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THE DISCUSSIONS AND HERE ARE TWO
BY A GOOD DIFFERENT AND
COLLEAGUE OF MINE WHOA IS A
SCIENTIST IN PARIS AND HAS
WRITTEN ELOQUENTLY ON A VARIETY
OF ISSUES ASSOCIATED WITH FOF
GRAPHIC CONSERVATION.

TWO OF HIS MORE POPULAR BOOKS
ARE FEATURED HERE.

BOTH ARE AVAILABLE FROM THE
GETTY AND I PARTICULARLY
RECOMMEND PHOTOGRAPHS OF THE
PAST.

FOR THOSE OF YOU WHO ARE SIGNING
IN FROM OTHER PARTS OF THE
WORLD, THIS BOOK HAS BEEN
TRANSLATED I BELIEVE IN BOTH
SPANISH AND FRENCH.

BUT IT'S A WONDERFUL
INTRODUCTION TO THE VARIETY OF
PHOTOGRAPHIC MATERIALS THAT
YOU'RE LIKELY TO ENCOUNTER IN
YOUR COLLECTION AND VERY USER
FRIENDLY, LOTS AND LOTS OF
IMAGES, CHARTS AND GRAPHS THAT I

THINK YOU WILL FIND VERY HELPFUL.

SIMILARLY, THE OTHER BOOK THAT YOU SEE HERE, PREVENTIVE CONSERVATION PHOTOGRAPHIC COLLECTION IS A MORE DETAILED ASSESSMENT OF ISSUES SURROUNDING COLLECTIONS CARE, PROPER ENVIRONMENTAL CONDITIONS, EMERGENCY PREPAREDNESS, THE DEGRADATION OF FILM, MANY, MANY TOPICS THAT WILL BE MOST USEFUL TO YOU.

SO IF YOU CAN PURCHASE THESE, I THINK YOU'LL FIND THEM TO BE A VERY GOOD ADDITION TO YOUR PERSONAL LIBRARY.

TWO OTHER BOOKS.

ONE LOOKING AT PHOTOGRAPHS BY GORDON BALDWIN AT THE GETTY. GORDON WAS A CURATOR AT THE GETTY MUSEUM FOR MANY, MANY YEARS AND THIS BOOK IS JUST A VERY NICE BOOK FOR THE PUBLIC THAT SORT OF SPEAKS TO, AS IT SAYS HERE, A GUIDE TO TECHNICAL TERMS AND ADDRESSES ALL THE DIFFERENT PROCESSES THAT YOU'RE LIKELY TO ENCOUNTER IN A PHOTOGRAPHIC COLLECTION

BEGINNING WITH THE DAGUERRETYPE
TYPE IN 1839 TO PRESENT DAY.

AND THIS BOOK IS JUST A NICE
REFERENCE FOR UNDERSTANDING
BASIC INFORMATION ON WHAT IS AN
ALBUMEN PRINT, WHAT IS A SILVER
GELATIN PRINT.

AND FINALLY CONSERVATION OF
PHOTOGRAPHS WAS WRITTEN BY MY
COLLEAGUE AND MYSELF WHERE WE
EDITED IT, WE DIDN'T WRITE IT.
JAY GUTIERREZ AND I WORKED ON
THIS.

THIS IS A COMPILATION OF
IMPORTANT ARTICLES THAT HAVE
BEEN WRITTEN ABOUT THE FIELD,
PARTICULARLY HISTORICAL ARTICLES
THAT DEAL WITH CONSERVATION
TREATMENT, PREVENTIVE
CONSERVATION, THE BEGINNING OF
OF THE FIELD OF PHOTOGRAPHIC
CONSERVATION, ET CETERA.

SO YOU MIGHT FIND THIS OF USE
AND INTEREST IN TERMS OF
PHILOSOPHY AND ETHICS AND THE
EVOLUTION OF THE FIELD OF
PHOTOGRAPH CONSERVATION BUT IT
IS NOT AS SPECIFIC ON ISSUES
RELATED TO PREVENTIVE
CONSERVATION OR COLLECTIONS CARE

I WILL ALSO DIRECT YOU TO
VARIOUS WEB SITES.

THIS IS ONE, THE REGIONAL
ALLIANCE FOR PRESERVATION, THIS
IS A COLLABORATION OR A
COMBINATION OF CONSERVATION
CENTERS ACROSS THE NATION
WHO WORK WITH A VARIETY OF
MATERIALS INCLUDING TOTE GRAPHIC
MATERIALS AND THEY'VE ASSEMBLED
THEIR RESOURCES INTO IN THIS ONE
SITE.

YOU CAN SEARCH ON PHOTOGRAPHS
AND EMERGENCY RESPONSE AND PULL
UP LOTS OF PHOTOGRAPHS THAT THEY
HAVE PRODUCED THROUGH THEIR OWN
CENTER.

I'LL REFER TO THESE AS WE GO BUT
THIS IS A GENERAL WEBSITE IT IS
THAT YOU MAY NOT BE FAMILIAR
WITH AND I URGE YOU TO GO ON
LINE SO JUST TO START MOVING
THROUGH WITH THESE MATERIALS, ER
THAT GREAT TREASURE AND
ENORMOUSLY VALUE TO BELIEVE ALL
OF US AND THEY ARE VULNERABLE TO
DETERIORATION AND REQUIRE OUR
INPUT AND OUR WORK AND IT'S
IMPORTANT TO ALWAYS SORT OF STEP
BACK FOR A MINUTE WHEN YOU'RE

TALKING ABOUT PHOTOGRAPHIC MATERIALS AND WHY THEY'RE IMPORTANT TO REALLY THINK ABOUT WHAT IS IT ABOUT THESE MATERIALS THAT WE'RE TRYING TO PRESERVE BECAUSE IF WE CAN ARTICULATE WHY WHY THIS WORK IS SO IMPORTANT, WE'RE BETTER POSITIONED TO RAISE FUNDS, TO DEVELOP CONCRETE COLLECTION CARE PLANS TO ALWAYS BE THINKING ABOUT THE BIG PICTURE AND, OF COURSE, WE KNOW PHOTOGRAPHIC MATERIALS IN OUR COLLECTION ENHANCE SCHOLARSHIP AND KNOWLEDGE, INSPIRE DISCOURSE IN ALL DIFFERENT WAYS.

ENGAGE PUBLIC AUDIENCES AND THIS OF COURSE, IS VITALLY IMPORTANT AND WE'LL BE TALKING ABOUT THIS TOWARD THE END OF THE SESSIONS. WHAT CAN WE DO COLLECTIVELY TO ENGAGE THE PUBLIC IN OUR WORK? THEY DOCUMENT HISTORY.

PEOPLE CONNECT TO THEM.

THIS IS AN EXAMPLE OF AN EARLY COLOR PHOTOGRAPH FROM 1959, AS YOU CAN SEE.

WE'LL TALK MORE LATER ABOUT THE STABILITY OF THIS MATERIAL, BUT YOU CAN SEE IN THIS PARTICULAR

PHOTOGRAPH THAT THE BORDERS ARE YELLOWED AND THE IMAGE IS SOMEWHAT FADED.

THIS IS BECAUSE COLOR PHOTOGRAPHY IS COMPRISED OF ORGANIC DYES AND THESE DYES FADE IN THE DARK AND THEY FADE IN THE LIGHT.

AND HERE YOU SEE A HAND-COLORED DAGUERREOTYPE.

I'LL BE TALKING ABOUT THIS PROCESS VERY SOON AND THIS IS AN EARLY PHOTOGRAPHIC PROCESS INTRODUCED IN 1839 IN FRANCE AND AS FANTASTIC AS THESE EARLY PHOTOGRAPHIC PROCESSES WERE MANY PEOPLE STRUGGLED WITH THAT THEY WERE MONOCHROMATIC AND YOU WILL SEE HAND COLORED IMAGINES AS YOU SEE HERE AND THESE COLLECTIONS HAVE THE CAPACITY TO CONNECT US GLOBALLY THROUGH THIS WEBINAR AND THEY CELEBRATE GREATNESS THROUGH PART RATES IT'S IMPORTANT TO THINK ABOUT THE PHOTOGRAPHS YOU'RE RESPONSIBLE FOR, WHY THEY'RE IMPORTANT AND WHAT YOU NEED TO DO TO ENSURE THEIR LONG-TERM PRESERVATION I'VE GATHERED A FEW

REPRESENTATIVE SAMPLES HERE TO ILLUSTRATE FURTHER THESE MATERIALS CERTAINLY ARE ENDANGERED.

AS YOU SEE WITH THE IMAGE OF THE YOUNG BOY ON YOUR LEFT, THIS IS AN EARLY BLACK AND WHITE SILVER GELATIN PHOTOGRAPH SIMILAR TO THE PHOTOGRAPH WE SAW EARLIER OF PAUL McCARTNEY BUT THIS ONE IS CERTAINLY EARLIER IN TIME PERIOD BUT IT ALSO HAS FADED MORE SIGNIFICANTLY.

SO THIS IMAGE WAS LIKELY MORE BLACK AND WHITE IN COLOR.

IT'S BECOME BROWNER IN TIME AND IT CERTAINLY HAS FADED MORE EXTENSIVELY AROUND THE OUTER EDGES.

IT'S MOUNTED ONTO A SECONDARY SUPPORT AND YOU CAN ALMOST SEE THAT IT LOOKS LIKE IT'S BEGINNING TO LIFT.

IT ALMOST LOOKS LIKE IT'S BEEN EXPOSED TO WATER DAMAGE OF SOME KIND.

THIS FADING OF THE SILVER IMAGE IS A COMMON PROBLEM WE'LL BE TALKING ABOUT QUITE A BIT AND THE NEED FOR ALL OF YOU TO THINK

ABOUT WHAT YOU CAN DO TO
MITIGATE AGAINST THIS
DAMAGE BY CONTROLLING THE
ENVIRONMENT.

A LOT OF THE FADING OF THE
SILVER IMAGE IS MOST LIKELY
CAUSED BY EXPOSURE TO
FLUCTUATING ENVIRONMENTAL
CONDITIONS, HIGH RELATIVE
HUMIDITY CONDITIONS, FOR
EXAMPLE.

ON THE RIGHT SIDE OF THE SLIDE
YOU SEE AN EXAMPLE OF SOMETHING
THAT'S MUCH MORE CONTEMPORARY.
THIS COLOR PHOTOGRAPH, CHROME
CHROMOGENIC COLOR PHOTOGRAPH BUT
IT'S ALSO FADED AND DISCOLORED.
IN THIS CASE IT'S COMPRISED OF
CYAN, MAGENTA AND YELLOW DYES
AND THESE DYES HAVE FADED AT
DIFFERENT RATES, THE PHOTOGRAPH
APPEARS YELLOWED AND PERHAPS A
LITTLE BLUE OR CYAN IN COLOR AS
THE MAGENTA GENERALLY A DYE MAY
HAVE FADED MORE SERIOUSLY.

I'M GOING TO HOPE THIS LITTLE
POINTER IS NOT GOING TO GET IN
YOUR WAY BUT I'LL KEEP IT ON MY
SCREEN SO I CAN USE IT.

WE JUST RECEIVED THIS IMAGE I

THINK THIS MORNING AND I DECIDED TO PUT IT INTO OUR PRESENTATION BECAUSE THIS IS A DETAIL OF A PHOTOGRAPH YOU CAN SEE PROVIDED BY MARCIA ANDERERSON AND WHAT'S INTERESTING IS THIS ALMOST LOOKS LIKE A DRAWING BUT, IN FACT, THIS MOST LIKELY IS PHOTOGRAPHIC.

IT'S WHAT WE CALL A CRAYON PORTRAIT, OR CHARCOAL ENLARGEMENT.

AT THE TURN OF THE CENTURY MANY PHOTOGRAPHERS EXPERIMENTED WITH TAKING AN IMAGE AND ENLARGING IT ON TO PAPER WHICH MAY BE MOUNTED THEN ON TO CANVASS AND STRETCHED ON A STRAINER AND THIS VERY FAINT IMAGE WAS THEN HEAVILY EMBELLISHED WITH CHARCOAL OR CRAYON OR SOMETIMES EVEN OIL PAINT.

SOMETIMES THESE MATERIALS WERE VARNISHED AND LOOKED VERY MUCH LIKE PAINTINGS.

SOMETIMES AS YOU SEE HERE THEY LOOK MORE LIKE A DRAWING.

THEY DO TEND TO LOOK PHOTOGRAPHIC WHEN YOU LOOK AT THE EYES AND OTHER FEATURES BUT

THEY ARE HEAVILY EMBELLISHED AND THIS, TOO, IS A PHOTOGRAPH OF SOME SORT.

