

THE BOOK OF ALTERNATIVE PHOTOGRAPHIC PROCESSES: 3rd Edition
Christopher James

TABLE OF CONTENTS: 3rd Edition

FM - 2 here, Christopher James - Rebecca & Wisteria - 9-1-2010

FORWARD MATTER

FM: Acknowledgements

FM: Introduction
Thinking While Writing: September 2012

FM: About the Third Edition

CHAPTER 1

MAKING ART WITH A BOX OF AIR: THE PINHOLE & CAMERA OBSCURA

FM - 3 here, Christopher James, Kafka Man – Venice, 1987

OVERVIEW AND EXPECTATIONS

A LITTLE HISTORY

The Dark Room Conception
Connections: The Telescope, The Microscope, and Heliocentric Theory
Mrs. Elizabeth Fulhame's Heavy Metal Party Dress: Catalysis
What Happened... Niépce
Herschel Describes Chaussier's Fixer, 1819
Back to Niépce
Making a Heliograph with a Camera Obscura
Niépce Delivers a Secret to the Royal Society – 1827
The Physautotype
Curiosity Cabinets
Traditional Mercury Developed & Becquerel Daguerreotypes
How a Daguerreotype Was Made Prior to 1841

A LITTLE SCIENCE

The Thumbnail Principle
Regarding Focal Length
The Math Section: Determining the f -Value

HOW TO MAKE A PINHOLE CAMERA

The Basic Materials
The Zone Plate Pinhole: For Fast Exposures and Impressionistic Imagery
Simple Pinhole Construction
Putting the Camera Together
Light Sensitive Options

TESTING YOUR CAMERA

Finding the Correct Exposure
Pinhole Camera Aperture / Exposure Table
Making Images

DIGITAL PINHOLE

THE GREAT PICTURE PROJECT

Great Picture Fact Sheet

CLOSING PINHOLE THOUGHTS

CHAPTER 2

THE ANTHOTYPE & CHLOROPHYLL PROCESS: The Art of Printing With Flowers & Vegetation

FM- 4 - here, Christine Elfman - Anthotype Dress - 2011

OVERVIEW & EXPECTATIONS

A LITTLE HISTORY

Sir John Herschel's Garden

TABLE SET UP FOR ANTHOTYPE

THE WORKING PROCESS

Recommendations for Flowers, Fruits, Vegetables & Ideas
Making the Extract
Making a Film Positive with Pictorico OHP
Some Additional Anthotype Observations
Bev Conway's Onion Skin Anthotype Recipe
A Simple Conversation About Making Pictures with Flowers
Other film Positive Options
Bev Conway's Onion Skin Anthotype Recipe

THE CHLOROPHYLL PROCESS: BINH DANH'S PHOTOSYNTHESIS ART

Binh Danh's Photosynthesis Art
Photosynthesis
Binh Danh's Process

CHAPTER 3

THE CALOTYPE PROCESS & THE ART of FIXING SHADOWS

FM - 5 here, Dan Estabrook, Black Hands, 2002 – (pencil & silver - waxed calotype neg).tif

OVERVIEW & EXPECTATIONS

A LITTLE HISTORY

Professor Grove's Positive Calotype

TABLE SET UP FOR IODIZED CALOTYPE PAPER

FOX TALBOT & CONTEMPORARY CALOTYPE FORMULAS & WORKFLOW

Fox Talbot & Contemporary Calotype Workflow
Weights, Measures, and Chemistry for Calotype
Silver Nitrate Solution
Potassium Iodide Solution
Aceto-Nitrate of Silver
Gallic Acid
William Crooke's Stock Gallic Acid Solution
Paper
The Process
A Note Regarding Dr Keith's Wax Paper Process
Contemporary Sensitizing With Aceto-Nitrate of Silver
Wet or Dry Paper Option
Optional Part B: (Talbot's Gallo Nitrate of Silver recipe)
Calotype Exposure
Sink Set Up for Talbot's Calotype Development, Fixing and Washing
Development of Talbot's Calotype Negative
Calotype Developer 1:1 Solution
Development
First Rinse With Distilled Water
Re-Immersion With Saturated Gallic Acid Solution
Post-Development Rinse
Fixing, Washing, Waxing and Printing the Calotype
Contemporary Fixing
Final Wash
Post Development and Fixing Table Set Up
Waxing the Calotype
Microcrystalline Transparent Wax
Beeswax and Hairdryer
Beeswax and Lavender Oil
Hot Sodium Thiosulfate
Olive, Linseed, or Vegetable Oil
Gustave Le Gray's Dry Waxed Paper Negative
Restoring a Calotype if it Fades With Gallo Nitrate of Silver
Restoring a Calotype Negative if it Yellows

THOMAS SUTTON'S CALOTYPE

The Difference Between the Single and Double Wash Variants in Calotypes
Explanation of the Single and Double Wash Variants
Argento Iodizing by the Double Wash Variant
Argento Iodizing by the Single Wash Variant
Sutton's Double Iodizing Sequence
Sutton's Directions for Exciting the Iodized Calotype Paper
Exposure
Development
Fixing the Image
Waxing the Negative
Troubleshooting

ARSÈNE PELEGRY'S CALOTYPE PROCESS

Arsène Pélegry's Paper Negative Whey Developing-Out Process

Arsène Pélegry

Making Whey... the Olde Whey

Iodizing the Paper

Sensitizing the Paper

Exposure

Development

First Wash

Fixer

Hypo-Clearing Solution

Final Wash

DR. DIAMOND'S CALOTYPE

Explanation of the Single and Double Wash Variants

Single Wash Variant

The Double Wash Variant

Exciting the Paper With Aceto- Nitrate of Silver

Addition of Potassium Bromide to Increase the Excitement

Exposure

Development

Following Development: Fixing Options

Waxing the Negative

GUSTAVE LE GRAY AND MAURICE LESPIAULT'S WAXED CALOTYPES

Gustave Le Gray's Dry Waxed Paper Negative

Maurice Lespiault's Turpentine - Wax Paper Process

Iodizing Bath

Sensitizing Bath

LAST WORDS AND HINTS

A Simple Test of Your Formula's Sensitivity

Papers for Calotypes: Good, Bad & Ugly

These Papers Work Well

These Papers Do Not Work As Well

Contamination

Heat Issues

Gallic Acid

Patience

CHAPTER 4

BAYARDS DIRECT POSITIVE PROCESS - 1839

FM - 6 here, Hippolyte Bayard, Windmills, Montmartre, 1839 – (Bayard Direct Positive)

OVERVIEW & EXPECTATIONS

A LITTLE HISTORY

Timing is Everything

The Direct Positive Process

HIPPOLYTE BAYARD'S DIRECT POSITIVE PROCESS

- Direct Positive Process
- Table Set-Up For Steps 1 -3
- Prepared Solutions
- Table Set-Up For Step 4
- Sink Set-Up for Step 5
- For Advanced Experiments
- The Process: How It Works
- Bayard's Direct Positive Process Workflow
- Using a Pictorico Film Contact Positive
- Exposure
- Step Five – Washing and Fixing

ADDITIONAL CONSIDERATIONS FOR BAYARD'S DIRECT POSITIVE

- Papers and Sizing
- Gelatin Salting #1
- Double Coating the Silver
- Contrast
- Bright Light
- Foam Brush Application of Chemistry
- Nitric Acid to Expand the Color Range
- Last Words

CHAPTER 5

THE SALTED PAPER PROCESS

FM- 7 – [here](#), Christopher James - Mosque, Cairo, Egypt, 1992 (salt / digital neg)

OVERVIEW & EXPECTATIONS

A LITTLE HISTORY

- Being in a State of Salax
- Fox Talbot Gets Married
- William Hyde Wollaston's Camera Lucida
- But Wait... There's More: Schulze, Scheele, Wedgewood & Davy
- Mr. Talbot's Ferns Are Fixed by Mr. Herschel

TABLE & SINK SET UP FOR GELATIN SALTING PAPER

- Gelatin Salting Chemistry & Formulas
- Gelatin Salting #1
- Gelatin Salting #2
- Contrast Control in Sizing for Gelatin Salted Formulas 1 & 2
- A Bit About Gelatin
- Gelatin Salting Step Sequence
- Allyson's Gelatin Salting Formula
- Allyson's Deep Red: Post-Exposure

