAPTER XIV. The Lippmann Process or Interference Heliography—History—Theory—The Nature of Light—Interference Phenomena—Preparing the Sensitive Film—Sensitizing for Color—The Plateholder—Exposure—Development and Fixing—Viewing the Colors	185
CHAPTER XV. The Seebeck Process, or Photography with Silver Subchlorides—Another Laboratory Process—History—Making the Paper—Printing.	200

CONTENTS

vii

— CHAPTER XVI. The Diffraction Process — Diffraction Gratings — Making the Plates — Printing — Viewing — Reproduction	205
— CHAPTER XVII. The Prismatic Dispersion Process — Construction of Apparatus — Operations	212
— CHAPTER XVIII. Two-color Processes, Bi-packs and Tri-packs — Discussion of Definition — Methods, Adjustments and Operative Details — Kodachrome	217
CHAPTER XIX. Cinematography in Colors — History and Difficulties — Proposed Methods — Future Possibilities.	230
CONVERSION OF WEIGHTS AND MEASURES	235
BIBLIOGRAPHY	238
POSSIBLE SOURCES OF VARIOUS DYES	242
INDEX	243