WE'RE GOING TO TALK OVER THE COURSE OF THE NEXT FIVE SESSIONS ABOUT PHOTOGRAPHIC NEGATIVE MATERIALS.

THIS IS A GLASS PLATE NEGATIVE IN RELATIVELY GOOD CONDITION, ACTUALLY, FROM ONE OF THE COLLECTIONS THAT HAS SIGNED INTO THE WEBINAR.

AND IN THIS CASE YOU CAN SEE THE IMAGE MATERIAL, WHICH IS BLACK AND WHITE HERE BUT ALSO YOU NOTICE WHEN YOU LOOK AT THE OUTER EDGES THAT THIS GLASS PLATE NEGATIVE HAS ALSO BEGUN TO FADE AND DISCOLOR IN MUCH THE SAME WAY THAT THE PHOTOGRAPHIC PORTRAIT OF THE YOUNG BOY HAS FADED AS WELL.

THIS IS DETERIORATION OF THE SILVER IMAGE CAUSED BY EXPOSURE TO POOR ENVIRONMENTAL CONDITIONS.

THIS IS YET ANOTHER CHALLENGE THAT MANY OF US FACE.

NITRATE FILM INTRODUCED IN 1889 IN WHICH CASE WE HAVE NOT ONLY

DEGRADATION OF THE SILVER IMAGE
BUT DETERIORATION OF THAT
CELLULOSE NITRATE SUPPORT AS
WELL.

AND IN 1929 WE BEGIN TO SEE THE
INTRODUCTION OF CELLULOSE
ACETATE FILM.

A CLEAR TRANSPARENT FILM THAT
REPLACED CELLULOSE NITRATE FILM
AND WHILE IT DIDN'T DETERIORATE
IN THE SAME WAY YOU CAN SEE HERE
THAT ONE OF THE MAJOR CHALLENGES
WITH THESE FILM-BASED MATERIAL
WHICH IS REALLY DOMINATE
COLLECTIONS YOU'RE LIKELY TO
HAVE THESE MATERIALS IF YOU HAVE
FILM THE POST-1935.

IN THIS CASE THE CELLULOSE
ACETATE FILM HAS SHRUNK QUITE
SIGNIFICANTLY.

THE GELATIN BINDER HAS NOT.

AND YOU GET THIS
CHANNELING WHICH YOU SEE HERE
THROUGHOUT THE FILM.

SO THIS IS CELLULOSE ACETATE
DEGRADATION.

JUST A SAMPLE THAT'S PROVIDED BY
ONE OF THE PARTICIPANTS IN THE
WEBINAR.

PLEASE CONTINUE TO SEND IN

IMAGES WHERE YOU CAN.
MAYBE IT MAKES IT A BIT MORE
PERSONAL.
BUT IT SHOWS YOU THE RANGE OF
THE KINDS OF PROBLEMS THAT
YOU'RE ENCOUNTERING IN YOUR
COLLECTIONS THAT ARE VERY
OF THE KINDS OF PROBLEMS THAT WE
CERTAINLY SEE AROUND THE WORLD.
SO BEFORE I START WITH EARLY
DIRECT POSITIVE PROCESSES, LET
ME TURN THIS OVER TO KRISTEN
JUST TO SEE IF WE HAVE ANY
GENERAL QUESTIONS THAT SHE
THINKS I MIGHT BE ABLE TO ANSWER
AT THIS POINT IN TIME.

>> THANK YOU, DEBBIE.

ACTUALLY WE HAD A FEW AND THEY
MAY BE QUESTIONS THAT YOU'LL BE
ANSWERING OR TALKING ABOUT
FURTHER ANOTHER WEBINAR.

IF SO, JUST TELL US.

BUT ROBERT RYALS IN SOUTH
CAROLINA WONDERED IN A MIXED
ARCHIVE COLLECTION IS IT
PREFERABLE TO SEPARATE THE
DIFFERENT PROCESSES?

SO BLACK-AND-WHITE, COLOR FROM
PAPER-BASED MANUSCRIPT
COLLECTIONS?

BECAUSE IT SEEMS LIKE THE PRESERVATION AND CONSERVATION OF NEEDS OF PHOTOGRAPHS AND THOSE OTHER PAPER BASED MATERIALS ARE DIFFERENT.

FOR EXAMPLE, THEY MIGHT NEED COLD STORAGE OR OTHER LONG-TERM STORAGE.

I THINK HE'S ASKING BECAUSE IN AN ARCHIVE COLLECTION THEY LIKE TO GROUP THINGS BY SUBJECT.

DO YOU WANT TO HANDLE THAT QUESTION NOW?

>> SURE.

LET ME HANDLE IT NOW AND IT'S SOMETHING THAT WE'LL TALK ABOUT REALLY THROUGHOUT THE NEXT COURSES, NEXT COUPLE OF LECTURES.

IDEALLY THERE ARE CERTAIN PROCESSES THAT SHOULD BE SEPARATED OUT AND YET YOU DO HAVE TO BE COGNIZANT AND AWARE OF HOW YOUR COLLECTION IS BEING USED.

I WOULD SAY THAT IT IS VERY IMPORTANT TO SEPARATE OUT NEGATIVE MATERIALS FROM PRINT MATERIALS.

WE JUST SAW VERY QUICKLY AS I

WENT THROUGH SOME OF THE IMAGES THAT WERE SHARED WITH US FROM SOME OF THE PARTICIPANTS THE CHALLENGES ASSOCIATED WITH CELLULOSE NITRATE AND CELLULOSE ACETATE FILM AND CELLULOSE NITRATE FILM AS IT DETERIORATES IT GIVES OFF NITRIC ACID WHICH CAN AFFECT JOINING MATERIALS AS WELL.

AND SO IT IS IMPORTANT TO SEPARATE OUT CELLULOSE NITRATE AND CELLULOSE ACETATE FILM.

AT THE SAME TIME GLASS-PLATE NEGATIVES BECAUSE OF THEIR WEIGHT AND FRAGILITY SHOULD BE SEPARATED AND STORED IN ACID-FREE BOXES.

I'LL TALK ABOUT HOW TO STORE THESE MATERIAL BUT I WOULD SAY SORT OF BOTTOM LINE SEPARATE OUT A NEGATIVE FROM PRINT, SEPARATE OUT FILM-BASED COLLECTIONS FROM GLASS-PLATE COLLECTIONS AND THAT'S SIMPLY BECAUSE OF THE DIFFERENT DEGRADATION PROBLEMS ASSOCIATED WITH THESE MATERIALS. IF THE FILM-BASED MATERIALS CAN BE PUT INTO COLD STORAGE THEN IT'S NOT NECESSARY TO SEPARATE

OUT NITRATE FROM ACETATE FILM.
THOSE CAN ALL GO INTO COLD
STORAGE.

IF NOT, IT MAY BE IMPORTANT TO
SEPARATE OUT CELLULOSE NITRATE
FILM FOR HEALTH AND SAFETY
REASONS AS WELL.

AND IN TERMS OF COLOR AND BLACK
AND WHITE WHICH LOOKS LIKE
ROBERT HAS ALSO ASKED ABOUT,
AGAIN, AS WE GET INTO THIS IN
MUCH MORE DETAIL-- AND I'M
REALLY EXCITED THAT THIS IS A
FIVE-PART SERIES AND I DON'T
NEED TO DO THIS IN UP WITH HOUR
AND A HALF-- BUT AS WE GET INTO
THIS IN A BIT MORE DETAIL YOU'LL
CERTAINLY LEARN THAT ONE OF THE
CHALLENGES WITH COLOR MATERIALS
IS THESE ORGANIC DYES FADE IN
THE DARK AND THEY FADE IN THE
LIGHT AND THE ONLY WAY TO
MITIGATE AGAINST THAT
DETERIORATION IS COLD STORAGE.
SO IF IT'S POSSIBLE TO ESTABLISH
A COLD STORAGE VAULT OR FREEZER,
FROST-FREE REFRIGERATOR OR SOME
SORT THAT'S WHERE COLOR
MATERIALS SHOULD BE HOUSED.
FOR THAT REASON IT'S VALUABLE TO

SEPARATE THEM OUT.
IF COLD STORAGE IS NOT AN OPTION
IT'S NOT MANDATORY THAT COLOR
MATERIALS BE SEPARATED FROM
OTHER SILVER-BASED PROCESSES
SUCH AS THE ALBUMEN OR SILVER
GELATIN PRINT.

SO SOME OF THIS IS COMMON SENSE.
SOME OF THIS IS BASED ON FORMAT.
SOME OF THIS IS BASED ON THE
SUPPORT IN WHICH YOU FIND THESE
MATERIAL IT IS.

BUT THERE ARE SOME GUIDELINES
AND I HOPE THAT THAT WAS HELPFUL
TO SOME EXTENT.

>> I THINK THAT'S GREAT, DEBBIE.
I GUESS ALSO THERE'S A QUESTION
FROM KATHY AND SHE HAD A
QUESTION ABOUT COPPER PLATE
NEGATIVES.

THE METAL PLATES THEMSELVES WITH
THE PRINT OR NEGATIVE ON THEM.
AND GRETA GAVE HER A GOOD ANSWER
TO THAT, THAT YOU JUST NEED TO
KEEP THEM A DRY, STABLE
ENVIRONMENT.

BUT MAYBE AS WE'RE JUST STARTING
OFF TODAY YOU COULD ANSWER THIS
QUESTION BUT ALSO TALK ABOUT
WHAT YOUR COURSE IS GOING TO

INCLUDE.

WE, FOR EXAMPLE, WON'T BE GETTING INTO AUDIO-VISUAL MATERIALS BUT WE WILL HAVE A COURSE ON THAT NEXT FALL AND YOU WON'T BE GETTING INTO DIGITAL PHOTOGRAPHY SO MAYBE IN ANSWERING KATHY'S QUESTION YOU CAN MENTION THAT AS WELL. AND THAT'S OUR LAST QUESTION FOR NOW.

>> OKAY, GREAT, YEAH.

KRISTIN'S EXACTLY RIGHT IN THIS PARTICULAR COURSE WE'RE GOING TO FOCUS ON PHOTOGRAPHIC MATERIALS, PRINTS AND NEGATIVES.

I WON'T BE DISCUSSING -- MAKE SOME REFERENCE TO DIGITAL MATERIALS BUT NOT AN EXTENSIVE REFERENCE BUT WE WON'T BE ADDRESSING AUDIO-VISUAL MATERIALS.

BUT WE'LL TRY TO ADDRESS EVERYTHING ELSE AND BECAUSE OF THIS CHAT FORMAT CERTAINLY I WELCOME QUESTION.

I'M SORT OF RESERVING THE LAST WEBINAR TO ADDRESS FUND-RAISING AND ADVOCACY A BIT BUT ALSO TRY-TO AND DRILL DOWN THE

QUESTIONS THAT YOU ALL HAVE AND SOME OF THE CHALLENGES YOU'RE FACING IN YOUR COLLECTIONS.

THIS ISSUE OF COPPER PLATES IS AN INTERESTING ONE.

IT WILL DAGUERRETYPE, WHICH I'M GOING TO TALK ABOUT IN A MOMENT IS ONE OF THE EARLIEST PHOTOGRAPHIC PROCESSES.

BUT I WONDER IF KATHY HAS A COLLECTION THAT LOOKS LIKE COPPER PLATES ARE ENGRAVING THAT WERE USED FOR PRINTING PROCESSES SO IT'S AN ENGRAVED IMAGE ON A COPPER PLATE.

AND GRETA IS RIGHT ABOUT THE NEED TO ENSURE ENVIRONMENT IS STABLE.

THAT'S THE KEY, HONESTLY, IF WE ONLY HAD THREE MINUTES FOR THIS SEMINAR, WHICH, THANK GOODNESS IS NOT THE CASE.

WE WOULD NEED TO FOCUS ENTIRELY ON ENVIRONMENTAL CONTROL BECAUSE THAT'S REALLY WHAT DRIVES PRESERVATION AND YOU NEEDED TO DO AS MUCH AS YOU CAN IN YOUR COLLECTIONS TO LIMIT EXPOSURE TO HI RELATIVE HUMIDITY CONDITIONS. I'M SORRY ABOUT THAT TRAIN.

IT'S GOING TO BE COMING THROUGH
HERE ONCE IN A WHILE AND --

(LAUGHS)

THERE IS NOTHING I COULD DO
ABOUT THAT KRISTEN, CAN I KEEP
ON GOING?

>> YES, PLEASE DO.