SIZING WITH STARCH OPTION

- Formula For Starch Solution
- 12% Silver Nitrate Sensitizer

TABLE SET UP FOR SENSITIZING SALTED PAPER

Fumed Silica Paper Preparation Option

SILVER NITRATE SENSITIZING SALTED PAPER

Silver Nitrate: Read This Please

Standard 10% Silver Nitrate & Citric Acid Sensitizer Formula

Standard 10% Silver Nitrate Sensitizer Formula

High Altitude / No Humidity 20% Sensitizer Formula

15% Silver Sensitizing On Delicate Paper

Sensitizing Considerations

Contrast Enhancement: Potassium Dichromate

Contrast Enhancement: With Color Changes

Contrast enhancement Using Sun and Shade Exposure

Coating Salted Paper with a Synthetic Richeson Brush

Coating With the Traditional Floating Method

PRINTING SALTED PAPER

Exposure Times

SINK SET UP FOR SALTED PAPER

PROCESSING SALTED PAPER

Kosher Salt Wash Bath

Washing the Print

SALTED PAPER TONING FORMULAS: PRIOR TO FIX

Gold – Borax Toner

Gold-Ammonium Thiocyanate Toner: Standard Salt

Gold-Ammonium Thiocyanate Toner II: POP Formula

Gold - Sodium Acetate Toner

Palladium Toner

Platinum Toners

Platinum Toner #1

POP Platinum Toner #2

POP Platinum-Gold-Thiocyanate Split Toner

Black – Gray Toning

FIXING THE SALTED PAPER PRINT

Standard 10 % Sodium Thiosulfate Fixing Bath for Salted Paper

SEL d'OR TONER / FIXER MONOBATH FOR SALT

Sel d'or Toner / Fixer Monobath

Sel d'or Toner / Fixer Formula

Stock Gold Solution for Sel d'or Toner / Fixer

A Brief Word About Ampoules

1 % SODIUM SULFITE CLEARING BATH OPTION

FINAL WASH & COMMENT

CHAPTER 6

THE WHEY PROCESS

*FM - 8 - here, Alan Greene, North End, Boston, 2002.
(developed-out serum-process print made from a dry Pégéry process paper negative)*

OVERVIEW & EXPECTATIONS

A LITTLE HISTORY

A SHORT EXPLANATION OF THE WHEY PROCESS

THE WHEY PROCESS

The Whey Process: Milk to Nuts

MATERIALS AND CHEMISTRY

Papers for the Whey Process
Whey Chemistry

MAKING WHEY

The Olde Whey
Making Whey: The New Whey

MAKING THE PRINT

Silver and Paper
Exposing the Whey Paper
Developer and Development
Pyrogalllic Acid Developer
Development Steps
First Wash
Gold Toning Bath
Fixing: 15% Sodium Thiosulfate Solution
Final Wash
Last Thoughts

CHAPTER 7

THE CYANOTYPE PROCESS

FM- 9 - here, Christopher James, Foot of the Pyramid, 1994

OVERVIEWS & EXPECTATIONS

A LITTLE HISTORY

Hershel's Original Cyanotype Formula
Anna Atkins: The First Woman Photographer

HOW CYANOTYPE WORKS

The Process

THE CHEMISTRY

- Cyanotype Sensitizing Formula
- Part A: Ferric Ammonium Citrate
- Part B: Potassium Ferricyanide
- Mixing the Sensitizing Solution
- Standard Cyanotype Sensitizing Formula
- Sullivan's Formula With Oxalic Acid & Dichromate
- Standard Working Solution
- A Very Brief Word About Non-Standard Mixes
- Low Contrast / High Contrast Solutions and Controls
- Adding 1% Dichromate to Sensitizer for Contrast
- A 0.2% Potassium Ferricyanide First Bath for Contrast
- Double Coating to Increase Density
- Coating on Gum Sized Papers to Increase Density

THE NEGATIVE

PAPER & FABRIC SUBSTRATES

- Making a Paper Hammock for Delicate Papers

TABLE SET UP FOR CYANOTYPE

BRUSHES

COATING

- Hake Brush & Super Glue
- Making a Drop Count and Coating
- Drying the Paper

LIGHT & EXPOSURE

- A Few Words About the Sun
- Another Kind of Sun: The 1000 – Watt BLB Metal Halide
- Exposing the Cyanotype
- Testing Your Exposure Visually
- Split Exposure To Increase Shadow Detail

SINK SET UP FOR CYANOTYPE

- Post Final Wash Suggestions

DEVELOPMENT: WATER OR ACID

- White Vinegar and Citric Acid Recipes
- Acid Post-Development Bath for Additional Tonal Range

THE BIG THRILL

- Immediate Oxidation & Gratification

CLEARING HIGHLIGHTS

- A 1% - 5% Oxalic Acid Bath for Clearing Highlights & Stains
- Sodium Carbonate Bath for Reducing Density
- Cyanotype Fading

CYANOTYPE TONING

- Basic Cyanotype Toning Options

Removing Blue: Getting Yellow
Yellow / Blue Split tones
Basic Tea Toner
Warm Grey Toner
Anthotype Toner Options
Brown Toning #1
Black Toning #1
Eggplant / Red / Black Tones
Black Toning #2
Nitric Acid
Blue / Gray Split Toning
Rose Toning
Green Toning
Greenish-Blue Nickel(II) Sulphate
Eggplant Black #1
Violet Tones #1
Violet/Gray Tones #2
Violet/Gray Tones #3
Violet Tones #4
Purple / Brown Toning
Purple / Brown Toning #2 (Ware Option)
Gray / Reddish Tones
Eggplant Black Toning with Dark Cyan
Violet / Black Toning
Red / Brown Tones
Dark Blue / Blue Violet / Rose Split

LAST WORDS

CHAPTER 8

CYANOTYPE: VARIATIONS & INVENTIONS

FM- 10 - here, Christopher James & Peter Baryshnikov, Last Night's Dream, 2010

OVERVIEW & EXPECTATIONS

CYANOTYPE MURAL EXPERIENCE: FOR TEACHERS

The Lure
Materials You Will Need To Be Amazing
Prepared Fabric: The Simple and Perfect Solution
Fabric: The Less Simple Solution
Synthapol: Sizing Remover
If You Don't Have Any Synthapol
Development Equipment: Trash Can & Hose
Or Better Yet... The Ocean
Instant Oxidation & Gratification
Drying the Mural

CHEMISTRY: A & B

- Home Made Coating Instructions
- Cyanotype Stock A
- Cyanotype Stock B
- Coating: The Spray Method
- Coating: The Dunk Method
- The Best Solution
- The Process
- Wash Development
- Hydrogen Peroxide: The Big Thrill
- Post Exposure Washing Care

THE NEW WARE CYANOTYPE

- A Little History
- The Six Shortcomings of the Traditional Cyanotype Process
- Chemical Solutions for the Six Problems
- Paper Options
- Film or Ink Jet Contact Negative
- The Sensitizer
- The Simple Solution: New Cyanotype Kit
- The Less Simple Solution: Make Your Own
- Preparation of the Sensitizer: One Step at a Time
- Sensitizer Color Warning: The Cure For the Blues
- To Tween or Not to Tween: Use of a Wetting Agent
- Coating Techniques: Puddle Pusher or Brush
- Coating with a Puddle Pusher
- Stainless Steel Coating Rods
- Drying the Sensitizer
- Exposure and Development
- Wet Development with Citric Acid and Options
- Final Wash Cycle
- Last Thoughts

CYANOTYPE VARIATIONS

- Cyan on Glass
- Chemicals Needed: From Bostick & Sullivan
- Cyanotype on Glass Chemistry
- Varnish
- Cyanotype on Glass Workflow

TREE STUMPS, CERAMICS, GUMS, B-V-D's, & CAMERALESS OPTIONS

- A Few Words Regarding Ceramics
- Artist's Books
- Combination Process Options
- Cyanotype on Tree Stump
- Tea Toning
- Natalie's Camera-Less Cyanotypes
- Last Thoughts

CHAPTER 9

THE ARGYROTYPE PROCESS

FM- 11 - here, Christopher James, Gellért Baths, Budapest, 1983 / 2006- Argyrotype

