**The University of Cape Town**

Centre for Curating the Archive

## The Evolution of Negatives

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**NEGATIVE**

**POSITIVE**

**NEGATIVE**

**POSITIVE**

Base Materials: Paper - Glass - Plastics

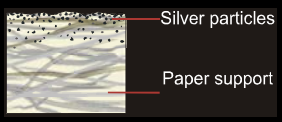
Binders: Paper - Collodion - Gelatin

F.I.M.: Silver - Dyes

Structure of Negatives

Generally Layered

Base - Binder - Final Image Material

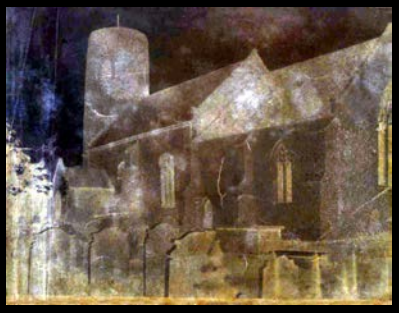




Paper Negatives

Hill and Adamson: Two Fisherwomen, 1845
from Maria Fernanda Valverde' s *Photographic Negatives Nature & Evloution…*

Paper Negatives



## Paper Negative

The Process

- Iodize
- Sensitize with silver nitrate
- Expose the paper
- Develop
- Fix (sodium thiosulfate)
- Wash thoroughly
- Wax (optional)

## Paper Negative

Characteristics

- Thin flexible paper
- Creases, folds
- Variety of tonalities

## Collodion on Glass

Wet Plate Negatives

## Collodion on Glass

Wet Plate Negatives

The plates had to be exposed and developed while still moist with the sensitizing chemistry to achieve sufficient sensitivity or 'speed.'

## Collodion on Glass

Wet Plate Negatives

The Process

- Clean the glass
- Coat the glass with iodized collodion
- Sensitize the collodion with silver nitrate
- Expose the plate in camera (quickly)
- Develop the plate
- Fix (sodium thiosulfate)
- Wash thoroughly
- Varnish (optional) but protect

- Eventually make your positive print…

## Collodion on Glass

Wet Plate Negatives

Characteristics

- Often thick glass
- Often rough cut edges
- Evidence of flow marks
- Incomplete coverage
- Signs of applied varnish
- Dull milky brown or brown/gray tonalities

## Gelatin on Glass

Dry Plate Negatives

The Process

- Purchase the glass negatives
- Open the box
- Expose the plate in camera
- Develop the plate
- Fix (sodium thiosulfate)
- Wash thoroughly
- Varnish (optional) but protect

## Gelatin on Glass

Dry Plate Negatives

Characteristics

- Thin glass
- Very uniform
- Clean edges
- Even, complete coating
- Cold black tonality
- Often now heavily mirrored

## Film Based Negatives

The Processes

- Cellulose Nitrate 1889 - 1950
- Cellulose Acetates 1925 - today
  (diacetate - butyrate - propionate - tri-acetate)
- Polyester 1955 - today

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## Film Based Negatives

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Curling


## Film Based Negatives

Cellulose Nitrate - Stages of Deterioration

- Support yellows and shows silver mirroring
- Becomes sticky and gives off nitric acid aroma
- Image darkens and begins to fade
- Film softens and becomes adhesive
- Turns into brown acidic powder

## Film Based Negatives

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- Cellulose Acetates
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"SAFETY FILM"

## Film Based Negatives

Cellulose Acetate - Stages of Deterioration

- Shrinkage and acetic acid aroma (vinegar)
- Begins to warp and may show blue or pink staining
- Bubbles and crystaline deposits form between layers
- Channels form
- Unprintable

## Film Based Negatives

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## Film Based Negatives

The Processes

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## THE END