>> I'LL KEEP STOPPING FOR
QUESTIONS AS I NEED TO AND
TRYING TO MONITOR THE QUESTIONS
AND I'M GREATFUL FOR GRETA TO
ANSWERING THESE AS WE GO
THROUGH.

WHEN WE TALK ABOUT PHOTOGRAPHIC
COLLECTION WE DIVIDE THEM INTO
DIFFERENT CATEGORIES AND ONE IS
THE EARLY DIRECT POSITIVE
PROCESS WHICH YOU SEE AN EXAMPLE
OF THE AMBER TYPE PROCESS WHICH
WAS INTRODUCED IN THE 1850s.

IT'S PHOTOGRAPH ON GLASS, A
SILVER IMAGE A PHENOMENON
CELLULOSE NITRATE BINDING.

AND AMBROTYPES LIKE TINTYPES
WHICH WERE INTRODUCED IN THE
1850s WERE VARNISHED AND MANY
AMBROTYPES ARE IN THESE
DECORATIVE CASES THAT YOU SEE
HERE.

THE AMBROTYPE, THE

DAGUERREOTYPE AND THE TINTYPE
ARE REFERRED TO AS DIRECT
POSITIVE PROCESSES BECAUSE THEY
ARE ONE OF A KIND.

IN THE CASE OF THIS AMBROTYPE,
THIS BEAUTIFUL PORTRAIT,
ACTUALLY, IN VERY, VERY GOOD
CONDITION WHICH YOU SEE HERE THE
PHOTOGRAPHER TOOK THIS PIECE OF
GLASS, COATED WITH AND IMMERSSED
IN THE A SOLUTION OF SILVER
NITRATE TO FORM LIGHT SENSITIVE
AND HELD IT UP IN THE AIR FOR A
BRIEF PERIOD OF TIME AND PLACED
THAT GLASS PLATE IN THE CAMERA
AND EXPOSED IT TO LIGHT.

THESE EARLY PHOTOGRAPHIC
PROCESSES IN THESE DECORATIVE
CASES WERE MADE IN A VARIETY OF
DIFFERENT WAYS.

THE ONE OF THE POPULAR DIRECT
POSITIVE PROCESSES THAT YOU MAY
HAVE IS THE DAGUERREOTYPE
INTRODUCED IN 1839, POPULAR IN
THE UNITED STATES UNTIL 1865.
SOME OF THESE DATES YOU'LL SEE
IN MY LECTURE ARE DATES OF
POPULARITY.

SO THAT YOU MAY, IN FACT FIND
DAGUERREOTYPES AFTER 1865 BUT

THEY TENDED TO DOMINATE THE MARKET IN THE UNITED STATES DURING THIS TIME PERIOD.

I REALIZED THAT YOU HAVE SIGNED IN FROM DIFFERENT PARTS OF THE WORLD AND RECOGNIZED THESE ARE DATES OF POPULARITY IN THE UNITED STATES SO THEY VARY A BIT AROUND THE WORLD BUT YOU WON'T FIND DAGUERREOTYPES PRIOR TO 1839 WHEN IT WAS INTRODUCED TO THE WORLD IN FRANCE BY DAGUERRE. IT'S ON A SILVER PLATED COPPER SUPPORT AND THE FINAL IMAGE IS A GOLD MERCURY SILVER AMALGAM. SO THESE MATERIALS ARE RELATIVELY FRAGILE.

AND PRONE TO DETERIORATION, PRONE TO CORROSION AND ARE OFTEN PROTECTED IN THESE DECORATIVE CASES THAT I REFERENCED EARLIER. THEY MAY ALSO BE HAND-COLORED. YOU CAN SEE IN THIS BEAUTIFUL PORTRAIT THAT HER CHEEKS ARE HAND COLORED WITH A RED PIGMENT AND THIS WAS TO MAKE THESE IMAGES APPEAR A BIT MORE LIFE LIKE.

AS GORGEOUS AS THESE ARE, AS AMAZING AS THESE IMAGES WERE--

AND IT'S HARD FOR US TO APPRECIATE WHAT IT MUST HAVE BEEN LIKE TO SEE THESE THINGS FOR THE FIRST TIME-- THEY WERE MONOCHROMATIC AND THEREFORE PHOTOGRAPHERS EXPERIMENTED EARLY ON WITH HAND COLORING WITH CHEEKS AND JEWELRY AND SOMETIMES HAND COLORING THE ENTIRE IMAGE. THEY'RE HIGHLY REFLECTIVE. THEY APPEAR LIKE A MIRROR WHEN YOU HOLD THEM IN YOUR HAND AND THAT'S HOW YOU DISTINGUISH THEM, ACTUALLY, FROM THE AMBROTYPE WHICH IS A PHOTOGRAPH ON GLASS WHICH IS NOT AS REFLECTIVE AND THE REFLECTIVE NATURE OF THE DAGUERREOTYPE HAS TO DO WITH THE FACT THAT IT'S ON A SILVER-PLATED COPPER SUPPORT. UNFORTUNATELY, THESE MATERIALS ARE PRONE TO CORROSION AND DETERIORATION, PARTICULARLY AT THE OUTER EDGES SO WHEN YOU LOOK AT THIS PORTRAIT FROM THE METROPOLITAN MUSEUM YOU CAN SEE THAT THE EDGES ARE TARNISHED AND CORRODED AND THIS IS VERY COMMON WITH CASED DAGUERREOTYPES AROUND THE WORLD AS THE AIR AND

MOISTURE INTRUDES AT THE OUTER EDGES YOU FORM THESE CORROSION PATTERNS.

AND IF THE COVER GLASS IS BROKEN YOU'LL SEE CORROSION ACROSS THE BREAKAGE WHERE YOU GET THE INTRUSION OF AIR AND MOISTURE.

SO IT'S IMPORTANT TO HANDLE THESE MATERIALS PROPERLY TO PROTECT THEM, TO PROTECT THE SURFACES FROM HANDLING BECAUSE FRAGILE AND ONE OF THE OTHER CHALLENGES THAT WE FACED WITH EARLY DAGUERREOTYPES IS THAT THE COVER GLASS WHICH YOU SEE HERE WHICH IS BROKEN IN THIS CASE SOMETIMES BEGINS TO DETERIORATE OR DECOMPOSE.

THAT'S WHAT WE REFER TO AS GLASS DECOMPOSITION OR WEEPING GLASS AND YOU SEE A GOOD EXAMPLE OF THAT HERE IN THIS ANONYMOUS PORTRAIT FROM THE GEORGE EASTMAN HOUSE WHERE THE GLASS ITSELF HAS BEGUN TO DETERIORATE.

IT ALMOST LOOKS LIKE IT HAS TINY DROPLETS AND AS THE GLASS DETERIORATES THE DETERIORATION PRODUCTS CAN DROP DOWN ON THE

SILVER IMAGE CAUSING
DETERIORATION TO THE PHOTOGRAPH
ITSELF.

GLASS DECOMPOSITION CAN BE
CONTROLLED TO SOME EXTENT THROUGH
PROPER STORAGE, ENVIRONMENTAL
CONDITIONS.

IN SOME SITUATIONS IT MAY BE
IMPORTANT FOR YOU TO CONSULT
WITH A PHOTOGRAPHIC CONSERVATOR.
BUT THAT NEEDS TO BE DONE VERY
CAREFULLY BECAUSE SOME OF THE
SEALS ARE ORIGINAL AND ONE HAS
TO WEIGH THE ADVANTAGES AND
DISADVANTAGES AND TO TRY AND
PROTECT THE DAGUERREOTYPE FROM
DAMAGE TO THE ISSUES OF
AUTHENTICITY.

IN GENERAL YOU CAN SEE THAT
DAGUERREOTYPE IS IN RELATIVELY
GOOD CONDITION EXCEPT THAT THE
COVER GLASS HAS DETERIORATED
SIGNIFICANTLY.

THESE COMPOSITE PROBLEMS ARE
JUST TYPICAL OF THE KINDS OF
ISSUES THAT WE FACE WITH
PHOTOGRAPHIC MATERIALS AND AS I
MENTIONED, MANY OF THE DIRECT
POSITIVE MATERIALS ARE IN THESE
DECORATIVE CASES.

THE CONSTRUCTION OF WHICH YOU SEE HERE.

SO TYPICALLY YOU HAVE YOUR OBJECT AND -- LET ME GET MY POINTER, SORRY, BEAR WITH ME. TYPICALLY YOU HAVE YOUR OBJECT IN THIS CASE THE DAGUERREOTYPE WHICH IS THEN PROTECTED WITH A BRASS MATT WHICH YOU SEE HERE, A COVER GLASS ON TOP TO PROTECT THAT SURFACE AND THEN AFTER 1845 OR SO YOU SEE PERHAPS A LITTLE BIT LATER, MAYBE 1850 YOU SEE THE PRESENCE OF THIS PRESERVER WHICH IS A THIN METAL FOIL THAT WRAPS AROUND THE EDGES OF THIS SANDWICH WHICH THEN IS -- WHICH YOU CAN SEE THE FOIL HERE, THE METAL PRESERVER HERE.

WHICH THEN IS INSERTED INTO THE DECORATIVE CASE.

SO THESE CASE ELEMENTS ALL HAVE THEIR OWN ISSUES ASSOCIATED WITH PRESERVATION AND CONSERVATION THAT YOU NEED TO BE AWARE OF AS WELL AND THIS IS REALLY WHAT MAKES THE PRESERVATION OF PHOTOGRAPH MATERIALS SO EXCITING BECAUSE YOU'RE DEALING WITH SUCH A RANGE OF OBJECTS.

SO YOU HAVE THE DAGUERRETYPE WHICH IS ON SILVER PLATED COPPER AND YOU HAVE THE AMBROTYPE WHICH YOU MAY HAVE IN YOUR COLLECTIONS AS WELL INTRODUCED IN 1851, 1852, POPULAR UNTIL THE 1860S AS WELL, SOMETIMES INTO THE 1870s.

IN THIS CASE THIS IS AN IMAGE ON GLASS OF COLLODION NEGATIVE THAT APPEARS POSITIVE WHEN IT'S BACKED WITH BLACK, A BLACK LACQUER, BLACK MATERIAL OF SOME KIND THAT CREATES A TO IMAGE THEY HAVE MORE OF A THREE DIMENSIONAL LOOK BECAUSE YOU'RE LOOKING THROUGH GLASS SOMETIMES TO SEE THE IMAGE BENEATH.

THEY TEND TO BE IN RELATIVELY GOOD CONDITION.

THEY ARE OFTEN VARNISHED TO PROTECT THE SILVER IMAGE FROM OXIDATION AND CORROSION WHICH IS MORE COMMON WITH THE DAGUERRETYPE.

THEY MAY BE EXTENSIVELY -- EXTENSIVELY HAND COLORED AS YOU SEE HERE.

THIS IMAGE, AGAIN, IS REFERRED TO AS THE AMBROTYPE OR A

COLLODION POSITIVE ON GLASS.
THAT REFERS TO THE IMAGE BINDER
THAT HOLDS THE SILVER IMAGE AND
SUSPENSION.
AND SO IN THIS SLIDE YOU CAN SEE
-- YOU MAY EVEN SEE AMBROTYPES
UP INTO THE 1880s BUT THEY'RE
MORE COMMON IN THE 1860s AND
1870s.
THEY ARE DIMENSIONALLY STABLE.
THE SILVER IMAGE IS IN THIS
COLLODION BINDER.
THAT'S A FORM OF CELLULOSE
NITRATE ONE OF THE BINDERS YOU
FIND USED IN 19th CENTURY IN
PHOTOGRAPHY.
THEY ARE TYPICALLY VARNISHED AND
FOR REASON THEY MAY BE --
BECAUSE THESE REALLY ARE
NEGATIVES ON GLASS.
THEY WERE OFTEN COATED ON THE
BACK.
THE THIRD DIRECT POSITIVE
PROCESS THAT YOU MAY ENCOUNTER
IN YOUR COLLECTION AND THE ONE
THAT'S PERHAPS THE MOST COMMON
INTRODUCED IN 1856 BUT LET ME
SAY COMMON IN THE UNITED STATES.
NOT SO COMMON AROUND THE WORLD.
THIS PROCESS WAS REALLY QUITE

POPULAR FOR THE UNITED STATES.
IF WHEREAS AMBROTYPE PROCESS IS
MORE POPULAR WORLDWIDE,
PARTICULARLY IN PLACES LIKE NEW
ZEALAND AND AUSTRALIA.

THE TINTYPE DOMINATES THE 19th
CENTURY, IN THIS CASE IT'S NOT
ON TIN AT ALL BUT JAPANED IRON.
JAPANING REFERS TO THE PRESENCE
OF A BLACK LACQUER.

