

; 05/09/13 2:34 PM
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;;;LEARNINGTIMES WEBINAR 5/9/2013

>> HELLO, EVERYBODY.
WELCOME.

THE FIRST TIME YOU SEE IT IS
WHEN YOU SUBMIT IT AND WHEN WE
RELEASE IT BECAUSE THE QUESTIONS
ARE MODERATED, THEN EVERYBODY
ELSE WILL SEE IT.

SO JUST LETTING YOU KNOW THAT
THIS IS WHAT YOU CAN EXPECT TO
SEE.

WITHOUT FURTHER DELAY, I'M GOING
TO GO AHEAD AND START THE
RECORDING FOR TODAY'S SESSION.
AND I WOULD LIKE TO ASK OUR
HOST, KRISTIN LAYS OF HERITAGE
PRESERVATION TO GO AHEAD AND
BEGIN WHENEVER YOU'RE READY.

>> THANKS SO MUCH, MIKE.

WELCOME AGAIN TO CARING FOR
PHOTOGRAPHS.

I'M KRISTIN LAYS WITH HERITAGE
PRESERVATION IN WASHINGTON D.C.

I WANT TO THANKS MIKE AND
LEARNING TIMES FOR HELPING WITH
US THIS WEBINAR AND TO THE
INSTITUTE OF LIBRARY AND MUSEUM
SERVICES FOR MAKING THIS
POSSIBLE.

WE HAVE HEATHER BROWN HELPING US
TODAY, ANSWERING YOUR QUESTIONS.
SHE'S ONE OF DEBBY'S GRADUATE
STUDENTS AT THE ART CONSERVATION
PROGRAM AT THE UNIVERSITY OF
DELAWARE.

WE'RE GRATEFUL FOR HER HELP
TODAY.

TODAY'S WEBINAR WILL BE ABOUT
THE TECHNOLOGICAL DEVELOPMENT OF
PHOTOGRAPHY AND WE'LL CONTINUE
IT NEXT THURSDAY.

SO IT'S A TWO-PART SERIES.

IT'S SO IMPORTANT TO UNDERSTAND
HOW PHOTOGRAPHS WERE MADE SO
THAT YOU UNDERSTAND WHAT KIND OF
DEGRADATION THEY MIGHT
EXPERIENCE AND WHAT CONDITIONS
THEY SHOULD BE KEPT IN.
WE JUST WANT TO ALERT YOU TO
NEXT THURSDAY'S WEBINAR.
IT WILL BE AT A LATER TIME.
3 TO 4:30.

IN THE FINAL TWO WEBINARS WILL
BE TUESDAY AND THURSDAY OF THE
FOLLOWING WEEK.

I'M GOING TO GO OVER QUICKLY
SOME THINGS BECAUSE DEBBY HAS A
LOT TO PRESENT.

THE COURSE WEB PAGE IS WHERE
YOU'LL FIND ALL THE INFORMATION
WE ARE PRESENTING TO YOU.

AT EACH WEBINAR AIRS, WE'LL HAVE
HANDOUTS, LINKS TO THE HOMEWORK
ASSIGNMENT.

WE HAVE A GREAT LIST OF
REFERENCES THAT DEBBY HAS PULLED
TOGETHER FOR YOU.

THAT'S ALL THERE.

THEN AFTER EACH WEBINAR, WE'LL
E-MAIL YOU THE LINKS.

IF YOU DON'T GET THE E-MAIL, LET
US KNOW.

MAKE SURE WE'RE NOT ENDING UP IN
YOUR SPAM FOLDER, TOO.

IF YOU'RE INTERESTED, YOU CAN
WORK TOWARDS EARNING A
CERTIFICATE IN DIGITAL
CREDENTIAL.

YOU SHOULD HAVE REGISTERED SO WE
KNOW WHO YOU ARE.

PLEASE BE IN TOUCH.

WATCH EACH WEBINAR IN THE COURSE
EITHER LIVE OR IN THE RECORDING
AND COMPLETE ALL FIVE HOMEWORK
ASSIGNMENTS.

IF YOU DO WISH TO EARN A
CERTIFICATE IN DIGITAL
CREDENTIAL, YOU SHOULD HAVE
EVERYTHING COMPLETED NO LATER

THAN THURSDAY, MAY 30th.
OF COURSE, I WANT TO REMIND YOU
ABOUT THE ONLINE COMMUNITY,
CONNECTING TO COLLECTIONS, THIS
IS A GREAT PLACE TO HAVE LINKS
TO ADDITIONAL RESOURCES AND
NETWORK WITH EACH OTHER.
OKAY.

I'M GOING TO WELCOME BACK DEBBY
IN A MINUTE.
HERE'S OUR INFORMATION ON HOW TO
FIND US IF YOU NEED ANYTHING,
HAVE ANY QUESTIONS ABOUT THE
COURSE.

AND I WAS JUST GOING TO ASK A
SERIES OF POLL QUESTIONS AT THIS
POINT TO GIVE DEBBY A SENSE OF
THE AUDIENCE AND THE TYPES OF
PHOTOGRAPH COLLECTIONS YOU MIGHT
HAVE.

WE'RE GOING TO START OFF WITH --
A TOUGH QUESTION.

GIVE A SENSE OF ABOUT HOW MANY
PHOTOGRAPHIC MATERIALS YOU HAVE
AT YOUR INSTITUTION.

SO EACH PRINT, EACH NEGATIVE,
EACH SLIDE, EACH LANTERN SLIDE.
WE KNOW IT'S SO HARD TO MAKE AN
ESTIMATE.

BUT JUST A BALLPARK TO GIVE US A
SENSE OF THE SCOPE OF THE ISSUE
THAT YOU'RE DEALING WITH.

MANY DON'T KNOW BECAUSE IT IS
CHALLENGING.

SOMETIMES YOU HEAR THE SOUND CUT
IN AND OUT A LITTLE BIT.

THAT'S JUST BECAUSE WE'RE USING
VOICE OVER INTERNET.

IT'S A LITTLE LIKE A CELL PHONE
IN THAT REGARD.

WE DO APOLOGIZE.

IF YOU'RE ON A WIRELESS NETWORK,
SOMETIMES THERE'S ALSO A SLIGHT
DELAY.

SO POSSIBLE TO CLOSE ALL THE
OPEN PROGRAMS ON YOUR COMPUTER
EXCEPT FOR YOUR INTERNET

BROWSER, SOMETIMES THAT HELPS.
HOPEFULLY THE CLOSED CAPTIONING
WILL KEEP YOU INFORMED IF
THERE'S A BLIP OVER A KEY
QUESTION.

A LOT OF PHOTOGRAPHS OUT THERE.
WE'RE GLAD TO HELP YOU.

I'M GOING TO CLOSE THIS POLL.
DRAG IT AWAY.

AND THEN DEBBY TALKED A LITTLE
BIT LAST TIME ABOUT SOME EARLY
PHOTO PROCESSES.

DAGUERREOTYPE AND TIN TYPES AND
AMBROTYPES.

IT HELPED THE AUDIENCE LEARN
ABOUT -- HELP THEM IDENTIFY SOME
OF THESE TYPES THEY MAY HAVE
MISIDENTIFIED OR WEREN'T AS
KNOWLEDGEABLE ON.

SO SHE WILL REVIEW THAT TODAY.
WE WANTED TO GET A SENSE BEFORE
TODAY'S LECTURE IF YOU HAD AN
ESTIMATE.

OKAY.

GREAT.

CLOSE THAT.

LET ME BRING THIS BACK LATER.
AND THEN TODAY'S PRESENTATION
WE'LL TALK A LOT ABOUT PRINTS.
SOME OF THESE TERMS MAY NOT BE
FAMILIAR TO YOU.

SO IF SO, DON'T WORRY ABOUT IT.
DON'T KNOW IS A VERY VIABLE
OPTION.

BUT SHE REFERENCED SOME OF THIS
LAST TIME.

AGAIN, WE'RE GOING TO GO IN A
LOT MORE DETAIL.

JUST TRYING TO GET A SENSE OF
THE GROUP AND WHAT WE MAY NOT
HAVE IN YOUR COLLECTION.

OKAY.

THANK YOU SO MUCH.

I'M GOING TO CLOSE THIS AND DRAG
IT AWAY.

WE MAY BRING THAT BACK LATER ON
IN THE PRESENTATION.

OKAY.

AT THIS POINT, IT'S MY PLEASURE
TO WELCOME BACK DEBBY.

SHE IS THE CHAIR AT THE
UNIVERSITY OF DELAWARE'S ART
CONVERSATION PROGRAM AND AN
EXPERT IN PHOTO CONVERSATION AND
A GREAT ADVOCATE TO OUR FIELD.
WE'RE PLEASED THAT SHE'S WITH US
TODAY.

I'M GOING TO GO AHEAD AND CLOSE
THIS CHAT BOX HERE.

WE'RE GOING TO TURN IT OVER TO
MODERATED CHAT.

AS MIKE SAID, THIS MEANS THAT
YOUR QUESTION WILL BE SHOWN
TWICE.

ONCE WHEN YOU ASK IT AND ONCE
WHEN WE PUBLISH IT, UNLESS WE
RESPOND TO YOU PRIVATELY AND
YOU'RE WELCOME TO TELL US IF YOU
HAVE TECHNICAL CONCERNS.

DON'T BE SURPRISED IF YOU SEE
YOUR QUESTION TWICE.

WITH THAT, I'M GOING TO HAND
THINGS OVER TO DEBBIE.

>> I HOPE I'M COMING THROUGH
CLEARLY.

UH-OH.

HANG ON.

OKAY.

GOOD.

I'M READING MY -- MIKE IS SORT
OF LEADING US THROUGH THIS HAS
BEEN TERRIFIC.

I THINK I'M ON AND I THINK YOU
CAN HEAR ME AND I'M VERY HAPPY
TO BE BACK FOR THE SECOND
WEBINAR IN THIS SERIES.

AND AS KRISTIN DESCRIBED, THIS
WILL FOCUS MORE ON THE
TECHNOLOGY OF PHOTOGRAPHY AND
PARTICULARLY WITH THIS LECTURE,
I'M GOING TO BE TALKING ABOUT
PHOTOGRAPHIC PRINT MATERIALS.
ESPECIALLY SHOWS THAT ARE SILVER
BASED MATERIALS.

AGAIN, I DO LOVE THE BEATLES.
ANOTHER BEATLES TITLE "THE LONG
AND WINDING ROAD."

FANTASTIC PORTRAITS HERE.
BLACK AND WHITE SILVER GELATIN
PORTRAITS AND THE WONDERFUL DYE
TRANSFER PHOTOGRAPHS ON THE
RIGHT.

IF YOU THINK OF WHAT WE TALKED
ABOUT ON TUESDAY, THE SILVER
GELATIN PHOTOGRAPHS OF THE
BEATLES ON THE LEFT.

IN THIS CASE, THE FUNNEL IMAGE
OF METALLIC SILVER.

THE BINDER IS GELATIN.

THEY'RE ON A PAPER SUPPORT.

THE DYE TRANSFER PHOTOGRAPH ON
YOUR RIGHT ARE COMPRISED OF
CYAN, MAGENTA AND YELLOW.

THERE'S NO SILVER AT ALL IN
THESE PARTICULAR PHOTOGRAPHS.
BUT ANYWAY, LET'S KEEP MOVING
THROUGH THIS.

I ALSO WANT TO THANK HEATHER
BROWN WHO YOU SEE HERE WHO IS A
SECOND-YEAR FELLOW IN OUR
GRADUATE PROGRAM.

OUR THREE-YEAR MASTERS LEVEL
PROGRAM.

SPONSORED BY THE UNIVERSITY OF
DELAWARE.

SHE WILL BE ONLINE AS GRETA DID
ON TUESDAY ANSWERING QUESTIONS
WHERE SHE CAN.

I HOPE YOU FIND THIS HELPFUL AND
I'M GRATEFUL TO GRETA.

WHAT YOU SEE HERE, SHE'S
TREATING A WONDERFUL SILVER
GELATIN SEPIA TONE.

I'M GOING TO GRAB THE POINTER
AGAIN.

IT'S A LITTLE BIT HARD TO SEE.
IF YOU STUDY THIS PHOTOGRAPH,
YOU CAN SEE HOW IT'S LIGHTER AT
THE BOTTOM EDGE.

WHEREAS VERY GRAY AND DISCOLORED
THROUGHOUT.

IT TURNS OUT IN FACT THAT WAS
DIRT AND DISCOLORATION.
MOST LIKELY CAUSED BY SMOKING,
NICOTINE.

AND SHE WAS ABLE TO CAREFULLY
REMOVE ALL OF THE DIRT AND GRIME
FROM THE SURFACE OF THIS
PROGRAM.

SO THANK YOU, HEATHER FOR YOUR
HELP.

I APPRECIATE IT.

MY GOAL IN ALL THIS -- THERE'S
SO MUCH TO COVER AND SO MUCH TO
TALK ABOUT.

I THANK YOU FOR YOUR QUESTIONS
AND THE HOMEWORK, WHICH HAS
ALLOWED ME TO BROADEN THE SCOPE
ON THIS PRESENTATION AS WELL.

I WANT TO FOCUS ON RESOURCES.
WE CAN ONLY BEGIN TO ADDRESS A
BIT OF THESE TOPICS.

BE SURE TO EXAMINE THE RESOURCES
THAT ARE ONLINE, THE LINKS THAT
HERITAGE PRESERVATION HAS
PROVIDED AND THE MANY BOOKS THAT
WE TALK ABOUT DURING WEBINAR 1,
INCLUDING THESE TWO BOOKS.

I HIGHLIGHT THESE PARTICULARLY
TODAY BECAUSE THEY'RE RICH IN
CONTENT IN TERMS OF THE VARIOUS
PHOTOGRAPHIC PROCESSES,
PARTICULARLY THE PHOTOGRAPHS OF
THE PAST AND THE PRINT PROCESSES
WE'LL BE DISCUSSING TODAY.

WE TALKED TUESDAY AGAINST
DAGUERREOTYPE, TINTYPES AND
AMBROTYPES.

THESE ARE MADE WITHOUT A
NEGATIVE.

YOU TAKE THAT LIGHT SENSITIVE
SILVER PLATED COPPER SUPPORT IN
THE CASE OF THE DAGUERREOTYPE
HERE AND PLACE INTO IT THE
CAMERA AND EXPOSE IT TO
LIGHTNING.

IN THAT WAY, THERE IS NOT A
NEGATIVE.

WE CALL THESE DIRECT DEPOSITIVE PROCESSES.

WE TALKED A BIT ABOUT THESE. JUST TO REVIEW, MANY OF YOU MENTIONED YOU DO HAVE THESE IN YOUR COLLECTION.

THE DAGUERREOTYPE IS POPULAR FROM 1840-1865 IN THE UNITED STATES.

AGAIN, REMEMBER THIS IS A PROCESS THAT IS ON SILVER PLATED COPPER.

HIGHLY REFLECTIVE.

LOOKS LIKE A MIRROR.

AS IT'S IN YOUR HAND, MOVES FROM A NEGATIVE TO A POSITIVE IMAGE.

THESE DAGUERREOTYPES ARE OFTEN HOUSED IN PROTECTIVE CASES IN THE UNITED STATES.

IN FRANCE AND EUROPE, YOU'LL FIND FRAMED BEHIND A DECORATIVE GLASS AND OFTEN HUNG ON THE WALL.

THEY'RE NOT IN A FOLDED MINIATURE CALLED AT ALL.

THEIR PRESENTATION CAN VARY AROUND THE WORLD.

BUT THEY'RE GENERALLY PRONE TO DETERIORATION ON THE OUTER EDGES AS WE DISCUSSED TUESDAY.

