

How to Preserve and Organize Photographs

Handout 3

Supplement of the Interreg project "Lichtbild/Argento vivo. Cultural Treasure Photography"



The Interreg project “Lichtbild/Argento vivo. Cultural Treasure Photography” is a collaboration between the following partners: the Tyrolean Archive of Photographic Documentation and Art (TAP), the Municipality of Brunico as well as the Office for Film and Media and the Department of Museums of the Autonomous Province of Bolzano – South Tyrol.

The Lichtbild team consists of the following members: Martin Kofler, Rosemarie Bachmann, Helene Ladstätter and Evelyn Müller (TAP), Sonja Hartner and Julia Knapp (Municipality of Brunico), Arpad Langer, Oscar La Rosa and Notburga Siller (Office for Film and Media) as well as Gertrud Gasser and Verena Malfertheiner (Department of Museums).

The team is supported by several representatives of the associated partners: Alessandro Campaner of the

South Tyrolean Provincial Archives, Roland Sila and Claudia Sporer-Heis of the Tyrolean State Museums and Bernhard Mertelseder of the Tiroler Bildungsforum – Association for Culture and Education in Innsbruck. Another associated partner is the European Region of Tyrol–South Tyrol–Trentino.

In line with the motto “Professional handling, open access. Photography goes future,” the project defines guidelines for the competent handling of historical photographs in the project area of Tyrol and South Tyrol. These guidelines are developed within the framework of various workshops; the results will be presented on a website, in an app and as an e-learning program. Furthermore, for the first time ever, the project will make historical photos available in Tyrol and South Tyrol as open data.

1. History of Photography in Tyrol and South Tyrol

2. Photographic Rights and Creative Commons

3. Archiving and Cataloging

4. Digitalization and Image Editing

5. Digital Long-Term Archiving

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Unknown man, c. 1935

(Photographer: Maria Egger; collection of the Municipality of Lienz, archive of Bruck Castle Museum– TAP)



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Notburga Siller

Preface

The young man shown on the cover has neatly parted hair and seems to be staring straight at us. He is wearing a tie and a typical Styrian jacket with stag horn buttons. The rest of the black and white photo is blurred: was the man sitting or standing? Was he holding anything? Were there any words, numbers, or even a name, on the glass plate negative?

The light-sensitive coating has come off; all that remains is the young man's face and the upper part of his chest. Everything else is lost forever. The portrait is gradually fading away.

The picture was taken at the Egger family's photographic studio in Lienz. Georg Egger (1835–1907) managed his "Fotografisches – Atelier des G. Egger" from 1863 until 1907, the year of his death. He was a pioneer of photography in East Tyrol, while his son, Albin Egger-Lienz, became famous as a painter.

For the first handout of the "Lichtbild/Argento vivo. Cultural Treasure Photography." project, Meinrad Pizzinini researched the story of the Egger studio. The photo was taken by Georg's daughter, Maria Egger (1877–1951). After her father had died, she took over his photographic studio at Schweizergasse 30, managing it for 44 years until her death in 1951. She never wanted to appear as Maria Egger. Her photos, especially the individual portraits or family group shots, are always just signed "Egger." In March 1951, one month after her death, the business was removed from the city registers.

The Georg and Maria Egger fonds now form part of the collection of the Municipality of Lienz at the archive of Bruck Castle Museum and are stored at the Tyrolean Archive of Photographic Documentation and Art (TAP) in Lienz. The TAP, the Municipality of Brunico, the Office for Film and Media and the Department of Museums of the Autonomous Province of Bolzano – South Tyrol are all partners in the Interreg project "Lichtbild/Argento vivo."

A total of 7,056 glass plates from the Georg and Maria Egger fonds are now stored in Lienz and currently being archived and cataloged.

This photo is labelled with inventory number "L27105": The "L" stands for Lienz and is followed by one of the consecutive numbers assigned during cataloging. Unfortunately, the Egger fonds did not come with an original numbering system, inventory, or record with names, or even a list of the dates when the photos were taken. The man shown in the photo can only be described as an "unknown man."

As a result, we can only try and date the image by comparing it with other glass plates from the studio, by looking at the clothes, or by consulting an expert. Martin Kofler, director of TAP, believes that the photo was taken some time between 1930 and 1940.

The glass plate negative is 16.4 cm high and 11.8 cm wide, and shows no evidence of retouching. The emulsion coating has come off almost completely, except for the area around the man's face and shoulders. This is due to the fact that in the 1930s or

1940s, negatives were wrapped in newspaper. The glass plates were then stacked on top of each other, and the newspaper ink acted as a sort of glue, causing the paper to adhere to the emulsion.

During the archiving process, the paper was removed carefully, and the plate was cleaned with a fine brush and then stored properly. It was assigned an inventory number and then cataloged. All available information regarding physical material,

format, date, source, description, legal status, etc. was entered into a database. The item is now stored in an acid-free bag, which, in line with current regulations, is kept in a vertical position inside an acid-free carton in the TAP archives in Lienz.

Historical photographs are often damaged as a result of inadequate packaging or storage, adverse weather conditions, or fluctuations in temperature, or if exposed to hu-



The glass plate negative of the cover photo. The lack of an emulsion layer is easy to see.

(Photographer: Maria Egger; collection of the Municipality of Lienz, archive of Bruck Castle Museum – TAP, CC BY 4.0)

The photographer Maria Egger, c. 1925.

(Photographer: unknown; collection of the Municipality of Lienz, archive of Bruck Castle Museum – TAP, CC BY 4.0)



midity, dirt or physical force (glass plates might break). The damage may also have occurred in the studio itself, as a result of unintended chemical reactions, excessive or inadequate exposure, or for many other reasons. The material used as a carrier may well have been either unstable or perishable. All these aspects present major challenges for archivists and restorers: So what can they do? What should they keep? How should they go about it? Which photos should they prioritize?

In the case of the Egger fonds, we decided to digitalize and store all glass plates where at least most of the face of the person depicted is still visible.

The photo on the cover perfectly illustrates the different topics covered in this booklet, the third handout of the “Lichtbild/Argento vivo” Interreg project, which focuses on preserving both the actual material of the photographs and their content. The booklet contains various ideas and suggestions



developed in a workshop titled “Archiving and Cataloging Photos Correctly,” held at Brunico Castle, South Tyrol on April 19, 2018. The first part covers the subject of information carriers, i.e. the photograph itself, which can be either a copy, a print or a negative and needs to be preserved to prevent further deterioration. In her article “Conserve what can be conserved,” Marjen Schmidt describes the limits and possibilities of archiving photos. She uses hands-on examples to illustrate what we mean by “archiving” in the strictest sense of the word.

The “Lichtbild/Argento vivo” team gives practical advice on how to work with historical photographs, showing how photos should be handled, packaged and stored to preserve them for as long as possible.

The second part of the booklet focuses on the content of the photographs and their publication and cataloging. Images are “usable” if their content can be properly “understood” and interpreted. The object we can “clearly” identify today as a camera may well be described as nothing more than “a box” one hundred years from now. Elements that photographers or archivists can now identify and interpret with certainty may no longer be understood in the future or confused with different things. Conserving a photograph is thus not only a matter of preserving its carrier material, but of making its contents readily available. For this reason, we need to adopt a standardized and easy-to-understand procedure. The contributions by Roland Sila and Bernhard Mertelseder address these particular topics: they focus on how to create a fonds, assign inventory numbers and retrieve photographs. Our project partners and associates all have different approaches to cataloging, as can be seen from their databases.

The “unknown man” depicted on the cover of this handout will probably never be identified. However, as the historical photograph we see here has now been properly preserved, classified and archived, the unknown man will remain for future generations, bearing witness to his time and to the work of Maria Egger.

The author

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Marjen Schmidt

Conserve What Can Be Conserved

Image 1
Tintype,
8.8 × 6.3 cm,
unknown photo-
grapher, rust on
right edge



Photographs are wonderful objects in various ways: we can see them, feel them, smell them and love them (fig. 1).

The fascinating possibility of catching a fleeting moment or idea on paper or film has led us to develop a series of photographic processes characterized by the typ-

ical features of the materials used. The development of digital photography, together with new technologies such as the inkjet printer, has increased the variety of colors and the range of materials we can use as carriers. Post-production processes such as mounting photos, applying them to cardboard, or laminating them with acrylic glass (Diassec® or Facemounting) create new combinations of materials and have a strong impact on both the appearance of the photos and their storage potential.

The more information we have regarding the production of and technique used for an individual photo, the easier it becomes to create tailor-made methods to preserve it.

In view of the vast number of photos we have, we may not always value them the way we actually should. We can conserve what can be conserved by approaching these items with skill, care and attention.

The following tips on how to handle photos will help prevent potential damage caused in the process.

How to handle photos

- Please note: All documentation including descriptions, labels or attachments must always be kept with the object. Also keep all links to other sources.
- To reduce the risk of damage, never hand original photos to any third parties without adequate protection or use them as a printer's copy.
- Always wash your hands before and after handling photos. This is to protect both you and the photos.

- For safe handling, wear clean white cotton or microfiber gloves, or disposable latex or nitrile (sulfur-free) gloves.
- Always hold photos by their edges, using both hands. Also, make sure that the back of the photo is protected, for example with a piece of stiff cardboard.
- Never examine glass plates by holding them up against the light; instead, place them on an illuminated surface which is non heat-emitting (for example, lit by LED lights).
- Do not blow onto photos to remove dust: even small drops of saliva can cause damage to the surface.
- Never leave photos in an exposed position, and do not put any potentially damaging materials on their surface.
- Use an ordinary pencil for making notes, not a mechanical pencil: the lead can break and damage the photograph.
- Do not use a pen or pencil to indicate details on a photo.
- If handling items affected by mold, wear disposable gloves and a face mask, as well as protective clothing if required.
- Do not smoke, eat or drink while working; do this during breaks and in areas other than the workplace.

Labels

Write labels or captions on the back of printed photos using an HB or B pencil, so that the writing does not press through the paper. You can use embossing stamps or dry stamps, but only on the edges. Avoid writing directly onto negatives, or onto glass or film slides. Write the inventory number on the envelopes. Photos stored in covers or frames can be given small paper labels, attached to the item with white cotton thread.

Adhesives

Keep post-it notes and materials such as adhesive tape, paper or labels in your drawer: they are completely unsuitable for use with photos. When applying labels to boxes and envelopes, only use labels that have passed a PAT test in accordance with the ISO 18916 standard.