OVERVIEW & EXPECTATIONS

A LITTLE HISTORY

Herschel's 1842 Argentotype Process

WARE'S ARGYROTYPE PROCESS

THE CHEMISTRY

THE ARGYROTYPE SENSITIZER

Option #1: Prepared Solution

Option #2: Make It Yourself

Argyrotype Ingredients & Formula

THE PROCESS

TABLE SET UP FOR ARGYROTYPE

Coating Argyrotype

Exposure

SINK SET UP FOR ARGYROTYPE

Argyrotype Wash - Development

Water Dechlorination

Chloramines

TONING AND FINAL WASHING STAGES

Argyrotype Gold Ammonium Thiocyanate Toner

Fixer: 2% Sodium Thiosulfate

Wash & Dry: Final Print Tonality

Your Image Fails in the Fixer: Part II

Controlling Image Color by Controlling Humidity

The Cat Carrier Humidity Box

Cool Mist Humidifier

The Where You Are Technique

AMY SUE'S ARGYROTYPE HUMIDITY & COLOR CHARTS

Color After Exposure Prior to Toning, Fix, & Final Wash

Retaining Humidity During Exposure

TONERS & COLOR OPTION CHARTS

Dry Paper in Gold Toner

Humidified Paper in Gold Toner

More Time in Gold Toner Equals a Cooler Set of Tonalties

COLOR TONALITY SUGGESTIONS

ADDITIONAL ARGYROTYPE IDEAS

Combo Printing

Argyrotypes on Ink Jet Prints

CHAPTER 10

THE CHRYSOTYPE

FM- 12 - here, Mike Ware, Noto Antica, Sicily, 1987/2002 - New Chrysotype

OVERVIEW & EXPECTATIONS

A LITTLE HISTORY

The Chrysotype

Herschel's Chrysotype – The Athenaeum August 20, 1842

MIKE WARE'S NEW CHRYSOTYPE PROCESS

New Chrysotype Sensitizer

Chemicals Required for the Chrysotype Sensitizer

TABLE SET UP - CHRYSOTYPE SENSITIZER STOCK A-B-C

PREPARING STOCK SOLUTION S-VERSION CHRYSOTYPE

Stock A: Ligand

Stock B: Gold (B-1)

Stock B: Gold (B-2)

Stock C: Iron Solution

TABLE SET UP FOR MIXING SENSITIZER – VERSION S

Mixing the Chrysotype Sensitizer

COMPONENT VOLUMES TO MAKE SENSITIZER - VERSION S

Coating

Humidity

Exposure

CHEMISTRY REQUIRED FOR CHRYSOTYPE PROCESSING

Developing Agents

Clearing Agents:

SINK SET UP FOR CHRYSOTYPE

PROCESSING THE CHRYSOTYPE

Post-Exposure Hydration

Normal Chrysotype Processing

Drying the Print

Last Comments

CHAPTER 11

FUMED SILICA / ALUMINA: A SMALL CHAPTER WITH BIG DIVIDENDS

FM - 13 – here, Dick Sullivan Fumed Silica and Albumen Test

OVERVIEW & EXPECTATIONS

WHAT IS FUMED SILICA?

MATERIALS AND APPLICATION

Table Set Up For Fumed Silica / Fumed Alumina

FUMED SILICA PRE-COATING PAPER PREPARATION

Paper

Paper Preparation: Optional Acidification

Silica Sizing Solution: Dry Version

Dick Sullivan's Fumed Silica Dry Coating Option

Follow These Steps

Josh Partridge's Wet Coating Option

How Does Fumed Silica Work?

Applying Sensitizer to Fumed Silica Coated Paper

Streaking Issues With Fumed Silica

LAST FUMES

CHAPTER 12

THE KALLITYPE PROCESS

FM- 14 - [here](#), (Christopher James, Hammock & Palm, Mexico 2006 – (gold toned kallitype)

OVERVIEWS & EXPECTATIONS

A LITTLE HISTORY

Dr. W. W. J. Nicol's Kallitypes

Nicol's Kallitype I Process

Nicol's Kallitype II Process

Nicol's Kallitype III Process

Summing Up Nicol

The Issue of Permanence

THE CONTEMPORARY KALLITYPE PROCESS

TABLE SET UP FOR KALLITYPE

Kallitype Sensitizer: A & B

Working With the Sensitizer

Tween 20

Gold & Mercuric Chloride Additives

COATING THE PAPER

PAPER

EXPOSURE

BASIC DIGITAL NEGATIVE ON PICTORICO OHP

SINK SET UP FOR KALLITYPE

KALLITYPE DEVELOPERS AND DEVELOPMENT

A Developing Story
Ammonium Citrate & Sodium Acetate Combo: (My Favorite)
Ammonium Citrate Developer (warm reddish-maroon)
Sodium Acetate Developer (neutral black-maroon)
Sodium Citrate – 20% Solution Developer (sepia)

CLASSIC BORAX – ROCHELLE SALT DEVELOPER

Classic Borax – Rochelle Salt Black-Brown Developer
Classic Kallitype Developer Warming & Cooling Control
Color: Borax vs. Borax/Rochelle Salt combo vs. Rochelle Salt
Crystallization Issues and Borax Rochelle Salt Ratios
Sepia Tones
Cool-Brown Tones
Gray-Blue Tones
Paper Effect on Print Color: Cot 320 vs. Arches Platine
Temperature on Borax Rochelle Salt Combo Developer
Henry Hall's Sodium Acetate Option (1903)
Sandy King's Kallitype Contrast Control: 5% Potassium Dichromate & Sodium Citrate Developer
Potassium Dichromate & Sodium Citrate Tests #1 - #3
Looking for the Stage Whisper and Development Time

RINSING & CLEARING

Special EDTA Clearing for Borax – Rochelle Salt Developers
EDTA

KALLITYPE TONING OPTIONS

A Basic Noble Metal Toner for Kallitype
Palladium Toner
Gold or Palladium Toner Sequence for Kallitype
Black Toning Formula
Platinum Toner
Gold-Ammonium Thiocyanate Toner: Salted Paper Formula
Gold Borax Toner
Gold-Ammonium Thiocyanate Toner: POP Formula
Selenium Toner

FIXING THE PRINT

5% Sodium Thiosulfate Fixing Bath

HYPO CLEARING OPTION

FINAL WASH

THE PLATINUM & PALLADIUM PROCESS

FM-15 here, Christopher James, Dying Man, Mukti Bhavan, Benares, India, 1985

OVERVIEW & EXPECTATIONS

A LITTLE HISTORY

Pictorialism

HOW PLATINUM / PALLADIUM WORKS

During the Exposure

PLATINUM AND PALLADIUM NECESSITIES

Platinum / Palladium Formula Ingredients

Platinum Sensitizer

Palladium Sensitizer

Contact Printing Frame

UV Light

Chemistry

The Negative

Papers and Sizing

Acidifying Platinum / Palladium Paper

Some Recommended Papers

THE CHEMISTRY

The A-B-C Sensitizer

The Developer

A Short List of Pt / Pd Developers & Formulas

Potassium Oxalate Developer

Potassium Oxalate Extra Warm Tone Developer

Ammonium Citrate Developer

Sullivan's Cold Bath Developer

Sodium Acetate Developer

Sodium Citrate Developer

THE CLEARING BATHS

A Two-Stage EDTA Clearing Set Up

Formula for EDTA Clearing Bath: Kitchen Blend

Old School 1% Hydrochloric Acid Platinum Clearing Bath

Simple Citric Acid Clearing Bath

Hypo Clearing Agent (sodium sulfite) Clearing Bath

Convenience Store Emergency Clearing Bath

THE SENSITIZER FORMULA

Platinum / Palladium Part A

Platinum / Palladium Part B

Platinum Part C

Palladium Part C – Option #1

Palladium Part C – Option #2

PLATINUM / PALLADIUM DROP CHART

5% Gold Chloride Add to the Formula

Platinum Palladium Drop Chart

TABLE SET UP FOR PLATINUM / PALLADIUM

PREPARING & COATING SENSITIZER

- Richeson Series 9010 Synthetic Brush
- Hake Brush
- Puddle Pusher
- Write Down the Information You Need
- Mark the Negative Area
- Drop Count the Sensitizer
- Coating the Paper
- Coating With a Puddle Pusher
- Stainless Steel Coating Rods

EXPOSURE

- Exposing the Platinum Palladium Image
- Looking For the Whisper

SINK SET UP FOR PT / PD

PROCESSING THE PLATINUM / PALLADIUM PRINT

- Development
- First Wash and Clearing Baths
- Preparing 3 Trays with EDTA Clearing Bath
- EDTA Mix Option When Using Potassium Oxalate Developer
- Sodium Sulfite Option #2
- Normal EDTA Clearing Workflow
- Refreshing the Clearing Baths
- Final Wash

Na₂ CONTRAST CONTROL VARIANT FOR PALLADIUM

- The Na₂ Method
- Na₂ Shopping List
- Standard Negative Contrast Ranges for Palladium: The Na₂ (sodium chloroplatinate) Serial Method: for a 4" x 5" Negative.