IN COMPARISON, THE AM -- AMBROTYPE, THAT YOU SEE HERE, IS ON A GLASS SUPPORT.

IT'S NOT ON SILVER PLATED COPPER AT ALL BUT ON GLASS.

IT HAS A VARNISHED LAYER.

THEY MAY OR MAY NOT BE HAND COLORED, THIS IS A BEAUTIFUL EXAMPLE OF AN AMBROTYPE IN BEAUTIFUL CONDITION.

I MENTIONED THESE ARE TECHNICALLY NEGATIVES BUT MADE TO LOOK LIKE A POSITIVE.

IT'S A NEGATIVE IMAGE.

IT HAS A BLACK LACQUER LAYER TO MAKE IT APPEAR AS A POSITIVE IMAGE.

SOMEBODY ASKED LAST TUESDAY
ABOUT FLAKING AND ISSUES
ASSOCIATED WITH FLAKING OF
AMBROTYPES.

THIS IS HAPPEN AT THE OUTER
EDGES BECAUSE YOU HAVE A BLACK
LACQUER ON ONE SIDE OF THE
GLASS.

IN MANY CASES THEY ARE IN GOOD
CONDITION BECAUSE THEY HAVE BEEN
PROTECTED IN THESE CASES FROM
AIR AND MOISTURE.

AND THEN FINALLY, THE TINTYPE
PROCESS THAT YOU SEE HERE, WHICH
IS POPULAR IN THE UNITED STATES
THROUGHOUT THE 19th CENTURY.

OF COURSE, IN THIS SITUATION,
THE SUPPORT IS ACTUALLY IRON.
IRON THAT IS COATED ON BOTH
SIDES WITH A BLACK LACQUER OR IN
SOME CASES A BROWN LACQUER.
FOR THE TINTYPE APPEARS MORE
BROWN IN COLOR.

BUT THE IMAGE IS SILVER.

THE BINDER IS COLLODION.

THESE ARE TYPICALLY VARNISHED
AND OFTEN HAND COLORED AS YOU
CAN SEE.

HAND COLORED IN THE CHEEKS
SLIGHTLY TO MAKE THESE IMAGES OR
THESE INDIVIDUALS APPEAR MORE
LIFE-LIKE.

THE GREAT CHALLENGE WITH
TINTYPES IS WHEN THEY'RE EXPOSED
TO HIGH RELATIVE HUMIDITY
CONDITIONS, THE IRON SUPPORT
COULD RUST AND CORRODE.

YOU CAN IMAGINE, THESE ARE
LAMINATE STRUCTURES.

SO I NEED YOU ALL TO SOMETIMES
JUST SIT AND THINK FOR A SECOND.
WHAT IS THE CROSS SECTION OF
THIS OBJECT?

YOU CAN IMAGINE THAT AS THE IRON
BEGINS TO RUST AND CORRODE, IT
WILL EFFECT THE COLLODION BINDER
THAT SITS ON TOP OF IT CAUSING

FLAKING AND DETERIORATION.
SO THAT IS A REAL CATASTROPHIC
PROBLEM IF THE SUPPORT
DETERIORATES IN THAT WAY.
ONE THAT YOU TRY TO AVOID.
HOW DO YOU DO THAT THROUGH
STORAGE IN CONTROLLED
ENVIRONMENTAL CONDITIONS
WHEREVER POSSIBLE.

FOR THE MOST PART, WHEN YOU GO
BACK AND LOOK AT THE TINTYPES,
THEY'RE GENERALLY IN GOOD
CONDITION.

THEY MAY BE RUSTED AND CORR
ROWED AT THE OUTER EDGES, BUT
FOR THE MOST PART, THESE IMAGES
ARE FAIRLY PRISTINE.

THE VARNISHES MAY HAVE YELLOWED
A BIT.

THE VARNISHED LAYER DOES PROTECT
THE SILVER IMAGE FROM FADING AND
DISCOLORATION.

IT'S ALWAYS IMPORTANT WHEN YOU
THINK ABOUT THESE PROCESSES TO
IN YOUR MIND THINK ABOUT A TIME
LINE.

A TIME LINE OF POPULARITY.

IT CAN BEGIN TO HELP YOU
DISTINGUISH THE VARIOUS
PROCESSES.

IT'S IMPORTANT TO THINK ABOUT
WHEN THEY WERE MADE, WHEN THEY
WERE POPULAR, WHAT DID THEY LOOK
LIKE?

ALL OF THESE THINGS COMBINE.
IN THIS PARTICULAR TIMELINE, YOU
CAN SEE THE DAGUERREOTYPE, THE
AMBROTYPE AND THE TINTYPE AND
THEIR DATES OF POPULARITY.

THAT MAY HELP YOU ALONG WITH
MANY OTHER KEYS AND
CHARACTERTYPES THAT YOU'LL READ
ABOUT.

WE'LL TALK ABOUT WHEN YOU SHOULD
BEGIN TO CONSIDER REHOUSING
THESE COLLECTIONS, PERHAPS
STORING THEM IN COLLECTION BOXES

TO MITIGATE AGAINST
ENVIRONMENTAL DAMAGE.
BUT THIS WEBINAR TODAY IS
FOCUSED MORE ON IDENTIFICATION.
I CAN SEE THAT HEATHER HAS BEEN
ANSWERING SOME OF YOUR QUESTIONS
AS WE GO THROUGH.

WE'LL TAKE BREAKS HERE AND
THERE.

BUT NOT YET, TO ADDRESS
QUESTIONS AS THEY COME UP.
I WANT TO FOCUS HERE THOUGH ON
PHOTOGRAPHIC PRINT MATERIALS,
19th AND 20th CENTURY.
I ASKED TUESDAY FOR YA'LL TO
SEND IMAGES.

HERE'S ONE I RECEIVED FROM THE
UNIVERSITY OF TEXAS SCHOOL OF
LAW.

A WONDERFUL AM -- ALBUM.
THESE ARE ALBUMEN PRINTS.
AS YOU BEGIN TO TRY TO IDENTIFY
PRINT MATERIALS AND MANY OF YOU
IN IDENTIFYING PRESERVATION
CHALLENGES AS PART OF YOUR
HOMEWORK TALKED ABOUT THE
DIFFICULTY YOU'RE ENCOUNTERING
IN DIFFERENTIATING THESE
DIFFERENT PROCESSES.

THAT'S WHAT I HOPE TO HELP YOU
CAN TODAY.

AS YOU DO THAT, YOU NEED TO
THINK ABOUT DATES OF POPULARITY
AND, YOU KNOW, WHAT WAS POPULAR
IN THE 19th VERSUS THE 20th
CENTURY.

THESE PHOTOGRAPHS HERE -- I'M
NOT LOOKING AT THE OBJECT -- TO
ALL BE ALBUMEN PRINTS.

THEY'RE PRINTED OUT.

IF YOU REMEMBER TUESDAY, WE
TALKED ABOUT THE DIFFERENCE
BETWEEN PRINTING OUT AND
DEVELOPING OUT IMAGES.

THESE PRINTED OUT IMAGES THAT
TAKE LIGHT SENSITIVE PAPER,
PLACING IT IN CONTACT WITH A

NEGATIVE AND ON TO THE SUN, ON
TO THE IMAGE PRINTS OUT.
THEY TEND TO BE BROWN IN COLOR.
THESE HAVE FADED FAIRLY
SIGNIFICANTLY.

THEY'RE MORE YELLOW, WHICH IS A
COMMON DETERIORATION PROBLEM
WITH ALBUMEN PRINTS.

A WONDERFUL ALBUM.

WE'LL TALK ABOUT THE
PRESERVATION OF ALBUMS DURING
WEBINAR 4 OR 5.

YOU CAN SEE THAT ALTHOUGH
THEY'RE IN DIFFERENT STATES OF
CONDITION, ALL OF THESE IMAGES
ARE BROWNER IN COLOR.

THEY'RE NOT TRULY BLACK AND
WHITE.

SO UNDERSTANDING WHEN
PHOTOGRAPHS WERE POPULAR KNOWING
THAT THE ALBUMEN PROCESS WAS
INTRODUCED CAN HELP YOU IN
BEGINNING TO IDENTIFIED VARIOUS
PROCESSES.

SO TIMELINE AND IDENTIFICATION
IS IMPORTANT AS IS
DETERIORATION.

THIS IS A WONDERFUL IMAGE FROM
THE METROPOLITAN MUSEUM OF ART.
A RECENT EXHIBITION THAT THEY
HAVE ON NOW CALLED FAKING IT,
WHICH I RECOMMEND HIGHLY.

IT WILL BE TRAVELLING TO OTHER
MUSEUMS AS WELL.

IT'S PREPHOTO SHOPPED AND HOW
PHOTOGRAPHERS MANIPULATED IMAGES
TO CREATE EFFECTS LIKE HERE.

LOOKING AT PHOTOGRAPHS TO ASSESS
THEIR DETERIORATION IN HELPING
TO DETERMINE IF SOMEBODY IS AN
ALBUMEN OR SILVER PHOTOGRAPH
BECAUSE THESE MATERIALS
DETERIORATE IN DIFFERENT WAYS.
SO IDENTIFICATION,
DETERIORATION.

HERE'S ANOTHER EXAMPLE OF THE
NELSON ATKINS MUSEUM OF ART.

AN ALBUMEN PHOTOGRAPH.

THERE'S EVIDENCE OF FADING AND DISCOLORATION, WHICH IS TYPICAL OF SILVER IMAGES.

SO DETERIORATION PROBLEMS WILL HELP YOU.

YOU'RE ALWAYS THINKING ABOUT PRESERVATIONS GUIDELINES AND PRIORITIES.

WE'RE GOING TO FOCUS ON IS THIS ALBUMEN OR IS THIS GELATIN.

I WANT YOU TO THINK ABOUT THE BIGGER ISSUES OF PRESERVATION.

THAT'S WHAT'S IMPORTANT.

IN THE END, TO BE HONEST, YOU'LL HOUSE ALBUMEN PRINTS IN THE SAME WAY USE HOUSE PAPER PRINTS.

WHEREAS IT'S NICE TO KNOW AND IMPORTANT TO UNDERSTAND THESE

MATERIALS AND THEIR

TECHNOLOGIES, PRESERVATION GUIDELINES AND PRIORITIES ARE BY FAR THE MOST IMPORTANT TOPIC.

WHEN YOU'RE THINKING ABOUT IDENTIFICATION, YOU THINK ABOUT THE HISTORIC CALL, CONTEXTUAL AND TECHNICAL.

THIS IS A MATTE PHOTOGRAPH.

PRIVATELY OWNED.

YOU CAN SEE IT MOUNTED ON A GRAY CARD.

MATTE COLLODION PROCESSES INTRODUCED AT THE TURN OF THE 19th CENTURY, IN THE MID TO 1890s AND POPULAR TO WORLD WAR I.

THIS IS A SILVER-BASED PROCESS THAT IS ACTUALLY TONED WITH GOLD AND PLATINUM TO PRODUCE A VERY PERMANENT PHOTOGRAPHIC PRINT PROCESS THAT YOU'LL SEE HERE.

IT TENDS TO BE NEUTRAL IN COLOR.

ALMOST APPEARS BLACK AND WHITE.

IT'S A PRINTED OUT IMAGE.

THE NEUTRALITY HAS TO DO WITH THE PRINT IN GOLD AND PLATINUM.

IN STORMS OF HISTORICAL AND

CONTEXTUAL ISSUES, JUST SOME THINGS TO THINK ABOUT.
WHO IS THE PHOTOGRAPHER, DO YOU KNOW THEIR DATES AND WHEN THEY WORKED.
DO YOU HAVE A SENSE OF WHERE THIS OBJECT CAME FROM, CAN YOU DATE IT FROM THAT POINT OF VIEW.
THE CONTENT OF THE IMAGE.
WHO IS PICTURED IN THE IMAGE.
WHO IS THAT PERSON, WHEN THEY WERE BORN AND DIED.
DO YOU SEE CARS, DO YOU SEE BUILDINGS THAT YOU CAN DATE.
WHAT IS IT IN THE IMAGE ITSELF THAT MAY ALLOW YOU TO BEGIN TO DATE THAT OBJECT.
IS IT ON A CABINET CARD.
IS IT A STEREO VIEW?
THESE DIFFERENT FORMATS, SOME OF WHICH I'LL MENTION IN MORE DETAIL IN A MOMENT, CAN SOMETIMES BE DATED AS WELL.
ALL OF THESE CLUES CAN HELP YOU BEGIN TO DIFFERENTIATE WHEN MIGHT THIS OBJECT HAVE BEEN MADE.
THEREFORE YOU THINK, OKAY WHAT PROCESS WAS POPULAR DURING THAT TIME PERIOD.
HERE'S AN EXAMPLE OF AN ALBUMEN PRINT ON WHAT WE CALL A CABINET CARD.
SO THE CABINET CARD IS A FORMAT ABOUT 4 1/4 BY 6 1/2 INCHES.
THIS FORMAT WAS INTRODUCED IN THE 1850s, 1860s.
IN TERMS OF THE TECHNICAL, THINK ABOUT IMAGE QUALITY.
IMAGE COLOR.
SO IS THAT PHOTOGRAPH BROWN AND WHITE OR BLACK AND WHITE IN COLOR?
AND THAT MAY HOPE YOU TO DISTINGUISH VARIOUS PROCESSES.
WHAT IS THE TONALITY IN THE NONIMAGE AREA?

IS IT YELLOW OR WHITE?
THE ALBUMEN PROCESS HAS A
TENDENCY TO YELLOW.
WHEN YOU LOOK AT A HIGHLIGHT IN
AN ALBUMEN PRINT, IT MAY BE
YELLOWED AND DETERIORATED.
A GELATIN, BLACK AN WHITE
PHOTOGRAPH, IT DOESN'T TURN THAT
WAY.
THE NONIMAGE COLOR IS SOMETHING
THAT CAN HELP YOU AS WELL.
HERE IS -- THIS IS A NICE
COMPARISON.
SO HERE YOU'RE USING A PAPER
PRINT USING -- YOU CAN SEE HERE,
FROM 1855.
THIS IS A PRINTED OUT IMAGE
WHERE THE COLOR IS BROWN.
IT'S A PHOTOLYTIC SILVER IMAGE.
IN COMPARISON, THIS PHOTOGRAPH
IS PLAQUE AND WHITE.
YOU CAN SEE THE DIFFERENT IN THE
DARK AREAS AND THE NONIMAGE
COLOR HERE, WHICH IS VERY WHITE
AND BRIGHT.
ALSO YOU WANT TO LOOK AT SURFACE
CHARACTERISTICS.
IS THE IMAGE GLOSSY OR MATTE.
ONE THING WE TALK ABOUT IN
DIFFERENTIATING DIFFERENT
PRINTING PROCESSES, WHETHER THEY
ARE A ONE, TWO OR THREE LAYERED
STRUCTURE.
ONE-LAYERED STRUCTURE IS
SOMETHING LIKE THE SALTED PAPER
PRINT, WHERE THE IMAGE MATERIAL
IS EMBEDDED DIRECTLY IN THE
PAPER SUPPORT.
I'M GOING TO GO BACK BECAUSE I
CAN -- IN THIS CASE, WITH THE
SALTED PAPER, THE SILVER I'LL MY
KNOWLEDGE IS EMBEDDED IN THE
PAPER SUPPORT.
THEY TEND TO BE MATTE, NOT
GLOSSY.
THIS PHOTOGRAPH MAY BE AN
EXCEPTION.