Cleaning

If the photo is intact, remove dust and dirt carefully, using a very soft brush. It is best to consult an expert photo restorer before

Image 2
Silver gelatin print,
14.7 × 10.3 cm,
unknown photo-
grapher, surface
damage due to
heat



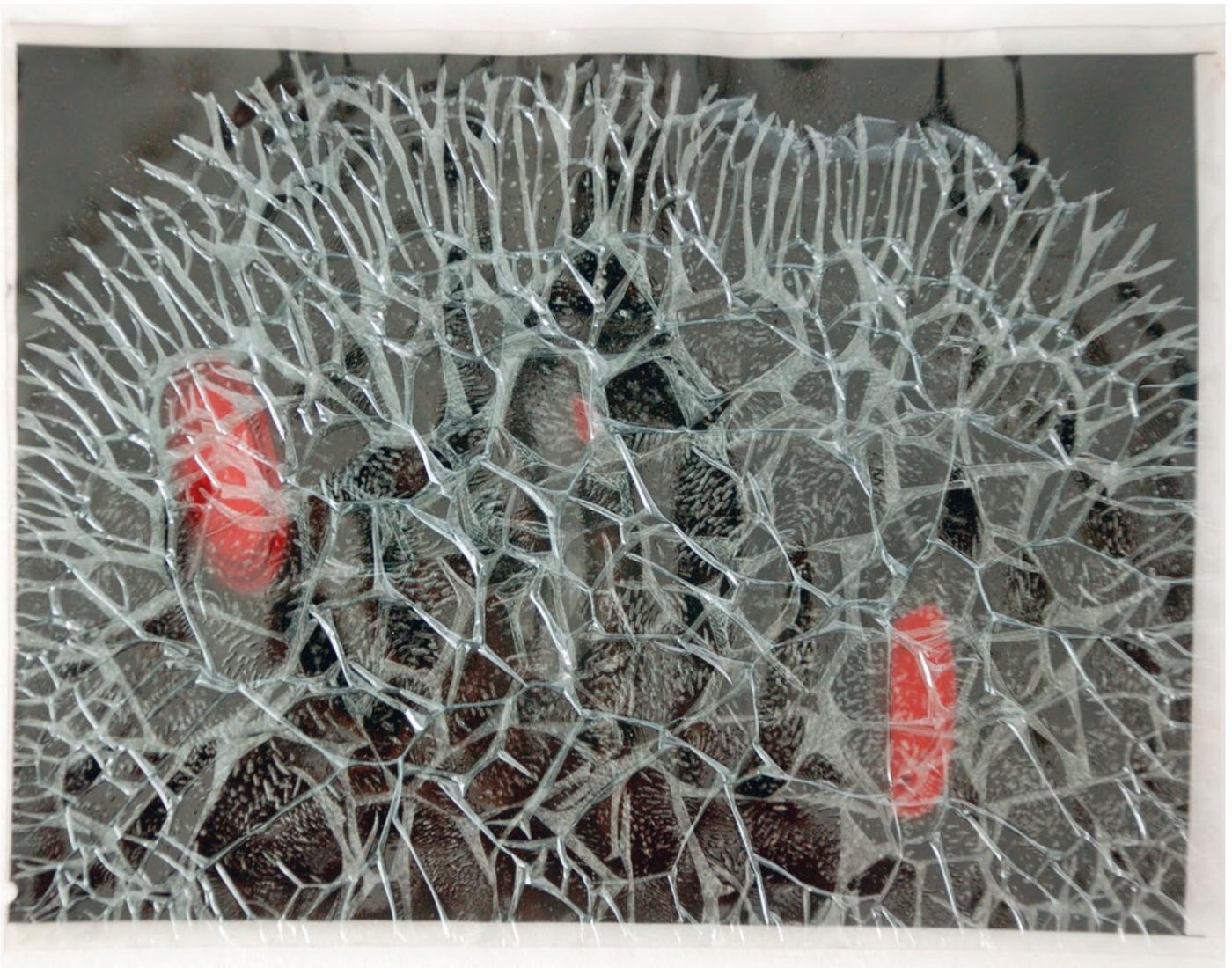


Image 3
Cellulose acetate negative, 9 × 12 cm, unknown photographer, vinegar syndrome, degradation of base material

trying to clean a photo with any type of damp material.

Archiving

Proper storage of photos is crucial to extend their life and helps minimize damage such as:

- physical changes, including a build-up of dirt, tears, creases, breaks, missing parts, or the detachment of the photo from its support material (fig. 2)
- chemical changes, such as the yellowing or discoloration of black and white or color photos, or the decomposition of the support material (fig. 3)

- biological damage caused by mold or insects

Storage environment

This is a rather thorny issue. The general rule is to keep photos in a cool, dry, dark place, which means at a maximum temperature of 20 °C and with a relative air humidity of 50%.

Every degree less will extend the life of the photos because the chemical processes of decay will slow down. Humidity above 60% can encourage mold or insects – gelatin emulsion is a real treat for insects such as different species of silverfish (fig. 4).



Photographs with mold should be kept in a separate place until an expert has been consulted about how they should be restored.

A consistent climate helps prevent physical damage: sudden changes have a negative effect as they cause the material of the photo and the carrier to expand and contract. The temperature should not fluctuate more than ± 3 °C, and the relative air humidity no more than $\pm 5\%$ over the course of 24 hours (ISO 18934: 2011) (fig. 5).

It is good practice to use a thermo-hygrograph to measure and record air temperature and relative humidity, as this will help to keep climate fluctuations under control.



Table 1 shows the relationship between storage life, temperature and air humidity.

Cool or coldish storage rooms are good “hibernation places” for the long-term archiving of photographs. After the photos have been digitized, the originals can be kept in storage, while the bank of digital copies can be used for work purposes. Photographs are very sensitive to harmful gaseous substances, which can cause the image to fade or go brown. Sulfur oxides, peroxides, ozone and nitrogen oxides are particularly harmful, and are found in house paint, solvents and car exhaust gases (fig. 6).

The concentration of harmful gases should therefore be kept as low as possible; gases can be removed from the air with the insertion of special filters in air conditioning systems. Harmful substances either present in the building or produced by the

Image 4 (left) Silver gelatin print, 8.5 × 5.9 cm on card 10.4 × 6.7 cm, unknown photographer, photo eaten away by silverfish

Image 5 (above) Print on albumen paper, detail of visitor card, 9.2 × 5.8 cm, on card backing 10.5 × 6.5 cm, Atelier Philipp Uhl, Gießen, capillary fissures

**Table 1: Storage guidelines chart, based on standard ISO 18934:2011
(English translation based on author's German translation)**

Storage conditions	Glass plates	Nitrate film ^a	Acetate film ^a		Polyester film		Positives		Inkjet printing Thermo-sublimation Electro-photography	Magnetic tape		CD DVD
			B&W	Color	B&W	Color	B&W	Color		Acetate ^a	Poly-ester	
Relative air humidity 30–50%												
Ambient temperature 16–23 °C	FAIR	NO _c	NO _c	NO _{c, d}	GOOD _g	NO _d	GOOD _g	NO _d	NO _h TO GOOD	NO _{c, e}	NO _e	FAIR
Cool 12 °C	GOOD	NO _c	NO _{c, d}	NO _c	GOOD	NO _d	GOOD	NO _d	NO _h TO GOOD	FAIR _c	GOOD	GOOD
Cold 4 °C	EXCEL- LENT	GOOD	GOOD	GOOD _i	EXCEL- LENT	GOOD _i	EXCEL- LENT	GOOD _i	GOOD	GOOD	GOOD	GOOD
Below zero < 0 °C	EXCEL- LENT _b	EXCEL- LENT	EXCEL- LENT	EXCEL- LENT _i	EXCEL- LENT	EXCEL- LENT _i	EXCEL- LENT	EXCEL- LENT _i	EXCEL- LENT	GOOD	GOOD	NO _i

NO can cause significant damage
 FAIR does not meet ISO standards, but is acceptable for a short period of time
 GOOD meets ISO standards
 EXCELLENT ensures long object life

- a Should be stored at temperatures below zero in the event of any changes in color, emissions of gas, corrosion of metal containers or damage to films or images.
- b In case older glass plates have become brittle or delaminated.
- c Such temperatures can lead to the decomposition of the support material.
- d Possible fading or color changes in chromogenic materials, dye-sublimation prints, and some inkjet prints. Storage at room temperature is suitable for electrophotographic prints, pigment prints (carbon or cabro process printing), dye transfer, Ilfochrome/cibachrome and instant photos.
- e May lead to the decomposition of the connecting layer.
- f Possible shedding of sticky binding residue.
- g Changes to photos may occur if the materials have not been processed correctly, or if they are stored in envelopes that emit peroxides.
- h Possible creasing, yellowing and loss of color.
- i Possible delamination.

objects themselves can be minimized by using activated carbon filters and/or molecular filters. Gas detection tests help identify any harmful gases in the storage room.

Archive

An archive is a place set aside for storing objects or documents. Work on these items, as well as eating or drinking, should always take place in another area.

Attics and cellars are not suitable for storing photographs as they are subject to certain fluctuations in temperature. Archives located under washrooms are at risk of being exposed to leaking pipes, and water damage will almost always completely ruin the objects in storage.

Experts should be consulted in advance with regard to fire prevention devices such as smoke alarms and extinguishing systems.



To preserve the items in the best possible way, the storage environment should not only be cool and dry, but also not too bright. Storage room windows should be heavily shaded. Warm-colored fluorescent lights fitted with UV filters are the ideal form of lighting. LED lighting free of UV radiation is the best alternative.

Shelves and cabinets should be arranged so as not to be exposed directly to sources of heat or to cold external walls: this encourages air circulation and prevents the formation of mold.

They should also be positioned at an adequate distance from the floor to avoid the risk of water damage and to make the area

easier to clean. The height of the shelves should also be picked with care, so as to make sure that all objects can be accessed easily without putting the objects themselves or the people reaching for them at risk. Suitable aids should be available for reaching higher shelves.

Do not leave litter in the archives and empty waste bins regularly. Aggressive chemicals are not suitable for cleaning archives. Use a vacuum cleaner with a fine dust filter and disposable bags. When necessary, the area should be cleaned with a damp cloth, using a neutral and solvent-free cleaning product. However, this should be done as rarely as possible because it can cause sudden fluctuations in the relative air humidity.

Image 6
Detail of silver gelatin print on polyethylene photographic paper, 30 × 40 cm, Rudi Herzig, small stains caused by effects of harmful substances in chipboard panels and wall paint

Table 2: Envelopes – paper or synthetic materials?

Cellulose acetate? Cellulose nitrate? Collodion?	Polyester envelope	NO	Paper envelope	YES
Relative air humidity and stable temperature?	Polyester envelope	YES	Paper envelope	NO
Frequent use? Inventory number missing?	Polyester envelope	YES	Paper envelope	NO

(Based on: Lavédrine 2003, page 55)

Cabinets

Items should be stored in fireproof cabinets which do not release any harmful gases. Shelved cupboards, horizontal or vertical filing cabinets and sets of shelves should all be made of powder-coated metal. Galvanized metal shelving is only suitable in certain cases, because zinc can react with silver. Aluminum or stainless-steel shelves are the best option.

Boxes/envelopes

For storing photos, use acid-free and lignin-free paper envelopes that have passed the Photographic Activity Test in accordance with standard ISO 18916. Standard ISO 15549 recommends the use of buffered storage boxes or envelopes. Treatment with calcium bicarbonate or magnesium bicarbonate neutralizes the acids naturally produced as the paper ages or caused by impurities in the air. However, there is also a certain risk that these treatments can cause discoloration and yellowing in albumen paper, coloring materials and cyanotype prints.

Since using two different envelopes would be too complicated, the best solution is to put the photos straight into unbuffered envelopes, and then to use boxes made with buffered material. The most suitable type are folding boxes free of adhesives, and without any metal connecting parts such as rivets or wire seams.

For transparent envelopes, polyester, polypropylene and polyethylene can also be used. However, when compared to sleeves made of synthetic material, paper envelopes have the advantage of being permeable, thus preventing the formation of microclimates that can damage the item inside. They have a compensating effect in case of temperature fluctuations, and can also be written on with an ordinary pencil.

Table 2 can help to decide if paper or synthetic material is more suitable.

This does not apply to parchment paper, because it can become wavy in a humid indoor atmosphere, incurring the risk that the surface of the photo will adhere to the envelope. Recycled, colored or printed paper, postal envelopes, old film boxes or shoe boxes are not suitable for use due to their composition.

Because of the damaging effects of adhesive substances, photos that have been kept in self-adhesive albums under transparent paper should be removed from these albums and stored separately.

Photos in envelopes; envelopes with photos in boxes; boxes in cabinets: that is how to keep photos safe.

Tables 3 and 4 provide a summary of this topic.