TROUBLE-SHOOTING & OTHER STUFF TO CONSIDER

- Only Change One Thing at a Time
- Coating & Humidity
- Sometimes Humidity is a Good Thing
- Tween 20
- Open Shade Exposure for Contrast Control
- Flat and Anemic Looking Prints
- Testing Ferric Oxalate
- Warm & Cold Developers
- Your Prints Look Sand-Blasted and Grainy
- Too Much Exposure
- Black Spots
- Metal Bits and Old Hair Dryers
- Bronzing
- Florescent Light Fog
- Fogging Fix with Hydrogen Peroxide
- Fogging & Drying Temperature
- Grey Highlights

Yellow Stains
Saving & Decanting Developer
Emergency Part C Replacement
Alternative Clearing Baths
Citric Acid
Oxalic Acid
Phosphoric Acid
Perma Wash / Hypo Clear
If Your Image is Too Weak
5% Gold Chloride to Sensitizer
Gold Toning
Art Wax

HAVING A BAD DAY? TRY THESE OPTIONS

Cyanotype & Platinum / Palladium
Gum & Platinum / Palladium
Intensification in Palladium & Gum
Van Dyke & Platinum / Palladium
Platinum / Palladium With Digital Ink Jet Printing

CHAPTER 14

THE ZIATYPE PROCESS

FM- 16 - here, (Christopher James, Painters, Rangoon, Burma - 1983 (Ziatype)

OVERVIEW & EXPECTATIONS

A LITTLE HISTORY

Pizzighelli-Hübl
Ware-Malde & Sullivan-Weese Contemporary Variations

A LITTLE CHEMISTRY

Differences in the Ware-Malde and Ziatype Systems

HOW ZIATYPE WORKS

Similarity to Pt/Pd and Simplicity
Self-Masking

TABLE SET UP FOR ZIATYPE

Materials on the Table

ZIATYPE CHEMISTRY

Abbreviation Symbols and Characteristics

ZIATYPE DROP COUNT CHART & FORMULAS

Ziatype Drop Count Chart
5% Gold: Color & Contrast Control Swap with LiPd
Part C Palladium (II) Swap for LiPd for Contrast
Split Tones, Humidity and Ink Jet Substrates
Red Shadows with Cesium Chloropalladite (CsPd)
Sodium Tungstate: Warmth & Lower Contrast
Ammonium Dichromate: Big Contrast Change So Be Careful

Tween 20

THE WORKING PROCESS

Krystal Seal Art Bags
Acetate Sheets & Static Electricity
The Ziatype Negative
Digital Color Mask Workflow
Moisturizing Your Brush and Table Set Up
Making a Ziatype
Making a Ziatype Sandwich
Exposure
Increasing Density With a Damp Paper Towel

ZIATYPE ON SALTED GELATIN PAPER

SINK SET UP FOR ZIATYPE

Fresh Water First Bath
Citric Acid Second Bath
Sodium Sulfite or EDTA Third Bath
Final Wash

LAST THOUGHTS

Renaissance Wax
Too New for Rules

CHAPTER 15

THE ATHENATYPE PROCESS

FM- 17 - here, Jess Somers, On Being a Phoenix #1, 2013 (Athenatype)

OVERVIEW & EXPECTATIONS

A LITTLE HISTORY

Dick Sullivan's Greek Goddess of Wisdom Process: The Athenatype

INTRODUCTORY OVERVIEW OF THE PROCESS

Print Specifications for *Meditations on Being a Phoenix*

THE ATHENATYPE CHEMISTRY & MATERIALS

TABLE SET UP FOR ATHENATYPE

Materials for fumed silica, chemistry, and sensitizing

SINK SET UP FOR ATHENATYPE

Chemistry for processing, toning, and fixing

FUMED SILICA PRE-COATING PAPER PREPARATION

Paper
Paper Preparation: Optional Acidification
Silica Sizing Solution, Dry Version

Dick Sullivan's Fumed Silica Dry Coating Option
Josh Partridge's Wet Coating Option

ATHENATYPE SENSITIZER

Athenatype Sensitizer Mix
Athenatype Sensitizer #1 Formula
Sensitizer #1 Part A
Sensitizer #1 Part B
Guanidine Ferric Oxalate Solution: Make or Pre-Mixed
Sensitizer Part #1 Part B Preparation
Athenatype Sensitizer #2 Formula: With Gold or Pt/Pd #3
Altering Contrast with Pt / Pd
Athenatype Sensitizer #3 Formula: With Potassium Oxalate
Development

SYNOPSIS OF MAKING AN ATHENATYPE PRINT

Sensitizer Coating
Humidity and Exposure

PROCESSING THE ATHENATYPE

Water Development
Clearing the Exposed POP Athenatype
Gold and Selenium Toning Options Prior to Fixing
Fixing The Athenatype
Optional Sodium Sulfite Clearing Bath
Final Washes

ATHENATYPE TROUBLESHOOTING

Lines and Brush Marks
Mottling
Print Bleaching
Reddish Speckling
Water Spots, Lines, Blotches
Purple and Blue Prints

CHAPTER 16

THE ALBUMEN PROCESS

FM – 18 - here, Christopher James - Hanging Tarp – Harvard U., 1979 (albumen)

OVERVIEWS & EXPECTATIONS

A LITTLE HISTORY

HOW THE TRADITIONAL ALBUMEN PROCESS WORKS

TABLE SET UP FOR TRADITIONAL ALBUMEN PAPER PREPARATION

THE ALBUMEN

METHOD #1: TRADITIONAL ALBUMEN PAPER PREPARATION

Traditional Method
Separate the Yolks from the Albumen
Adding the Chemicals
Whip it Good
Strain & Refrigerate for a Week

TABLE SET UP FOR PREPARING TRADITIONAL ALBUMEN PAPER

Coating the Paper with Albumen
Glossy or Matte Surface Option
Arrowroot Starch For Matte Surface Albumen

TABLE SET UP FOR SENSITIZING TRADITIONAL ALBUMEN PAPER

15% SILVER NITRATE SENSITIZER

Sensitizing Traditional Albumen Paper: 15% Silver Nitrate

TRADITIONAL ALBUMEN HARDENING OPTIONS: DOUBLE COATING

Hardening Option #1: The Hay Loft
Hardening Option #2: Steam
Hardening Option #3: Alcohol & Ammonium Chloride
Silver Nitrate as a Hardening Agent

MORE INFO REGARDING SILVER NITRATE

15% Silver Nitrate Sensitizer with Citric Acid
Acid Restrainers in Silver Sensitizer for Humid Conditions
Silver Nitrate Replenishment During Sensitizing
Precipitating Contaminates from a Discolored Silver Nitrate Solution with Kaolin

COATING SILVER NITRATE SENSITIZER

METHOD #2: THE MATTE ALBUMEN PROCESS

The Single Session Matte Albumen Process
Hübl's Matte Albumen Formula – 1896
Hübl's Sensitizer Solution

TABLE SET UP FOR MATTE ALBUMEN PAPER PREPARATION

Matte Albumen Starch Solution: Ingredients
Matte Albumen Paper Prep: Step #1
Matte Albumen Paper Prep: Step #2
Matte Albumen Paper Prep: Step #3
Matte Albumen Paper Prep: Step #4
Matte Albumen Paper Prep: Step# 5
A Very Quick Word Regarding Paper
Flattening Albumen Paper
Silver Nitrate Sensitizing Solution for Matte Albumen
Matte Albumen Sensitizing: Step #6
Matte Albumen Finishing Steps: #7

ALTERNATIVE METHOD: POWDERED AND LIQUID READY TO USE ALBUMEN

OLD ALBUMEN IS GOOD ALBUMEN

THE CHLORIDE & NEGATIVE RELATIONSHIP

AMMONIA FUMING FOR CONTRAST

WHAT TO DO WITH THE EGG YOLKS: CRÈME BRÛLÉE

A Great recipe for Crème Brûlée

EXPOSING TRADITIONAL AND MATTE ALBUMEN

Exposure Control

What to Look For During Exposure

Silver Albumenate / Highlight Yellowing

Final Distilled Water Rinse as a Yellowing Preventive

Color & Exposure: Using the Right Negative

SINK SET UP FOR ALBUMEN PROCESSING

PROCESSING ALBUMEN

Salt & Citric Acid First Wash Bath

PROCESSING ALBUMEN

Salt & Citric Acid First Wash Bath

ALBUMEN TONING

Optional Toning Prior to Fixing

Albumen Gold Toner

Salted Paper Toners For Albumen

FIXING THE ALBUMEN PRINT AFTER TONING

15 % Standard Sodium Thiosulfate Fixer: 2-Tray Set Up

SEL d'OR TONER / FIXER MONOBATH FOR ALBUMEN

Sel d'or Toner / Fixer Monobath

Sel d'or Toner / Fixer Formula

Stock Gold Solution for Sel d'or Toner / Fixer

1% SODIUM SULFITE HYPO CLEARING BATH

FINAL WASH

FUMED SILICA

CHAPTER 17

**WET PLATE COLLODION PROCESS: TINTYPES, AMBROTYPES, & GLASS PLATE
NEGATIVES**

OVERVIEWS & EXPECTATIONS

A LITTLE HISTORY

Wet Plate Irony

THE WET COLLODION PROCESS: MATERIALS

Scully & Osterman Conventional Film Holder Adaptation
Dry Plate Holders For Wet Plate Process
Antique Camera, or Holga, With No Plate Holder
Lund Acetal Resin Plate Holder
Plate Dippers for Sensitizing & Fixing