IT MAY HAVE A GLOSS.
THAT COULD BE BECAUSE IT'S CODED
WITH A VARNISH OF SOME KIND.
FOR THE MOST PART, THE SALT
PRINT, THE IMAGE IS EMBEDDED IN
THE PAPER SUPPORT.
WHEREAS, IN OTHER PHOTOGRAPHIC
PROCESSES, YOU HAVE A BINDER
SUCH AS ALBUMEN, COLLODION OR
GELATIN.
WE CALL THAT A TWO-LAYERED
STRUCTURE.
IN THAT CASE THE SURFACE WILL
APPEAR MORE GLOSSY AND NOT AS
MATTE.
SO BEING ABLE TO DIFFERENTIATE
THESE LAYERS AND WHAT IS PRESENT
AND WHAT THE SURFACE CHARACTER
LOOKS LIKE CAN ALSO HELP YOU TO
DIFFERENTIATE ONE PROCESS FROM
ANOTHER.
FORMAT AND PRESENTATION AS WE
MENTIONED EARLIER COULD ALSO
HELP YOU, THE SILVER GELATIN
PHOTOGRAPH THAT YOU SEE HERE,
THEY'RE OFTEN UNMOUNTED.
THE ALBUMEN PRINT IS MOUNTED
BECAUSE IT HAS A TENDENCY TO
CURL.
OF COURSE, DETERIORATION
CHARACTERISTICS.
IS THE IMAGE FADING, WHICH IS
CHARACTERISTIC OF A SILVER
IMAGE.
IS THERE CRACKING OF THE BINDING
LAYER WHICH YOU MAY SEE WITH
ALBUMEN, ET CETERA.
SO HERE'S ACROSS SECTION OF OF
SOME OF THE PHOTOGRAPHIC
PROCESSES THAT WE'LL TALK ABOUT
NOT IN GREAT DETAIL FOR ALL OF
THEM.
BUT YOU SEE WITH THIS TIMELINE,
A SENSE OF THE CHRONOLOGY OF
THESE VARIOUS PROCESSES,
BEGINNING WITH THE SALTED PAPER
PROCESS, WHICH YOU SEE HERE

INTRODUCED IN 1841.

HAVE A BIT OF A TECHNICAL
PROBLEM.

MY POINTER IS STUCK.

GOT IT.

THE SALTED PAPER PRINT THAT YOU
SEE HERE STARTING IN 1840s.

THE CYANOTYPE BECAME MORE
POPULAR BY THE END OF THE 19th
CENTURY.

THE ALBUMEN PRINT DOMINATES THE
19th CENTURY.

WE'LL TALK IN MORE DETAIL ABOUT
ALBUMEN BECAUSE MANY SAID YOU
HAD THIS IN YOUR COLLECTION.

THE TURN OF THE CENTURY, THINGS
TURN TRICKY WITH A VARIETY OF
DIFFERENT PROCESSES PRODUCED
INCLUDING SILVER GELATIN.

PRINTING OUT PAPER, WHICH YOU
SEE HERE AND A VARIETY OF PAPERS
MATTE AND GLOSSY THAT YOU SEE
HERE THAT ARE COMPRISED OF
COLLODION AS A BINDER.

ALSO THE TURN OF THE CENTURY, A
DIFFERENT PROCESS.

THE PLATINUM PRINT, WHICH WAS
USED BY FINE ART PHOTOGRAPHERS.
BUT AGAIN, THIS CARONOLOGY WILL
HELP YOU TO DIFFERENTIATE WHAT
IS IN YOUR COLLECTION.

YOU'LL SEE THOSE IN A DIFFERENT
OF PUBLICATIONS PRESENTED IN
MANY DIFFERENT WAYS, THIS IS THE
SAME INFORMATION FORMATTED IN A
DIFFERENT WAY.

THE TIME LINE OF POPULARITY.
ONE PROCESS THAT WAS NOT ON THE
EARLIER TIME LINE, WHICH YOU SEE
HERE, IS THE SILVER GELATIN
DEVELOPING OUT PROCESS, WHICH IS
PRESENT EVEN TODAY, BLACK AND
WHITE PHOTOGRAPHY.

SO STUDY THOSE.

WE DON'T HAVE TIME REALLY -- I
DON'T WANT TO GO INTO THIS IN
ENORMOUS DETAIL, BUT I WANT YOU

TO BE AWARE OF THE FACT THAT AS YOU'RE THINKING ABOUT IDENTIFICATION OF THE MATERIALS IN YOUR COLLECTION, THAT YOU THINK ABOUT WHAT PROCESSES MIGHT HAVE BEEN POPULAR AT DIDN'T TIME PERIODS.

THE OTHER THING TO RECOGNIZE IS MANY OF THE PHOTOGRAPHIC PRINTS IN YOUR COLLECTIONS ARE LIKELY TO BE SILVER BASED.

THEY'RE BASED ON THE LIGHT SENSITIVITY OF SILVER CHLORIDES AND SILVER IODIDE.

MANY OF THE SILVER BASED PROCESS ARE HERE AT THE BOTTOM OF THIS SLIDE, INCLUDED THE SALTER PAPER PARENT, THE ALBUMEN PRINT, THE SILVER GELATIN PRINTING OUT PAPER AND THE SILVER GELATIN DEVELOPING PAPER.

ALL OF THESE ARE BASED ON THE PROCESS OF THE SILVER HALIDES. WITH THE PRINTING PROCESS THAT WE TALKED ABOUT TUESDAY, YOU TAKE THIS LIGHT SENSITIVE PAPER, SALTED PAPER, ALBUMEN, SILVER GELATIN, AND YOU PLACE IT IN CONTACT WITH A NEGATIVE AND OUT INTO THE SUN UNTIL THE IMAGE PRINTS OUT.

THEY TEND TO BE BROWNISH IN COLOR WHEN THEY'RE PRODUCED. THE SILVER, IF YOU COULD LOOK AT IT UNDER HIGH MAGNIFICATION, WOULD BE ROUNDED IN SHAPE. IT SCATTERED LIGHT AND APPEARS MORE BROWN IN COLOR.

WITH DEVELOPING OUT IMAGES, AS WE MENTIONED, YOU TAKE THAT LIGHT SENSITIVE PAPER AND YOU PLACE IT IN CONTACT -- WHAT HAPPENED?

THERE IT IS.

AND YOU ACTUALLY EXPOSE IT IN A DARK ROOM IN AN ENLARGER AND DEVELOP IT IN A CHEMICAL

DEVELOPER.
SO THERE IS NO LIGHT.
YOU END UP WITH AN IMAGE THAT IS
MORE BLACK IN COLOR.
A FINAL IMAGE MATERIAL KNOWN AS
FILAMENTARY SILVER.
THESE FILAMENTS THAT RESEMBLE
STOOL WOOL.
THE IMAGE APPEARS BLACK IN
COLOR.
BECAUSE THOSE FILAMENTS ABSORB
LIGHT.
BUT IN ALL CASES, WHETHER THESE
IMAGES ARE PRODUCED THROUGH
DEVELOPMENT OR PRINTING OUT, IN
THE LIGHT, IN THE SUNLIGHT OR
THROUGH CHEMICAL DEVELOPMENT,
THEY MUST BE FIXED TO REMOVE THE
RESIDUAL UNEXPOSED LIGHT
SENSITIVE SILVER SALTS.
SO ALL OF THESE PROCESSES, NO
MATTER HOW THEY'RE PRODUCED ARE
FIXED IN ONE WAY OR ANOTHER SO
THEY'RE NO LONGER LIGHT
SENSITIVE.
SOMETIMES YOU'LL HEAR ABOUT
FIXATION OR FIXING USING
SOMETHING LIKE HYPO OR SODIUM
SULFATE.
FINALLY THESE MATERIALS MUST BE
WASHED TO REMOVE THE RESIDUAL
FIXING AGENT, WHATEVER THAT
MIGHT BE.
THIS IS SORT OF A BASIC
UNDERSTANDING OF THESE
MATERIALS, WHETHER THEY'RE
SALTED PAPER PRINTS OR SILVER
GELATIN DEVELOPING OUT.
IT'S A CHANCE TO RECOGNIZE WHAT
IS HAPPENING AS WE TALK ABOUT
THESE PROCESSES IN A BIT MORE
DETAIL.
AND ALSO TO REFER BACK TO THE
CROSS SECTION, WHICH I SHOWED
YOU TUESDAY.
THAT IS TO REMIND YOU THAT YOU
DO HAVE THESE LAMINATE

STRUCTURES WITH PHOTOGRAPHIC
PRINT MATERIALS THAT INCLUDE
PAPER SUPPORTS THAT MAY OR MAY
NOT BE -- THAT MAY OR MAY NOT BE
COATED WITH WHAT WE CALL BARYTA.
IT'S A MIXTURE OF THE WHITE
PIGMENT COMBINED WITH GELATIN
COATED ON THE PAPER SUPPORT,
THIS IS POPULAR WITH
PHOTOGRAPHIC PROCESSES AFTER
1880, 1890.

BINDER LAYER, WHICH IS COATED ON
TOP OF THE PAPER OR ON TOP OF
THE BARYTA LAYER AND THE FINAL
IMAGE MATERIAL, WHICH SCATTERED
LIGHT.

MORE IMPORTANTLY IS TO LOOK AT
THIS IN A REAL PHOTOGRAPH.
THIS IS A SILVER GELATIN
PRINTING OUT PHOTOGRAPH THAT YOU
SEE HERE AND HERE.

THE PRIMARY SUPPORT IS PAPER.
YOU CAN'T SEE THAT.

BUT UNDER HIGH MAGNIFICATION,
YOU CAN SEE THIS WHITE COATING
ON THE PAPER SUPPORT.

THAT'S THE BARYTA LAYER.

ON TOP OF THAT IS THE GELATIN
BINDER LAYER, THAT YOU CAN SORT
OF SEE HERE.

IT'S FOLDED OVER IN THE AREA
THAT IS DAMAGED.

THE FINAL IMAGE MATERIAL IS
PRINTED OUT SILVER.

THIS IS WHAT WE CALL A THREE
LAYERED STRUCTURE.

BECAUSE WE HAVE THE PAPER
SUPPORT, THE BARYTA LAYER AND
THEN THE TRANSPARENT BINDER
LAYER.

SO AGAIN, YOU MIGHT HAVE A TWO
LAYERED STRUCTURE A ONE LAYERED
STRUCTURE OR IN THIS CASE A
THREE LAYERED STRUCTURE WHEN
YOU'RE LIKING AT VARIOUS
PHOTOGRAPHIC PRINTING PROCESSES.
SO LET'S -- WHAT I THINK I'LL

DO, LET ME TALK A BIT ABOUT
SALTED PAPER AND I'LL STOP AND
TAKE QUESTIONS.

LOOKS LIKE HEATHER HAS BEEN
ANSWERING QUESTIONS AS WE GO
THROUGH.

LET ME JUST START WITH THE
SALTED PAPER PROCESS, WHICH I'M
ONLY GOING TO ADDRESS BRIEFLY.
IT'S REALLY A BEAUTIFUL PROCESS.
MANY OF YOU WILL HAVE SOME OF
THESE MATERIALS IN YOUR
COLLECTION.

YOU'RE UNLIKELY TO HAVE LARGE
COLLECTIONS OF SALTED PAPER
PRINTS.

ON THE OTHER HAND, IT'S AN
IMPORTANT PROCESS TO RECOGNIZE
BECAUSE IT'S ONE OF THE EARLIEST
PHOTOGRAPHIC PRINTING PROCESSES.
IT'S BASED ON THE LIGHT SENSITIVITY
OF SILVER HALIDES.

IN THIS CASE, SILVER CHLORIDE.
IT'S PRODUCED IN A RELATIVELY
SIMPLE WAY.

PHOTOGRAPHERS WOULD TAKE GOOD
QUALITY WRITING PAPER, 100% RAG
PAPER THAT IS MADE FROM COTTON
AND LINEN.

IT WAS TYPICALLY SIZED WITH
GELATIN OR STARCH.

AND THEY WOULD IMMEDIATELY
IMMERSE THAT IN A
SOLUTION OF SODIUM CHLORIDE OR
TABLE SALT, WHICH IS WHERE THE
NAME COMES FROM, SALTED PAPER.
THE PAPER WOULD BE ALLOWED TO
DRY.

TO MAKE IT LIGHT SENSITIVE,
BECAUSE REMEMBER, THINKING BACK
TO THE SILVER-BASED PRINTING
PROCESSES, SORT OF BASIC
INFORMATION I PRESENTED, YOU
NEED SILVER HALIDES.

SO TO MAKE THE PAPER LIGHT
SENSITIVE, THE PHOTOGRAPHER
WOULD BRUSH IT WITH A SOLUTION
OF SILVER NITRATE FORMING LIGHT

SENSITIVE SILVER CHLORIDE IN THE PAPER SUPPORT.

THE LIGHT SENSITIVE PAPER WOULD BE PLACED IN CONTACT WITH A NEGATIVE, WHICH MAY BE A PAPER-BASED NEGATIVE OR A GLASS PLATE NEGATIVE DEPENDING WHEN THE PRINT WAS MADE.

PLACED INTO THE SUN AND UNTIL THE IMAGE PRINTS OUT, REMOVED FROM THE SUN AND FIXED AND WASHED.

IN A NUTSHELL, THAT'S THE SALTED PAPER PROCESS.

IT IS IMPORTANT TO SORT OF THINK ABOUT IT AND TO UNDERSTAND HOW THIS PROCESS IS MADE.

BECAUSE IT WILL HELP YOU TO REALLY UNDERSTAND ALL OF THE PRINTING OUT PROCESSES.

IN THIS IMAGE HERE, THIS WONDERFUL IMAGE OF THE MOON, FROM THE LIBRARY OF CONGRESS, WHICH HAS A FANTASTIC COLLECTION OF SALTED PAPER PRINTS, THERE'S AN INTERESTING SURVEY OF SALTED PAPER PRINTS BEING DONE NOW AT HARVARD UNIVERSITY.

SO YOU MAY FIND MORE AND MORE INFORMATION AS WE LEARN MORE AND MORE ABOUT THE SALTED PAPER PRINT FROM OUR COLLEAGUES AT HARVARD.

BUT WHEN YOU LOOK AT SORT OF A SCHEMATIC, WHICH YOU SEE HERE AT THE SALTED PAPER PROCESS, YOU HAVE A PAPER SUPPORT AND EMBEDDED THE PAPER SUPPORT ARE THESE SILVER IMAGE PARTICLES, WHICH ARE ACTUALLY PHOTOLYTIC SILVER, SILVER PRODUCED BY LIGHT BECAUSE THIS WAS A PRINTED-OUT PROCESS.

THE IMAGE IS PHOTOLYTIC, THE SUPPORT IS A COTTON RAG AND NO BINDER.

IT'S A ONE LAYERED STRUCTURE.

SO THIS IS AN IMAGE OF HENRY
TALBOT'S PRINTING ESTABLISHMENT
IN THE U.K.

AND I SHOWED THIS TO YOU.

SO THIS IS WHERE MANY SALTED
PAPER PRINTS ARE BEING MADE.

JUST TO GET A SENSE OF HOW THIS
IS DONE.

THESE ARE THE PRINTING FRAMES IN
THE SUN.

THE ASSISTANT THAT MONITORING
THE PRINTING.

IT WAS VERY LABOR INTENSIVE.

YOU HAD TO DETERMINE WHEN THE
PRINT WAS COMPLETED, WHEN IT HAD
BEEN EXPOSED TO LIGHT EXPOSURE
APPROPRIATELY BEFORE IT WOULD BE
FIXED AND WASHED.

YOU CAN SEE THE PHOTOGRAPHERS
AND EVERYBODY WORKING OUTSIDE AS
WELL.