Table 3: Materials for storing and displaying photographs

Material	Use	Suitable	Unsuitable
Paper and cardboard	Envelopes, boxes	Paper and cardboard of archiving quality (PAT tested in accordance with standard ISO 18916), unbuffered for envelopes, buffered for boxes	Unknown composition, containing acids or wood, parchment paper
Synthetic materials	Envelopes, boxes	Polyester (PET), polyethylene (PE), polypropylene (PP), Plexiglas (PMMA), polycarbonate (PC)	Cellulose acetate (CA), polyvinyl acetate (PVAc), polyvinyl chloride (PVC), elastic
Molded foam	Boxes for transport, padding	Polyethylene foam, polypropylene foam, expanded polystyrene	PVC foam, polyurethane foam, neoprene
Metal	Cabinets, shelves, window frames	Powder-coated, anodized aluminum, stainless steel	Galvanized metal
Textiles	Display cases		Wool, felt
Wood	Cabinets, shelves, frames		Solid wood, plywood, chipboard tops
Glass	Frames, windows	Glass, acrylic glass, polycarbonate	
Adhesive substances	Envelopes	To be avoided: unplasticized, methylcellulose, starch glue	Rubber solution
Writing materials	Inventory numbers, shelf marks	HB or 2B pencil, poss. dry stamp (on edge)	Ballpoint pen, felt-tip pen, labels, stamps
Gloves	Use, transport	Cotton, nitrile (sulfur-free), latex, or vinyl gloves	Without gloves, cotton gloves with PVC non-slip bobbles

Table 4: Storage of items

Item	How	Envelope	Box	Cabinet
Small items (daguerreotypes, ambrotypes, etc.)	Horizontally: if the covering glass has become corroded, keep that side downwards	Folding envelope	A suitably sized folding box or box with lid	Oversize map drawers, sliding doors, compact system
Positives	Horizontally	Envelope made of paper or synthetic material, archive paper, paper sleeve	A folding or lidded box, fitted to size, filing cabinet	Oversize map drawers, sliding doors, compact system
Glass plate negatives	Vertical, resting on long side	Folding envelope	Folding box fitted to size	Oversize map drawers

Item	How	Envelope	Box	Cabinet
Film sheets	Vertically; but horizontally if larger than 24 × 30 cm	Envelope made of paper or synthetic material, foldable envelope	Filing cabinet, box	Oversize map drawers, sliding doors, compact system
Film rolls/film for small-sized photos	Horizontally	Envelope made of paper or synthetic material	Filing cabinet	Oversize map drawers
Slides for small-sized photos, framed	Horizontally or vertically	Envelope made of paper or synthetic material	Filing cabinet, box	Slide cabinet
Rolls of negatives and positives	Horizontally or vertically	Roll onto a large-diameter tube	Box	Oversize map drawers
Album	Horizontally or vertically	If necessary, place sheets between the pages	Case, box	
Magnetic tapes	Vertically, wound	Envelope made of synthetic material	Box	Oversize map drawers
CDs and DVDs	Vertically	Jewel case, slimline case		Oversize map drawers

Finally, here are some general tips for storing photos – to conserve what can be conserved.

- Produce boxes or covers for albums
- Convert/stabilize small items such as daguerreotypes, ambrotypes and tintypes.

Storage advice

- Check and improve room climate
- Create an emergency disaster plan and guidelines for use
- Determine photographic methods used
- Inspect negative films to identify any nitrate or cellulose acetate films and separate them from the rest, where required
- Duplicate/digitize damaged negatives
- Place colored material in long-term, low-temperature storage
- Convert/stabilize glass plate negatives
- Convert 19th-century prints, e.g. prints on salted or albumen paper

The author

Marjen Schmidt was born in Hamburg in 1959. She studied Photographic Engineering at the Cologne University of Applied Sciences and has worked as a freelance photo restorer since 1992, restoring both historical and modern photographs, working as a consultant for exhibitions, doing assessments and teaching. She has published many works on photo conservation.



Team Lichtbild

How to Handle Glass Plates Correctly

“Wir Waldmüllern!” (Exploring Waldmüller) – Report of an internship (2017)

This manual was developed in the context of the exhibition: “Wir Waldmüllern! A Summer Internship at a Photo Archive.”, held in the foyer of Palazzo Provinciale 7, Andreas-Hofer-Straße 18, Bolzano, during the summer of 2017. Based on an idea by Marlene Huber (Film and Media Office), the exhibition was curated by Verena Malferttheiner (Department of Museums) and staged together with interns from the German Culture Department and the Department of

Museums of the Autonomous Province of Bolzano. The show retraced the history of the Waldmüller Photographic Studio fonds, stored in the Photographic Archive of the Film and Media Office of Bolzano, and also presented the various activities that the “summer interns” (Sara Alberti, Jannis Cassar Franceschini, Roberto Dalla Torre, Vera Oberlechner, Regina Österreicher and Michael Stedile) undertook in this context.



Jannis Cassar Franceschini, Michael Stedile and Regina Österreicher look at glass plates from the Waldmüller photographic collection

(Photographer: Notburga Siller, CC BY 4.0)



(Photographers: Verena Malfertheiner, Regina Österreicher, Michael Stedile, CC BY 4.0)

1. Opening the boxes

The first step is to remove the glass plates very carefully from their original boxes. After many years in storage, the plates are covered in dust and dirt. A sheet of newspaper was often placed between the plates in order to separate them. These sheets of newspaper are also kept. All handwritten information on the box is put into the database.



2. Correct handling of the glass plate

The glass sheets are very fragile and should therefore never be handled with bare hands, only with clean cotton gloves. When handling a plate, it is very important to use utmost care and only hold it by the edges. All unnecessary handling should be strictly avoided.

3. Cleaning the glass plate

Before concentrating on the subject matter of the plate, it should be cleaned very gently to ensure it remains in good condition without any scratches or other damage. Both sides of the plate are cleaned carefully, using soft brushes of various sizes to eliminate as much dust and dirt as possible.



4. Viewing the glass plates

The plate is placed on a special lightbox to help identify the image. This helps to see details and make out any written text. In some cases, using a magnifying glass can also be helpful.





5. Entering details into the database

Information about the photo is entered into a database, both in German and in Italian. The Film and Media Office uses the Adlib database. A simple table can also be used. Finally, the updated information will be made available in the online catalog “Cultural Assets in South Tyrol” and on the “Lichtbild/Argento vivo Platform” web portal.



6. Packaging of glass plates

To ensure safe storage in the archives, the glass plates are put into special storage envelopes, free from acids or other substances that could damage the photos. These envelopes protect them against exposure to light and dirt and from scratches that can be caused by rubbing against other plates. The inventory number for each plate is written on the envelope in pencil.

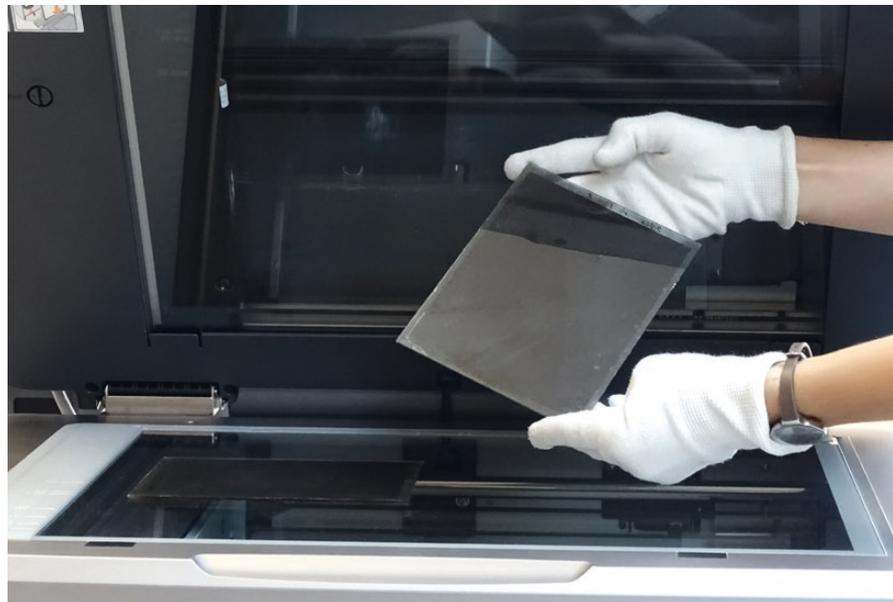
7. Archiving

The glass plates – packaged in their special envelopes – are then placed in appropriate acid-free boxes. The plates and boxes are stored vertically to avoid pressure on the surface of the plates. The inventory numbers for all the plates in the box are listed on its outside. Finally, the boxes are taken to the air-conditioned archives of the Film and Media Office.



8. Digitization of glass plates

The Municipality of Brunico, an Interreg project partner, is responsible for the subsequent process of digitization. Maximum care should be taken while scanning the plates. It is also very important to use the correct resolution and file format so that the material can be properly stored over time. The files produced through the digitization process are known as master files, which are permanently saved on the server. For internal use and for online publication, low-resolution image files are then created. The file name corresponds to the inventory number of the plate.



Jasmeen Farina

How to Handle and Store Photographs Correctly

It is vital to observe certain basic rules when handling photographic material (photographic prints, negatives, slides, glass plates, etc.) in order to avoid unnecessary damage caused by clumsiness. Indeed, deterioration in photos is often caused by improper management and storage.

Before beginning any work on photographic material, it is essential to ensure that your work surface is clean, dry and uncluttered. There should never be any food or drink on the table.

Always wear clean white gloves, preferably cotton or latex, when working on photos, and avoid touching the surface (the layer of emulsion on top of the base material).

If you wish to preserve photos over time, it is essential to use suitable storage materials. These should be free of acids and peroxides, and ideally should conform to PAT (Photographic Activity Test) standards. Never use paper clips, bulldog clips, rubber bands or adhesive tape on photographic materials.



Photographs

Photographs (prints on cardboard, visitors' cards, albumen prints, and in some cases picture postcards) must always be handled with clean gloves and lifted by the edges of the longer sides. That way, you can avoid leaving fingerprints or damaging the image and also prevent contact with any harmful substances that may be present on the surface of the photo (such as mold or chemical residue).

To protect photos from any harmful external agents (dust, dirt, humidity, sources of heat or light, etc.), keep them in suitable types of transparent sleeves. These are made of polypropylene or single-layer polyethylene and come with multiple compartments/pockets (4, 6, 8, etc.) to fit various photos sizes and formats.

(all photographs: Jasmeen Farina, South Tyrolean Provincial Archives, CC BY 4.0)

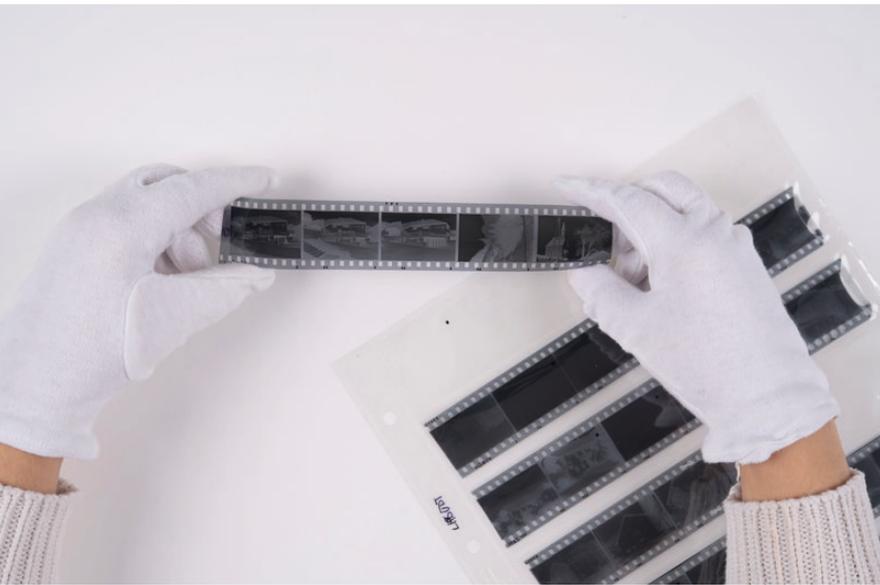


Negatives on film

The question of handling can become even more complex in the case of photographic film. Again, it is important to wear clean gloves and hold the film carefully along its edges, but it is also vital to identify the type of base material of which it is made.