THIS IS AN IRON SUPPORT
LACQUERED WITH A BLACK PIGMENT
OF SOME KIND.

IT'S ALSO A SILVER A
COLLODIAN BINDER AND TYPICALLY
VARNISHED.

AS IS TRUE WITH OTHER
PHOTOGRAPHS I'VE SHOWN YOU,
THESE MATERIALS MAY BE HAND
COLORED IN THE CHEEKS.

I LOVE TINTYPES, I'M SURE MANY
OF YOU DO AS WELL.

IT'S A GREAT SNAPSHOT OF
PHOTOGRAPHY IN THE 19th CENTURY.

AND THERE ARE WONDERFUL,
WONDERFUL IMAGES OF CHILDREN,
PARTICULARLY WHEN YOU STUDY
THESE MATERIALS.

THEY TEND TO BE IN RELATIVELY
GOOD CONDITION.

THIS TINTYPE LOOKS VERY BROWN BUT IT'S PROBABLY BECAUSE THE LACQUER WAS MORE OF A BROWN LACQUER THAN A BLACK LACQUER. I DON'T THINK IT'S NECESSARILY FADED.

THEY TEND NOT TO FADE BECAUSE THEY ARE VARNISHED AND THAT VARNISH LAYER PROTECTS THE SILVER IMAGE FROM OXIDATIVE ATTACK.

BUT WHAT HAS HAPPENED TO THIS TINTYPE, WHICH IS MUCH MORE COMMON, IS THAT THE IRON SUPPORT HAS BEGUN TO DETERIORATE AND RUST AS YOU SEE HERE.

SO WHEN THIS TINTYPE WAS FLEXED OR BENT IN SOME WAY IT CLOAK THE COLLODION BINDER CAUSING IRON TO BE EXPOSED TO HIGH HUMIDITY CONDITIONS WHERE IT'S BEGUN TO RUST AND THIS IS ONE OF OUR GREATEST CHALLENGE WITH THE TINTYPE PROCESS.

THIS TINTYPE IS ANOTHER TERRIFIC ONE JUST TO SHOW YOU ONE IN GOOD CONDITION AGAIN A VARNISHED IMAGE, SILVER IMAGE IN A COLLODION BINDER ON AN IRON SUPPORT.

YOU WILL FIND ALL KINDS OF

WORKSHOPS YOU CAN TAKE THAT TEACH YOU HOW TO MAKE TINTYPES AND AMBROTYPES, PARTICULARLY AT THE GEORGE EASTMAN HOUSE. THERE ARE WEB SITES THAT YOU CAN GO ON TO SEE HOW THINGS ARE DONE AND IT'S FOUND TAKE THESE COURSES WHERE YOU CAN BECAUSE YOU GET A MUCH BETTER APPRECIATION FOR THE CHALLENGES ASSOCIATED WITH 19th CENTURY PHOTOGRAPHY SO I URGE YOU TO CHECK OUT THIS SLIDE SHOW AND MANY OTHERS THAT YOU WILL FIND THAT ILLUSTRATE HOW THESE MATERIALS WERE MADE. I'LL BET BETTER AT THIS ON THURSDAY, I PROMISE. SO YOU CAN SEE THIS IS BEING Poured ON IRON SUPPORT AND IT WILL BE ROCKED BACK AND FORTH SO IT COVERS SUPPORT EVENLY. THE SECOND IMAGE IS DIPPING THIS PLATE INTO A BATH OF SILVER NITRATE WHERE YOU'RE FORMING LIGHT SENSITIVE SILVER IODIDE IN THE COLLODIAN BINDER. THIS WILL BE PLACED ON A CAMERA EXPOSED TO LIGHT. SO LOOK AT THIS WEB SITE AND

MANY OTHERS TO BETTER UNDERSTAND HOW THE PROCESSES WERE DONE AND MANY PHOTOGRAPHERS ARE STILL WORKING IN THIS PROCESS.

THIS IS A PHOTOGRAPH BY JOHN COX ON OUR FACULTY AT THE UNIVERSITY OF DELAWARE WHO TAKES STUDENTS TO TANZANIA AND CAMBODIA AND VIETNAM FOR PHOTOGRAPHY AND MANY CASES ARE WORKING WITH HISTORIC PROCESSES SUCH AS THE TINTYPE WHICH YOU SEE HERE SO THAT GIVES YOU A BIT OF AN INTRODUCTION I HOPE TO SOME OF THESE EARLY DIRECT POSITIVES. THE DAGUERREOTYPE, AMBROTYPE AND TINTYPE REVISIT THEM AGAIN AS WE MOVE THROUGH AND I AM CERTAINLY HAPPY TO ANSWER QUESTIONS ABOUT THEM.

LET ME GO THROUGH A FEW MORE SLIDES BEFORE WE STOP FOR QUESTIONS AND JUST INTRODUCE A WHOLE OTHER CATEGORY WHICH IS PRINT MATERIALS AND THESE MATERIALS RANGE QUITE CONSIDERABLY FROM THE SALTED PAPER PRINT WHICH YOU SEE HERE AND EARLY PHOTOGRAPHIC PROCESS COMPRISED OF ALBUMEN IMAGE

EMBEDDED IN A PAPER SUPPORT
INTRODUCED AND POPULAR ABOUT THE
SAME TYPE.

THIS PARTICULAR BEAUTIFUL SALTED
PAPER PRINT IS IN EXCELLENT
CONDITION.

OR THE ALBUMEN PHOTOGRAPH WHICH
BEGAN TO REPLACE THE SALTED
PAPER PRINT IN THE 1850s.

I'LL TALK MUCH MORE ABOUT
ALBUMEN PHOTOGRAPHY ON THURSDAY.
THIS IS A WONDERFUL IMAGE OF
HAND COLORED ALBUMEN PRINT.

THE PROCESS REALLY DOMINATES THE
19th CENTURY AROUND THE WORLD.
THE IMAGE PERMANENCE INSTITUTE
IN ROCHESTER, NEW YORK, IS A
WONDERFUL RESOURCE FOR A VARIETY
OF INFORMATION ON PHOTOGRAPHIC
PRESERVATION.

I'LL SHOW YOU INFORMATION FROM
THE IMAGE -- FROM THIS INSTITUTE
THROUGHOUT THESE WEBINARS.

THEY HAVE ACQUIRED A COLLECTION
OF HAND COLORED POSTCARDS, ONE
OF WHICH YOU SEE HERE SO THIS IS
A MUCH MORE RECENT.

IT'S 1930.

IT'S A PHOTOGRAPHIC IMAGE, BLACK
AND WHITE IMAGE THAT'S BEEN

TONED TO PRODUCE SOMETHING THAT'S BROWN IN COLOR, WHAT WE CALL SEPIA TONING, AND THEN EXTENSIVELY HAND COLORED AS YOU SEE HERE.

I'M SHOWING THESE AT PHOTOGRAPHIC PRINTING PROCESSES. ALL OF THESE ARE SILVER-BASED IMAGES BUT A WIDE VARIETY OF PROCESSES AND DIFFERENT TIME PERIODS AND WE'LL REVIEW THIS AND THE MAJOR PROCESSES YOU SEE HERE IN THE UPCOMING SEMINARS. I WANT TO FOCUS ON THE ALBUMEN PROCESS AND GELATIN DEVELOPING OUTPAPERS BECAUSE THESE THE ONES THAT WILL DOMINATE YOUR COLLECTIONS AND WE ONLY HAVE FIVE SEMINARS.

I'LL TRY AND HIGHLIGHT ALL OF THESE IN MY LECTURE ON THURSDAY. IT'S IMPORTANT WHEN YOU'RE THINKING ABOUT PRINT PROCESSES TO THINK ABOUT TIMELINES. THIS WILL DIFFERENTIATE ONE PROCESS FROM ANOTHER TO UNDERSTAND WHEN THEY WERE INTRODUCED BECAUSE IN MANY CASES WITH YOUR OWN COLLECTIONS YOU PROBABLY CAN BEGIN TO DATE THEM.

YOU UNDERSTAND THEM, KNOW WHO THE SITTERS ARE.

YOU KNOW THEY ARE FROM THE 1860s OR 1890s SO THIS TIMELINE CAN HELPFULLY HELP YOU SORT OUT THE VARIOUS PROCESSES.

YOU'LL SEE IN THE 19th CENTURY THESE SILVER-BASED PROCESSES TEND TO BE MORE BROWN IN COLOR, PURPLEISH BROWN IN COLOR.

THE SALTED PAPER PRINT OR ALBUMEN PRINT HERE AS WE MOVE INTO THE 20th CENTURY WE SEE THE INTRODUCTION OF BLACK AND WHITE DEVELOPED OUTPAPERS THAT WERE POPULAR FROM 1905 TO 1960 SO SUDDENLY THE IMAGE COLOR IS SHIFTING FROM SOMETHING BROWNER IN COLOR PRODUCED BY TAKING LIGHT SENSITIVE MATERIALS AND BASING THEM INTO THE AND THEN THERE ARE IMAGES WITH CHROMOGENIC COLOR PHOTOGRAPHIC IS ACTUALLY ORGANIC.

DYES THAT YOU SEE HERE.

CYAN, MAGENTA AND YELLOW.

WE WILL BE ADDRESSING THESE AND CERTAINLY THE BOOKS THAT I MENTIONED EARLIER IN THE WEBINAR IT'S POPULAR AROUND THE WORLD,

ON A THIN PAPER SUPPORT
TYPICALLY MOUNTED BECAUSE THESE
PHOTOGRAPHS HAVE A TENDENCY TO CURL
THE FINAL IMAGE IS SILVER.

THIS IS AN ALBUMEN PRINT AND
JUST GORGEOUS CONDITION
BEAUTIFUL DETAILS AND THE
HIGHLIGHTS AS YOU SEE.

IT'S DONE AS THE ALBUMEN PROCESS
BECAUSE THE BINDER IS ACTUALLY
EGG WHITE, OR ALBUMEN, AND THE
IMAGE IS SILVER, THESE IMAGES DO
FADE.

THE EGG WHITE CAN CRACK UPON
EXPOSURE TO FLUCTUATING
ENVIRONMENTAL CONDITIONS AND
WE'LL TALK ABOUT THIS IN MUCH
MORE DETAIL ON THURSDAY.

AS WE WILL ALSO VISIT THE SILVER
GELATIN DEVELOPING OUT PROCESS
LOOKS VERY DIFFERENT THAN THE
ALBUMEN PRINT YOU SAW EARLIER.
YOU CAN SEE THIS IMAGE IS MUCH
BLACKER COLOR.

MORE BLACK-AND-WHITE.

IT'S DEVELOPED OUT RATHER THAN
PRINTED OUT.

THE FINAL IMAGE IS ACTUALLY
METALLIC SILVER, WHICH IS ALSO
TRUE OF THE ALBUMEN PRINT.

LET ME SEE IF I CAN GO BACK JUST
OUT OF CURIOSITY.

I CAN!

GOOD!

SO LOOK AT THE DIFFERENCE IN THE
IMAGE COLOR THERE THAT'S BROWNER
PURPLEISH BROWN IN COLOR VERSUS
THE PORTRAIT OF THIS WOMAN WHICH
IS MUCH MORE BLACK AND WHITE.
IN THIS CASE THE BINDER IS
GELATIN.

SO THIS IS A SILVER IMAGINE
EMBEDDED IN A GELATIN BINDER
WHICH IS THE TYPICAL BINDER YOU
ENCOUNTER IN THE 20th CENTURY.
THERE'S SOME EVIDENCE OF IMAGE
FADING AND DETERIORATION
THROUGHOUT AND STILL VERY
MIRRORING WHICH WE WILL TALK ABOUT
WITH YOUR GRAPHIC PRINTS AND
GLASS PLATE NEGATIVES FROM THIS
TIME PERIOD.

CAUSED BY EXPOSURE TO POOR
ENVIRONMENTAL CONDITIONS AGAIN.
AND FINALLY CONTEMPORARY COLOR
PROCESSS WHICH ARE VERY
DIFFERENT IN CROSS SECTION HERE
YOU CAN SEE YOU'RE DEALING WITH
A CROSS SECTION COMPRISED OF
DYES, CYAN, MAGENTA AND YELLOW.

ANOTHER TRAIN.

I'M SO SORRY BUT I HOPE YOU CAN HEAR ME.

YOU CAN SEE IT'S VERY MAGENTA AND THE CYAN DYE HAS FADED SIGNIFICANTLY AS PROBABLY HAS THE YELLOW DYE.