SO THEN IMAGES HERE FROM MARK
AUSTERMAN, SHOWING HISTORIC
PHOTOGRAPHY AND THE MAKING OF A
SALTED PAPER PRINT HERE.

THE SALTED PAPER PRINT
INTRODUCED IN 1841 POPULAR UNTIL
1860.

THERE IS NO BINDER LAYER.

THE IMAGE IS DIRECTLY EMBEDDED
THE PAPER SUPPORT.

THE IMAGE OF THE PHOTOLYTIC
SILVER IMAGE IS BROWN IN COLOR,
PRODUCED BY LIGHT THROUGH
CONTACT PRINTING.

IT CAN BE SORT OF A PURPLISH
BROWN COLOR WHEN IT'S IN GOOD
CONDITION.

THE IMAGE CAN FADE.

WHEN YOU LOOK AT THE OUTER
EDGES, YOU CAN SEE VERY
CHARACTERISTIC FADING OF THE
OUTER EDGES AS THIS SILVER IMAGE
IS EXPOSED TO POOR ENVIRONMENTAL
CONDITIONS, OXIDATION.

IT WILL BEGIN TO FADE.

THE SILVER WILL CONVERT TO

SILVER SALTS.

THE SILVER SALTS NO LONGER
ABSORB AND SCATTER LIGHT AND YOU
GET THIS CHARACTERISTIC FADING
ON THE OUTER EDGES.

THE IMAGE MAY BE BERATED BECAUSE
THEY'RE SOFT AND SENSITIVE.

HEREN'T ANOTHER SILVER SALTS
PRINT.

SOMEONE ASKED IF SILVER SALTED
PRINTS WERE VARNISHED.

THAT'S A GREAT QUESTION.

IN FACT, MANY OF THEM WERE.

BECAUSE WHEN YOU VARNISHED THESE
IMAGES, YOU WOULD INCREASE THEIR
LOOMOSITY, INCREASE THEIR
DETAIL.

SO YOU WILL FIND SALTED PAPER
PRINTS THAT ARE COATED WITH A
VARIETY OF DIFFERENT VARNISHES
FROM SHELLAC TO NATURAL RESINS
OF ALL KINDS.

THESE VARNISHES MAY DETERIORATE
AND YELLOW.

I'M TELLING YOU, THE SALT PRINT
IS MATTE BECAUSE THE IMAGE IS
EMBEDDED THE PAPER SUPPORT.

COULD BE VARNISHED AND COATED.

YOU NEED TO STUDY THESE IMAGES
CAREFULLY AND DETERMINE WHETHER
I HAVE A VARNISH OR IF THAT IS A
BINDER LAYER AND WHAT AM I
SEEING.

SOMETIMES YOU CAN DISTINGUISH
VARNISHES BECAUSE THEY HAVE BEEN
COATED BY HAND.

THEY HAVE BEEN BRUSHED ON.

YOU'LL SEE BRUSH STROKES WHICH
YOU WON'T NECESSARILY SEE WITH
OTHER BINDER LAYERS.

SO LET ME JUST TAKE A BREAK AND
ASK KRISTEN IF THERE'S ANY
QUESTIONS COMING THROUGH THAT I
MIGHT RESPOND TO BEFORE WE MOVE
IN TO THE ALBUMEN PROCESS.

KRISTEN, BEFORE I TURN IT OVER,
CAN I TAKE IT BACK FOR A SECOND?

>> SURE.

>> I WANTED TO JUST SHOW THIS TO FINISH UP ON THE SALT PRINT. BECAUSE I FORGOT I ADDED THIS IN AT THE LAST MINUTE.

THIS IS JUST DETAIL UNDER HIGH MAGNIFICATION OF THE SALTED PAPER PRINTS WHICH YOU SEE BEHIND IT.

WHAT I WANTED TO SHOW YOU, WHEN YOU LOOK AT THESE IMAGES UNDER HIGH MAGNIFICATION, YOU'LL SEE THE PAPER FIBERS.

THAT'S WHAT THIS IS HERE.

AGAIN, SYMPTOMATIC OF A ONE-LAYERED STRUCTURE.

IF YOU HAVE ACCESS TO HAND HELD MAGNIFIERS THAT ARE 30 OR 40 X, YOU CAN SEE THEM YOURSELVES.

SO THIS IDENTIFICATION CAN BE HELPFUL TO YOU.

AGAIN, WHY ARE YOU SEEING THE PAPER FIBERS?

BECAUSE THIS IS A ONE LAYERED STRUCTURE WITH THE IMAGE MATERIAL EMBEDDED THE PAPER SUPPORT.

OKAY.

KRISTEN, SORRY.

>> NO PROBLEM.

HEATHER HAS BEEN DOING A GREAT JOB ANSWERING A LOT OF THESE QUESTIONS.

ONE THAT SHE WANTED YOUR INPUT ON HAD TO DO WITH POPULARITY OF THESE ITEMS.

SO MARGARET HAD ASKED OF THE FOUR PROCESSES AT THE TURN OF THE CENTURY, WHAT WOULD HAVE BEEN THE CHEAPEST AND EASIEST FOR AN INDIVIDUAL TO USE AND WHAT WAS THE MOST POPULAR AROUND THE TURN OF THE CENTURY.

THAT MIGHT MEAN IT DOMINATES --

>> THAT'S A GOOD QUESTION.

THE TURN OF THE CENTURY -- THE TURN OF THE 19th CENTURY.

WE'RE TALKING LATE 1890S THROUGH
1910 I IMAGINE.

THAT IS A TRICKY TIME FOR
PROCESS IDENTIFICATION.

THERE ARE MANY PROCESSES THAT
ARE AVAILABLE TO PHOTOGRAPHERS.
IT IS A LITTLE BIT HARD TO SAY
WHAT WAS THE MOST POPULAR.
WE HAVE SOME PHOTOGRAPHERS THAT
ARE STILL USING THE ALBUMEN
PROCESS.

CERTAINLY YOU DO NOT SEE SALTED
PAPER PRINTS.

SALTED PAPER PRINTS ARE POPULAR
UNTIL ABOUT 1860s.

SAY THAT, I HESITATE, BECAUSE
THERE ARE PHOTOGRAPHERS THAT
SAID OH, LET'S DO SALT PRINTS.
FOR THE MOST PART, YOU DON'T SEE
SALTED PAPER.

YOU MAY SEE SOME USING ALBUMEN.
I'D SAY THE MOST POPULAR PROCESS
AND PROBABLY THE OTHER
PRINTING-OUT PROCESSES, SILVER
GELATIN PRINTING OUT PAPERS AND
COLLODION CHLORIDE PRINTING OUT
PAPERS BOTH MATTE AND GLOSSY.
BUT BY 1895, SILVER GELATIN
BLACK AND WHITE PHOTOGRAPHY IS
ALSO AVAILABLE.

IT DOESN'T REALLY BECOME POPULAR
UNTIL 1910 OR SO.

BUT YOU CAN SEE A WIDE RANGE OF
MATERIALS AT THIS TIME PERIOD.

SOME OF THIS WILL DEPEND ON
WHERE YOU ARE IN THE WORLD.

AND ONE BOOK THAT I -- AND I SEE
IT LOOKS LIKE ANGELICA HAS
MENTIONED IT IRONICALLY AT THE
SAME TIME THAT I WAS THINKING
ABOUT IT, WHICH IS REALLY A
WONDERFUL RESOURCE.

I WILL IMAGE -- BRING YOU AN
IMAGE IN MY NEXT WEBINAR TO TAKE
A LOOK AT IT.

IT'S A BOOK BY JIM RILEY ON 19th
CENTURY PHOTOGRAPHIC PRINT

PROCESSES.

IT'S TRULY EXCELLENT ABOUT THESE VARIOUS PROCESSES, PARTICULARLY THOSE THAT DOMINATE THE 19th CENTURY BASED ON ITS TITLE.

AND IT INCLUDES DETAILS ON HOW THEY WERE MADE, HOW TO IDENTIFY THEM.

THERE'S A CHART IN THIS BOOK AS WELL.

AND SO THAT COMBINED WITH A GRAPHIC ATLAS IN LOOKING AT THE TURN OF THE CENTURY WILL HELP YOU TO DIFFERENTIATE SOME OF THESE PROCESSES.

>> THAT'S GREAT.

WE DID HAVE A QUESTION ABOUT THE SALT PROCESS.

HOW LONG DID IT TAKE TO PRODUCE IN THE SUN AND WAS IT EVER DONE UNDER ARTIFICIAL FORMS OF LIGHT.

>> OKAY.

GOOD QUESTION.

IT WAS -- ARTIFICIAL WASN'T

AVAILABLE AT THE TIME THAT THE SALTED PAPER PRINTS WERE POPULAR.

SO IT WAS DONE WITH THE SUN. THE LENGTH OF THE EXPOSURE VARIED BECAUSE IT DEPENDED ON THE SENSITIVITY OF THE PAPER AND THE TYPE OF NEGATIVE BEING USED. WAS IT A WAXED PAPER NEGATIVE, WHICH WAS POPULAR EARLY ON, THE BEGINNING OF THE SALTED PAPER PRINT OR AFTER 1851, WAS IT A WET PLATED COLLODION NEGATIVE. IT'S HARD TO SAY.

I'D SAY IN GENERAL, YOU PROBABLY ARE TALKING ABOUT LIGHT EXPOSURE SLUR IN THE RANGE OF 15 TO 30 MINUTES.

IT WASN'T REALLY AN ISSUE BECAUSE YOU JUST PUT THESE PHOTOGRAPHS IN PRINTING FRAMES AND ALLOWED THEM TO BE EXPOSED

TO LIGHT.

OF COURSE, IT HAD TO DO WITH THE INTENSITY OF THE LIGHT AND THE TIME OF YEAR.

PHOTOGRAPHERS BEGAN TO SORT OF RECOGNIZE WHAT THEIR EXPOSURES WOULD BE BASED ON THEIR OWN EXPERIENCE.

THERE'S MANY, MANY VARIABLES.

PHOTOGRAPHY WAS DIFFICULT, CHALLENGING AND, YOU KNOW, IT'S IMPORTANT TO STEP BACK AND RECOGNIZE THE AMOUNT OF TIME THAT WENT INTO EVERY ONE OF THESE IMAGES THAT WE'RE CARING FOR TODAY.

>> ACTUALLY A GREAT FOLLOW UP QUESTION FROM DENNIS ABOUT THESE TYPES OF PHOTOGRAPHY.

WAS THIS A PROHIBITIVELY EXPENSIVE AT THE TIME?

WOULD AMATEURS USE ONE TIME OVER ANOTHER AT THIS TIME IN HISTORY?

>> THE SALTED PAPER PROCESS WASN'T NECESSARILY -- IN THE UNITED STATES, IT WAS EXPENSIVE. IT WAS PATENTED.

YOU HAD TO PAY BY A LICENSING FEE IN ORDER TO MAKE SALTED PAPER PARENTS.

SO AMATEURS REALLY WERE NOT AS INVOLVED IN PHOTOGRAPHY.

IN FACT, THEY REALLY WERE NOT INVOLVED IN PHOTOGRAPHY UNTIL LATER IN THE 19th CENTURY WHEN IT WAS JUST A LITTLE BIT EASIER TO DO AND YOU COULD BUY PAPER THAT WAS ALREADY MANUFACTURED IN LIGHT SENSITIVE SUCH AS SILVER GELATIN PRINTING OUT PAPER.

BUT IT WASN'T, I DON'T THINK, AS EXPENSIVE AS SOMETHING LIKE THE DAGUERRETYPE.

BUT CERTAINLY IT WAS NOT A PROCESS THAT YOU WOULD FIND AMATEURS WORKING WITH.

THERE WERE SCIENTISTS THAT MIGHT

HAVE BEEN EXPERIMENTING WITH THIS PROCESS AND DABBING IN SALTED PAPER AND ALBUMEN PRINTS AS WELL.

BUT THE AMATEUR MARKETS BEGINS TO RATE LATE 19th CENTURY WITH THE INTRODUCTION OF OTHER PROCESSES.

I SHOULD KEEP GOING, KRISTEN.

>> SURE.

>> GIVEN THE TIME.

IT'S GETTING AWAY FROM US. AND MOVE THROUGH ALBUMEN AT LEAST AND LET'S -- THEN OF COURSE HEATHER IT LOOKS LIKE IS ANSWERING QUESTIONS AND WE'LL TAKE ANOTHER BREAK OR SO.

I WANT TO BE SURE WE HAVE TIME AT THE END, WHICH MAY BE A CHALLENGE.

ANYWAY, IF YOU UNDERSTAND THE SALTED PAPER PRINTS, YOU'LL UNDERSTAND THE ALBUMEN PHOTOGRAPH.

THE ALBUMEN PHOTOGRAPH DOMINATED THE 19th CENTURY.

HERE'S TWO EXAMPLES HERE.

IN THIS CASE, ANOTHER EXAMPLE HERE FROM THE LIBRARY OF CONGRESS.

WHEN YOU LOOK AT THIS PORTRAIT OF ABRAHAM LINCOLN, YOU CAN BEGIN TO SEE SOME CHARACTERISTICS OF THE ALBUMEN PROCESS.

IT IS A PHOTOLYTIC SILVER IMAGE PRODUCED BY LIGHT.

THE IMAGE IS THERE FOR BROWN IN COLOR.

IT'S NOT BLACK IN WHITE.

THESE ROUNDED PARTICLES OF SILVER THAT SCATTER LIGHT.

THE BINDER IS EGG WHITE OR ALBUMEN.

THIS BINDER TENDS TO YELLOW OVER TIME.

YOU DON'T SEE BRIGHT WHITE

HIGHLIGHTS BUT RATHER THE HIGHLIGHTS WERE MORE YELLOW BECAUSE OF THE DETERIORATION OF THE EGG WHITE BINDER LAYER. THE IMAGE TENDS TO FADE. BOTH OF THESE IMAGES ARE SOMEWHAT FADED.

IF YOU COULD LOOK AT THIS PHOTOGRAPH UNDER HIGHER MAGNIFICATION, YOU MIGHT SEE CRACKING, WHICH IS A COMMON PROBLEM WITH ALBUMEN.

AS THE EGG WHITE EXPANDS AND CONTRACTS DIFFERENTLY.

THERE'S ALL KINDS OF WONDERFUL VIDEOS AND MOVIES ONLINE THAT SHOW YOU HOW ALBUMEN PRINTS ARE MADE.

I'VE DONE A FEW SCREEN SHOTS FROM THIS PARTICULAR VIDEO.

I MENTIONED THESE IN MY DISCUSSION TUESDAY.

THEY'RE WONDERFUL IN SHOWING YOU HOW THESE MATERIALS ARE MADE.

TO MAKE AN ALBUMEN PRINT, YOU TAKE THE WHITE OF HEN'S EGGS, WHICH YOU SEE HERE.

THAT WOULD BE BEATEN UP TO A FROTHER TO HOMODOGNEZE.

AND THEN TO MAKE A PAPER LIGHT SENSITIVE, YOU'D TAKE THE ALBUMENIZED PAPER, PAPER COATED WITH EGG WHITE AND FLOAT IT ON A SOLUTION OF SILVER NITRATE FORMING LIGHT SENSITIVE SILVER CHLORIDE, MOST LIKELY IN THE ALBUMEN BINDER LAYER.

THAT LIGHT SENSITIVE PAPER WOULD BE ALLOWED TO DRY, PLACED IN CONTACT WITH A NEGATIVE AND PLACED INTO THE SUN UNTIL THE IMAGE BEGINS TO PRINT OUT.

AGAIN, THE IMAGE I SHOWED YOU EARLIER OF THE PHOTOGRAPHS PRINTING OUT.