Among the various possible materials, cellulose nitrate is the most dangerous. You can sometimes recognize it from the word “NITRATE” on the upper edge of the strip and by a V-shaped notch on the top right-hand side. This material is extremely flammable; if not stored correctly, it can alter very quickly and totally disintegrate, or even ignite and destroy anything kept alongside. It is therefore vital to ensure you isolate films of this type and avoid storing different types of materials in the same envelope or box.

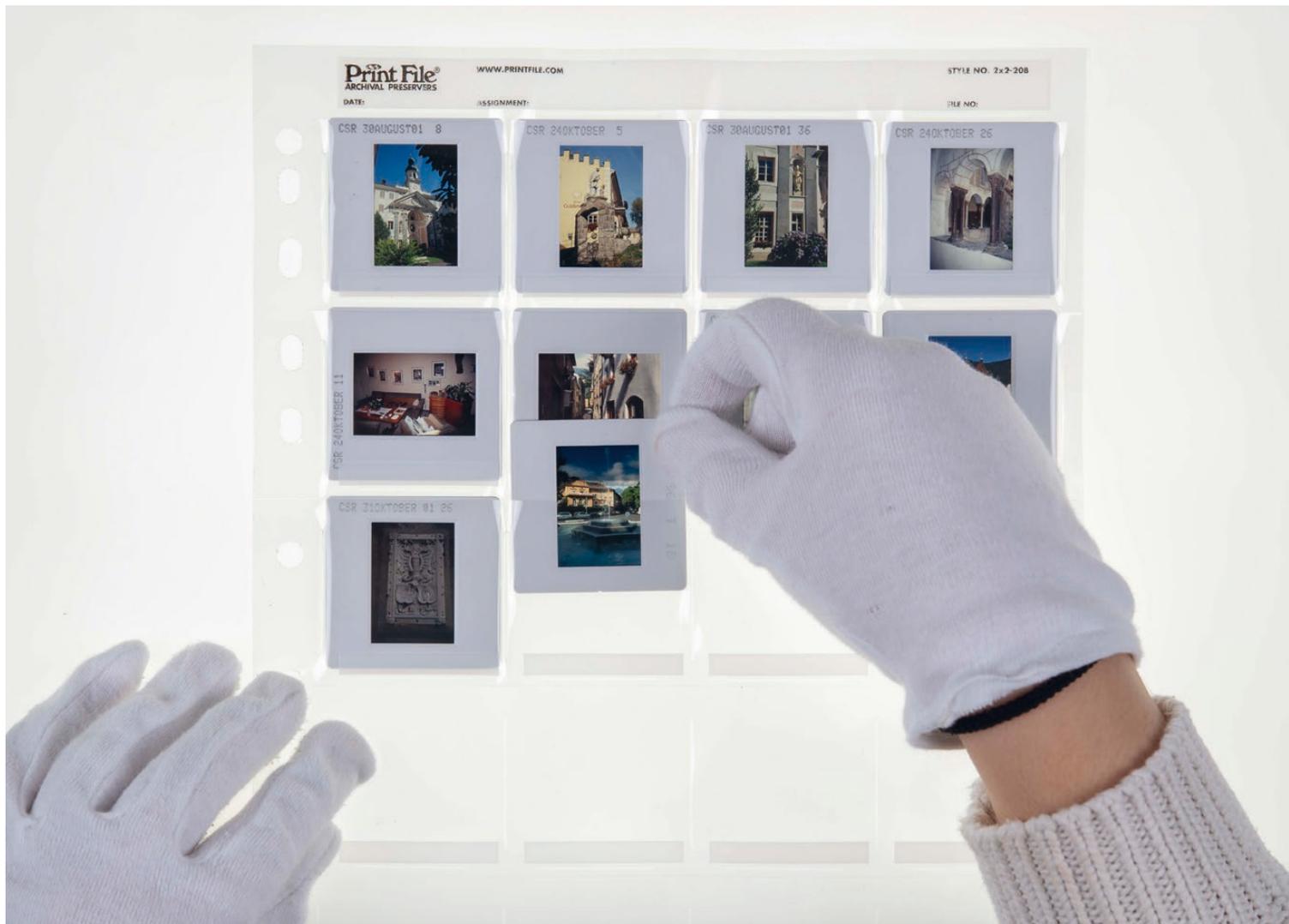
Finally, another tricky problem is that films often come rolled up around themselves, making it difficult to store them in suitable containers. To avoid any damage, you should stretch them out very carefully, and then store them in suitable envelopes, usually divided into pockets or compartments.



Slides

Slides should be held by their narrow frames, being careful as not to touch the side of the film that is coated with emulsion. The use of gloves is recommended.

As with the other materials, slides should be kept in suitable transparent envelopes, usually the type with compartments/pockets.



Glass plates

Glass plates are more fragile and delicate than other photographic materials and are more prone to damage such as cracking and scratching. They should be held along the edges using clean gloves.

The best way to store them is in paper envelopes with four opening flaps. The plate can then be placed in the middle of the envelope, with the emulsion side upwards, and the four flaps closed inwards on top of one another.

Once closed, the envelopes should be stored vertically, resting on their long side. They should never be stored with the emulsion face downwards as this would allow the glass to compress the gelatin surface.



The author

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Roland Sila

Practical Solutions to the Problems of Cataloging Photographic Collections

Practical examples from the library of the Tyrolean State Museum, the “Ferdinandeum”

The Ferdinandeum library was established when the museum was founded in 1823. The aim of the Library is to reflect and document the historical area of Tyrol, which roughly corresponds to the current Euroregion of Tyrol–South Tyrol–Trentino, as comprehensively as possible in its collection. The library collection not only includes the usual assemblage of books, magazines, and newspapers.

Paper material is also continuously added, including topographic maps, menus, bookplates, sacred images, prayer cards, and, of course, photographs. In addition to the library's own photographic collection, there are also many large stocks of photos in other sections, such as the history and graphic collections.

For this reason, the Ferdinandeum is in a good position to identify the problems associated with cataloging photo content in large collections, but also to find possible solutions.

What are you looking for?

What questions do you have?

The opening of a library to the public ensures regular contact with interested users, and much can be learned from the questions they ask. Their initial questions often form the foundations of important basic decisions.

Working as a curator, one acquires very specific knowledge with regard to a collection, whereas the questions that occur most frequently are very general, e.g.:

- Is there anything interesting about Tyrol in this collection?
- Do you have any photos of my home town?

There are some questions that one simply cannot answer, such as:

- I have a series of portraits of people: can anyone tell me who they are?

But in addition to similar questions of a general nature, one also receives some very particular requests, such as:

- Do you have any portraits or souvenir photos of so-and-so?
- I need a photo of the Mairamhof residence, have you got one?
- Do you have any photos of carters?
- I am looking for old photos of bicycles and cyclists!

In relation to such specific requests, there are many key words that would not appear in a normal catalog for a collection, which is generally based on places, people, and themes.

The following examples provide an illustration:

Practical example 1



Practical example 2



Practical example 1:

We can locate this photo (Innsbruck), we can date it (1905), and we know who took it (Fritz Gratl). It even has a title (Innsbruck – electric tram). However, there is no further information about the photograph; for example, the fact that we can see a cart, an advertising column, the Czichna company premises, electric rooftop installations, posters, many people in old-fashioned clothes, a bicycle, etc.

The situation is similar in practical example 2:

We have a record of the place (Bolzano), the photo studio (Photoglob, Zurich), the date (approx. 1890), and the caption (Bolzano, the “Torgglohaus” on Piazza delle Erbe). However, we have no mention of the various fruit stalls, the cart, the way the houses are decorated, the shop signs, or the many people in the street.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
135	Breguzzo	19												
136	Breien	11												
137	Breitenbach	99+		dazu gehört u.a.: Kleinsöll, Stein bei Breitenbach, Strass bei Breitenbach										
138	Breitenwang	99+		dazu gehört u.a.: Kreckelmoos, Mühl bei Breitenwang										
139	Brennbichl	14												
140	Brenner	99+		dazu gehört u.a.: Brennerbad; Pontiggl, Pontiggl, Schelleberg, St. Valentin am Brenner, Zirog										
141	Brenta [Castello im Valsugana]	5	Brenta Castel, Brenta Castello, Brenta Schloss											
142	Brentonico	80	Brentonico Burg	dazu gehört u.a.: Castione, Cazzano, Corné, Crosano, Saccone, Some										
143	Bresimo	22		dazu gehört u.a.: Bagni; Baselga di Bresimo, Bevia, Fontana										
144	Brez	32		dazu gehört u.a.: Castel San Giovanni di Arsio; Carnalez, Rivo, Salobbi										
145	Brione	21	siehe auch Borgo Chiese [seit 1.1.]; dazu gehört u.a.: Serolo											
146	Brixen in Südtirol	99+	Brixen	dazu gehört u.a.: Ansitz Kampen [bei Brixen], Ansitz Trunt, Villa Luegg; Gareit, Gereuth, Köstlan, Kranebitt, Mairdorf, Pairodorf, Payldorf, Plabach, Rutzenberg, Tötschling, Tschötsch, Unte										
147	Brixen im Thale	99+	Brixen	dazu gehört u.a.: Buchberg bei Brixen im Thale, Lauterbach										
148	Brixental	99+												
149	Brixlegg	99+		dazu gehört u.a.: Ansitz Lanegg / Schloss Lanegg; Au bei Brixlegg, Mehrn / Mehrn bei Brixlegg, Zimmermoos										
150	Bruck am Zillertal	34	Bruck im Zillertal											
151	Bruck Schloss	99+	Bruck											
152	Bruckhäusl	22												
153	Bruggen [bei Landeck]	39	Bruggen											
154	Bruneck	99+	Brunico	dazu gehört u.a.: Luns, Oberragen, Ragen										
155	Brunneck Schloss	99+												
156	Brunnenburg	59												
157	Bschlabs	12		dazu gehört u.a.: Bschlabertal										
158	Buch in Tirol	99+	Buch bei Jenbach	dazu gehört u.a.: St. Margarethen [im Unterinntal]										
159	Buchen [bei Seefeld]	12	Büchen											
160	Buchenstein	99+	Livinallongo, Livinallongo del Col di	dazu gehört u.a.: Pian, Sief, Soraruaz										
161	Buchholz	31												
162	Buonconsiglio	99+	Buonconsiglio Castello, Buonconsiglio Castel, Buonconsiglio Schloss, Castello del Buonconsiglio, Burg von Trient; Schloss von Trient											
163	Burgels	99+	Postal	dazu gehört u.a.: Pidruz, Pravidal										
164	Burgenland			dazu gehört u.a.: Burgenland Eisenstadt, Frauenkirchen, Mörbisch, Neusiedl am See, Oberwart, Tatzmannsdorf										
165	Burgertal	1												
166	Burggrafenamt	55												
167	Burgstall [bei Meran]		Burgstall bei Meran											
168	Burgstein	16												
169	Caderzone Terme	66	Caderzone	dazu gehört u.a.: Kapelle San Giuliano al Monte										
170	Cagnò	15	Cagno											

This shows that the criteria we use for cataloging photographs are often insufficient to meet users' requests. However, it would be idealistic and impractical to try to cover every eventuality in the catalog. It would make more sense to add an empty field instead (perhaps entitled "Description") where one could add all the extra details not provided in the basic information. These would then come up in a key word search.