IN THIS CASE THE IMAGE IS ON A RESIN COATED PAPER SUPPORT THAT'S COATED ON BOTH SIDES WITH POLYETHYLENE.

THE FOCUS IS TO GIVE YOU A SNAPSHOT ON WHAT KINDS OF MATERIALS ENOUGH YOUR COLLECTIONS AND THE WIDE VARIETY OF IMAGE MATERIALS AND BASES AND TIME PERIODS REPRESENTED AND HOPEFULLY OUR GOAL IN THE DAYS AHEAD, THE MONTH AHEAD IS TO STRATEGIZE ABOUT HOW TO PRESERVE THESE.

SO CHROMOGENIC COLOR DOMINATES THE 20th CENTURY AND IS POPULAR UNTIL PRESENT TIME BUT, OF COURSE, DIGITAL PROCESSES DOMINATE COLLECTIONS NOW.

BUT THESE ARE DYE-BASED IMAGES IN A GELATIN BINDER AND WE WILL SPEAK AT GREAT LENGTH ABOUT DYE FADING AND DETERIORATION AND

MANY OF YOU ASK WELL, WHAT ABOUT
COLOR SLIDES?

COLOR SLIDES LIKE COLOR PRINTS
ARE COMPRISED OF ORGANIC DYES
AND IN THIS CASE POSITIVE IMAGES
ON A PLASTIC SUPPORT OF SOME
KIND TYPICALLY CELLULOSE ACETATE
OR POLYESTHER.

THERE'S A WONDERFUL BOOK THAT
HADN'T BEEN PRINTED YET BUT WILL
BE OUT SHORTLY ALSO PRODUCED BY
THE GETTY CONSERVATION INSTITUTE
AND THIS WILL REALLY BE YOUR
BEST RESOURCE OR ONE OF YOUR
BEST RESOURCES FOR COLOR
PHOTOGRAPHY, 20th CENTURY COLOR
PHOTOGRAPH.

IT'S ANOTHER WONDERFUL BOOK BY
HENRY WILHELM AS WELL WHICH I'LL
REFER TO IN THE NEXT SESSION BUT
WE LOOK FORWARD TO SYLVIA'S BOOK
WHICH SHOULD BE OUT SHORTLY.

AND FINALLY AND THEN I'LL TAKE A
BREAK FOR A QUESTION OR SO BUT
OUR TIME IS RACING AWAY I SEE
BUT I DID WANT TO MENTION THAT
AS WE TALK ABOUT PHOTOGRAPHIC
MATERIALS WE PROBABLY WON'T
TALKING ABOUT PHOTO MECHANICAL
PROCESSES SO THESE ARE

PHOTOGRAPHIC PROCESSES THAT YOU SEE HERE THAT ARE PRODUCED WITH PHOTOGRAPHIC NEGATIVES THAT ARE PRINTS.

MADE WITH PRINTING INK IN MULTIPLES AND YOU'RE LIKELY TO HAVE MANY PHOTO MECHANICAL PRINT PROCESSES AS WELL AND SOMETIMES THEY CAN BE QUITE DIFFICULT TO DISTINGUISH FROM PHOTOGRAPHIC WHICH IS CONTINUE WHITE HOUSE TONE IMAGES.

AS YOU LOOK CAREFULLY UNDER THESE PROCESSES UNDER 30X MAGNIFICATION WHICH YOU CAN ACHIEVE WITH SPECIAL LOOPS YOU WILL BEGIN TO SEE AS YOU SEE HERE THAT THESE IMAGES ARE NOT CONTINUOUS TONE.

THAT THEY'RE BROKEN UP IN SOME WAY AND THEY ACTUALLY ARE PRINT SO THIS IS HAND COLORED AND I WANT TO BE SURE TO IMMEDIATELY DIRECT YOU TO THIS WONDERFUL RESOURCE, THE GRAPHICS ATLAS, ON THE IMAGE PERMANENCE INSTITUTE WEB SITE.

THIS RESOURCE INCLUDES INFORMATION ON PHOTO MECHANICAL AND PHOTOGRAPHIC PROCESSES WHERE

YOU CAN RESEARCH THESE MATERIALS AND BETTER UNDERSTAND HOW THEY WERE MADE AND WHAT THEY LOOK LIKE, HOW THEY DETERIORATE AND YOU CAN BEGIN TO EXPLORE THE SITE AND COMPARE ONE PROCESS TO ANOTHER.

SO SO HERE'S ONE EXAMPLE OF COMPARING A CYAN KNOW TYPE, A PROCESS OF WHICH THE FINAL IS BLUE WITH THE ALBUMEN PIGMENT PROCESS WHICH IS, OF COURSE, A MATERIAL WE JUST SPOKE ABOUT WHERE THE FINAL IS IN AN ALBUMEN BINDER LAYER.

THESE DON'T REQUIRE A LOT OF INTENSIVE STUDY I DO DISTINGUISH A COLLOTYPE FROM AN ALBUMEN PRINT BUT IT GIVES YOU A COMPARISON OF HOW THIS WORKS.

SO I URGE YOU IF YOU CAN BETWEEN NOW AND THURSDAY TAKE A LOOK AT THIS.

LOOK AT ALBUMEN PRINTS, LOOK AT PHOTO MECHANICAL PROCESS AND LOOK AT THESE MATERIALS UNDER HIGH MAGNIFICATION.

IT ALLOWS YOU TO LOOK AT THEM IN DIFFERENT LIGHTING CONDITIONS, ALREADY A LIGHT AND I

THINK YOU WILL FIND IT TO BE
VERY, VERY USEFUL AS YOU BEGIN
TO TRY AND DIFFERENTIATE PHOTO
MECHANICAL FROM PHOTOGRAPHIC,
ALBUMEN FROM SALTED PAPER,
SILVER GELATIN FROM ALBUMEN, ET
CETERA.

AND IT'S PART OF THE IMAGE
INSTITUTE WEB SITE.

THE IMAGE PERMANENCE INSTITUTE
HAS MANY OTHER RESOURCES AS WELL
THAT WE'LL ADDRESS WHEN WE TALK
MORE ABOUT DIGITAL PROCESSES.

BUT DO TRY AND FIND TIME VISIT
THE GRAPHICS RESOURCES, A WEB
SITE THROUGH THE GEORGE EASTMAN
HOUSE KNOWN AS NOTES OF
PHOTOGRAPHS AND HERE YOU CAN
EXPLORE QUESTIONS THAT YOU MIGHT
HAVE ON DIFFERENT PROCESSES, HOW
THEY WERE MADE, HOW THEY'VE
DETERIORATED OVER TIME.

I DON'T HAVE TIME THROUGH THIS
SEMINAR TO SORT OF HIGHLIGHT
VARIOUS PAGES BUT I'M JUST
URGING YOU TO TAKE A LOOK AT
THESE ON THEIR OWN.

MAYBE AT THIS POINT -- IT'S 250
O'CLOCK, I CAN'T BELIEVE IT.

I HOPE YOU GUYS ARE ALL SORT OF

HANGING IN HERE WITH ME.
BUT KRISTEN, ARE THERE ANY
QUESTIONS THAT YOU THINK I MIGHT
ADDRESS AT THIS POINT?

>> YES, LET'S DO A FEW.
I FEEL LIKE A LITTLE BIT OF
INFORMATION.

I DID WANT TO ASK A QUESTION
ABOUT DAGUERREOTYPES.

MELISSA SAID WHAT CAUSES THE
IMAGE TO FLAKE OFF A
DAGUERREOTYPE, IS IT JUST
MOISTURE OR CORROSION?

AND GRETA REPLIED IT COULD BE A
LOT OF THINGS AND THEN IT'S JUST
A -- IT'S KIND OF UNUSUAL FOR
DAGUERREOTYPE.

DO YOU HAVE ANY MORE TO ADD?

>> YEAH, I'M SEEING THAT.

LET ME JUST TELL YOU ALL AGAIN
HOW GRATEFUL I AM TO GRETA AND
HEALHER WHO ARE DOING THIS AND
DOING SUCH A GOOD JOB WITH YOUR
QUESTIONS AND PLEASE DON'T
HESITATE TO ASK YOUR QUESTIONS
BECAUSE IT GIVES US A SENSE OF
WHAT WE NEED TO ELABORATE ON.
GRETA IS RIGHT.

SO FIRST WHAT WE NEED TO DO IS
ENSURE THAT IN FACT THIS IS A

DAGUERREOTYPE SO THE
DAGUERREOTYPE AS AN OBJECT IS
REFLECTIVE AS A MIRROR WITH THE
MEMORY SO YOU HAVE THIS HIGHLY
REFLECTIVE SERVICE YOU'LL SEE A
POSITIVE OR NEGATIVE IMAGE.

DAGUERREOTYPES MAY NOT
REFLECT AS MUCH BUT THEY HAVE
THIS HIGH REFLECTION BUT THE
AMBROTYPE, WHICH IS A
PHOTOGRAPH ON GLASS AND REMEMBER
THAT'S COLLODION I DON'T KNOW ON
GLASS, THAT IS A PROCESS THAT
DOES FLAKE BECAUSE YOU'VE COATED
THIS BINDER, THIS VISCOUS
CELLULOSE NITRATE LIQUID ON TO
GLASS SUPPORT AND IT CAN FLAKE
AT ITS OUTER EDGES AND LIKE WISE
THAT BLACK LACQUER LAYER WHICH
IS OFTEN APPLIED TO THE GLASS
TENDS TO CRACK AND FLAKE AS
WELL.

THAT FLAKING PHENOMENA IS A BIT
MORE COMMON WITH THE AMBROTYPE
OR TINTYPE THAN THE
DAGUERREOTYPE.

ALL THAT SAID, HOWEVER, ALL BETS
ARE OFF WITH PHOTOGRAPHS SO THE
DAGUERREOTYPE IS A SILVER PLATED
COPPER SUPPORT AND AT THE OUTER

EDGES IN SOME CASES ALTHOUGH
IT'S RELATIVELY RARE THAT SILVER
LAYER WILL EXFOLIATE OR LIFT OR
FLAKE.

SO YOU MAY BE SEEING THAT WITH
YOUR IMAGE BUT IT IS ALSO
POSSIBLE THAT YOU HAVE A TIN
TYPE OR AMBROTYPE.

DO YOU WANT TO GO BACK AND LOOK
AT THESE MATERIALS IF IT'S A
CASE.

SOMETIMES IT CAN BE HARD TO
TELL.

IF IT'S IN A CASE ONE WAY TO
DIFFERENTIATE TINTYPES ON AN
IRON SUPPORT FROM THE AMBROTYPE
PROCESS WITH A MAGNET, A STRONG
MAGNET.

AND YOU WILL FEEL THAT MAGNETIC
PULL OF THE IRON SUPPORT.

DOES THAT ANSWER THE QUESTION?

>> I THINK THAT'S A VERY HELPFUL
ANSWER.

NINA WAS NOTING SHE HAD A FAMILY
GROUP PHOTO FROM THE LATE 1890s
AND SAW THAT IT WAS MOUNTED BY A
JEWELRY STORE AND SHE WAS
INTERESTED IN THAT AND GRETA
REPLIED THAT SMALL TINTYPES
WERE MADE SMALL TO GO INTO

JEWELRY SO THAT WE DIDN'T THINK THAT WAS TOO UNUSUAL TO SEE A JEWELER'S MARK ON A PHOTOGRAPH. BUT SHE WONDERED IF THIS -- HERS IS NO LONGER IN ITS CASE IF IT EVER HAD BEEN PRESENTED IN A CASE SO SHE WAS WONDERING ABOUT THAT.

>> OKAY, YEAH,

>> WILL THAT MAKE IT MORE VULNERABLE TO ENVIRONMENTAL CONDITIONS?

>> TINTYPES ARE SPECTACULAR BECAUSE THEY CAN BE IN DIFFERENT SIZES.

THEY WERE PRODUCED -- SOME OF THEM ARE FOUND IN DECORATIVE CASES, WHICH IS TRUE WITH THE DAGUERREOTYPE AND AMBROTYPE. THEY TEND TO BE STANDARD SIZES BUT THEY WERE SOMETIMES INSERTED INTO PAPER MATS, ALSO PLACED INTO PHOTOGRAPHIC ALBUMS DURING THE VICTORIAN TIMES SO IF YOU LOOK AT VICTORIAN ALBUM WHICH IS MAY BE COMPRISED OF ALBUMEN PHOTOGRAPHERS BUT ALSO SMALLER TINTYPES.

BUT THEY CAN BE VERY, VERY SMALL AS IS TRUE MOST LIKELY WITH THIS

PARTICULAR TINTYPE.