YOU CAN EXPECT THE EXTENT OF PRINTING BY CAREFULLY LIFTING UP

THE IMAGE TO SEE.

IN THIS CASE, YOU CAN SEE THE ALBUMEN PRINT, WHICH IS PRINTING OUT FOLLOWING EXPOSURE TO LIGHT. THE PHOTOGRAPH WOULD BE FIXED AND WASHED.

AFTER 1854, I'D SAY THIS IS PART OF THE PROCESS.

THIS PHOTOGRAPH WOULD BE GOLD-TONED AS WELL.

SO THE PROCESS REALLY IS THAT YOU EXPOSE THIS VIDEO, THE ALBUMEN PRINT TO LIGHT, YOU THEN GOLD TONE IT, FIX IT AND WASH IT.

SO THESE IMAGES ARE TRADITIONALLY GOLD TONED. GOLD TONING WOULD INCREASE THE -- IMPROVE THE COLOR AND CERTAINLY INCREASE THE PERMANENCE AS WELL.

SO ALBUMEN IN VERY GOOD CONDITION TEND TO HAVE A BEAUTIFUL PURPLISH BROWN TONALITY.

HERE'S ANOTHER SCHEMATIC THAT SORT OF BEGINS SILVER PRINTING OUT PAPERS AND ALBUMEN PRINTS IN PARTICULAR.

YOU TAKE THE LIGHT SENSITIVE PAPER.

PLACE IT IN CONTACT WITH A NEGATIVE.

YOU TONE IT IN A GOLD TONER OF SOME KIND.

YOU THEN FIX IT TO REMOVE THE UNEXPOSED LIGHT SENSITIVE SILVER HALIDES AND WASH IT.

UNDER VERY HIGH MAGNIFICATION, 40000 X, YOU'LL SEE THESE TINY LITTLE PARTICLES OF SILVER METAL.

THE ROUNDED PARTICLES THAT SCATTER AND THE IMAGE APPEARS BROWN IN COLOR.

SO THE ALBUMEN PROCESS IS MADE BY TAKING THIS ALBUMENIZED

PAPER, MAKING IT LIGHT SENSITIVE, EXPOSING IT TO LIGHT AND FIXING IT AND WASHING IT. THE PAPER TENDS TO BE VERY GOOD QUALITY BUT VERY THIN, TENDS TO CURL.

FOR THAT REASON, MOST ALBUMEN PRINTS WERE MOUNTED IN SOME WAY. SO YOU MAY HEAR REFERENCE TO SOMETHING CALLED THE CART DE VISITES, WHICH REFERS TO A FORMAT WHICH IS ABOUT 2 1/2 BY 4 1/4 IMAGES.

THESE ARE ALL MOUNTED.

A CART DeVISETES ARE MATTE COLLODION PROCESSES.

SO BE VERY CAREFUL ABOUT DISTINGUISHING THE FORMAT FROM THE PROCESS.

ON THE OTHER HAND, IN THE UNITED STATES, I WOULD SAY THAT 95% OF THE CART DE VISITES ARE LIKELY TO BE ALBUMEN PRINTS.

THIS IS BECAUSE THE CART DE VISITES WAS IN THE HEY DAY OF PRINTING.

YOU CAN SEE THESE ARE ALL BROWN IN COLOR.

THEY HAVE ALL YELLOWED HIGHLIGHTS.

THE DETERIORATION OF THE EGG WHITE BINDER LAYER.

SOME ARE FADED AT THE OUTER EDGES, WHICH IS TYPICAL.

AND BUT THEY'RE GENERALLY IN GOOD CONDITION.

ANOTHER FORMAT THAT YOU MAY FIND IN YOUR COLLECTION THAT IS POPULAR WITH THE ALBUMEN PROCESS, BUT YOU'LL SEE THIS FORMAT INTO THE 20th CENTURY AS WELL IS THE CABINET CARD, WHICH IS SLIGHTLY LARGER IN THIS CASE. PROBABLY 4 1/4 BY 6 1/2 INCHES. THESE ARE TWO ALBUMEN PRINTS MOUNTED ON TO THIS CABINET CARD. SO YOU WANT TO THINK ABOUT

FORMAT AND THINK ABOUT PROCESS
SIMULTANEOUSLY.

ANOTHER EXAMPLE HERE OF AN
ALBUMEN PHOTOGRAPH FROM THE
LIBRARY OF CONGRESS IN
RELATIVELY GOOD CONDITION WITH
SOME FADING, CERTAINLY AT THE
OUTER EDGES.

BUT THE CABINET CARD REFERS TO
THE FORMAT AND THE SIZE OF THE
MOUNT.

WHEN YOU LOOK AT THE ALBUMEN
PRINT IN CROSS SECTION, WHAT
YOU'LL SEE HERE IS A TWO LAYERED
STRUCTURE.

YOU HAVE A GOOD QUALITY, 100%
RAG, THIN PAPER SUPPORT.
COATED WITH TRANSPARENT ALBUMEN
OR EGG WHITE BINDER.

THE IMAGE MATERIAL IS THIS
SILVER, THESE ROUNDED PARTICLES
OF SILVER METAL THAT ARE TONED
WITH GOLD.

SO YOU HAVE A GOLD TONED SILVER
IMAGE, AN EGG WHITE BINDER AND A
GOOD QUALITY PAPER SUPPORT.

THE PROCESS DOMINATES AS WE SAID
MANY TIMES.

IT'S WORTH REPEATING.

THE 19th CENTURY.

WHEN WE DID THE POLL AT THE
BEGINNING OF THIS LECTURE MANY
OF YOU SAID YOU HAD ALBUMEN
PRINTS, WHICH IS NOT THE LEAST
BIT SURPRISING BECAUSE THEY'RE
SO COMMON.

AND AGAIN, IT'S AN EGG WHITE
BINDER ON A THIN PAPER TYPICALLY
MOUNTED, TYPICALLY GOLD TONED
WITH THIS PURPLISH BROWN IMAGE
AND YELLOWED HIGHLIGHTS.

THE HIGHLIGHTS ARE YELLOWING
BECAUSE OF THE DETERIORATION OF
THE SILVER IMAGE AND THE
DETERIORATION OF THE ALBUMEN
BINDER.

THE EGG WHITE DOES TEND TO CRACK

AND CRAZE OVER TIME.
UNDER HIGH MAGNIFICATION, YOU'LL
SEE THE HIGH CHARACTERISTIC
CRACKING.

I WANT TO SHOW YOU ANOTHER
PROBLEM IN 19th CENTURY
PHOTOGRAPHY.

WE DO TEND TO SEE FADING OF THE
HIGHLIGHTS.

THE HIGHLIGHTS LOSE THEIR DETAIL
FAIRLY RAPIDLY.

THIS IS BECAUSE OF THE SILVER
IMAGE IN THOSE AREAS IS VERY
SMALL AND VERY PRONE TO FADING
AND DETERIORATION.

ONE OF THE FIRST AREAS WE LOSE
DETAIL IS IN AREAS OF HIGHLIGHTS
LIKE CHRISSENING DRESSES LIKE
YOU SEE HERE.

THIS IS AN EXAMPLE OF THAT
CRACKING THAT I TALKED ABOUT,
WHICH IS CHARACTERISTIC OF THE
ALBUMEN PROCESS.

AS THE EGG WHITE EXPANDS AND
CONTRACTS DIFFERENTLY FROM THE
PAPER SUPPORT, YOU GET THIS
CHARACTERISTIC CRACKING, WHICH
YOU WILL NOT NECESSARILY SEE IN
SOMETHING LIKE A BLACK AND WHITE
SILVER GELATIN PHOTOGRAPH.

AGAIN, THERE ARE ALL KINDS OF
RESOURCES.

THROUGH THE IPI IMAGE PERMANENT
INSTITUTE WEBSITE, YOU CAN
PURCHASE A BOOK THAT WAS WRITTEN
MANY YEARS AGO AND HAS BEEN
UPDATED ON JIM RILEY ON ALBUMEN
AND SALTED PAPER PRINTS.

THIS IS A GREAT BOOK ON HOW THEY
WERE MANUFACTURED, HOW THEY WERE
MOUNTED, THE DIFFERENT MOUNTS
USED AND HOW THEY DETERIORATE
OVER TIME.

I RECOMMEND THIS CERTAINLY.

AGAIN, AN AWFUL LOT OF
INFORMATION THAT WE'RE TALKING
ABOUT CAN BE FOUND ON THE

GRAPHICS ATLAS.

KEEP REFERRING BACK TO THESE
VARIOUS RESOURCES.

I WISH WE HAD HOURS AND HOURS
AND WE COULD TALK FOR HOURS AND
HOURS ABOUT THE ALBUMEN PROCESS.
BUT IT'S NICE TO KNOW THAT THERE
IS AN ENORMOUS AMOUNT OF
INFORMATION OUT THERE THAT I
THINK YOU WILL FIND VERY
HELPFUL.

BUT IN THE BACK OF YOUR MIND,
I'VE GONE BACK TO REMIND YOU
AGAIN, THE ALBUMEN PROCESS HAS
THIS BROWN AND WHITE COLOR.
THIS PARTICULAR ALBUMEN PRINT IS
NOT IN PARTICULARLY GREAT SHAPE.
IT'S YELLOWED, FADED.
THERE'S LOSS OF HIGHLIGHT
DETAIL.

IT HAS SURFACE DIRT AND
DETERIORATION AS WELL.
IT IS CHARACTERISTIC OF THE
ALBUMEN PRINT.

I AM GOING TO JUST INTRODUCE A
COUPLE OF PROCESSES.
I WANT TO MOVE TO SILVER GELATIN
DEVELOPING NOW.
THAT'S THE OTHER PROCESS THAT
YOU IDENTIFIED AND THE ONE THAT
IS MOST COMMON IN YOUR
COLLECTIONS.

SOMEONE ASKED EARLIER, WHAT
DOMINATED THE TURN OF THE
CENTURY.

THIS IS WHERE WE GET INTO THESE
OTHER PROCESSES.

ONE IS SILVER GELATIN PRINTING
OUT PAPERS, WHICH YOU SEE HERE.
THESE WERE INTRODUCED IN THE
1880s, LATE 1880s AND POPULAR
UNTIL 1940.

WHAT IS DIFFERENT HERE,
PHOTOGRAPHERS WOULD BUY THIS
PAPER ALREADY MANUFACTURED.
THEY NO LONGER HAD TO SENSITIZE
THEM TO LIGHT.

THEY DIDN'T HAVE TO DEAL WITH
IMMERSING THINGS AND SILVER
NITRATE.

WHEN YOU BOUGHT TYPICALLY WITH
THE ALBUMEN PROCESS, A
PHOTOGRAPHER WOULD PURCHASE
ALBUMENIZED PAPER MANUFACTURED
IN EUROPE.

HE OR SHE WOULD HAVE TO FLOAT IT
ON SILVER NITRATE TO PRODUCE
LIGHT SENSITIVE SILVER CHLORIDE.
THAT WAS CUMBERSOME AND
DIFFICULT AND TIME CONSUMING AND
PROBLEMATIC.

WITH THE INTRODUCTION OF
PRINTING OUT PAPERS, THESE WERE
MADE BY MACHINE.

GOOD QUALITY PAPER WAS COATED
WITH A GELATIN EMULSION.
PHOTOGRAPHERS WOULD BUY THIS
LIGHT SENSITIVE PAPER, PLACE IT
IN CONTACT WITH A NEGATIVE OUT
INTO THE SUN SO IT'S STILL
PRINTED OUT.

YOU STILL HAVE THE
CHARACTERISTIC PRINTING OUT
COLOR THAT YOU SEE HERE.
THESE IMAGES ARE NOT BLACK AND
WHITE.

THEY ARE TRADITIONALLY TONED
WITH GOLD, FIXED AND WASHED.
BUT THE WAY THEY PRODUCED IS
VERY DIFFERENT AND THE WAY THAT
THE PHOTOGRAPHERS COULD NOW
BEGIN TO PURCHASE THESE
MATERIALS.

THE OTHER DIFFERENCE WITH THE
SILVER GELATIN PRINTING OUT
PAPER IS FOR THE MOST PART,
THESE ARE THREE LAYERED
STRUCTURES.

YOU CAN ALMOST IMAGINE THAT THE
SURFACE QUALITY IS MUCH
GLOSSIER.

BECAUSE IN THIS CASE, THE PAPER
IS COATED WITH THE BRIGHTER
LAYER.

THE WHITE PIGMENT BARIUM SULFATE
AND GELATIN COATED ON THE PAPER
SUPPORT.

SO YOU CAN GET A SURFACE THAT IS
MUCH GLOSSIER BECAUSE YOU NO
LONGER SEE THE PAPER FIBERS.
THEY'RE HIDDEN.

IT'S LIKE ICING A CAKE.

WITH THE ALBUMEN PRINT, YOU
STILL HAVE THE PAPER FIBERS THAT
ARE VISIBLE.

YOU'RE LOOKING THROUGH THE --
[AUDIO DIFFICULTIES]
AND UNDER HIGH MAGNIFICATION,
YOU SEE HOW YOU DON'T SEE ANY
PAPER FIBERS.

IT'S VERY SMOOTH, VERY GLOSSY.
ONE THING YOU DO SEE WITH THESE
PHOTOGRAPHS THOUGH, IF YOU LOOK
AT THEM CAREFULLY, IS
RETOUCHING.

THIS IS RETOUCHING IN THE EYE
AND ALSO IN THIS CASE ON THE
EYEBROW TO MAKE THESE
INDIVIDUALS LOOK A BIT MORE
LIFE-LIKE.

IT'S NOT SOMETHING YOU'LL NOTICE
RIGHT AWAY.

IN MANY CASES THERE'S A LITTLE
PIGMENT APPLIED TO THE EYES AND
SOMETIMES TO THE CHEEKS AS WELL.
WE ALSO HAVE ANOTHER PROCESS
THAT IS POPULAR AT THE TURN OF
19th CENTURY, COLLODION CHLORIDE
PAPERS MATTE AND GLOSSY.

COLLODION REFERS TO THE FACT
THAT IN THE CASE THE BINDER
LAYER IS COLLODION OR CELLULOSE
NITRATE.

THESE TWO ARE MANUFACTURED SO
YOU'D BY COLLODION OR GELATIN
PAPERS.

THEY'RE PRINTED OUT.

THE COLLODION PROCESS IS
TYPICALLY TONED WITH GOLD AND
PLATINUM.

THESE IMAGES APPEAR MORE NEUTRAL

IN COLOR.

THEY SOMETIMES CAN BE OFTEN
CONFUSED WITH BLACK AND WHITE,
SILVER GELATIN PAPERS.

THEY TEND TO BE IN EXCELLENT
CONDITION.

THESE ARE BOTH BEAUTIFUL BECAUSE
OF THE TONING OF GOLD AND
PLATINUM.

LOOK AT THIS PICTURE OF THE
BABY.

YOU CAN SEE EVIDENCE OF
ABRASION.

THESE BECAUSE COLLODION AS A
MATERIAL IS BRITTLE.

IT DOES ABRASE QUITE EASILY.

FOR THE MOST PART, IF YOU HAVE A
PHOTOGRAPH AND THEY -- HERE'S
ANOTHER TIP.

THEY'RE SOMETIMES MOUNTED ON NOT
NEUTRAL, BUT RATHER GRAY MOUNTS.
I THINK THIS HAS TO DO WITH THE
FACT THAT THEY LOOK BETTER ON
THE GRAY MOUNTS.

SO YOU HAVE PHOTOGRAPHS IN YOUR
COLLECTION FROM THE TURN OF THE
CENTURY THAT ARE NEUTRAL IN
COLOR, MOUNTED ON A GRAY MOUNT,
THEY COULD BE MATTE COLLODION AS
YOU SEE HERE.