Similar reference systems already exist

Most historical photo collections already have this type of reference system. They often use a basic format that can be easily adapted to a specific case. However, for this type of system to work properly, one needs skilled curators to carry out the painstaking task of filing such information. In a card catalog, a hand-written catalog in several volumes, or a traditional cabinet filing system for places, the terminology is not so important if the information is filed

under one place. For example, a photo depicting Windisch-Matrei would be filed under "Matrei in Osttirol" in a card catalog.

Initial ordering

It is important to establish certain description standards for the classification system to succeed. It should always include people, places, and also themes, whenever possible. One can certainly refer to existing standard databases, but these do not generally meet all the requirements. People should always be filed with their surname first. A list of places is essential, and it should equally apply to any and all places. We must ensure we record everything in a standardized way, as this is the only method that allows users to carry out a comprehensive search.

The list of places used by the Ferdinandum library shows how it is possible to standardize place names (practical example 3). For example, small hamlets can be associated with the main town or village

Practical example 3
We can standardize our use of place names by referencing those used by the Ferdinandum Library.

Practical example 4
This working document from the Ferdinandum Library provides additional explanations, helping us assign particular names in cases of duplicate classification.

<ul style="list-style-type: none"> • Ausstellungen <ul style="list-style-type: none"> • <i>Einzelne Galerien und Museen (bzw. andere Ausstellungsorte)</i> 	Jahreszahl bei untergeordnetem Eintrag in den Titelzusatz	Informationen zu Ausstellungen, Vorberichte, Besprechungen/Kritiken
<ul style="list-style-type: none"> • Bäder <ul style="list-style-type: none"> • <i>Einzelne Bäder</i> 	Achtung: auch Heilbäder und Saunen fallen jetzt unter „Bäder“	Schwimmbäder, Heilbäder, Saunen, ... und deren Abbildungen
<ul style="list-style-type: none"> • Bahnhof 		Informationen und Abbildungen
<ul style="list-style-type: none"> • Bautätigkeit 	Achtung: nur allgemeine Bautätigkeit , bei speziellen Gebäuden: „Ort Gebäude Name des Gebäudes“ Achtung: „Sozialer Wohnbau“ wird nun unter „Bautätigkeit“ verschlagwortet, aber nur im Abstract genannt	Allgemeine, nicht einem Gebäude zuordenbare Bautätigkeit im Ort, Sozialer Wohnbau, ...
<ul style="list-style-type: none"> • Bekenntnisse <ul style="list-style-type: none"> • Katholiken • Orthodoxe • Juden • Islam • Protestanten • Sekten • <i>Einzelne Bekenntnisse</i> 		

(see Breitenbach, which includes the following places: Kleinsöll, Stein bei Breitenbach, etc.). Alternatively, you can classify important buildings as places in their own right (see Brunico Castle).

Sometimes, these place names are used so often that further classification is necessary. The use of specific terminology is also helpful here (practical example 4) to help ensure the correct reference (e.g., Brunico train station). The same applies to the key words that can be associated with a photo: they should be standardized right at the start.

The more specialized the collection, the more important it is to establish precise guidelines for making entries. For example, one would need to decide whether street names should be written in full or abbreviated: Schillerstraße, but not Schillerstr.

Other problem areas

Digitization alone is not enough. We know that if they are properly stored, photos can survive for a long time. So when undertaking the task of digitizing a collection, it is certainly useful to draw up a list of priorities. However, once the photos have been digitized, they should be cataloged without delay.

Specific knowledge should be put on record for future reference. Standardization ensures that we lose as little information as possible.

If the name of the photographer is not recorded in the description of a photo, then such knowledge is of no use in the long term, even if the name is known to the curator of the collection. It will simply disappear over time.

Solutions that are useful today may be redundant tomorrow: it is important to keep



current and exchange ideas with colleagues in the sector.

If we standardize information in digital form, the loss of much of our knowledge can be avoided. Even if a particular program falls out of use, the files can still be migrated to an alternative program with relative ease.

Backup copies are a must. There is always the possibility of accidents. If your collection does not have access to high-level IT support, it will be advisable to make backup copies regularly.

The solutions should be easy to implement – a user manual is always a good idea. The same is true for analog collections. If these collections have not been classified in a well-organized, easily accessible way, one will be forced to repeat the job all over again. The same is also true in the digital arena.

Photography subjects change over time: buildings are demolished and people age; all this must be taken into account. Something that appears obvious today will not necessarily remain so as time passes. It is very important to note down any information that may seem obvious to us (who is the current mayor, newly constructed buildings, etc.). If you want to make the right choices, imagine being transported 100 years into the future.

Digital photography comes with enormous challenges: any individual photos that now seem worth preserving should be regarded and treated in the same way as analog photos.

Photography cannot be judged in isolation, but only in a broader context. No collection is made up solely of photographs. When designing a new structure for our database, we should look for a model that can apply to different types of object. Such a solution could have much wider applica-

tions, avoiding the need to set up a parallel structure. Thanks to the vast amount of information available on the web, people are now accustomed to being able to search for anything on the Internet. This should also be reflected in the creation of a shared database for all types of objects.

Summary

To create a catalog for photographic collections that is effective in the long term, we must adopt the following measures:

- Transparency at every stage
- Standardize the names of people, places, and themes
- Regular file backups
- Awareness of any rights holders

In particular, we should include a special description field where we can record additional information about the photos. All these measures are equally valid for historical and digital photography.

The author

Mag. Roland Sila, born in Bregenz in 1971, studied German at Innsbruck University, has worked at the Ferdinandeum Library since 2000, became Chief Librarian in 2007; many publications, mainly on aspects of regional history.

How to Arrange Your (Digital) Archive

The purpose of any archive is to create order while still maintaining an overview. However, this task is not without difficulties.

Large cultural institutions can usually call on the services of specialist personnel, IT experts, and other resources to help carry out their work in a professional way. The situation is different for smaller archives, often managed by a single curator. In these cases, the usual resources are an ordinary office PC equipped with the standard programs. However, even with these limited means it is possible to create archives that are excellent from a technical standpoint. In particular, an effective way to manage the photos in store has proven to be the systematic use of available resources rather than the use of a database in the strictest sense of the word.

You can manage even a comprehensive private collection by adhering closely to this sequence of steps in your work.

Preparation

- The choice (and careful evaluation) of good quality photographs, and the rejection of near duplicates, is a very important factor in this era of digital photography. It is essential to reduce the number

of photographs to a minimum. Don't encumber your archives with redundant images.

- Only a few formats meet the requirements of long-term archiving, particularly with regard to the potential stability and readability of digitized items. You should therefore choose formats such as "Tiff 6," which are widely used in archiving. Further information is available at the following link: <https://kost-ceco.ch> (access date 12/16/2018).
- An important factor in arranging the archive is the file name. It acts as a form of signature in digital archives or in those not organized in a "real" database. The name should be unambiguous and easily understandable for users. It should therefore be in several parts and, depending on the structure of the archive, consist of an abbreviated reference to the fonds, descriptors to indicate sub-groups, and a consecutive serial number. If the collection consists solely of photographs, the digitized items can be arranged in chronological order. In that case, the file name may well include the date it was created (see page 32).
- The files are stored in folders. These reflect both the origin of the item (provenance)

These standard operating procedures (SOPs) for the storage of digitized images and other such items are based on the "Basel model," which has proven to be especially useful for small institutions.

Preparation

Processing

Archiving

File storage



nance) and its physical structure (in the case of scans of non-digital documents already properly archived) or its content through various levels. The procedure is the same as with non-digital archives (recording items at several levels in line with archival standards, especially ISAD(G) etc.). The name of the folder includes an abbreviation for the fonds and/or a short but succinct description of the content. Be careful to ensure that the wording is always consistent and make sure you create a hierarchical system that can be easily understood by third parties.

Processing

- A good way to maintain an overview of a large number of files is to create smaller units. Follow the guidelines above to divide up the photos and create various folders. A hierarchical structure is usually the first step toward understanding the content and bringing it into logical order (classification).
- The retrieval process can be made much easier if you store metadata directly in the image file (IPTC, XMP). For example, data such as titles, keywords, places or georeferencing, and information regarding copyright will remain unchanged even after the digital objects have been moved. There are many tools that allow you to carry out this operation in quite a simple way. We would particularly recommend **XnView MP**, **Irfan View**, and **GeoSetter**. You could also use **Windows Explorer**, but to a more limited extent. See also the advice on this subject by Martin Kofler in another section of this handbook.
- The last step in the process is to compute checksums (or hash values). Thanks to checksums you can check at a later date if your files are intact or if they have been modified. Creating and checking hash val-

ues is not complicated. There are many free programs available for this purpose, such as **Hashmyfiles** or **Checksum**.

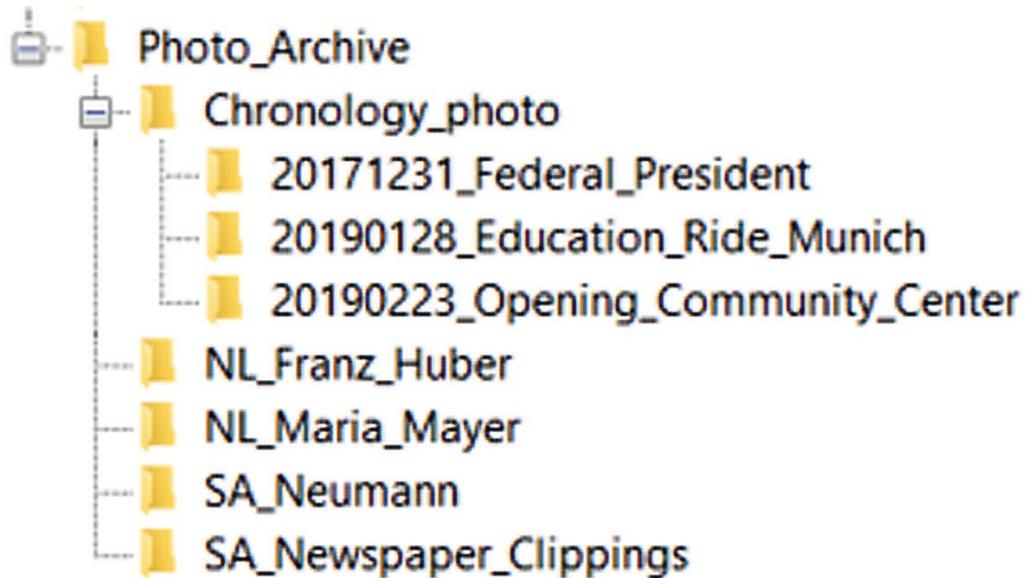
Archiving

- In terms of organization, normal work space should be kept completely separate from areas designed for permanent archiving (the “digital archive”)! All the various stages of the process (naming, classifying, writing metadata, creating checksums) are carried out in normal work spaces. At the end of the process, the complete “work packages” (usually whole folders with the respective files) are entered in the digital archive.
- Check that the data has been sent correctly, possibly by using checksums.

File storage

The long-term storage of files is not just a technical issue. It is important to have a strategic plan to tackle any problems that may arise, and this should include the following:

- Check all the files regularly, comparing checksums to detect errors.
- Establish a suitable backup strategy (by making backup copies). Specialist technicians will charge relatively little for these two tasks (checking files and creating and managing backup copies).
- Regulate data access. This can be done by restricting the number of people who can log in to the account on a PC, or by clearly establishing the rights in relation to the storage location.
- Test the IT infrastructure. As hard drives and other types of memory have a limited lifetime, you will need to think ahead about replacing computer parts or entire PCs before any faults could cause a loss of data.