A COMPREHENSIVE WET COLLODION PACKING LIST

On The Road & Lab Wet Plate Collodion Needs
Additional In the Lab wet Plate Needs

GLASS AND METAL PLATE PREPARATION

Whiting Formula for Glass Cleaning
Super-Clean Last Step With Bon Ami
Prepared Black Metal Sheets, With a Film Laminate

WET PLATE COLLODION CHEMISTRY

Collodion: Preparing Your Salted Collodion
Safety Issue: Flammable Fumes
Basic Collodion Ingredients
Collodion Ingredients
Using Aged Collodion
Disposing of Old or Contaminated Collodion

COLLODION RECIPES

Bostick & Sullivan Prepared A & B Collodion

Bostick & Sullivan Prepared Salted Collodion
Bostick & Sullivan Working Mixed Collodion Ratios

Old Reliable Collodion Formula

Part A: Old Reliable Bromo-Iodized Solution
Part B: Old Reliable Ether Solution
Speeding Up the Ripening Stage of Old Reliable

Ol' Workhorse Collodion Formula

Ol' Workhorse Ingredients: A & B
Part A: Mixing Ol' Workhorse Bromo Iodized Solution
Part B: Mixing Ol' Workhorse Collodion Ether Solution

Quinn Jacobson's Quick Clear Collodion Formula

Part A: Collodion & Ether
Part B: Cadmium Bromide & Distilled Water
Part C: Mix
Part D: Iodide, Alcohol & Water

Scully & Osterman Collodion for Positives

Scully & Osterman Formula

Ether-less Collodion Formula With Grain Alcohol

When You Have to Substitute Alcohol for Ether

Lea's Landscape #7 – Non-Ether Collodion Formula

Four-Salt Formula

To Make Working Strength

Timmermans Ether-less Collodion

Cleaning Plates With Old Timmermans Collodion

Coffer's Poe Boy Collodion: No Ether-No Alcohol Formula

John Coffer's Formula

THE SILVER NITRATE SENSITIZING BATH

The Silver Nitrate Bath

A Standard 7% Solution

Iodizing the Silver Nitrate Bath

CARE AND MAINTENANCE OF THE SILVER BATH

Testing the Silver Bath for pH

Red Cabbage pH Tester Solution

Red Cabbage pH Indicator Colors

Testing the Silver Sensitizing Bath for Specific Gravity

Filter Your Silver Nitrate Sensitizer Solution Often

Sunning Your Silver Nitrate Sensitizer Solution

HOT & DRY WEATEHR CONSIDERATIONS FOR SILVER

Double Silver Bath for Long Exposures

Wet Paper Towel in the Bellows Trick for Dry Conditions

FERROUS SULFATE DEVELOPER FORMULAS

A Simple Ferrous Sulfate Developer for Positives & Negatives

Ferrous Sulfate Developer for Positives on Metal (tintypes) and Glass (ambrotypes)

Increasing Image Brightness by Adding Saltpeter or Silver Nitrate to the Developer

Ferrous Sulfate Developer for Negatives on Glass

Hot & Cold Weather Developer: Sugar Recipe

Bostick & Sullivan Stock Developer for Positives & Negatives

Hot Weather Developer: Sugar-Free Recipe

Hot Weather Developer: Using Bostick & Sullivan Stock

SOS Iron Negative Developer in Hot Weather

Sweet & Sour Developer

INTENSIFICATION OF GLASS PLATE NEGATIVES

Iodizing the Plate for Contact Negative

A Simple Intensification With the Sun

A Chemical Intensification When the Plate is Wet

Step #1: Bleaching Stage and A and B Formula

Intensification and Workflow

Step #2: Silver Intensification Stage

IODINE / PYRO REDEVELOPMENT FOR GLASS NEGS

Part A: Tincture of Iodine

Part B: Pyro Redeveloper with Silver Nitrate

Part C: Silver Nitrate

Step #1: Reduction

Step #2: Re-Exposure to UV Light

Step #3: Redevelop Using Pyro and Silver Nitrate

Step #4: Drying the Plate

WET PLATE COLLODION FIXERS

Sodium Thiosulfate Fixer

Sodium Thiosulfate for Positives 20% Solution

Sodium Thiosulfate for Negatives 15% Solution

POTASSIUM CYANIDE FIXER

The Good Things About Potassium Cyanide

A Few Not So Good Things About Potassium Cyanide

Recipe for 1.2% Potassium Cyanide Fixer

Using Potassium Cyanide Fixer

SAFE DISPOSAL OF POTASSIUM CYANIDE FIXER

Read This First

Neutralizing Potassium Cyanide to Potassium Cyanate

How to Neutralize Dry Potassium Cyanide (KCN)

How to Neutralize a Liter of 1.2% Potassium Cyanide Fixer

Potassium Cyanide and Sodium Thiosulfate Fixer Warning

Neutralizing Waste Water After Potassium Cyanide Fixer

Silver Recovery From Neutralized Potassium Cyanide (Potassium Cyanate)

WET PLATE COLLODION WORKFLOW

Coating the Plate With Salted Collodion

Sensitizing the Coated Plate in the Salted Silver Bath

What is Happening in the Silver Tank

Watch Out For Legs

Loading the Plate Holder or Camera

EXPOSURE

iPhone App Exposure Meter: LightMeter

In-Camera Exposure Test Strip

When Exposure is Delayed or Long in Camera

PLATE DEVELOPMENT

Flooding the Plate With Ferrous Sulfate Developer

When to Stop: Re-thinking Development Time

Cold Developer Option at 1:3

First Wash: Stopping Development

Fixing the Plate

Washing the Plate

Drying the Plate

VARNISHING / WAXING THE PLATE

Ambrotype and Tintype Varnishing Formula and Technique

Renaissance Wax Option
Gloss Polyurethane Option

WET COLLODION PROJECTION WITH AN ENLARGER

Contact Positive Film Printing On Fresh Wet Collodion

TROUBLESHOOTING

Veiling
Hot weather Fogging
Hot Weather Development Technique
For a Slower Development, Make it Colder
Adding a Few Drops of Silver Nitrate For a Contrast Boost
Double Silver Bath for Delayed Development
Clouding
Random Spots on the Plate
Curtain-Like Marks on the Plate Edge
Oily Lines
Silver Comets
Wavy Lines
Curved Lines and Odd Abstract Shapes
Yellow Patches
Gray and Flat Image Character
Black & White
Collodion Curls & Albumen Subbing
Albumen Subbing Formula to Prevent Collodion Lifting
Collodion Curl Separation Due to Ether and Alcohol Problems
Blue Tint in Parts of the Tintype
Crystals on the Plate
Developer Flows Greasily
A Mottled and Irregular Collection of Spots
Islands and Lines on the Developed Plate
Circular Pale Spots
Crepe Lines / Curtain Lines
Giving New Life to Old Red Collodion with Acetone
Overwhelming Darkness
Overwhelming Brightness
Remedy For a Foggy Silver Bath
Sometimes It's Just Fog
Increasing Image Brightness With Nitrates
Wet Plate Karma

PRESENTATION OF COLLODION POSITIVES

Museum Mount Tintype Presentation
Single Glass Mount
Double Glass Mount
The Cutting Patent Method
Relievo Variant
Recycled Cases on eBay

SETTING UP YOUR WORKING SPACE

HOMEMADE CFL LIGHTING SET-UP

STUDIO LIGHTING OPTIONS FOR WET COLLODION

Falcon Eyes Daylight Kit For Wet Collodion Exposure
Westcott Spiderlite TD6

CLOSING THOUGHTS

A FEW RESOURCES

WET PLATE COLLODION SIZE DESIGNATIONS

CHAPTER 18

THE GUM BICHROMATE PROCESS

FM – 20 - here, Christopher James – Alicia in Gum - 2012

OVERVIEW & EXPECTATIONS

A LITTLE HISTORY

Woodburytype
Corot's Cliché Verre Negatives on Glass
The Fish Glue Process
Gum and Pictorialism

HOW GUM BICHROMATE WORKS

A FEW WORDS BEFORE WE BEGIN

PAPER PREPARATION FOR GUM BICHROMATE

TRADITIONAL TWO-STEP GELATIN & GLYOXAL SIZING: FOR GUM BICHROMATE

Table Set – Up For Glyoxal - Gelatin 2- Step Traditional Sizing Process
Gelatin Sizing
Gelatin: Photo or Food Grade

TRADITIONAL GUM BICHROMATE GELATIN SIZING

STEP #1: The Gelatin Bloom
STEP #2: Heating the Gelatin
STEP #3 / Drying
An Optional Gelatin – Sizing Application: Brush Coating
Traditional Gelatin Hardening with Glyoxal
STEP #4: Glyoxal Options
A Working Glyoxal Solution
Glyoxal and Bicarbonate of Soda to Strengthen the Bond
Total Immersion Option in Glyoxal
Rinsing After The Glyoxal
Step #5: Glyoxal & Gelatin Single Step Immersion Option
Single Step Glyoxal & Gelatin Brush Coating Option
The Formalin Option
Working Formalin Solution