THOSE ARE KNOWN AS GEM TINTYPES
MADE FOR JEWELRY AND SPECIALIZED
ALBUMS THAT HELD THESE SMALL --
MAYBE TWO CENTIMETER IN DIAMETER
TINTYPE PORTRAITS IN THESE
DECORATIVE ALBUMS MADE FOR TIN
TYPES BUT THEY WERE MOUNTED INTO
JEWELRY, INTO PINS, THEY WERE
USED FOR PHOTOGRAPHIC BUTTONS,
USED FOR CAMPAIGNS AS WELL
DURING THE TIME PERIOD THE TIN
TYPE WAS POPULAR SO YOU CAN FIND
THEM IN VARIOUS FORMATS.

THEY SHOULD BE HOUSED IN -- IF
THEY'RE NOT IN THE THE ORIGINAL
ENCLOSURE FOR JEWELRY THEY
SHOULD BE PROTECTED IN SOME WAY.
IF THEY ARE I WOULD LEAVE THEM
AS IS BECAUSE THAT'S PART OF
THEIR PRESERVATION.

I WOULD IMAGINE THAT THIS
PARTICULAR OBJECT IS IN GOOD
CONDITION.

I LOVE TO TALK ABOUT THE CROSS
SECTION AND THINK BACK ALL OF
YOU ON WHAT IS THE CROSS SECTION
OF THESE MATERIALS I'M GOING TO
TALK ABOUT THAT SHORTLY.

BUT JUST THINKING, THE PART

THAT'S COATED WITH A BLACK LACQUER OF SOME KIND, A COLLODION BINDER AND THEN VARNISH.

SO IF THESE MATERIALS ARE EXPOSED TO POOR ENVIRONMENTAL CONDITIONS THESE DIFFERENT LAYERS EXPAND AND CONTRACT DIFFERENTLY.

SEE FLAKING AND DETERIORATION BUT MANY ARE IN GOOD CONDITION AND THANK GOD FOR THAT VARNISH LAYER.

>> WELL, ROBIN HAD A QUESTION ON C PRINT AND CIBACHROME BUT AS ROBIN MENTIONED THAT WILL COME UP IN THE NEXT WEBINAR SO I'LL REVISIT THIS AND WE CAN TALK ABOUT IT THEN.

>> C-PRINT IS A TERM THAT'S USED FOR CHROMEGENIC COLOR PHOTOGRAPHS BUT IT CAN ALSO BE USED FOR MANY OTHER PROCESSES SO SOMETIMES IN YOUR COLLECTION YOU'LL HAVE PHOTOGRAPHS THAT ARE IDENTIFIED AS "C PRINTS" BUT FOR THE MOST PART THESE ARE COLORED IMAGES.

CIBACHROME IS ONE TYPE OF COLORED PHOTOGRAPHIC PROCESS

WHICH IS KNOWN AS A SILVER DYE BLEACH PROCESS AND I'M NOT SURE HOW MUCH DETAIL GO INTO WITH ALL THE DIFFERENT COLOR PROCESSES, THERE ARE MANY FROM CHROMEGENIC COLOR TO SILVER DYE BLEACH TO DYE DIFFUSION TRANSFER TOP DYE TRANSFER PROCESSES. BUT IF WE CAN GET INTO THIS WE WILL.

>> AND I'LL GET A BIT INTO COLORED SLIDES AND COLORED PRESERVATION A BIT MORE GENERALLY.

>> AND I KNOW LAIR YA HAD A QUESTION ABOUT PHOTOGRAPH STORAGES BUT YOU'LL BE GETTING INTO THAT LATER ON SO WE'LL HOLD THAT QUESTION FOR WEBINAR 4. AND I THINK GRETA'S DONE A GOOD JOB ANSWERING CHRISTINA'S QUESTION ABOUT PRINTING OUT AND DEVELOPING OUT.

>> THAT'S A GOOD QUESTION. I WILL TALK ABOUT THAT A BIT MORE.

I REALIZED ACTUALLY -- YOU KNOW, THIS IS SOME OF MY FIRST EXPERIENCES WITH A WEBINAR AND ONE OF THE CHALLENGES, OF COURSE

AS YOU ALL CAN IMAGINE, AS I'M SPEAKING IN MY OFFICE SURROUNDED OF IMAGES OF BEATLES, WHICH IS NICE BUT TALKING TO MY COMPUTER SO I CAN'T SEE YOU SO AS SOON AS I SAID PRINTED I THOUGHT, OH, GOSH, I HAVEN'T EXPLAINED THAT AND IF I COULD SEE YOU I COULD SUDDENLY SEE THAT YOU ALL LOOK -- BUT PRINTED OUT REFERS TO THE FACT THAT THESE ARE PHOTOGRAPHIC PROCESSES, PRINT PROCESSES PRIMARILY.

THEY DOMINATED THE 19th CENTURY WHICH ARE MADE BY TAKING LIGHT SENSITIVE PAPER AND PLACING THAT PAPER IN CONTACT WITH A GLASS PLATE NEGATIVE INTO A PRINTING FRAME AND OUT INTO THE SUN WHERE THE IMAGE VISUALLY PRINTS OUT. SO WE PREFER REFER TO THESE MATERIALS THAT THEY'RE PRINTED OUT.

AND IN DOING SO YOU'RE FORMING A SILVER IMAGE YOU THAT'S ROUNDED IN SHAPE KNOWN AS PHOTO IT WILL I CAN SILVER.

WHEREAS WHERE I MENTIONED AT THE SAME MOMENT I REALIZED IF I COULD HAVE SEEN YOU ALL I WOULD

HAVE EXPLAINED THAT.
BUT DEVELOPING OUT REFERS TO THE
TECHNIQUE OF TAKING LIGHT
SENSITIVE PAPER AND NOW YOU'RE
WORKING IN A DARK ROOM WHERE THE
LIGHTS ARE DIM, THEY MIGHT BE
WORKING WITH A RED LIGHT AND NO
LIGHT BUT YOU TAKE THE LIGHT
SENSITIVE THE PAPER.
YOU PLACE IT IN AN ENLARGER AND
YOU ENLARGE A NEGATIVE IMAGE ON
TO THAT PAPER AND THEN GO FROM
THE ENLARGER TO A CHEMICAL
DEVELOPER YOU'RE WORKING
ENTIRELY A DARK ROOM, NOT
CONTACT PRINTING BUT RATHER
ENLARGING AND THAT'S WHAT WE
CALL DEVELOPING OUT.
THAT'S BLACK-AND-WHITE
PHOTOGRAPHY, I'LL TALK MORE
ABOUT THAT ON THURSDAY BUT THAT
DISTINGUISHING PRINTED OUT FROM
DEVELOPING OUT IS AN IMPORTANT
CONCEPT THAT YOU WANT TO BEGIN
TO UNDERSTAND BECAUSE IT WILL
HELP YOU TO DIFFERENTIATE
PHOTOGRAPHIC PROCESSES SUCH AS
THE ALBUMEN PRINT FROM THE BLACK
AND WHITE SILVER GELATIN
PHOTOGRAPH.

SO LET ME GO THROUGH A FEW MORE
IMAGES AND PICK UP SOME
QUESTIONS TOWARD THE END.
AND WE'LL END AT 2:30.
IF YOU WERE MY GRADUATE STUDENTS
YOU HAVE TO RUN OFF AND TAKE
CARE OF SO MANY OTHER THINGS SO
LET ME KEEP MOVING FORWARD SR.
THAT'S OKAY BUT ONCE AGAIN I
WENT BACK A BIT TO THIS GRAPHICS
ATLAS PAGE JUST TO SAY ALTHOUGH
I DON'T -- THIS IS NOT
NECESSARILY PART OF THE HOME
WORK IT WOULD BE USEFUL FOR YOU
TO TRY AND CHECK THIS OUT BEFORE
WE MEET AGAIN ON THURSDAY.

>>

OKAY.

NOTES ON PHOTOGRAPHS I MENTIONED
WE'VE TALKED ABOUT PRINT
MATERIALS.

TYPICALLY ON PHOTO GRAPHIC PAPER
OF SOME KIND IT'S NICE WITH
PHOTOGRAPHY THAT THE PAPER
SUPPORT TENDS TO BE A GOOD
QUALITY.

THANK GOODNESS FOR THAT.

SO GOOD-QUALITY PAPERS IN THE
1960s WE SEE THE INTRODUCTION OF
RESIN COATED PAPERS.

PAPER COATED WITH POLYETHYLENE ON BOTH SIDES BUT IT'S PRINT MATERIALS FOR THE MOST PART ON A PAPER SUPPORT OR SOMETHING LIKE THAT.

A SILVER IMAGE, A DYE-BASED IMAGE, MAYBE A PLATINUM OR PIGMENT BUT WE CALL THESE PHOTOGRAPHIC PRINTS AND THEN ANOTHER CATEGORY OF MATERIALS THAT ARE NEGATIVES WHICH WE'LL TALK ABOUT WEBINAR THREE YOU CAN SEE THIS GLASS PLATE NEGATIVE BEING REMOVED FROM A PAPER ENVELOPE AND THESE NEGATIVES MAY BE ON GLASS OR FILM.

I SHOWED YOU THIS IMAGE EARLIER. THE THIS FILM IS IS DETERIORATE IN CATASTROPHIC WAYS AND IS ADVERSELY AFFECTING THE SILVER IMAGE AND THESE NEGATIVE MATERIALS MAY BE ON CELLULOSE ACETATE, THEY MAY BE ON CELLULOSE NITRATE OR ON FILM AND IT'S IMPORTANT TO UNDERSTAND THESE DIFFERENT MATERIALS SO YOU CAN STRATEGIZE CAREFULLY ON THEIR PRESERVATION.

MY SEMINAR NUMBER FOUR WILL TALK ABOUT PRESERVATION PLANNING AND

HOW TO DEVELOP A STEP WISE
APPROACH TO DEALING WITH
NEGATIVE PRINTS AND
DAGUERREOTYPES, AMBROTYPES, TIN
TYPES SO I'LL PULL THAT ALL
TOGETHER FOR YOU IN SEMINAR
NUMBER FOUR NOW I WANT TO BE
SURE YOU'RE WELL AWARE WE HAVE
THIS RANGE OF MATERIALS.

ONE THING THAT'S INTERESTED IS
MANY OF THE NEGATIVE MATERIALS
THAT YOU SEE IN THIS IMAGE HERE
ARE -- ALTHOUGH THEIR BASES MAY
VARY FROM ACETATE TO POLYESTER
TO CELLULOSE NITRATE, THE IMAGE
MATERIAL IS SIMILAR THESE ARE
COMPRISED OF SILVER IMAGES IN A
GELATIN LAYER THERE'S NO
ALBUMEN, THERE'S NO COLLODION SO
IN THIS CASE THE FINAL IMAGE
MATERIAL IS ORGANIC DYES SO
THESE CROSS SECTIONS VARY FROM
PROCESS TO PROCESS BUT THERE ARE
SIMILARITIES IN TERMS OF SILVER
METAL OR GELATIN BINDER LAYERS
AND WE'LL TALK ABOUT THAT.

THIS IS A WONDERFUL PHOTOGRAPH
PROVIDED BY A COLLEAGUE OF MINE
IN LISBON, PORTUGAL WHO HAS A
BUSINESS THERE AND THEY'RE

INVOLVED IN COLLECTIONS
THROUGHOUT PORTUGAL AND YOU CAN
SEE THEM TREATING A COLLECTION
OF CELLULOSE ACETATE NEGATIVES
AND WHAT'S INTERESTING ABOUT
THIS IMAGE IS THAT THEY ARE
REMOVING THE DETERIORATED
ACETATE BASE FROM THE GELATIN
AND I SHOW YOU THERE SO YOU CAN
BEGIN TO APPRECIATE THE LAYERED
STRUCTURE OF THESE PHOTOGRAPHIC
MATERIALS.

NOT ONLY DO YOU HAVE DIFFERENT
KINDS OF CATEGORY BUS DIFFERENT
KINDS OF FORMATS.

MANY PHOTOGRAPHIC PRINTS WERE
MOUNTED.

MANY MOUNTED PHOTOGRAPHIC PRINTS
WERE PLACED IN PHOTOGRAPHIC
ALBUMS AS YOU SEE HERE.

SO WE WILL SPEND SOME TIME
TALKING ABOUT THE PRESERVATION
OF PHOTOGRAPHIC ALBUMS: THIS IS
STILL -- THIS PHOTOGRAPHIC ALBUM
YOU WOULD KNOW THAT BUT THIS IS
A -- MORE BROWN IN COLOR,
PROBABLY MORE LIKELY TURN OF THE
CENTURY.