Possible configuration for a photographic archive that does not require a database but still has a clear structure. The following guidelines must be applied when naming files and folders: no special characters or umlauts, no spaces, short file names which must, however, be easy to understand and classify. The file names must be clear, and should contain the name of the relevant photographic fonds in an abbreviated form.

- Data formats also become obsolete over time. A regular technical check will help alert you to the need for a change of format, and this can then be carried out according to a pre-determined plan.
- Documenting all working procedures is an important way to maintain good standards. These should be set out in such a way that third parties can easily find their way around the archive and navigate its structure.

The author

MMag. Bernhard Mertelseder, M.A., born in 1970 in Brixlegg, studied History and Romance Philology at the University of Innsbruck, then Archive Studies at FH Potsdam, historian and archivist, since 2006 representative for the Tyrolean Chronicle and Municipal Archives in the Tiroler Bildungsforum, various works relating to 19th- and 20th-century Tyrolean history and memoirs as well as archiving.



Gertrud Gasser/Alessandro Campaner/Martin Kofler

Examples from the Archives of Project Partners

Photo cataloging at the Film and Media Office, the Bolzano Provincial Archive, and the Tyrolean Archive of Photographic Documentation and Art (TAP)

Archives keep well-ordered databases for the assets in their care, to create a proper inventory and make them readily accessible. The contents of the archive are cataloged. In our case, these are (historical) photographs. The items are cataloged in a consistent manner, together with any information regarding their origin and the way in which they entered the archive. Each photo is described and shown in the catalog. In general, archives do not use the same database systems or programs. The standards applied in each case reflect their

various approaches to organizing collections, their ways to respond to different needs, and even the particular origins of the institution. At the same time, photo archivists adhere to national and international guidelines and regulations such as ISAD(G), ISAAR (CPF), the Dublin Core specifications, and Data Sheet F for artistic and historical assets.

In this section, we will show some practical examples from the archives of the Argento vivo project partners and present various database systems.

Basisinformationen		Identifikation Entstehung		Äußere Merkmale		Inhalt Assoziationen		Standort Inventur	
Identifikation									
Institutionsname		Amt für Film und Medien				LAV			
Inventarnummer		LAV003-BA-03993-1-274							
Objektbezeichnung und Titel									
Sachgruppe									
Objektbezeichnung		Fotografie							
Titel									
Beschreibung									
Außenaufnahme. Begräbniszug beim Auszug aus dem Hauptportal der Stiftskirche zum Hl. Augustinus in Bozen, Kloster Muri Gries									
Entstehung									
Name		Fotostudio Waldmüller		Rolle		Fotograf			
Ort									
Stil									
Epoche/Zeitraum									
Datierung von		1900		Präzision nach		Bis		1905	
								Präzision vor	
Material und Technik									
Material/Werkstoff									
Technik		fotografiert (Glasplatte)		Bemerkungen					
Maße									
Teil		Dimension		Wert		Einheit		Exaktheit	
		Breite		17,9		cm			
		Hohe		12,9		cm			
Inhalt, Motiv, Darstellung									
Thema									
Schlagwort		Außenaufnahme Beerdigung Kirche Geistlicher Prozession Tod							
Reproduktion									
Verweisnr. (URL)		LAV003-BA-03993-1-274.jpg							
Bemerkungen									
Standorte									
Normaler Standort		Fotoarchiv 1. UG				Datum			
Anfangsdatum		Aktueller Standort				Bemerkungen			
Zustand									
Geprüft am		Objektzustand		Bemerkungen		Geprüft von			

Screenshot of the German user interface for a data sheet in the archiving system of the Film and Media Office, Bolzano.

This photograph can be found at www.lichtbild-argentovivo.eu, under the inventory number LAV003-BA-03993-1-274.

Exterior shot. Funeral procession outside the main door of the Church of Saint Augustine in Bolzano, Muri Gries Abbey. 1900–1905.

LAV003-BA-03993-1-274. Waldmüller photo studio, Waldmüller photo studio fonds, Film and Media Office, Bolzano.



Adlib is a flexible and adaptable management software for use with museum collections. It is designed for museums and collections of all types and sizes. The cataloging process meets international standards. Access to thesauri and people databases ensures that the terminology used remains consistent. The software allows the user to save and connect a vast spectrum of multimedia data and text files, keywords and specific search methods, loan management, and the display of copyright information. Adlib offers a multilingual management mask, thus allowing you to enter notes in different languages.

Axiell/Adlib is a global producer of software for museum collections providing a wide range of services (see <https://alm.axiell.com/>).

The Museums Department of the Autonomous Province of Bolzano – South Tyrol manages the online portal for cultural assets in South Tyrol (KIS, <http://www.provinz.bz.it/catalogo-beniculturali/it/default.asp>), and makes Adlib available free of charge to all local museums and institutions which look after collections. Our project partners, the Museums Department and the Film and Media Office, also use Adlib.

The author

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Ajaris is a software program designed for the central management of photographic and multimedia archives (Digital Asset Management). The Provincial Administration of Bolzano has recognized its value and has purchased a license for those offices that manage the multimedia archive, making it accessible to the public on the web.

A multimedia object can be saved in various formats and resolutions and cataloged according to international standards. The use of shared resources (thesauri with banks of synonyms arranged in logical order, lists of controlled values, etc.) leads to consistent and logical cataloging and enables assisted and/or advanced searches for information.

Ajaris supports metadata entry and searches in up to five modern languages

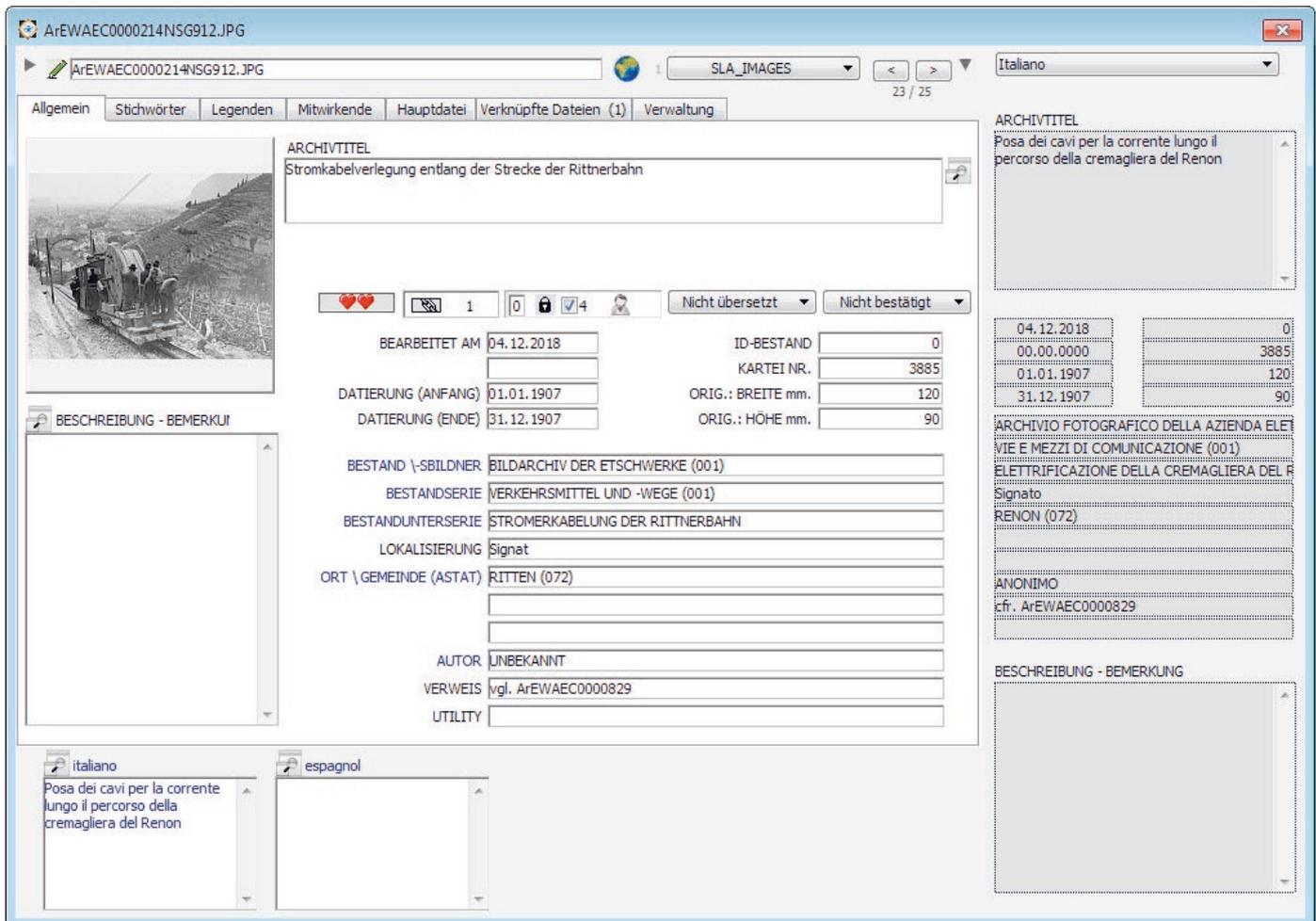
and allows each archive to create a customized mask for data entry and web searches. The complex matters of copyright, image requests, user management, and geolocation are supported by special modules, while web services facilitate communication with other databases.

The Cultural Heritage Department of the Autonomous Province of Bolzano – South Tyrol uses Ajaris to manage 420,000 photographs in three photographic archives and links the metadata with other management software. Our project partner, the Film and Media Office, also uses Ajaris for the management of the South Tyrol Music Archive, while our associated partner in the Provincial Archive uses Ajaris for the management of analog and digital images.

Laying electricity cables along the Renon cog railway line; Signato, 1907

Photo archive of the electricity company, South Tyrolean Provincial Archives.





Screenshot of the Ajaris multilingual entry for image ArEWAEC0000214 recorded in the South Tyrolean Provincial Archives database.

The author

Alessandro Campaner, born in 1961 in Bolzano, graduation from E. Torricelli high school (60/60), various training courses specializing in photographic archiving and conservation, currently head of the photographic archive of the South Tyrolean Provincial Archives as well as working in the IT sector of the Cultural Heritage Department of the Autonomous Province of Bolzano – South Tyrol, various publications and photographic exhibitions in relation to museums and archives.

M-BOX is a user-friendly software program, very well-suited to photo databases, document archives, and media management. It is equally useful for private individuals, associations, companies or municipalities, and large institutions such as museums or archives. You create your own standard data sheet, which you use to add an object, a document (etc.), and any related information such as a scan, a video, or a PDF (see www.m-box.at).

M-BOX is not only used by the Tyrolean State Museums and local chroniclers. Since 2011, it has also been adopted by the Tyrolean Archive of Photographic Documentation and Art (TAP), the lead partner in the Interreg project, and by its subsidiaries in Lienz and Brunico. The data sheets in three languages (German/Italian/English) can also be found on the archive's web page: www.tiroler-photoarchiv.eu.



Schloss Bruck near Lienz, with the Castle lake in the foreground. 1980. L3070.

(Photographer: Lisl Gaggl-Meier, Lisl-Gaggl-Meier Collection - TAP)

The author

Dr. Martin Kofler, born in 1971 in Lienz, studied history in Innsbruck and New Orleans, Director of the Tyrolean Archive of Photographic Documentation and Art (TAP), and lead partner manager of the Interreg project "Lichtbild/Argento vivo."

Screenshot from the TAP M-BOX.

This photograph (L3070) can be found at www.lichtbild-argentovivo.eu by adding "- Lichtbild" to the source field.