THE GUM BICHROMATE NEGATIVE

MAKING DIGITAL NEGATIVE SEPARATIONS FOR GUM PRINTING

Simple Workflow In Photoshop

GRAYSCALE to R-G-B to C-M-Y-K SEPARATIONS

Alicia-New Mexico, 2012 Gum Separation & Workflow
For Output on Pictorico Ultra Premium OHP In Photoshop
Final Print Sequence
Adding Registration Marks

R-G-B to C-M-Y GUM SEPARATION NEGATIVES REGISTRATION

A Simple Registration Technique

THE GUM BICHROMATE RECIPE

Potassium & Ammonium Dichromate
An Interesting Fact Regarding Dichromates and pH of Water
Making a Stock Saturated Dichromate Solution
Watercolors: Artist Grade and Academy Grade
Testing Pigments For Gum Printing
Recommended Paints Based on Gum Performance
Papers for Gum Bichromate
Mounting on Aluminum for Extended Gum Stages
A Different Sizing Option for Mounting on Aluminum
Keith Gerling's Wood & Aluminum Substrates for Gum
The Positives
The Negatives

GUM ARABIC

Gum Arabic: Acacia Tree Sap
Grades of Gum Arabic
New vs. Old Gum Arabic
Preparing Gum Arabic Solution from Dry Gum
Using Glue as a Substitute for Gum Arabic

TABLE SET UP FOR GUM BICHROMATE PROCESS

GUM BICHROMATE SENSITIZER SOLUTIONS

The Best Gum Sensitizer Emulsion
A Standard 1:1 Sensitizer Using Potassium Dichromate

3 - COLOR C-M-Y GUM BICHROMATE

Gonzalez C-M-Y-K Gum Color Equivalents
Gonzalez Gum Recipe
Gonzalez Exposure Unit
Gonzalez Gum Bichromate Workflow
A Traditional Gum Sensitizer
An Alternative Sensitizing Formula: "The 5-10-10"

FIRST PASS OPTIONS

Gum and Dichromate Only Without Pigment First Pass

Cyanotype As a First Pass
Straight Sensitizer Formula First Pass

COATING

An Alternative Wet Coating Technique
An Alternative Spray Coating Technique

EXPOSING THE NEGATIVES

Printing a Single Color Gum With a Single Negative
A Simple Single Negative Strategy for a First Good Print
A Dichromate First Step Strategy From the Past

SINK SET UP FOR GUM BICHROMATE

WASHING & CLEARING

Ammonia – Bleach Bath for Over-Exposed Images
Or... The Overnight Soak
Stopping Development and Re-Exposing
Forced Wash-Development

A FEW WORDS: CONVENTIONAL WISDOM & STAINING

The Relationship of Paint to Staining
Rinsing After Glyoxal Hardening to Prevent Staining
Clearing Stains with 1% Potassium Metabisulfite

TROUBLE SHOOTING GUM BICHROMATE

First Rule of Fixing Gum Bichromate Problems
Sizing
Paint
Add Pigment
Gum Arabic
More Pigment – Less Pigment
Dichromates
Changing Exposure times
Curves and Color Layer
The Last Resort
First Impressions: Cyanotype First Pass
To Darken the Image
To Lighten the Image
Increase Shadow Density Without Changing Highlights
Enhance Highlights Without Blocking Shadows
To Reduce Contrast
If Highlights Will Not Print at All
To Place Color in the Shadows
To Place Color in the Highlights
A Full Color Inventory
Make Color Charts
Try Painting on Your Gum Layers
Create Area Masks Using Gum
Exposure
Your Print Does Not Clear
Your Print Washes Down the Drain
Your Print's Surface Texture
Flaking emulsion

Streaks in the Print
Random Final Thoughts on Gum

CHAPTER 19

DICHROMATE PROCESS OPTIONS:

**The Gumoil Process, Photo-Resists, The Chromatype, Bichromated Wash Drawings,
The Dusting-On Process, Gum Bichromate on Glass, Herschel's Breath Printing,
Estabrook's 3-D Gums, Winther's Bichro-Silver Process**

FM - 21 - here, Christopher James, Vatican Bride on Acid & Steel, Italy - 1994, (acid etched steel plate with colloidal emulsion)

OVERVIEW & EXPECTATIONS

A LITTLE HISTORY

Fox Talbot – Henry James Correspondence – 1860

THE GUMOIL PROCESS

Introduction to Gumoil
Materials You Need
Preparing the Sensitizer
Film Positive Exposure
First Water Wash
Stippling the Paint With a Stencil Brush
Hand Wiping
Second Water Wash
Bleach – Etching Stage
Third Water Wash

PHOTO- RESISTS ON METAL

A Simple Photo-Resist Formula for Intaglio
Acid Etch Formulas: Nitric and Dutch Mordant
Etching
A Few Words About Metal Substrates
Coating, Exposure, Development and Re-Exposure

ROBERT HUNT'S CHROMATYPE PROCESS - 1843

A Little Chromate History
How To Make a Robert Hunt Chromatype (1843)
Fixing Options: Talbot's Potassium Bromide Fix
Lilac Positives After a Salting bath

BICHROMATED WASH - DRAWING

Materials You Will Need
Sizing & Steaming
Applying the Pigment
Sensitizing
Development

THE DUSTING-ON PROCESS

- A Little Dusting-On History
- How Dusting-On Works
- Dusting-On For the Deceased
- Dusting-On Process With Ceramic Pigment
- A Contemporary Dusting On Process
- Dichromated Gum Formula
- Dusting-On With a Glass Substrate
- A Coating Option
- The Process on Glass Continues
- The Traditional Dusting-On Formula
- Materials Needed for Dusting-On
- The Dusting-On Process on Paper
- Hot and Humid Image Development
- Some Dusting-On Ideas

GUM BICHROMATE ON GLASS

Sandra Davis' - Step by Step for Gum Bichromate on Glass

THE FERRO TANNIC PROCESS

The Chemistry: Ferro-Tannic Sensitizing Solution

HERSCHEL'S BREATH PRINTING PROCESS

ESTABROOK'S 3-D GUM BICHROMATE PROCESS

- How 3-D Works
- The Negatives
- Negatives: Digital or Film
- The Process
- 3-D Glasses and Color

WINTHER'S BICHRO-SILVER PROCESS

- Winther's Bichro-Silver Process: A Little History
- Winther's Bichro-Silver Process Workflow
- Paper
- Dichromate Coating: Solution no. 1
- Drying
- Camera Exposure
- Development
- Ammonium Chloride: Solution no. 2
- Silver Nitrate: Solution no. 3
- Direct Exposure
- Maturing and Fixing
- Fixer: Solution no. 4
- Nitric Acid Bath
- Surface Finishing

LAST THOUGHTS ON DICHROMATE ALTERNATIVES

CHAPTER 20

THE CARBON PRINT PROCESS

FM- 22 - here, Christopher James, Tea Boy, Jaipur, India, 1994 - carbon

OVERVIEWS & EXPECTATIONS

A LITTLE HISTORY

HOW CARBON WORKS

A Quick Overview

PHASE #1: SENSITIZING THE TISSUE

Table Set Up

About Sensitizing

The Process: 10% Dichromate Stock Sensitizer Solution

Example: 1 liter of 2% working solution from stock

Sensitizing the Tissue: Cold Sensitizer Set Up

Squeegee & Drying Steps

Spontaneous Exposure

PHASE #2: EXPOSING THE TISSUE

Comments

The Safe Edge

The Set Up

Exposing the Tissue

PHASE #3: MATING THE TISSUE TO THE SUPPORT

Sink & Table Set Up – What You Will Need

Mating the Tissue to the Support

Support Options

Ink Jet Photo Paper

Yupo

Fixed Out Enlarging Paper

Art Paper

Preparing Fine Art Papers For Carbon Supports

Mating Tissue to the Support

PHASE #4: DEVELOPING THE PRINT

The Table Set Up

The Procedure

Toning: Chocolate Brown

Comments

CARBON ON CANVAS

A. M. Marton's Carbon Transfer to Canvas

CARBON POSITIVE & NEGATIVE IMAGES ON GLASS

A. M. Marton's Method #1

Step #1: Insoluble Substratum on Glass

Step #2 Preparation of Glass Following Substratum

Sullivan's Method With Amino Silane

MAKING YOUR OWN CARBON TISSUE

Mixing the Pigmented Gelatin: What You Need

A - Mixing the Pigmented Gelatin

B - Hand Coating the Carbon Tissue
The Coating Operation
Room Conditions
Coating With a Heated Rod or Tube
C – Drying the Tissue
Troubleshooting