THERE'S -- THIS IS WHERE IT
BECOMES VERY CONFUSING.

SO STAY WITH ME.

DON'T DESPARE.

THERE'S ALSO GLOSSY PAPERS THAT
WERE MADE WITH COLLODION AS YOU
SEE HERE.

THIS IS A COLLODION BINDER
LAYER, A SILVER IMAGE ON A
BRIGHTER COATED PAPER SUPPORT
THAT HAVE A VERY HIGH GLOSS,
VERY SIMILAR TO SILVER GELATIN
PRINTING OUT PAPERS.

SOMETIMES THEY ADDED DYES TO THE
COLLODION TO PRODUCE IMAGES THAT
WERE VERY BLUE OR PURPLISH BLUE
OR MAGENTA IN COLOR AS YOU SEE

IN THIS PHOTOGRAPH ON A YOUR
RIGHT.

THIS IN FACT WAS COMMON FOR
THOSE OF YOU TUNING IN FROM
EASTERN EUROPE, FROM RUSSIA,
FROM THAT PART OF THE WORLD,
THESE TINTED COLLODION CHLORIDE
PAPERS WERE VERY POPULAR AND
COMMON.

NOT AS COMMON IN THE UNITED
STATES, BUT YOU WILL STILL SEE
THEM IN YOUR COLLECTIONS.
YOU'LL SEE THEM AROUND THE
WORLD.

ONE THING THAT DISTINGUISHES
BOTH OF THESE PHOTOGRAPHS
THEY'RE IN VERY GOOD CONDITION.
THE COLLODION BINDER LAYER
PROTECTS THE SILVER IMAGE.
UNLIKE A GELATIN MATERIAL WHICH
CAN EXPAND AND ABSORB MOISTURE,
BECOME TACKY AND STICKY.
COLLODION DOESN'T RESPOND IN
THAT WAY.

IT'S A FORM OF CELLULOSE
NITRATE, THIS IS THE SAME
MATERIAL THAT WE ENCOUNTERED IN
AMBER TYPES AND TINTYPES.
SO THESE ARE COLLODION CHLORIDE
GLOSSY PAPERS THAT WERE VERY
POPULAR AT THE TURN OF THE
CENTURY.

NOW, THE OTHER PROCESS THAT I
WANT TO TALK ABOUT AND THEN I
PROMISED TO TAKE TIME FOR
QUESTIONS, BUT I WANT TO BE SURE
TO ADDRESS THIS, SILVER GELATIN
BLOCKING OUT.

WHEN YOU RESPONDED TO THE POLLS,
MANY SAID YOU HAVE ALBUMEN
PRINTS AND WE HAVE SILVER
GELATIN DEVELOPING OUT
PHOTOGRAPHS.

THE OTHER DAY SOMEONE ASKED
WHETHER SILVER GELATIN OR
GELATIN SILVER.

CAN IT BE EITHER.

PEOPLE USE BOTH.

I WISH IT WAS MORE STANDARD BUT IT'S NOT.

SILVER GELATIN REFERS TO THE FACT THAT THESE PHOTOGRAPHS WERE PRODUCED THROUGH DEVELOPMENT IN A DARK ROOM.

NOT BY LIGHT.

YOU CAN SEE HERE, TOO, PHOTOGRAPHS IN GOOD CONDITION. THIS IS IN EXCELLENT CONDITION. THIS PHOTOGRAPH IS MUCH MORE FADED YELLOWED AND DETERIORATED, WHICH IS TYPICAL OF SOME OF THE DETERIORATION PROBLEMS THAT WE SEE WITH BLACK AND WHITE PHOTOGRAPHY.

ONE OF THE MAIN PROBLEMS THAT YOU SEE HERE IN THESE SILVER GELATIN DEVELOPING OUT PHOTOGRAPHS IS MIRRORING.

SO WITH THE PHOTOGRAPH ON THE RIGHT, YOU CAN SEE WHERE THE IMAGE IS ACTUALLY DETERIORATED IN THOSE AREAS THAT WERE PROBABLY EXPOSED TO A POOR QUALITY MATTE OF SOME KIND.

THE CENTER AREA WAS PROTECTED. THIS AREA WAS PLACED IN CONTACT WITH THIS POOR QUALITY MATTE CAUSING THIS SILVER IMAGE TO DETERIORATE OR WHAT WE CALL MIRROR, THIS IS A MIGRATION OF THE SILVER IN THE PHOTOGRAPH. IT IS DEPOSITED ON THE TOP SURFACE AS YOU SEE AT THE BOTTOM EDGE.

A COMMON PROBLEM WITH SILVER GELATIN DEVELOPED OUT PHOTOGRAPHS.

AGAIN, JUST A REMINDER OF SORT OF WHERE WE ARE AT THIS POINT. WE'RE NOW INTO THE 20th CENTURY, THIS BLACK AND WHITE DEVELOPED OUT PAPERS THAT BEGIN TO BE POPULAR BY 1905 THAT ARE CERTAINLY POPULAR INTO THE 1960s

WHEN THEY'RE REPLACED WITH COLOR PHOTOGRAPHY.

YOU CAN SEE THE SHIFT IN COLOR, I HOPE.

THE PHOTOLYTIC SILVER IMAGES THAT ARE BROWNER COLOR AND HERE WE ARE AT THE TURN OF THE 19th CENTURY AND 20th CENTURY WITH BLACK AND WHITE IMAGES.

THE SILVER GELATIN DEVELOPED OUT PROCESS.

AND HERE IS ANOTHER COMPARISON PRINTED OUT VERSUS DEVELOPED OUT.

PRINTED OUT PRODUCED BY PLACING PAPER IN CONTACT WITH THE NEGATIVE OUT INTO THE SUN.

THE SILVER GELATIN DEVELOPING OUT PAPER PRODUCED IN THE DARK ROOM.

BOTH PHOTOGRAPHS IN THIS CASE IN VERY GOOD CONDITION.

SO A SCHEMATIC HERE IS YOU TAKE THAT LIGHT SENSITIVE PAPER, YOU EXPOSE IT TO LIGHT AND ENLARGE IT.

IMMERSE IT.

IN A CHEMICAL DEVELOPER, YOU'RE WORKING IN A DARK ROOM AND FIX WITH IT SODIUM SULFATE TO REMOVE THE SEWED YOU'LL HALIDES AND WASH IT.

THESE ARE NOT TONED.

TONING IS COMMON WITH PRINTED OUT IMAGES OR NOT NECESSARILY WITH THE DEVELOPED OUT IMAGE.

ONE THING I WANTED TO BE SURE YOU SAW IS THE SIZE AND MORPHOLOGY AND SHAPE OF THIS SILVER IMAGE.

THESE CLUMPS OF SILVER THAT ABSORB LIGHT.

THE IMAGE APPEARS BLACK AND WHITE.

IN CROSS SECTION, AGAIN, YOU'VE GOT A GOOD QUALITY PAPER SUPPORT OF SOME KIND COATED WITH BARYTA

AND A GELATIN COATING IN A BLACK AND WHITE IMAGE THAT WE'VE SEEN. WONDERFUL RESOURCE IS THIS GUIDE TO FIBER BASED GELATIN SILVER PRINT MATERIALS.

THIS IS LISTED IN THE RESOURCES. IT'S AVAILABLE ONLINE.

GOWAN HAS ADDRESSED MANY ISSUES ASSOCIATED WITH THE APPEARANCE AND DETERIORATION AND PRESERVATION OF THESE BLACK AND WHITE SILVER GELATIN PAPERS, WHICH CAN BE VERY DIFFERENT IN THEIR SURFACE QUALITY AND CHARACTERIZATION.

THERE'S CONSIDERABLE WORK BEING DONE BY GOWAN, THE MUSEUM OF MODERN ART, THE IMAGE PERMANENCE INSTITUTE AND MANY OTHERS TRYING TO CHARACTERIZE THE SURFACE OF THESE SILVER GELATIN PAPERS BECAUSE THEY CAN BE GLOSSY, MATTE, BE TEXTURED.

IN YOUR COLLECTION YOU'LL SEE EXAMPLES OF DIFFERENT MATERIALS. NOTES ON PHOTOGRAPHS WHICH I MENTIONED BEFORE, HAS EXTENSIVE MATERIAL IN BLACK AND WHITE PAPERS.

PAUL MESSIER WHO WORKS IN BOSTON, MASSACHUSETTS HAS ASSEMBLED A LARGE COLLECTION OF SILVER GELATIN DEVELOPING OUT PAPERS THAT ARE BEING STUDIED TO BEGIN TO CHARACTERIZE THEIR SURFACES AND UNDERSTAND THEIR MANUFACTURER.

MUCH OF THIS INFORMATION IS ONLINE ON HIS WEBSITE.

IF YOU'RE INTERESTED IN LEARNING MORE ABOUT 20th CENTURY BLACK AND WHITE PHOTOGRAPHY, THIS IS ANOTHER RESOURCE THAT YOU MAY WANT TO REFER TO.

THIS IS JUST FROM PAUL ACTUALLY. GET A SENSE OF THE VARIOUS PAPERS THAT HE'S BEEN PURCHASING

AND STUDYING.

ALL THE DIFFERENT TEXTURES.
THIS HAS BEEN VERY IMPORTANT TO
US IN THE FIELD OF PHOTOGRAPH
CONSERVATION AS WE BEGIN TO
CHARACTERIZE THE KINDS OF
PAPERS, THE VARIOUS
PHOTOGRAPHERS USED DURING THEIR
LIFETIME.

THE QUALITY, THE FIBER CONTENT,
THE THICKNESS OF THE BARYTA
LAYER, ET CETERA.

THERE'S A LOT OF WORK IN THIS
AREA.

IN YOUR CASE, WHAT IS
IMPORTANT -- HERE'S A GREAT
PHOTOGRAPH OF PAUL McCARTNEY, OF
COURSE.

JUST TO THINK BRIEFLY WHAT IS
THIS DEVELOPED PHOTOGRAPH.
IT'S MADE THROUGH CHEMICAL
DEVELOPMENT.

THE DEVELOPMENT IS STOPPED,
FIXED AND WASHED.

YOU END UP WITH THIS IMAGE THAT
IS WHEN IT'S IN GOOD CONDITION
IN BLACK AND WHITE.

AS YOU SEE HERE, AGAIN, IT'S
PRODUCED THROUGH CHEMICAL
DEVELOPMENT AS OPPOSED TO
PRINTING OUT.

SO YOU CAN REALLY BEGIN TO
DIFFERENTIATE IN YOUR COLLECTION
THESE DIFFERENT MATERIALS.

THE DEVELOPED OUT IMAGE IS BLACK
IN COLOR.

THE FILAMENTARY SILVER IMAGE AS
COMPARED TO THE PRINTED OUT
BROWNER IMAGE.

IN THIS CASE, BOTH IMAGES ARE IN
GOOD CONDITION.

YOU DO BEGIN TO SEE THE
MIRRORING AT THE OUTER EDGES,
WHICH IS CHARACTERISTIC OF
PAPERS EXPOSED TO POOR
CONDITIONS.

UNFORTUNATELY, THE SILVER IMAGES

DO DETERIORATE.

IN THIS SCHEMATIC FROM GOWAN,
WHAT IS HAPPENING IS THESE
FILAMENT BUNDLES, THEY'RE
EXPOSED TO POOR ENVIRONMENTAL
CONDITIONS WITH THE INTRUSION OF
AIR AND MOISTURE, POOR QUALITY
ENCLOSURES.

THEY BEGIN TO BREAK UP AND BEGIN
TO DISASSOCIATE.

AS THEY DO, THE IMAGE CONVERTS
FROM SOMETHING THAT IS BLACK AND
WHITE TO SOMETHING THAT IS
BROWNER IN COLOR.

IT NO LONGER ABSORBS LIGHT AS
EFFECTIVELY AND THE IMAGE
APPEARS FADED AND DISCOLORED.

SO THAT'S WHAT IS HAPPENING WITH
MANY OF YOUR BLACK AND WHITE
PHOTOGRAPHS THAT APPEAR BROWN.

IT'S ACTUALLY A DETERIORATION OF
THE SILVER IMAGE.

SOME OF YOUR BLACK AND WHITE
PHOTOGRAPHS MAY INTENTIONALLY BE
BROWNEED OR SEPIA TONED.

THIS WAS COMMON IN THE 20s AND
30s.

WHERE BLACK AND WHITE IMAGE WAS
INTENTIONALLY TONED WITH SULFUR
TO PRODUCE A SILVER SULFIDE
IMAGE, WHICH IS USUALLY IN VERY,
VERY GOOD CONDITION.

AND THEY ARE AGAIN POPULAR
DURING THAT TIME PERIOD.

THEY'RE TECHNICALLY SILVER
GELATIN DEVELOPING OUT.

THEY WERE OFTEN HAND COLORED.

HERES ANOTHER ONE OF THESE GREAT
POSTCARDS OF A SEPIA TONED
SILVER IMAGE THAT MAY BE HAND
COLORED OR PRINTED.

BUT THE SULFUR TONING ALLOWED
FOR THE HAND COLORING.

YOU WEREN'T COMPETING WITH A
BLACK AND WHITE IMAGE.

SO THIS PROCESS THEN DOMINATES
THE BEGINNING OF THE 19th

CENTURY, THE PAPER TENDS TO BE
COATED WITH BARYTA.
THE SURFACE CAN VARY.
MAY BE GLOSSY OR VERY MATTE.
DEPENDING ON THE THICKNESS OF
THE BARYTA LAYER.
THERE'S A SILVER IMAGE EMBEDDED
IN A GELATIN BINDER.
YOU'LL SEE IMAGE FADING AND
SILVER MIRRORING.
HERE'S MORE EXAMPLES OF SOMEWHAT
FADED DETERIORATED AND BLACK AND
WHITE.
THE IMAGE APPEARS BLACK IN THE
DARK AREAS.
SILVER GELATIN DEVELOPED OUT
PHOTOGRAPH WITH THIS
CHARACTERISTIC MIRRORING.
ALSO YOU CAN EVEN SEE THE
CHARACTERISTIC SURFACE QUALITY
OF THIS PHOTOGRAPH, WHICH HAS
MORE OF A TEXTURE ADD --
TEXTURED APPEARANCE, WHICH WAS
PART OF THE PROCESS.
SOME OF THESE PHOTOGRAPHS HERE
TAKE ON SORTS OF A GREENISH
YELLOW APPEARANCE THAT YOU SEE
HERE.
AND THE SILVER MIRRORING, AGAIN,
WHICH IS VERY COMMON WITH THESE
PHOTOGRAPHS FROM THIS TIME
PERIOD.
SOMEONE SUBMITTED THIS
UNIVERSITY OF TEXAS SCHOOL OF
LAW WEDNESDAY.
I WANTED TO SHOW YOU HERE, THIS
IS A BLACK AND WHITE SILVER
IMAGE.
>> IT LOOKS VERY PECULIAR.
IT'S BEEN RETOUCHEDED SO IT WOULD
BE REPHOTOGRAPHED FOR A MAGAZINE
OR FOR PUBLICATION PURPOSES.
IN YOUR COLLECTIONS, YOU'LL SEE
PHOTOGRAPHS RETOUCHEDED TO BE
EXHIBITED.
OTHERS THAT ARE EXTENSIVELY
RETOUCHEDED BECAUSE THEY'RE GOING

TO BE REPHOTOGRAPHED AND PRINTED
IN MAGAZINES AND NEWSPAPER
ARTICLES AS WELL.

SO THAT'S WHAT IS GOING ON WITH
THIS PARTICULAR PRINT.