M-BOX - Archiv: tirolarchiv, Benutzer: m.kofler - Karteikarte -> Fotografie -> L3070

Daten Bearbeiten Suchen Ansicht Mappe Extras Fenster Hilfe

Karteikarte -> Fotografie -> L3070

Fotografie Rückseite

Inventarnummer: L3070
 Numero d'inventario: L3070
 Identifizer: L3070
 Sammlungsbereich: Sammlung Lisl Gaggi-Meier - Lichtbild
 Settore della collezione: Collezione Lisl Gaggi-Meier - Lichtbild
 Source: Collection Lisl Gaggi-Meier - Lichtbild
 Fotograf: Gaggi-Meier, Lisl
 Fotografo: Gaggi-Meier, Lisl
 Creator: Gaggi-Meier, Lisl
 Objektbezeichnung: Dia
 Denominazione oggetto: Diapositive
 Subject: Slide
 Titel:
 Titolo:
 Title:
 Beschreibung: Schloss Bruck, Lienz
 Descrizione: Castello di Bruck, Lienz
 Description: Bruck Castle, Lienz
 Material: Diafilm
 Materiale: Pellicola per diapositive
 Type: Slide film
 Technik: Positiv
 Technica: Positivo
 Language: Print
 Maße: 6 x 6 cm
 Misura: 6 x 6 cm
 Format: 6 x 6 cm
 Datierung: 1980
 Datazione: 1980
 Date: 1980
 Dargestellter Ort: Lienz, Osttirol, Bezirk Lienz, Tirol, Österreich

Klassifizierung	Suchbegriff	Verwendung	Bemerkung	M...	A..
<input type="checkbox"/> Name / Nome / Name	<input type="checkbox"/> Gaggi-Meier, Lisl	54			
<input type="checkbox"/> Schlagwort	<input type="checkbox"/> Kultur	116			
<input type="checkbox"/> Parola chiave	<input type="checkbox"/> Cultura	116			
<input type="checkbox"/> Keyword	<input type="checkbox"/> Culture	116			
<input type="checkbox"/> Schlagwort	<input type="checkbox"/> Burgen	954			
<input type="checkbox"/> Parola chiave	<input type="checkbox"/> Castelli	954			
<input type="checkbox"/> Keyword	<input type="checkbox"/> Castles	953			
<input type="checkbox"/> Schlagwort	<input type="checkbox"/> Schloss Bruck	81			
<input type="checkbox"/> Parola chiave	<input type="checkbox"/> Castello Bruck	81			
<input type="checkbox"/> Keyword	<input type="checkbox"/> Bruck Castle	81			



Martin Kofler

IPTC – How to Save Metadata in Image Files

A user manual

Introduction

When you work with historical photos, you need to take particular care in the way you handle and treat originals. This includes any physical arrangement of the material and the process of scanning. It also involves a workflow pattern designed for the particular classification system: the creation of an inventory, digitization, and long-term archiving. These activities involve the use of all the necessary hardware and software, which should be located in a suitable working environment. The information available on individual photos, the “metadata,” plays a decisive role and must be saved and transmitted together with the image.

Photographs of which little or nothing is known are not (!) devoid of cultural value. However, the more information we have, the better, when it comes to the reason for the photo, the content of the image, the date, and the photographer. Both a proper database and a simple photo cataloging system should always include fields in which this additional information can be entered. There is already a high degree of standardization in the sector, as shown by the examples from the archives of our partners in the Interreg project “Lichtbild/Argento vivo.” Some databases have fields that also include the relevant names.

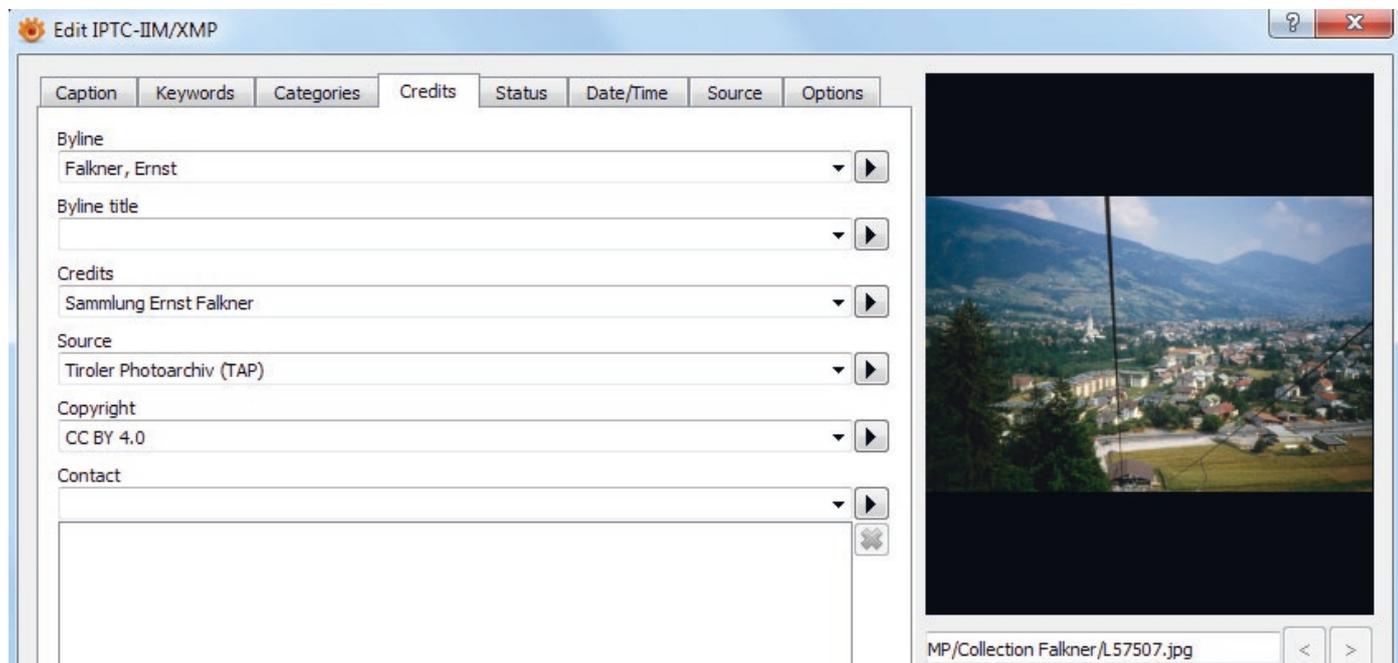
It is not strictly necessary to use a database to catalog photos. They can also be entered straight into image files created

with a scanner or a digital camera. This is not relevant for any technical details in relation to the photo, the “EXIF data,” which specify, among other things, the type of camera used and the date the photo was taken. These kinds of data are automatically attributed to the files by the camera or scanner. N.B.: after purchasing a digital camera, always make sure you enter the user’s name. This ensures that this information is always associated with the images.

However, here we want to focus on structured metadata, information concerning the content and origin of the photograph: these are the “IPTC headers,” created in the early nineties by the International Press Telecommunication Council. We are currently referring to IPTC Photo Metadata Standard 2017.1 (as of January 2019). This information is integrated into the image file and transmitted with it. Such information is therefore always available with the image, regardless of the absence or presence of a database.

A proposal from the “Lichtbild/Argento vivo” project: inclusion of IPTC via XnView MP

While the “Lichtbild/Argento vivo” project was being developed in 2018, the working group had intense discussions about the issue of IPTC headers. It was a question of finding an agreement about which fields the different project partners would have



to complete with respect to the photos publicly available on the Lichtbild/Argento vivo platform, www.lichtbild-argentovivo.eu, and with regard to the software used for this purpose.

The working group consisted of Marlene Huber, Notburga Siller, Martin Kofler, and Alessandro Campaner and was supported by Bernhard Mertelseder of the Tiroler Bildungsforum in Innsbruck, an associated partner of the project. Together, they tested many minimum standards and tried out various programs: all consistent with the necessity to use freeware, i.e., software that is free and independent of the platform used.

The group decided in favor of XnView MP (Version 0.92 as of January 2019), with a minimum standard of six fields, chosen to be consistent with the Dublin Core standard. To save or move a historical photograph, you need to specify the name of the photographer, the fonds or collection, the institution, and the inventory number, as well as the copyright and location. Individuals or voluntary associations are not

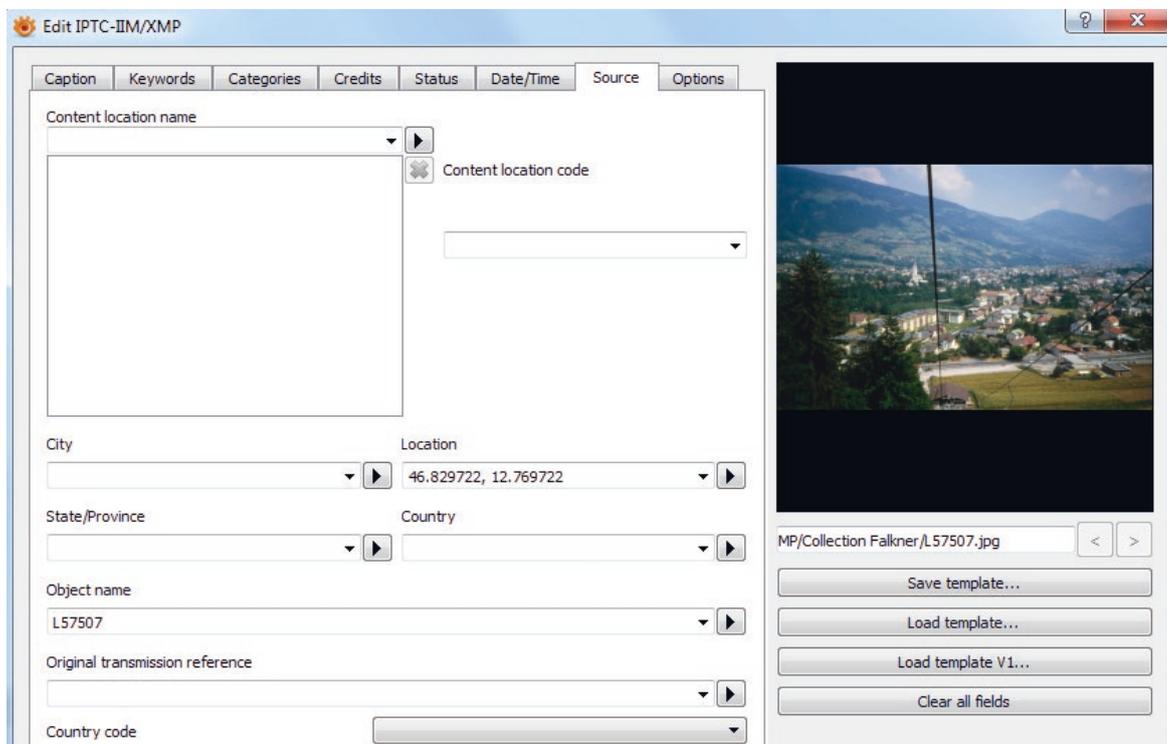
obliged to follow the standards of professional archives.

There are many other ways to link photos and metadata. Photoshop was discounted because it was not free. On the other hand, IrfanView freeware and the basic XnView software were ruled out because they were not considered fully satisfactory. Entering data in Windows Explorer is not very useful, as it only displays certain results.

Instructions

1. Download XnView MP:
<https://www.xnview.com/en/xnviewmp/>.
2. Open XnView MP and click on the photos you wish to edit.
3. Right-click and select "Edit IPTC/XMP."
4. Enter the standard basic information in the following six fields. N.B.: the text in each field must not exceed 32 characters; any additional ones will result in truncation.

The square brackets contain an explanation together with the respective Dublin Core term in English (screenshot of a "Lichtbild/Argento vivo" example to follow).