YOU CAN SEE THESE IMAGES ARE
MOUNTED ON TO THESE DECORATIVE

PAGES.

IT'S IMPORTANT WHETHER THEY'RE VICTORIAN WHICH IS TRUE OF THE EARLIER IMAGE WHICH I SHOWED YOU.

THIS IS A VICTORIAN ALBUM OR MORE MODERN AS YOU SEE HERE THAT THESE ALBUMS BE PRESERVED AS A UNIT.

THESE ALBUMS TO AVOID DISASSEMBLING THEM BUT TRYING TO FIND WAYS TO PRESERVE THEM.

WITH THE BINDING INTACT.

AND THEY MAY BE COMPRISED OF A WIDE VARIETY OF PRINT PROCESSES, SUSPECT.

THESE ARE SILVER GELATIN PRINT OUT PHOTOGRAPHS AND I'M SAYING PRINTED OUT BECAUSE THEY AREN'T BLACK AND WHITE IN COLOR.

THEY'RE MORE BROWN IN COLOR BUT YOU MAY HAVE ALBUMS -- I'M CERTAIN YOU IN YOUR COLLECTIONS THAT ARE BLACK AND WHITE OR COLOR OR WHATEVER THAT MIGHT BE ALSO FRAMED MATERIALS.

HERE'S ANOTHER IMAGE PROVIDED FROM NORTH CAROLINA STATE MUSEUM NATURAL SCIENCES, THANK YOU FOR DOING THAT.

HONESTLY IF YOU WANT TO KEEP
SENDING IMAGES I WILL TRY AND
ADD THEM IN.

I THINK IT'S NICE TO DO THAT.
THIS IS CLASSIC PHOTOGRAPHIC
DEGRADATION, PHOTOGRAPHIC
MATERIALS THAT HAVE BEEN HOUSED
IN VARYING DIFFERENT KINDS OF
ENVIRONMENTS, PERHAPS EXPOSED TO
WATER OF SOME KIND BUT THEY'RE
FRAMED DIRECTLY AGAINST THE
GLASS AND YOUR COLLECTIONS IN
YOUR OWN FAMILY MATERIALS AS
WELL.

IT'S IMPORTANT WITH THESE
PHOTOGRAPHIC MATERIALS TO MAT
THEM, FRAME THEM PROPERLY AND
PROTECT THEM FROM ENVIRONMENTAL
CONDITIONS WHICH CAN CAUSE A
PROBLEM LIKE YOU SEE HERE.

SO WE'LL TALK A BIT OVER THE
COURSE OF THIS DISCUSSION ABOUT
FRAMED MATERIALS AS WELL.

THE BOTTOM LINE IS JUST TO
UNDERSTAND THIS CROSS SECTION.
THAT YOU HAVE MANY DIFFERENT
SUPPORTS TO INCLUDE FOR NOTE
GRAPHIC PRINT MATERIALS BUT WITH
OTHER MATERIALS IT CAN BE GLASS
OR METAL.

LEATHER, TEXTILES, PHOTOGRAPHS
ARE PRODUCED ON ALL DIFFERENT
KINDS OF SUPPORTS, PLASTIC FILM.
MANY PHOTOGRAPHS HAVE A
TRANSPARENT BINDER
HOLDS THE FINAL IMAGE MATERIAL
AND SUSPENSION SO THAT'S WHAT
YOU SEE HERE.

THE BINDERS VARY FROM ALBUMEN TO
COLLODION TO GELATIN, A
COMMERCIALY PREPARED PROTEIN.
AND THE FINAL IMAGES VARIES
SIGNIFICANTLY.

SO WHEN WE BEGIN TO THINK ABOUT
THESE MATERIALS I WANT YOU TO
ALWAYS BE THINKING ABOUT THESE
DIFFERENT SUPPORTS AND HOW THEY
DETERIORATE OVER TIME, THE
VARIOUS BINDERS, ALBUMEN,
COLLODION AND GELATIN.

AGAIN, ALBUMEN AND COLLODION
DOMINATING THE 19th CENTURY.
GELATIN DOMINATING IN THE 19
CENTURY AND THEN A FINAL IMAGE
MATERIAL MAY BE SILVER,
ORGANIC DYES, PIGMENTS, PLATINUM
GOLD, IRAN SALTS, A WHOLE
VARIETY OF MATERIALS.

THIS SERIES OF WEBINARS WILL
FOCUS PRIMARILY ON SILVER IMAGES

ORGANIC DYES BECAUSE THEY REALLY
DOMINATE THE COLLECTIONS.

I LOVE THE QUIZ THAT WE TOOK.

IT WAS GREAT FOR ME.

GAVE ME A SNAPSHOT.

KRISTEN WILL CONTINUE TO INCLUDE
THOSE AS WE DRILL DOWN AND
BETTER UNDERSTAND YOUR
COLLECTIONS.

PLATINUM PRINTS WERE PRODUCED IN
THE TURN OF THE 19th CENTURY
WELL INTO 1925.

THE IT'S RARE TO FIND
PHOTOGRAPHS THAT ARE COMPRISED
OF GOLD BUT THAT IS POSSIBLE.
AND IRON SALTS, THE CYAN KNOW
TYPE WHICH MANY OF YOU MAY, IN
FACT, HAVE.

IF NOT IN YOUR PHOTOGRAPHIC
COLLECTIONS CERTAINLY IN YOUR
ARCHITECTURAL DRAWING
COLLECTION.

SO WE WILL TALK MORE ABOUT BASIC
PRESERVATION ADVICE AND THE NEED
TO HOUSE COLLECTIONS AND GOOD
QUALITY ENCLOSURES IN BOXES FOR
PROTECTION AS YOU SEE HERE.

WE'LL TALK MORE ABOUT
CONTROLLING THE ENVIRONMENT AND
TEMPERATURE IN USE OF COLD

STORAGE FOR THOSE MATERIALS THAT ARE PARTICULARLY VULNERABLE SUCH AS CELLULOSE ACETATE OR CELLULOSE NITRATE FILM OR COLORED MATERIALS.

THIS IS GRETA AGAIN WHO HAS BEEN ONLINE ANSWERING YOUR QUESTIONS, YOU CAN SEE HER HERE AT THE LIBRARY OF CONGRESS WHERE SHE'S FINISHING UP HER THIRD YEAR OF STUDY IN OUR GRADUATE PROGRAM WHERE THE COLD STORAGE FACILITY AT THE IMAGE FOUNDATION IN BEIRUT LEBANON WHERE I'VE HAD THE GREAT PRIVILEGE TO WORK FOR MANY YEARS IN A PROJECT THAT I HOPE TO TALK TO YOU ABOUT AND THE FINAL WEBINAR, OUR WORK IN THE PRESERVATION OF PHOTOGRAPHIC QUESTIONS THROUGHOUT THE MIDDLE EAST.

IT'S IMPORTANT TO MONITOR LIGHT LEVELS.

AND WE'LL TALK A BIT ABOUT EXHIBITION AND NOW WITH THE BETTER IMAGE IN NEW JERSEY IN MONITORING PHOTOGRAPHS ON DISPLAY.

LIGHT DOES CALL PHOTOGRAPHS TO DETERIORATE AS WE'VE MENTIONED

QUITE A BIT ABOUT RELATIVE HUMIDITY AND TEMPERATURE BUT NOT SO MUCH ABOUT LIGHT.

SILVER IMAGES DON'T NECESSARILY FADE BUT BINDER LAYER CANS YELLOW.

DYE IMAGES CAN FADE AND PAPER SUPPORTS CAN BE 'M BRITTLED AND DETERIORATE ANOTHER WEB SITE THAT'S VERY IMPORTANT FOR ALL OF YOU IS THE AMERICAN INSTITUTE FOR CONSERVATION WEB SITE.

HERE I URGE YOU TO REFER TO THE A.I.C.R. PROFESSIONAL ORGANIZATION IN THE UNITED STATES FOR ADVICE FINDING A CONSERVATOR BECAUSE IT WILL BE IMPORTANT AS MUCH AS WE'LL TRY TO COVER YOUR CONCERNS AND CHALLENGE IT WILL BE MOST USEFUL FOR YOU TO CONNECT WITH A PHOTOGRAPHIC CONSERVATOR WHERE YOU CAN AND THE A.I.C. WILL HELP YOU FIND CONSERVATORS IN YOUR REGION THROUGH THEIR REFERRAL SERVICE.

THERE'S LOTS OF OTHER GREAT INFORMATION ON THAT WEB SITE AS WELL, BROCHURES ON GENERAL INFORMATION ON CARING FOR

PHOTOGRAPHS YOU MAY WISH TO JOIN THE A.I.C. TO LEARN MORE ABOUT THE FIELD OF CONSERVATION AND I URGE YOU DO SO.

ANOTHER BASIC AREA THAT WE'LL BE TALKING MORE ABOUT IS AN AREA NEAR AND DEAR TO ALL OF US AND THIS IS THE NEED TO PROTECT THESE MATERIALS FROM NATURAL AND MAN MADE ENERGIES AND DISASTERS.

THIS IS A PHOTOGRAPH FROM HURRICANE SANDY AND --

SUPERSTORM SANDY, PRIVATELY OWNED AND YOU CAN SEE IT'S VERY BADLY DAMAGED AND IT'S INTERESTING TO NOTE THAT THE POOR PEOPLE WHO SUFFERED THROUGH THAT SUPERSTORM HURRICANE MANY, MANY MONTH AGO ARE STILL GOING BACK TO THEIR HOMES TO TRY AND RECOVER THEIR PHOTOGRAPHIC COLLECTIONS.

WE'LL TALK ABOUT WHAT YOU CAN DO TO PROTECT THESE MATERIALS AGAINST DISASTERS AND CERTAINLY THE NEED TO HANDLE THESE MATERIALS CAREFULLY IS IMPORTANT AS WELL.

PROPER HANDING TO PREVENT UNNECESSARY DAMAGE IS REALLY KEY

TO THE PRESERVATION OF THESE
COLLECTIONS.

OH, I'M SORRY, THAT DIDN'T
BOUNCE UP.

HERE YOU SEE A GREAT EXAMPLE OF
A VERY, VERY EARLY PHOTOGRAPH.
IN FACT, THIS IS A PHOTOGENIC
DRAWING, ONE OF THE EARLIEST
PHOTOGRAPHIC PROCESSES, A SILVER
IMAGE FROM THE METROPOLITAN
MUSEUM OF ART WHICH IS BAG
HANDLED, AS IT SHOULD BE, WITH
GLOVES AND SO YOU WANT TO BE
SURE THAT IN YOUR INSTITUTION AS
WE FOCUS ON THESE BIGGER ISSUES
OF PRESERVATION THAT YOU'RE
THINKING ABOUT WHAT A -- WHAT
ARE THE HANDLING PRACTICINGS AND
POLICIES, EMERGENCY PLANNING
POLICIES, EXHIBITION POLICIES
THAT YOU HAVE IN PLACE IN YOUR
INSTITUTION.

FINALLY, THIS IS ONE OF MY
FAVORITE IMAGES, REALLY.

THIS IS MY GRANDMOTHER WHO
PASSED AWAY A NUMBER OF YEARS
AGO BUT AT THE AGE OF 106 AND
GRANDMA, WHAT DID SHE LOVE TO
DO?

SHE LOVED TO LOOK AT HER

PHOTOGRAPHIC MATERIALS AND TO
TACK ABOUT HIS WHO THESE PEOPLE
ARE.

AND THIS HARKENS BACK TO ABOUT
WHY IT'S SO REWARDING AND SUCH A
WONDERFUL FIELD TO BE ENGAGED
IN.

THAT IS THE CONNECTION OF THESE
MATERIALS TO HUMANITY AND DON'T
LEAVE GRANDMA IN THE ATTIC IS
SIMPLY A REMINDER THAT WE NEED
TO PROTECT THESE MATERIALS FROM
FLUCTUATING ENVIRONMENTAL
CONDITIONS THAT YOU FIND IN
BASEMENTS AND ATTICS.

HIGH TEMPERATURE, HIGH RELATIVE
HUMIDITY AND LIGHT POLLUTANTS
FOR HANDLING EMERGENCIES AS
WELL.

THE SO KRISTEN, I'LL TURN THIS
OVER TO YOU JUST TO SEE IN THE
TIME REMAINING WHAT QUESTIONS WE
MIGHT HAVE THERE IS HOME WORK
ASSOCIATED WITH THIS SEMINAR, AS
I BELIEVE THERE WILL BE AT THE
VERY END.

AND EXPLAIN THAT A BIT.

BUT KRISTEN, ARE THERE ANY
QUESTIONS THAT YOU THINK I COULD
ADDRESS AT THIS POINT?