THESE -- THE BOTTOM LINE WITH
THESE BLACK AND WHITE SILVER
IMAGES, THEY DETERIORATE.
IT'S TRUE WITH ALL SILVER
IMAGES.

ALBUMEN, SALTED PAPER, GELATIN
AS WELL.

THE FADING CAN CAUSED BY POOR
QUALITY ENCLOSURES THAT CAUSE
THESE SILVER IMAGES TO CHANGE.
AS YOU SEE HERE, TO CONVERT TO
SILVER IONS, SILVER PLUS.

AND THE SILVER IONS FORM SILVER
COMPOUNDS THAT DO NOT ABSORB AND
SCATTER LIGHT AS EFFECTIVELY AS
SILVER SULFIDE AND THE IMAGES
APPEAR FADED AND DISCOLORED,
WHICH IS TRUE IN ALL OF THESE
COLORS.

THEY APPEAR GREENISH AND YELLOW
IN COLOR.

SOME IS FROM POOR ENVIRONMENTAL
CONDITIONS.

IN OTHER CASES, IT MAY BE
IMPROPER PROCESSING, IMPROPER
FIXING AND WASHING.

YOU'LL SEE WITH ALL THESE SILVER
IMAGES FADING AND DISCOLORATION,
SILVER MIRRORING, WHICH IS A
MIGRATION.

YOU CAN SEE IS SILVER MIRRORING
WHEREVER YOU HAVE SILVER AND A
BINDER LAYER OF SOME KIND.

IT'S MUCH COME MORE WITH SILVER
GELATIN PAPERS.

AND FINALLY YELLOWING.

YOU BEGIN TO FORM SILVER
SULFIDE, WHICH IS YELLOW IN
COLOR OR BROWN IN COLOR.

SO YOU START TO SEE WITH YOUR
PHOTOGRAPHIC COLLECTIONS AND
MANY OF YOUR IN YOUR HOME TALKED

ABOUT SILVER IMAGE DETERIORATION
AS ONE OF THE CHALLENGES.

YOU START TO SEE THE MIRRORING
AND YELLOWING.

THE WAY TO MITIGATE IS PROPER
STORAGE, CONTROLLED
ENVIRONMENTAL CONDITIONS THAT
WILL SLOW DOWN THE RATE OF
DETERIORATION OF THE IMAGE

>> WHETHER IT'S PHOTOLYTIC OR
FILAMENTARY IN SHAPE.

AND I WANT TO -- THEN I'M GOING
TO OPEN THIS UP FOR MORE
QUESTIONS AND TRY AND HELP THOSE
OF YOU THAT MAY BE CONFUSED.
IT IS CONFUSING.

THERE'S SO MANY PHOTOGRAPHIC
PROCESSES OUT THERE.

I THINK IT'S REALLY IMPORTANT
FOR YA'LL TO JUST HAVE A BIT OF
A HANDLE ON THE SILVER BRACED
PROCESSES AND NOT WORRY SO MUCH
ABOUT THE NONSILVER PRINT
MATERIALS THAT YOU SEE LISTED
HERE.

BY NONSILVER, THIS REFERS TO THE
FACT THAT THERE'S A WHOLE HOST
OF PHOTOGRAPHIC PRINTING
PROCESSES THAT ARE BASED ON THE
LIGHT SENSITIVITY OF OTHER
MATERIALS SUCH AS BICHROMAICS.
YOU CAN USE THESE MATERIALS,
CYANOTYPES OR PLATINOTYPES.
THE ONES THAT ARE MOST COMMON
ARE THE CYANOTYPE, WHICH IS A
BLUEPRINT, WHICH IS EASY TO
IDENTIFY BASED ON THE COLOR.
POPULAR THROUGHOUT THE 19th
CENTURY.

BASED ON THE LIGHT SENSITIVITY
OF IRON SALTS WITH THE FINAL
IMAGE MATERIAL BEING THE BLUE
PIGMENT.

AND THESE MATERIALS, 1 OF THE
GREATEST PROBLEMS WITH
CYANOTYPES, THEY FADE SOMETIMES
IN THE LIGHT.

YOU HAVE TO BE CAREFUL WITH
LIGHT EXPOSURE.
BUT FOR THE MOST PART, THEY TEND
TO BE IN RELATIVELY GOOD
CONDITION.
BUT THERE'S NO SILVER HERE.
SO YOU'RE NOT DEALING WITH THE
KIND OF FADING THAT WE'VE SEEN
WITH THE ALBUMEN PRINTS OR THE
SILVER GELATIN DEVELOPING OUT
PHOTOGRAPHS.
AND THEN FINALLY, THE
PLATINOTYPE IS ANOTHER PROCESS
THAT WE'RE NOT GOING TO ADDRESS
IN DETAIL.
I JUST MENTIONED IT HERE AS A
NONSILVER PROCESS.
THE FINAL IMAGE MATERIAL IN THIS
CASE IS METALLIC PLATINUM
EMBEDDED IN A PAPER SUPPORT
BASED ON THE LIGHT SENSITIVITY
OF IRON SALTS.
ONE THING THAT YOU SEE HAPPENING
HERE, THIS PAPER WAS IN CONTACT
WITH THE PLATINUM PROCESS.
YOU CAN SEE A TRANSFER IMAGE.
AND THIS IS BECAUSE PLATINUM IS
A CATALYST FOR CELLULOSE
DETERIORATION.
SO IN THE DARK AREAS, IT'S
CAUSED THE PAPER SUPPORT TO
DETERIORATE.
YOU MIGHT SEE THIS IN
PHOTOGRAPHIC ALBUMS SOMETIMES
WHERE THIS IMAGE TRANSFER CAN BE
CAUSED BY INKS AS WELL.
BUT IN THIS CASE, IT'S CAUSED BY
CONTACT WITH THAT PLATINUM
METAL.
BUT WHEREAS PLATTS -- PLATINUM
IS A PERMANENT MATERIAL.
IT DOESN'T FADE OR CORRODE LIKE
SILVER.
FOR THAT REASON, THESE PLATINUM
PRINTS TEND TO BE IN GOOD
CONDITION.
YOU WON'T SEE MIRRORING OR

FADING.

YOU MAY SEE PAPER DETERIORATION
BECAUSE IT CATALYZE THAT
DETERIORATION.

BECAUSE IT'S BASED ON THE LIGHT
SINCE -- SENSITIVITY OF IRON
SALTS.

HERE'S A WONDERFUL PLATINUM
PRINT.

I MENTIONED THAT GRETA HAD DONE
RESEARCH ON THESE AS A SECOND
YEAR STUDENT.

IT'S IN GREAT SHAPE

>> IT'S A NEUTRAL COLOR, WHICH
IS TYPICAL OF THE PLATINUM
PRINT.

IT MAY BE A LITTLE YELLOWED AND
FADED IN THE PAPER SUPPORT.

BUT THE IMAGE HAS NOT
DETERIORATED IN A WAY THAT THE
SILVER GELATIN DEVELOPING OUT OR
THE ALBUMEN PRINT HAS.

UNDER MAGNIFICATION, YOU WILL
SEE PAPER FIBERS AS YOU DO WITH
THE SALT PRINTED.

THINKING BACK TO THE CROSS
SECTION.

THIS IS A ONE LAYERED STRUCTURE.
IN THE PLATINUM PRINTED, THE
FINAL IMAGE IS ACTUALLY EMBEDDED
THE PAPER SUPPORT.

SO WITH THAT, I HAVE A FEW MORE
SLIDES BUT I'M GOING TO TAKE A
BREAK BECAUSE THESE ARE MORE OF
A REVIEW.

THAT'S SORT OF A WHIRLWIND.

BUT THE MOST IMPORTANT POINTS
HERE ARE TO JUST STEP AWAY AND
RECOGNIZE THAT THERE'S A WIDE
VARIETY OF PHOTOGRAPHIC PRINTING
PROCESSES THAT ARE AVAILABLE
THAT ARE PRESENT IN YOUR
COLLECTIONS.

PROBABLY MOST OF THEM ARE SILVER
BASED.

YOUR PHOTOGRAPHS FROM THE 19th
CENTURY ARE MOST LIKELY PRINTED

OUT SILVER IMAGES, PROBABLY
ALBUMEN PRINTS

>> MAY BE SALT PRINTS, IF
THEY'RE EARLIER.

THEY MAY BE SILVER GELATIN
PRINTING OUT OR CHLORINE COATED
PRINTED OUT IF THEY'RE TURN OF
THE CENTURY.

20th CENTURY, THE SILVER BASED
PROCESSES TENDED TO BE.

BUT IN ALL CASES, THEY'RE PRONE
TO DETERIORATION, FADING,
MIRRORING.

THEY CAN BE CONTROLLED BUT
PROPER STORAGE AND ENVIRONMENT.
LET ME TURN THIS OVER TO YOU,
KRISTEN FOR A FEW QUESTIONS THAT
MAY HAVE COME UP.

I DO WANT TO COME BACK TO THE
SORT OF REVIEW AT THE END.

>> OKAY.

WE HAVE SO MANY.

I KNOW HEATHER IS WORKING TO
ANSWER THEM AS WELL.

SOME OF THE MORE STRAIGHTFORWARD
QUESTIONS SHE'S DOING A GREAT
JOB ON.

WE WANT A CLARIFICATION ON
TERMINOLOGY THAT ILKA HAD.

THE DIFFERENCE BETWEEN
PROCESSING AND FORMAT.

HEATHER, EXPLAIN THAT.

THE REASON ILKA BROUGHT THAT UP,
IN A CATALOG DESCRIPTION, IT
SHOULD BE IMPORTANT TO INDICATE
PHOTO PROCESS AS WELL AS FORMAT.
SO AN EXAMPLE WOULD BE THAT THE
IT'S -- THIS PROCESS ON A CARD
OR --

>> YEAH.

YEAH.

YOU KNOW, AGAIN -- GOSH, I WISH
I HAD YOU ALL ON IN A ROOM AND
WE COULD LOCK THE DOORS AND HAVE
LOTS OF TIME.

PROCESS REFERS TO HOW THE
PHOTOGRAPH WAS MADE.

AN ALBUMEN PRINT, SILVER GELATIN DEVELOPING.

FORMAT IS MORE ABOUT THE SIZE.

SOME OF THESE FORMATS ARE STANDARD LIKE STEREO VIEW.

MANY ARE NOT.

IN TERMS OF CATALOGING, IT'S UP TO THE INSTITUTION.

IT'S VERY IMPORTANT WHERE YOU CAN IDENTIFY PROCESS AND FORMAT IS JUST ADDITIONAL INFORMATION THAT CAN BE MOST HELPFUL.

MANY INSTITUTIONS RATHER THAN IDENTIFYING THE FORMAT IF THEY'RE UNCERTAIN, THEY PROVIDE THE DIMENSIONS.

THERE ARE THROUGHOUT THE HISTORY OF PHOTOGRAPHY A VARIETY OF FORMATS THAT WERE POPULAR AT DIFFERENT TIMES.

SOME ARE PAPER BASED.

SOME REFER TO PHOTOGRAPHIC BUTTONS.

SO THERE'S A WIDE RANGE OF FORMATS OUT THERE.

PROCESS IS THE MOST IMPORTANT WAY TO IDENTIFY SOMETHING THROUGH CATALOGING.

>> GREAT.

KIND OF A HUMOROUS QUESTION THAT COME UP ABOUT ALBUMEN PRINTS.

IF YOU WERE TO WORK ON A RESTORATION OF AN ALBUMEN PRINT, YOU'D USE EGG WHITES, RIGHT?

GET A 19th CENTURY HERITAGE BREED EGG TO DO THAT?

[LAUGHTER]

ACTUALLY, IF YOU ARE BEING -- YOU PROBABLY ARE UNLIKELY TO USE EGG WHITE IN ANY WAY.

BUT IF YOU'RE TRYING TO DUPLICATE A 19th CENTURY PROCESS, WHICH IS PROBABLY WHAT WE'RE REFERRING TO HERE, THAT'S A GREAT QUESTION.

ACTUALLY IF YOU SPEAK TO THOSE -- LIKE MARK AUSTERMAN AND

OTHERS THAT ARE PRODUCING ALBUMEN PRINTS TODAY, THEY CAN SPEAK WITH GREAT AUTHORITY ABOUT THE VARIOUS KINDS OF EGGS THAT WORK AND OTHERS THAT DON'T, WHETHER THEY'RE ORGANIC OR NOT. IT CAN BE CHALLENGING BECAUSE THE EGGS ARE VERY DIFFERENT. THE OTHER INTERESTING AND SORT OF FUN PART OF ALL THIS IS WHAT DO YOU DO WITH THE YOLKS. YOU CAN IMAGINE WHEN THEY ARE PRODUCING REAMS AND REAMS OF ALBUMENIZED PAPER IN WHAT IS NOW BELGIUM, THE OTHER PARTS OF EUROPE.

THERE'S A MAJOR CHALLENGE WHAT TO DO WITH THE YOLKS. IT'S A VERY GOOD QUESTION. IT IS ACTUALLY AN ISSUE AND A PROBLEM.

SOMETIMES WHEN YOU MAKE ALBUMEN PRINTS, USING HISTORIC TECHNIQUES, YOU'LL RUN INTO PROBLEMS DEPENDING ON THE EGGS YOU'RE USING.

>> AND WE HAD A QUESTION ABOUT -- I'M NOT SURE I'M GETTING AT WHAT SHE'S SAYING. IT CROSSED MY MIND. IS THERE ANY ISSUE WITH THE FACT THAT THAT'S AN ANIMAL PRODUCT? IS THERE ANY SORT OF --

>> NO.

YOU KNOW, THAT'S A GOOD QUESTION IN TERMS OF INTEGRATED POST MANAGEMENT.

NOT THAT I'M AWARE OF.

THE BIGGER -- NOT SO MUCH.

THE ALBUMEN IS FERMENTED.

IT'S A VERY THIN LAYER.

THE BIGGER ISSUE ARE THESE GELATIN PRINTS THAT ARE -- YOU KNOW, THEY ARE NUTRIENT FROM MOLD.

MOLD IS YOUR CHALLENGE.

BUT NOT SO MUCH THE FACT THAT

THIS IS AN ANIMAL PRODUCT.

>> OKAY.

NUMBER OF QUESTIONS THAT ARE GETTING INTO SORT OF THE TREATMENT QUESTIONS.

AND HEATHER HAS BEEN HANDLING THEM WELL.

I WANT TO RUN THROUGH A FEW. SO HEATHER TAKING NICOTINE OFF OF A PHOTOGRAPH.

I GUESS THAT'S A COMMON PROBLEM BUT MOST MUSEUM PROFESSIONALS SHOULD NOT UNDERTAKE THEMSELVES. THAT'S WORK FOR A CONSERVATOR TO DO.

CORRECT?

>> YES.

THIS IS INCREDIBLY COMPLEX. YOU CAN ONLY IMAGINE, YOU THINK OF THE CROSS SECTION, THE VARIOUS PROCESSES THAT WE JUST RAN THROUGH TODAY.

THERE'S SO MANY MORE OUT THERE. SO FIRST, YOU KNOW, YOU NEED TO BE CERTAIN THAT YOU KNOW WHAT THE PROCESS IS.

WHETHER YOU'RE DEALING WITH A GELATIN COLLODION OR ALBUMEN BINDER LAYER AND THE CONDITION CERTAINLY DICTATES HOW IT MIGHT RESPOND TO VARIOUS CONSERVATION TREATMENT PROCEDURES.

A LOT OF THIS HAS TO BE TESTED UNDER THE MICROSCOPE.

YOU HAVE TO UNDERSTAND THE BINDER AND WHAT THE SENSITIVITY IS.