CHAPTER 21

THE VAN DYKE BROWN PROCESS & VARIATIONS

FM- 23 here, Christopher James, Ferris Wheel & Corpse, Delhi, India 1994 – (VDB)

OVERVIEW & EXPECTATIONS

A LITTLE HISTORY

Arndt and Troost Brown Print Formula – 1889

HOW VAN DYKE WORKS

THE VAN DYKE PROCESS

TABLE SET UP FOR VAN DYKE

THE VAN DYKE SENSITIZER

The Van Dyke Formula A-B-C
Silver Nitrate Advisory
Mixing Sequence for the Van Dyke Sensitizer

CONTRAST CONTROL FOR VAN DYKE

The Liam Lawless Contrast Control Sensitizer
Liam's Contrast Control Part A
Standard Van Dyke Part B
Standard Van Dyke Part C
Mixing the Van Dyke Sensitizer
10% Potassium Dichromate Contrast Option
Sun & Shade Contrast Control

TABLE SET UP WITH PRE - MIXED SENSITIZER

PAPER

SIZING

A Simple Gelatin Sizing for Van Dyke and Kallitype

THE NEGATIVE

COATING THE PAPER

LIGHT & EXPOSURE OPTIONS

Sun
1000 – Watt Metal Halide Light Source

HID
UV Exposure Unit
Building a UV Light Source From Kits

PRINTING OUT

SINK SET UP FOR VAN DYKE

Processing the Van Dyke Print: Tray Sequence
Tray #1: Use Distilled Water & a Pinch of Citric Acid
Tray #2: Lightly Acidified Fresh Water
What You Are Looking At After The Wash

FIXING VAN DYKE

3% Sodium Thiosulfate Fixing Solution
Processing Step #2: Fixing the Print
Processing Step #3: Hypo Clearing Option
Processing Step #4: Final Wash

TONING THE VAN DYKE PRINT

A Pre-Fix Toning process for Van Dyke

TONER OPTIONS

THE BLUE-VAN-DYKE PROCESS

A Few Final B-V-D Ideas

THE BROWNPRINT PROCESS

GALINA MANIKOVA'S VAN DYKE ON PORCELAIN WORKFLOW

Preparing the Porcelain Form
Hardened Gelatin First Coat
Applying the Gelatin Van Dyke Sensitizer to Porcelain
Exposing Van Dyke on Porcelain
End Game

CHAPTER 22

POP: PRINTING OUT PAPER

FM - 24 here, Christopher James, Driver, Delhi, India, 1994 – POP

OVERVIEWS & EXPECTATIONS

A LITTLE HISTORY

HOW POP WORKS

HANDMADE POP EMULSIONS

The Liam Lawless POP Emulsion
A Traditional POP Emulsion Option

TABLE SET UP FOR POP

POP FORMULAS & WORKFLOW

Collodio-Chloride Aristotype Pre-Coated POP Paper

SINK SET UP FOR POP

FIRST WASH

Salt Wash Bath

POP TONERS

Gold Ammonium Thiocyanate Toner

Gold – Alkaline Toners

Borax Toning

Gold – Borax Albumen Toner Option

Sodium Bicarbonate

Sodium Bicarbonate – Borax Formula Options

Replenishment for Gold Toners

Platinum Toner: Traditional Formula

POP Platinum Toner

Gold – Platinum POP Split Toner

Gold-Platinum-Selenium POP Split Toner

TONING AFTER FIXING

Lawless Gold-Thiourea Toner: After Double-Fix and Washing Cycles

FIXING THE POP PRINT

15% Sodium Thiosulfate Fixer

FINAL WASH

CHAPTER 23

HAND APPLIED EMULSIONS

FM - 25 - here, Christopher James, Steel Twins on Acid, 1996

OVERVIEWS & EXPECTATIONS

COMMERCIAL EMULSIONS

Rollei Black Magic Liquid Emulsion

Black Magic RBM52 Liquid Hardener

How To Make a Baryta Solution

Silverprint SE-1 Liquid Emulsion

Rockland's Liquid Light & AG-Plus Emulsions

Foma Fomaspeed Liquid Emulsion & Hardener

THE LIGHT FARM LOW TECH EMULSION #1

The Light Farm Hershey's Tornado Emulsion #1

Supplies & Chemistry

Gel A and Gel B

Set Up For Making the Emulsion
Pre Weighed and Measured Chemistry
Chemical Preparation
Adding Finals Before Coating
The First Coating Pass Will Tell You Two Things
Final Emulsion Tips

THE WORKING PROCESS

Paper Preparation
Working Under Safelight
Basic Workflow

EMULSION ON GLASS, CERAMIC, & NON-POROUS SUBSTRATES

Whiting Formula For Glass Cleaning
Last Step With Bon Ami
Glass Pre-Coating Options
Gelatin Coating Option With Separate Glyoxal Bath
Printing On Glass
Exposing Glass Plates In The Developer

LIQUID EMULSIONS ON METAL

Prepared Black Metal Sheets With Film Laminate
Alternative Metal Preparation For Liquid Emulsions
Working With Liquid Emulsions On Metal
Materials You May Need
The Working Process
In The Lab
Sweet Cream Emulsion: How To Avoid Bubbles in Coating

A CONTEMPORARY TINTYPE PROCESS

Metal Plates and AG-Plus
Humidity and AG-Plus
Processing the Plate: Developer
Fixer and Wash
Troubleshooting For AG-Plus Tintypes

THE METAL PLATE

Aluminum Anodized Sheeting
Metal Roofing Substrates
Baked Copper Enamel Plates
Japanned Lacquer Plate Preparation
Prepared Aluminum Plates With Protective Laminate
Supplies You May Need & Sink Set-Up
Film Positive

THE WORKING PROCESS FOR CONTEMPORARY TINTYPE

Making The Digital Film Positive
Chemistry Set-Up
Cleaning and Plate Preparation
Coating the Plate with Warm Emulsion
Pouring, Drying, and Waiting 24-48 Hours

EXPOSURE RECOMMENDATIONS

Exposure On Blackened Plates

Exposure In-Camera For Pinhole Tintypes
Exposure Recommendations
Contemporary Tintype Processing
AG-Plus Reversal Developer For Plates
Additional Developers
Fixing and Hypo Clearing Stages
Tintype Shadow Intensification
Closing Thoughts

CHAPTER 24

THE ALTERNATIVE NEGATIVE

FM 26 here, Christopher James, Acrylic Lift Parts A & B, Negative & Sodium Carbonate and Tannic Acid Toned Cyanotype

OVERVIEW & EXPECTATIONS

A LITTLE HISTORY

A Vision From 1760 - Tiphaigne de la Roche's, *Giphantie*,
Angelo Sala to George Eastman

A GOOD MOMENT TO EXPLAIN A FEW THINGS

What is Average Negative Density?
Negative Density Ranges

THE DIGITAL NEGATIVE

A Basic Intro To Making Digital Negatives / Positives
How to Hit a Curve: A Brief Conversation About Curves
Curve Adjustments
Making An Adjustment Curve
Saving a Curve Profile
A Few Words About Technical Stuff
Some Basic Digital Needs
Basic Math and Associated Reading Recommendations

ALTERNATIVE PROCESS INKJET FILM NEGATIVES

Creating a UV Color Filter For Contact Negatives

MAKING DIGITAL NEGATIVE SEPARATIONS

Simple Workflow In Photoshop: Gum Bichromate Example
Grayscale to RGB to C-M-Y-K Separations: Gum Bichromate
For Output on Pictorico Ultra Premium OHP in Photoshop

FM-27 here, Nick Brandreth - wall (print from dry plate emulsion negative)

MAKING, COATING AND PROCESSING A SIMPLE SILVER BROMIDE GELATIN EMULSION by Mark Osterman

Making, Coating and Processing a Simple Silver Bromide Gelatin Emulsion
Some History
Basic Theories of Emulsion Making
Understanding Gelatin
Relationship of Silver to Halides
Sensitivity of Gelatin Emulsions
Ripening and Digestion; Its Effect on Gelatin Emulsions
Washed Emulsions
Chilling and Noodling
Making the Silver Bromide Emulsion: Formula #MO-1880
Materials and Equipment Needed
Materials
The Procedure
In Daylight
Under Safe Light
D-Min D-Max Test
Finals
Doctors
Coating Glass Plates With Gelatin Emulsions
Equipment and Materials Needed
Cutting and Cleaning Glass Plates
Heating and Pouring the Emulsion (Under Red Safe Light)
Processing Gelatin Emulsion Plates
Processing the Negative (Under Red Safe Light)
Troubleshooting
Formulae
Developer Manipulation
D-49 Developer
Kodak D-19
Sodium Thiosulfate Fixer
Appendix
Photographic Plate Racks
Leveling Stands For a Marble Chilling Table
Materials
Plate Drying Box
Further Reading