>> YEAH, ACTUALLY, WE HAVE A NUMBER OF GREAT QUESTIONS SO I JUST WENT AHEAD AND PULLED UP YOUR HOME WORK SLIDE WHICH IS TO ASK YOU TO IDENTIFY THREE PRESERVATION CHALLENGES ASSOCIATED WITH YOUR PHOTOGRAPHIC COLLECTION AND WHAT STRATEGIES FOR IMPROVEMENT MIGHT BE AND THURSDAY'S HOME WORK TO GIVE YOU A PREVIEW, DEBBIE AND I WERE DISCUSSING HOW CAN YOU DO IDENTIFICATION WITH THE GRAPHIC ATLAS SO THAT WILL GIVE YOU A CHANCE TO INVESTIGATE THAT SITE A LITTLE BIT MORE.

DEBBIE, WHILE WE'RE ANSWERING QUESTIONS I WANTED TO JUST PULL UP THE LINK TO THE HOME WORK AND YOU'LL FIND THAT ON THE COURSE WEB PAGE AND FOR THOSE OF YOU WHO HAVE BEEN WATCHING WITH COLLEAGUES TODAY WE WANT TO GIVE YOU CREDIT FOR PARTICIPATING SO TELL US WHO YOU'RE WATCHING WITH.

WE SAW YOU IN OUR ATTENDANCE BOX WHICH YOU CAN'T SEE BUT WE CAN SEE.

WE HAD 316 OF YOU TODAY.

SO I THINK IN YOUR LAST BIT IF YOU TALK ABOUT HANDLING WITH COTTON GLOVES AND YOU MENTIONED HANDLING DURING A DISASTER AND THAT HAD COME UP IN THE CHAT MAYBE USING VINYL LATEX GLOVES IN THAT CASE.

>> CHRIS TEN, ARE YOU ASKING ME -- ASK ME AGAIN WHAT YOU WANT ME TO ADDRESS?

>> YOU MENTIONED COTTON GLOVES ARE APPROPRIATE FOR USE.

PES SPECIALFULLY A DISASTER SITUATION, WOULD YOU GO AWAY FROM COTTON IN THAT CASE?

>> LET ME ANSWER THAT.

I JUST HAVE TO TELL YOU I WAS BECOMING TOO AMBITIOUS AND I STARTED TRYING TO CHAT WITH YOU AS KRISTEN WAS SPEAKING.

IN A DISASTER, GOSH, THINGS ARE SO DIFFERENT IN A DISASTER SITUATION, HONESTLY.

YOU DO YOUR BEST TO RESPOND IN A LOGICAL WAY AND IN A DISASTER SITUATION GLOVES ARE IMPORTANT NOT REALLY ONLY TO PROTECT THE PHOTOGRAPHS BUT MORE IMPORTANTLY TO PROTECT YOU.

YOU'RE DOING WHAT YOU CAN TO BE

AWARE OF HEALTH AND SAFETY
ISSUES AS WELL.

WE RECOMMEND GLOVES MAY NOT BE
HANDLING GLASS PLATE AS YOU
DON'T GET A SENSE OF THE WEIGHT
AND THE FRAGILITY OF THE
MATERIALS.

YOU CAN HANDLE GLASS PLATE
NEGATIVE WITH YOUR HANDS.
MAKE SURE THEY'RE WASHED AND
DON'T TOUCH THE SURFACES.
HANDLE THE EDGES ONLY.

SO SOME OF THIS DEPENDS ON
INDIVIDUALS, THE KINDS OF
PROCESSES, THE SITUATIONS YOU
FIND YOURSELF IN BUT FOR
EMERGENCIES AND DISASTERS WEAR
GLOVES BUT THIS IS TO PROTECT
YOU AND ALSO PERHAPS IN SOME WAY
TO PROTECT THE PHOTOGRAPHS.

WHEN YOU FIND YOURSELF IN THESE
SITUATIONS, YOU REALLY HAVE TO
BEGIN TO JUST TRIAGE AND THINK
ABOUT WHAT CAN BE DONE, WHAT
NEEDS TO BE DONE NOW, WHICH
PARTS OF THE COLLECTIONS ARE
MOST IMPORTANT, WHAT CAN BE
RECOVERED.

WHERE CAN YOU GO FOR HELP?
IDEALLY OFF DISASTER PLAN IN

PLACE SO THIS IS SOMEWHAT ESTABLISHED AND YOU GET A BETTER SENSE OF WHAT TO DO, YOU DON'T WANT TO BE PLANNING AT THE TIME OF A DISASTER.

I WON'T BE TALKING ABOUT DISASTER PLANNING BUT THERE WAS KRISTIN I BELIEVE A WHOLE SERIES OF WEBINARS ON DISASTER PLANNING LED BY A VARIETY OF WELL KNOWN INDIVIDUALS IN THE FIELD AND YOU CAN GO BACK AND REPLAY THAT.

AND PLEASE DO SO BECAUSE AS WE SPEND ALL THIS TIME TALKING ABOUT THE PRESERVATION OF PHOTOGRAPHIC MATERIALS I WANTED TO BE CERTAIN THAT YOUR COLLECTIONS ARE WELL PROTECTED FROM POTENTIAL EMERGENCIES AND DISASTERS WHERE THEY'RE LOCALIZED OR MORE BROAD-BASED >> WE JUST HAVE TWO MINUTES.

I'VE GOT YOUR QUESTIONS AND I THINK THEY WILL BE ADDRESSED IN FUTURE WEBINARS AND WE WILL MAKE SURE -- GRETA'S BEEN GREAT AT GETTING AT MOST OF THEM BUT WE'LL MAKE SURE DEBBIE KNOWS ABOUT THEM AND CAN DEFINITELY WORK THEM INTO HER FUTURE

LECTURES.

I GUESS THERE WAS A GREAT QUESTION I HAD THAT WHEN YOU HAVE HISTORIC NEGATIVES, SHOULD THAT BY B REPRINTED TODAY USING DIFFERENT METHODS?

CAN YOU DO THAT OR ANY OH ADDITIONAL INFORMATION?

>> THAT'S A GOOD QUESTION AND I WON'T -- ALTHOUGH I WON'T BE TALKING OVER THE COURSE OF THIS SEMINAR ABOUT HOW TO DO THAT I WOULD SAY YES THEY CAN AND OFTEN THEY SHOULD BE REPRINTED OR AT LEAST DIGITIZE SOD THESE IMAGES CAN BE AVAILABLE FOR SLARSHIP, FOR RESEARCH, FOR USE.

NEGATIVES ARE HARD TO EXAMINE. THEY ARE PROBLEMATIC IN TERMS OF PRESERVATION SO MANY INSTITUTIONS ARE LOOKING AT PROCESSES FOR DIGITIZING THESE COLLECTIONS AND FOR FROM THE DIGITAL NEGATIVE YOU CAN MAKE A DIGITAL PRINT.

IN TERMS OF ACTUALLY USING THE NEGATIVES FOR PRINTING, PHYSICALLY PRINTING USING CONTACT PRINTING PROCESS I WOULD ADVISE AGAINST THAT BECAUSE OF

THE SFRA FRA JILLY OF THE
NEGATIVES.

BUT YOU CAN MAKE A FACSIMILE
NEGATIVE OR COPY NEGATIVE AND
FROM THAT YOU CAN DO PRINTING.
YEARS AND YEARS AGO THIS WAS THE
TECHNIQUE FOR DUPLICATING
COLLECTIONS, TO REPRINT THEM
CAREFULLY AND IT'S SOMETHING
THAT'S DONE BUT NOT NECESSARILY
SOMETHING I WOULD RECOMMEND.
MORE IMPORTANT TO DIGITIZE THEM
AND MAKE THESE COLLECTIONS
AVAILABLE ONLINE FOR SCHOLARSHIP
AND RESEARCH AND VISIBILITY AND
PROMINENCE BUT PLEASE ALSO BE
CERTAIN TO PRESERVE THE
ORIGINAL.

THE DIGITAL COPY IS NOT
NECESSARILY THE PRESERVATION
COPY BUT IT'S SOMETHING YOU'RE
PRODUCING FOR ACCESS.

HOW'S THAT?

\$I THINK THAT'S VERY HELPFUL AND
WE HAVE A GOOD CHECK GOING ON
ABOUT SCANNING AND GRETA NOTING
THAT IT'S BETTER TO SCAN THE
IMAGE FACE UP WHICH IS
CHALLENGING FOR SOME FOLKS.
BUT WE WON'T GET INTO A LOT OF

INFORMATION ON DIGITIZING IN THIS COURSE BUT WE WILL AT LEAST TRY TO FIND GOOD RESOURCES THAT WE CAN LINK TO ON THE COURSE WEB PAGE.

>> AND LET ME ALSO SAY TO ALL OF YOU-- THIS IS GREAT TO HAVE SUCH A LARGE GROUP THESE KINDS OF QUESTIONS HELP.

AND IT'S CLEARLY AN IMSHOE PRESENT ON YOUR MINDS AND IF WE DON'T COVER HIT IN THE DIGITIZATION WORKSHOP, WHICH WE MAY, BUT IF NOT WE CAN BEGIN TO DEVELOP SESSIONS THAT ADDRESS SOME OF THESE TOPICS VERY SPECIFICALLY WITH THE SO IT'S GOOD TO KNOW WHAT ARE THE NEEDS OUT THERE.

I WANT TO BE CERTAIN AS YOU DIGITIZE THESE COLLECTIONS YOU'RE (INAUDIBLE) GREAT, THANK YOU FOR SAYING THAT.

THERE'S A LOT OF INTEREST IN TALKING ABOUT ALBUMS SO WE NEED TO WRAP UP FOR TODAY BUT I WILL MAKE SURE ALL OF YOUR QUESTIONS ARE NOTED.

WE WON'T BE REPLYING TO THEM IN WRITING BUT I'M CERTAIN THAT

DEBBIE CAN GET TO THEM.

>> KRISTEN, CAN THEY -- I'M NOT EVEN SURE IF THIS IS POSSIBLE BUT THINK K THEY STILL SEND IMAGES OR IS IT TOO LATE TO DO THAT?

I'M THINKING IF WE HAVE ALBUMS AND THEY WANT TO SEND ME SOME -- NOT SEND SOME -- I DON'T KNOW WHERE THEY WOULD SEND SOME.

>> I THINK GRETA HAS SHARED HER GMAIL ACCOUNT AND I WILL PUT IN THE CHAT OUR GMAIL ACCOUNT JUST BECAUSE GMAIL CAN HANDLE LARGER ATTACHMENTS THAN OUR INFO AT HERITAGE PRESERVATION SO I'LL NAUGHT IN THE CHAT IN THE A FEW MINUTES.

OR JENNY CAN.

AND, YEAH, THAT WOULD BE FINE. WE'RE HAPPY TO CHANNEL THAT TO YOU.

>> AND I COULD SORT OF -- IT'S FUN WHEN I CAN PUT IN IMAGES AND BE MORE SPECIFIC IN OUR RECOMMENDATIONS THAT ARE EXACTLY THE KINDS OF CHALLENGES YOU'RE FACING.

>> I JUST WANTED TO NOTE, MARGARET FROM RALEIGH, NORTH

CAROLINA, HAD SENT A THE FEW
IMAGES AND I THINK -- I DON'T
KNOW EXACTLY HOW YOU THE
(INAUDIBLE) BUT THEY WERE IMAGES
ON GLASS NOT AGAINST GLASS.
THERE'S A HUGE VARIETY OUT THERE
WE'LL ADDRESS THAT AT SOME POINT
I PROMISE.

AND LIGHT SHINES THROUGH THEM.
YOU SAW THAT IN THE VICTORIAN
TIME WHEN THEY BEGAN TO THE
EXPERIMENT WITH TRANSPARENCY OF
GLASS IN WINDOWS AND THAT MAKES
SENSE BECAUSE THEY'RE IN THE
MUSEUM OF NATURAL SCIENCES WHERE
YOU BEGIN TO SEE THESE CLEVER
SHIFTS AND CHANGES SO WE'LL BE
SURE TO GET THAT RIGHT.

>> WELL THANK YOU SO MUCH.
WE LOOK FORWARD TO SEEING YOU AT
1:00 P.M. EASTERN ON THURSDAY.
>> LET US KNOW HOW WE'RE DOING.
THIS IS SORT OF THE RIGHT PACE.
I'M USED TO HAVING AN AUDIENCE
IN FRONT OF ME AND TIPS,
THOUGHTS YOU HAVE IS ABSOLUTELY
-- (INAUDIBLE) THANK YOU SO
MUCH.