SO WHEN YOU'RE INVOLVED IN DOING SOMETHING LIKE REMOVING NICOTINE FROM A SUS, YOU HAVE TO IDENTIFY A TECHNIQUE THAT WILL SAFELY REMOVE THAT PRODUCT, WHATEVER IT MIGHT BE, WITHOUT DAMAGING THE BINDER LAYER OR THE IMAGE MATERIAL.

IT REQUIRES A LOT OF STUDY OF THE PARAGRAPH THAT HEATHER

CLEANED SO BEAUTIFULLY.
THAT WAS HOURS AND HOURS OF WORK
UNDER THE MICROSCOPE TO BE SURE
THAT SHE COULD SAFELY REMOVE THE
NICOTINE AND THE DIRT AND
DISCOLORATION FROM THE SURFACE
WITHOUT ADVERSELY AFFECTING THE
GELATIN BINDER, WHICH TENDS TO
SWELL WITH EXPOSURE TO MOISTURE.
THERE'S A VARIETY OF DECK --
TECHNIQUES THAT ARE USED.
LUCKILY THERE'S PHOTOGRAPH
CONSERVATORS THAT WORK IN
INSTITUTIONS THAT CAN HELP WITH
THIS.

>> OKAY.

AND IS IT POSSIBLE TO REVERSE
THE MIRRORING EFFECT --

>> YEAH, NOW, THAT MIRRORING
AGAIN IS SOMETHING THAT IS --
YOU CAN HAVE MIRRORING WHENEVER
YOU HAVE SILVER-BASED IMAGE AND
A BINDER LAYER.

IT'S MORE COMMON WITH GELATIN
BINDERS AND MUCH MORE COMMON
WITH SILVER GELATIN DEVELOPING
OUT PARENTS.

AND THOSE OF YOU WITH DRY PLATE
NEGATIVES MAY HAVE A LOT OF
MIRRORING.

IT'S A MIGRATION OF THE SILVER
IMAGE.

THIS IS THE SILVER IN THE
PHOTOGRAPH THAT IS MIGRATING AND
BEING REDEPOSITED, REDUCED ON
THE TOP SURFACE TO CREATE THAT
REFLECTIVE SHEEN.

THERE ARE TECHNIQUES THAT CAN BE
USED TO MINIMIZE THE MIRRORING
THROUGH WAXING AND OTHER
COATINGS THAT ARE APPLIED.

IT MUST BE DONE BY PHOTOGRAPH
CONSERVATOR BECAUSE IT'S
PROBLEMATIC AND VERY DIFFICULT.
IN SOME SITUATIONS, ONE WOULD
LEAVE THE MIRRORING.

IN OTHER SITUATIONS, IT'S

PROBLEMATIC.

IT MAKES IT DIFFICULT TO REALLY APPRECIATE THE IMAGE.

IT'S SO HIGHLY REFLECTIVE, PARTICULARLY ELIMINATING A LOT OF THE DETAIL IN THE DARKS.

THERE ARE TECHNIQUES THAT CAN BE USED THAT ARE PHYSICAL AND CHEMICAL.

BUT AGAIN LIKE SURFACE CLEANING, IT'S SOMETHING THAT SHOULD BE DONE BY A PHOTOGRAPH CONSERVATOR.

>> GREAT.

AND YOU CAN'T -- ANYTHING CAN'T BE CORRECTED BY ADDING MORE SILVER OR MORE SALTS TO IT.

>> NO.

THERE ARE ALSO CHEMICAL TECHNIQUES THAT ARE MUCH MORE AGGRESSIVE THAT CAN BE USED TO REMOVE SILVER MIRRORING.

THERE'S ALL DIFFERENT APPROACHES.

AGAIN, TO SORT OF THINK BACK ON WHAT IS CAUSING IT, YOU KNOW, THIS IS EXPOSURE TO HIGH RELATIVE HUMIDITY CONDITIONS THAT CAUSES THE GELATIN TO SWELL.

AND THEN POLLUTANTS, CARDBOARD, POOR QUALITY BOXES, POLLUTANTS IN THE AIR ENTER INTO THE GELATIN MATRIX AND BEGIN TO REACT WITH THE SILVER IMAGE. THE SILVER IMAGE IS CONVERTED TO IONS.

THEY MIGRATE TO THE TOP SURFACE AND DEPOSIT THERE.

THE DIFFICULTY WITH REMOVING IS THAT IT IS PART OF THE ORIGINAL OBJECT.

YOU REALLY HAVE TO THINK TWICE. SOMETIMES THIS IS A PATINA THAT IS APPRECIATED.

FOR EXAMPLE, I SHOWED YOU EARLIER ON A PHOTOGRAPH.

IT WAS MIRRORED.

THAT WAS ACCEPTED.

AND SO YOU WOULDN'T WANT TO INTERVENE.

SO YOU NEED TO UNDERSTAND IN THESE TECHNIQUES, TOO, PART OF CONSERVATION, IS UNDERSTAND THE PROCESS, THE DETERIORATION, THE MATERIALS, ETHICAL PARAMETERS AND ARTIST INTENT AS WELL.

>> GREAT.

CLAUDIA HAD A QUESTION ABOUT THE PAPER.

YOU SAY A LOT OF RESEARCH IS GOING INTO THE DIFFERENT SUPPORTS.

>> YEAH.

>> SHE WONDERED WHEN THE DIFFERENT KINDS OF NONFIBER-BASED PAPER CAME INTO USE.

SHE'S SEEN SOME MODERN SILVER PRINTS THAT ARE IN A PLASTIC SUPPORT.

>> THAT'S A GREAT QUESTION.

YOU BEGIN TO SEE THE INTRODUCTION OF RESIN COATED PAPERS IN THE 1960s.

I BELIEVE.

I DON'T KNOW THE EXACT DATE. BUT DURING THAT TIME PERIOD -- THIS IS SIMPLE A GOOD QUALITY PAPER SUPPORT THAT IS COATED ON BOTH SIDES WITH A THIN PLASTIC LAYER, POLYETHYLENE.

AND IT'S CALLED RESIN COATED BECAUSE IT'S COATED WITH THIS THIN PLASTIC LAYER, THIS IS DONE TO MINIMIZE PROCESSING TIME BECAUSE YOU COULD WASH AND FIX THE PAPERS MORE QUICKLY.

DIDN'T ABSORB THE CHEMICALS.

THEY WERE MORE PERMANENT.

YOU COULD GET A HIGHLY REFLECTIVE SERVICE.

SO YOU BEGAN TO SEE THESE IN THE 60s.

THEY BECAME VERY POPULAR SOON THEREAFTER.

SO FIBER BASED PAPER ENTIRELY FIBER BASED PAPER IS EARLY ON. THEN YOU START TO SEE THE INTRODUCTION OF BARYTA PAPER WHERE YOU HAVE THE BARIUM SULFATE AND GELATIN.

IN THE 1960s R.C. PAPER, RESIN COATED PAPER.

WHAT I SHOULD DO, KRISTEN, IS MOVE TO FINISH UP MY NEXT FEW SLIDES SINCE WE'RE ALMOST OUT OF TIME, RIGHT?

>> YES.

CAN WE PICK THOSE UP NEXT TIME BY CHANCE?

I WAS GOING TO MOVE TO THE HOMEWORK SLIDE.

>> YES, WE CAN.

ACTUALLY THEY ARE PRETTY MUCH WHAT YOU SEE HERE WITH JUST DIFFERENT IMAGES.

SO WE CAN GO AHEAD AND ME HAVE BACK TO THE HOMEWORK SO YOU CAN SHARE THAT WITH EVERYONE AND THEN I CAN PICK IT UP, WHICH WOULD BE A NICE SUMMARY ACTUALLY AT THE START OF THE NEXT WEBINAR.

THAT WOULD BE FINE.

>> OKAY.

THANK YOU.

SO EVERYONE, I'VE JUST PULLED OVER TO THE SLIDE THAT DESCRIBES THE HOMEWORK.

THE LINK IS COMING UP ON THE SCREEN.

COVER UP THIS LOVELY PHOTO.

I DID HIT -- THERE'S AN INTERESTING --

>> BY THE WAY, WHAT IS THAT PHOTO?

IT'S A CYANOTYPE, RIGHT?

IT'S BLUE IN COLOR.

>> AND THE HOMEWORK IS TO USE -- FIND SOMETHING IN YOUR

COLLECTION, WHETHER YOUR PERSONAL COLLECTION OR YOUR INSTITUTION'S COLLECTION, THAT YOU MAYBE AREN'T SO SURE ABOUT AND SEE IF THE GRAPHIC ATLAS HELPS YOU OUT AND TELL US MORE ABOUT THE PHOTOGRAPH.

AN INTERESTING ASSIGNMENT.

AGAIN, IF YOU'RE WATCHING WITH COLLEAGUES TODAY TELL US WHO YOU'RE WATCHING WITH SO WE CAN GIVE YOU CREDIT FOR ATTENDANCE. IF YOU'RE WATCHING, WE KNOW WHO YOU ARE.

YOU SHARED YOUR NAME.

SO WE DON'T NEED TO HEAR THAT YOU'RE WATCHING.

WE'RE GLAD YOU DID.

LET'S SEE IF WE CAN GET A QUESTION OR TWO BEFORE WE WRAP UP.

I GUESS SARAH PICKED UP ON COLLODION AND HAVING CELLULOSE NITRATE IN IT.

IS THAT CORRECT?

>> YES.

NO, IT'S NOT A HAZARD NECESSARILY.

COLLODION IS A FORM OF CELLULOSE NITRATE.

WHEN YOU'RE DEALING WITH COLLODION PRINTS, LIKE THE GLOSSY COLLODION PHOTOGRAPH OR THE TINTYPE OR THE AMBROTYPE WHERE COLLODION IS A BINDER, THE LAYER IS SO THIN THAT IT'S REALLY NOT HAZARDOUS.

THAT'S A GREAT QUESTION AND A GREAT PREVIEW TO THE NEXT WEBINAR, WHICH WILL FOCUS ON NEGATIVES.

WHEN YOU HAVE A CELLULOSE NITRATE FILM NEGATIVE, YOU ARE DEALING WITH MORE CELLULOSE NITRATE AND A DIFFERENT DEGREE. THAT CAN BE A HAZARD.

COLLODION AS A BINDER LAYER IS

NOT NECESSARILY HAZARDOUS.
IT IS IMPORTANT TO JUST STEP
BACK, AGAIN, AND THINK WHAT IS
COLLODION.
THAT IS CELLULOSE NITRATE.
WHAT IS ALBUMEN?
THE WHITE OF HENS EGGS.
WHAT IS GELATIN?
A COMMERCIALY PREPARED PROTEIN.
SO YOU BEGIN TO UNDERSTAND THE
MATERIALS.
>> RIGHT.
AND I JUST -- WE HAD A COUPLE OF
QUESTIONS TODAY ABOUT SLIDES AND
LANTERN SLIDES.
THAT'S COMING UP, CORRECT?
>> YOU KNOW, I WAS REVIEWING
THIS MORNING SOME OF THE
QUESTIONS AND ALSO THE HOMEWORK
AND THE NUMBER YOU ASKED ABOUT,
LANTERN SLIDES.
WHAT WOULD BE HELPFUL TO ME IS
IF A FEW OF YOU WOULD SEND
EXAMPLES OF SOME OF YOUR LANTERN
SLIDES OR OTHER PROBLEMS THAT
YOU'RE HAVING.
I REMEMBER YOU MENTIONED
PANORAMIC PHOTOGRAPHS.
IF YOU SENT IMAGES TO THE DROP
BOX, I WILL PUT THEM INTO THE
TALKS AND SPEAK SORT OF FROM
THOSE IMAGES.
>> AND WILL YOU --
>> GO AHEAD.
>> YOU'LL BE GETTING INTO
STORAGE IN WEBINAR 4.
THINGS LIKE HOW TO KNOW WHEN TO
SEPARATE AN ACIDIC MATTE OR TO
THAT I CAN THINGS OUT OF ACID
DID IT PAPER ALBUMS.
>> YES, I'M GOING TO DO THAT IN
WEBINAR 4.
WHAT I'M THINKING FOR WEBINAR 5,
WHICH I HAVEN'T PUT TOGETHER YET
AND I'M HOLDING OFF ON, IS TO
SEE WHAT THE QUESTIONS ARE.
PART OF WEBINAR 5 WILL PROBABLY

GO INTO THIS IN MORE DETAIL.
FOR WEBINAR 5, WHAT WOULD BE
GREAT IS FOR YOU ALL TO SEND
IMAGES OF SOME OF YOUR STORAGE
QUESTIONS AND PROBLEMS AND WE'LL
RUN THROUGH THEM AND SAY IN THIS
CASE, YOU MIGHT DO THIS OR THAT.
MUCH THE SAME WAY I WOULD DO IF
I HAD YOU IN AN AUDITORIUM
BECAUSE I'D HAVE YOUR IMAGES.
SO THAT'S A BIG ISSUE.
WE'LL TALK ABOUT IT IN 4 AND
HOPEFULLY A BIT IN 5 AS WELL.

>> GREAT.

KRISTEN --

>> WE'VE SHARED -- HERITAGE
PRESERVATION HAS A G MAIL
ACCOUNT.
THAT CAN HANDLE BIG ACCOUNTS.
SO
HERITAGEPRESERVATIONDC@GMAIL.COM

.
WE JUST SHARED THAT IN A CHAT.
OR IF YOU WANT TO SEND US AN
E-MAIL
INFO@HERITAGEPRESERVATION, WE
CAN FIGURE OUT HOW TO GET LARGER
FILES TO US.

>> I KNOW WE'RE OUT OF TIME.
BUT I WANTED TO THANK HEATHER
FOR BEING ONLINE AND ANSWERING
THESE QUESTIONS.

YOU ALL MADE BE INTERESTED TO
KNOW, HEATHER IS FINISHING UP
HER SECOND YEAR OF STUDY IN OUR
THREE-YEAR PROGRAM.

GRETA IS FINISHING HER THIRD
YEAR.

BOTH HAVE BEEN VERY INVOLVED IN
THE DEVELOPMENT OF THIS WEBINAR.
FOR HELP, THIS IS PART OF HER
FINAL EXAM THIS SEMESTER.
THIS IS A GREAT OPPORTUNITY FOR
HER TO RESPOND IN REAL TIME TO A
WIDE VARIETY OF QUESTIONS AND
PROBLEMS.

THANK YOU FOR YOUR GOOD

QUESTIONS THROUGHOUT THIS
WEBINAR AS WELL.

>> GREAT.

WE'RE AT 2:33.

SO WE'RE GOING TO LET YOU GET
BACK TO WORK AND THANK YOU SO
MUCH FOR ATTENDING.

AGAIN, LOOK FOR OUR E-MAIL WITH
LINKS TO COME LATER TODAY AND
CHECK THE COURSE PAGE FOR
ADDITIONAL INFORMATION AS WELL.

>> I'M LAUGHING BECAUSE SOMEONE
SAID WE SHOULD GIVE HER AN A.

>> OKAY.

>> THANK YOU GUYS.

>> IT'S BEEN FUN.

DON'T FORGET, NEXT TIME WE'RE AT
A DIFFERENT TIME.

ON THE 16th, I THINK.

>> YEAH.

THE NEXT CLASS IS THURSDAY MAY
16th AT 3:00 P.M. EASTERN TIME.
SORRY TO YOU FOLKS IN EUROPE WHO
ARE MAKING YOU STAY UP EVEN
LATER THAN YOU ALREADY DO.
WE REALLY APPRECIATE YOUR
PARTICIPATION.

THANKS AGAIN.

HAVE A GOOD DAY.

>> THANK YOU GUYS.