NEW55 TYPE POSITIVE / NEGATIVE FILM

New55 FILM

SEVERAL SIMPLE ALTERNATIVE NEGATIVE OPTIONS

Cliché Verre
The Paper Negative
Projection
Commercial Labs: Service Bureaus
The Copy Machine
The Desktop Printer

ACRYLIC LIFT TRANSPARENCIES FROM PRINTED SOURCES

Basic Materials for Acrylic Lifts
The Technique

A QUICK TIP OF THE HAT TO IN-CAMERA FILMS

GRAPHIC ARTS FILMS

Ilford Ortho Plus
Processing Ilford Ortho Plus
Arista Ortho Litho 2.0
Processing Arista Ortho Litho 2.0

SOEMARKO'S LC-1 & LC-1B LOW CONTRAST DEVELOPER FORMULAS FOR CONTINUOUS TONE ORTHO LITH FILM

The Standard LC-1 Formula
Stock A & B
LC-1B Low Contrast Formula for Ortho Lith Film for Both
Interpositive and Negative Production

FOMAPAN R100 – B & W REVERSAL FILM

PYRO

CHAPTER 25

DIGITAL IMAGINING

FM - 28 here, Christopher James, Niépce Grab Shot at Le Gras, 2007-Piezograph

OVERVIEW AND EXPECTATIONS

A LITTLE HISTORY

Jacquard's Loom, Vaucanson's Duck & Engelbart's Mouse
Mr. Babbage Lived On Cabbage
Ada Lovelace and the Analytical Engine
Boolean Algebra
Hollerith's Counter
Vannevar Bush & Engelbart's Mouse

THE DIGITAL ARTS: A 3rd EDITION PERSPECTIVE

The Soft Democracy

THE SIGNAL: INFORMATION & PERFORMANCE

The Signal: Information
The Signal: Performance
The Eye of the Monitor
The Print: Graham Nash, Mac Holbert & Epon
The Art

CHAPTER 26

INKJET PHOTOPOLYMER GRAVURE

FM -29 - here, Cotton Miller, MRI, 2014 (inkjet photopolymer gravure)

OVERVIEW & EXPECTATIONS

A LITTLE HISTORY

The Traditional Photogravure

THE PREMISE

A Few Words About Screens and Dots

Printing Directly to Photopolymer Film

Printing Directly to the Plate: Direct-To-Plate Option

SETTING UP YOUR WORKFLOW

Unexposed Photopolymer Plates

A UV Light Source

Inkjet Photo Printer with a Manual Feed Option

Digital Image Preparation for Direct-To-Plate Printing

Printing an Image on the Plate with a Border

Using a Guide to Print a Borderless Plate

Exposing the Plate

Processing the Exposed Photopolymer Plate

In the Trays

Drying the Plate

Post Exposure in the Sun

Printmaking

CHAPTER 27

PAPER AND ALTERNATIVE SUBSTRATES: HISTORY & PREPARATION

FM- 30 – here, Wilber Schilling, Punctuate, 2011 (Van Dyke Brown)

OVERVIEWS & EXPECTATIONS

A LITTLE HISTORY

PAPER TYPES & CONSIDERATIONS

RECOMMENDED PAPERS

SIZING PAPER

SHRINKING

GELATIN SIZING OPTIONS FOR GUM BICHROMATE

GELATIN SIZING & HARDENING PROCESSES

Gelatin Sizing

Gelatin: Photo or Food Grade

GELATIN SIZING: STAGE #1

Step #1 – The Bloom

Step #2 – Heating the Gelatin
Step #3 – Hang the Paper to Dry
Brush Coating Gelatin Sizing: An Alternative Technique

GELATIN HARDENING OPTION: STAGE #2

The Glyoxal Option
Working Glyoxal Solution
Glyoxal & Bicarbonate of Soda
5-Minute Immersion Technique in Glyoxal
Rinsing After Glyoxal to Prevent Staining

GELATIN HARDENING OPTION: STAGE: #2

The Formalin Option
Working Formalin Solution

GLYOXAL – GELATIN SINGLE COATING OPTION

ALTERNATIVE STAGE #1 SIZING OPTIONS

Old Dickie's Instant Sizing
Arrowroot Sizing
Gesso-Gelatin Sizing: RG-4A Gesso – Gelatin Sizing
Gesso – Acrylic Medium Sizing
Acrylic Matte Medium & Water
Gum Arabic – Dichromate Sizing
Gum Arabic – Dichromate Sizing Version #1
Gum Arabic – Dichromate Sizing Version #2
Sodium Metabisulfite Clearing Bath

GELATIN HARDENING FOR DIFFICULT SUBSTRATES

Dow-Corning Z-6040 Hardening for Glass, Ceramics, etc.
Gelatin – Glyoxal Hardening on Glass
Cyanotype on Glass
Beer, Sodium Silicate, & Cornstarch

CHROME ALUM SIZING

Chrome Alum Sizing: Glass, Carbon, Ceramics, & Glass
Ingredients
Chrome – Alum Coating Sequence

CHAPTER 28

LIGHT MARKINGS

FM 31 here, Anselm Kiefer, Heavy Cloud, 1985 – (lead, shellac on photo)

OVERVIEW & EXPECTATIONS

MY FIRST PHOTOGRAPH

VISUAL LITERACY: REVOLUTION, ARTS, & MIRRORS

Visual Literacy
A Short Trip Into Critical Theoryland

Creativity and Language
Bauhaus... is a very, very, very... fine house
The Industrial Revolution and Arts Education
Mirrors & Windows
The Future of Photography is in its Past

THE PLASTIC CAMERA

A Little History
Toy Camera Philosophy
The Five Plastic Virtues
Plastic Tips
The Digital Plastic Toy Option

IMAGE TRANSFER PROCESS

© - Copyright
How a Color Laser Copier Works
At The Copy Store
Materials You Will Need
Solvent Transfer Technique
The Varneytype Transfer Process
Water / Dry Mount Process
Transfers to Fabric
Acrylic Gel Lift Transparencies Printed or Digital Sources
Basic Materials for Acrylic Lifts
The Technique

LAZERTRAN TRANSFER PROCESSES

Lazertran Transfer Papers for Artists
Lazertran Waterslide Decal Paper For Inkjet Printers
Using Water Based Adhesive Transfer for Paper or Canvas
Fixing Lazertran to Wood, Paper, & Plastic With Turpentine
Lazertran Silk
Lazertran Silk on Polymer Clay & Non-Absorbent Substrates
Lazertran Silk: Temporary Tattoos
Lazertran Etch / Etch Resist for Printmaking
Original Instructions for Lazertran Etch

THE IVORYTYPE: OLD SCHOOL – NEW SCHOOL

A Little History
The American Ivorytype: British Journal of Photography,
August 5, 1864
The Contemporary Ivorytype
Materials
The Contemporary Ivorytype Process

SOLARPLATES

Materials You Will Need
Double Exposure Technique with an Aquatint Screen
Troubleshooting

MORDANCAGE PROCESS

A Really Quick Review
The Process
Mordançage Chemistry: To Make 1 Liter

30% Hydrogen Peroxide

CORE TRUTHS OF CREATIVE PROCESS & LEARNING

APPENDICES:

APPENDIX - A CHEMISTRY

**SAFETY CONSIDERATIONS AND DATA FOR CHEMICALS USED
IN THIS BOOK**

CHEMICALS & MATERIAL SAFETY DATA SHEETS
A FEW BASIC CHEMISTRY DEFINITIONS
HOW CHEMICALS CAN AFFECT THE BODY

FIRST AID

CHEMISTRY & SAFETY

CHEMICAL ABSTRACT SERVICE REGISTRY (CAS)

CHEMICALS USED IN THIS BOOK

APPENDIX - B CONVERSION TABLES

SMALL VOLUME CONVERSION TABLE

Dry Measure
Liquid Measure
Ounces and Milliliter Conversions
Making a Saturated Solution
Temperature Conversions
How To Figure Percentages

APPENDIX - C - LIGHT & EXPOSURE OPTIONS

APPENDIX – D - AN ALTERNATIVE PROCESS WORKING SPACE

APPENDIX – E - ALTERNATIVE PROCESS WORKSHOP SUPPLY LIST

APPENDIX – F - RESOURCES, ARTIST’S LINKS & INTERNET SITES

Chemistry, Paper, Lab Gear, Kits, etc
Web Sites & Interesting Alternative Stuff
Workshops
Artist’s Sites

APPENDIX – G - BIBLIOGRAPHY: HISTORICAL AND CONTEMPORARY

Contemporary Bibliography
Early & Historical Bibliography