- Photo Information tab: “Photographer/author” [author, creator]
- Photo Information tab: “Provider” [name of collection]
- Photo Information tab: “Source” [institution/private, source]
- Photo Information tab: “Copyright” [rights]
- Photograph tab: “Item name” [inventory number, identifier]
- Photograph tab: “Location” [georeferencing, coverage]

Additional fields essential for the work of chroniclers, cultural associations, and photographers include: “Date/period of creation” (dating) and “Description of item” (description); we also recommend using the “keyword” (lemma) and “processing status” (operator) fields.

Attachment: Georeferencing

The term “georeferencing” means locating and entering the place where the photo was taken (camera position) with the rela-

tive coordinates (latitude/longitude). In cases of close-up shots, these correspond to the place shown in the photo.

When georeferencing historical photos, one should try to identify the spot where the photo was taken (the camera position). In the context of both the platform and the Open Data for the “Lichtbild/Argento vivo” project, the coordinates (latitude/longitude) of all the locations shown in the photographs/image files/digitized images made available with the CC-BY 4.0 license were entered in the “georeferencing” field. With the latest cameras or smartphones, this information can be partially integrated into the photo as soon as it is taken.

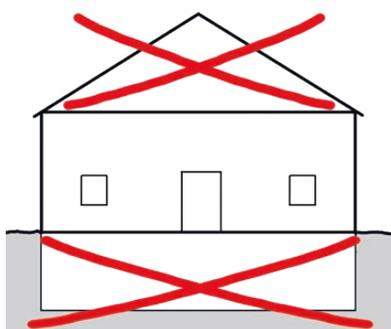
Links:

- <https://www.iptc.org/std/photometadata/specification/IPTC-PhotoMetadata>
- https://de.wikipedia.org/wiki/IP-TC-IIM-Standard#cite_note-IPTC/IIM-1
- <http://dublincore.org/>
- <https://www.xnview.com/de/xnviewmp/>

The Professional Archiving of Historical Photographs

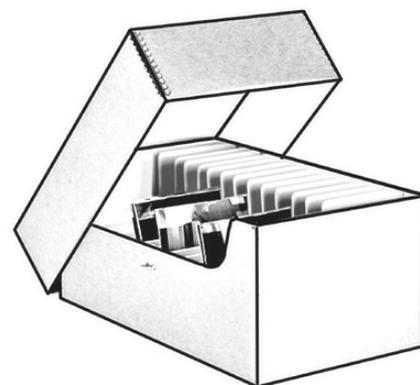
Summary

N.B.: It is important to distinguish, also in a digital context, between a permanent archive where the originals are housed and a “working” archive used for research and reference activities.



Archive

- Ensure that the climate inside the archive always remains stable. The basic rule: 18 °C and relative air humidity between 30% and 50%. Severe fluctuations can damage the objects in store.
- The storage area must be separated from the working environment.
- Avoid sources of heat and direct exposure to the sun.
- Cellars and attics are not suitable for housing archives.
- Pipes should never pass through the ceilings of rooms used as archives.
- Storage cabinets should be made of aluminum or stainless steel coated with insulating paint.
- Do not use open shelves, only closable cabinets.
- Never put originals down on the floor.



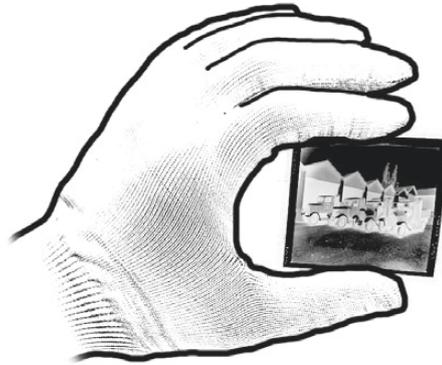
Archiving

- Always use suitable archival materials for storage. Refer to ISO standards and information regarding PAT (the Photographic Activity Test).
- Items made from different materials require different types of packaging.
- Store originals in such a way that they remain stable.
- Do not stick labels on the originals.
- Avoid glue, adhesive tape, and do-it-yourself repairs.



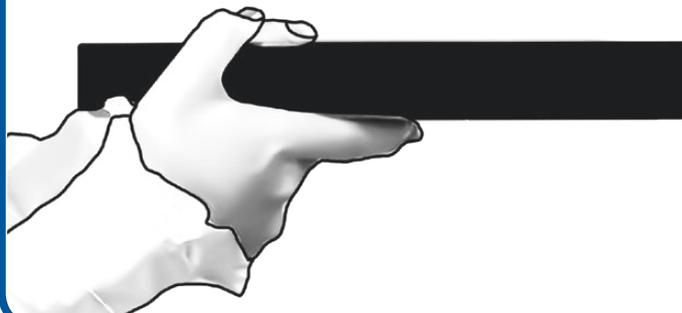
Handling

- Always wear clean cotton gloves when handling photographs.
- Wash your hands before and after working with originals.
- Do not eat or drink while handling originals.
- Use a pencil to take notes or write information on envelopes or sleeves.
- Do not use a pen or pencil to indicate details on a photo.
- Clean photographs with soft brushes. Never blow on photographs to remove dust particles.



Transport

- Originals should always be moved carefully and steadily, using both hands. Use storage trays, boxes, and archive trolleys.
- Ensure the items are properly protected during transport.



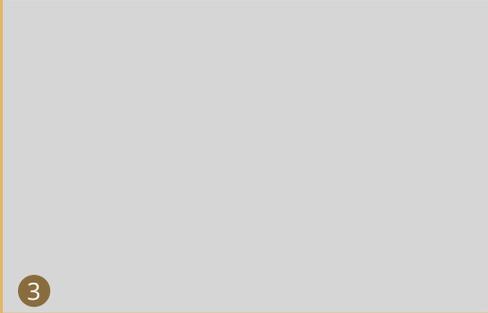
Notburga Siller

The Cataloging of (Historical) Photographs

Summary

The articles in this publication aim to show that the conservation of historical photos includes the preservation of their content as well as the context in which they are produced and the way they were passed

down. Our archives record this information in their various databases. This diagram provides a summary of the data required in a catalog as defined by standard ISAD(G).

1	Inventory number/Signature: _____		
2	Collection/Fonds: _____		
4	Title: _____ Description/Assigned title: _____ People: _____ Key words: _____		
3	_____ .jpg		
5	Author Photographer: _____ Publisher: _____		
6	Dating from: _____ to: _____		
7	Location: _____ Places depicted: _____		
8	Material Technique: _____ State of preservation: _____ Format: _____		
9	Institution/Origin: _____	10	Position: _____
11	Legal status/Rights Type of acquisition: _____ Copyright holder: _____ Rights to financial exploitation of work: _____		

1. Inventory number/Signature

Each photo must be given a clear, unique, and descriptive inventory code. If the photos still have an original filing system with associated codes, these can be kept as long as the items in the inventory can all be easily and unambiguously identified.

Otherwise, the new archivist or owner will need to assign a new, unique code or signature (a system made up of letters and ascending numbers) to replace the old one. It is sometimes useful to create a correlation table between the two systems, so that the original signatures can be quickly identified.

2. Collection/Fonds

If it is not a single item, a photograph is always part of a collection. For example, it might be part of a fonds (a group of photos taken by one photographer) or a collection (a set assembled by a collector).

3. Preview/Reproduction

The preview of a digital image helps to understand the catalog data sheet and provides an overview of the database. It is important that the preview code matches the (alphanumeric) inventory code.

For information on the digitization of historical photographs, see Handout no. 4, "Digitizing and Processing Photographs."

4. Photo content

a. Title

The original title is the one already assigned to the photo by whoever took it or created it.

b. Description/Assigned title

By "assigned title" or "description" we mean an objective, concise, third-person description of the content or subject of the image. The description answers the question of, "Who/what is represented here?" or "Who is doing what?"

c. People

If the names of the people in the photo are known, they should be recorded, as well as any additional information relating to them. All such information must be treated as confidential. For more information about the legal aspects of processing personal data, see also Handout no. 2, "Photographic Rights and Creative Commons."

d. Key words

Photographs can be assigned one or more keywords: you are advised to use a consistent glossary or thesaurus, such as the GND (Gemeinsame Normdatei), used by the German National Library and its partners, or the ISAD(G) standard, which is used internationally.

5. Author

a. Photographer

By the author, we mean the person who took the photo or who supervised its creation. In the author's biographical notes, any additional information should also be included, such as biographical details, profession, field of activity, etc.

Handout no. 1, "History of Photography in Tyrol and South Tyrol," may be useful in this context, as well as the list of names of photographers and photographic studios in historic Tyrol, which is available at: <http://www.sagen.at/forum/showthread.php?t=4672>.

b. Publisher, customer, etc.

In the case of published photos such as postcards, the publisher is also a producer.

6. Dating

If it is not possible to assign a precise date, you can indicate a period by completing the "from" and "to" fields. Advice about dating photos can be found in Handout no. 1, "History of Photography in Tyrol and South Tyrol."

7. Location

Locations, when known, must be recorded in a systematic and consistent way. You should distinguish between the place actually shown and the spot where the photo was taken. You can make use of the Geobrowser open-data application for South Tyrol (see <http://www.provincia.bz.it/informatica-digitalizzazione/digitalizzazione/open-data/maps-e-webgis-geobrowser.asp>). To look for addresses, we advise you to use OpenStreetMap (<https://www.openstreetmap.org/>); photos on Google Street View can also help with establishing location.

a. Place where photo was taken

If it is possible to tell precisely where the photo was taken, you should record the relevant geographical coordinates.

b. Places depicted

Whenever possible, you should indicate the exact location shown in the photo.

8. Material

a. Technique

It is important to note the type of photographic technique used: whether the image is a positive or a negative, an original or a reproduction, a color photograph or a black-and-white photo.

You can find information about past photographic techniques in Handout no. 1, "History of Photography in Tyrol and South Tyrol."

b. Format

The dimensions of the support and photograph should always be recorded in a consistent way: either in centimeters or in millimeters.

c. State of preservation

Firstly, any current damage should be noted, as it affects the presentation of the item, and the way it is archived, digitized, and possibly restored.

9. Institution/Origin

In which archive is the photograph kept? For those consulting the database, it is very important to know from which archive the photo originates.

10. Position

It is always important to know exactly where the photo is kept inside the institution, especially in the case of larger archives. A digital archive should always be arranged in a logical manner.

11. Legal status/Rights

In order to use and publish a photograph, it is important to know its legal status or the license for its use including the expiration of any rights. There should also be a record of how the photo was acquired, or rather how it came to be in the archive (through donation, purchase, etc.). For more information on this subject, see Handout no. 2, "Photographic Rights and Creative Commons."

Cataloging can be carried out with the use of a data sheet, table, or even a digital database. For example, volunteers working in the museum or archive sector in South Tyrol can make use of the Augias system (for more info, contact the South Tyrolean Provincial Archives). In addition, the Autonomous Province of Bolzano – South Tyrol provides access to an Adlib software database (contact the Museums Department). On the other hand, Tyrol uses the M-BOX database system, made available by the Tiroler Bildungsforum.

Recommended Literature and Links

Literature

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- Eberle, Thomas S. (Ed.), Fotografie und Gesellschaft. Phänomenologische und wissenssoziologische Perspektiven, Bielefeld 2017.
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- Lavédrine, Bertrand et al: Photographs of the Past. Process and Preservation, Los Angeles 2009.
- Idem, A Guide to the Preventive Conservation of Photographic Collections, Los Angeles 2003.
- Mathys, Nora (Ed.), Über den Wert der Fotografie. Zu wissenschaftlichen Kriterien für die Bewahrung von Fotosammlungen, Baden 2013.
- Pénichon, Sylvie, Twentieth Century Colour Photographs. The complete guide to processes, identification & preservation, Los Angeles 2013.
- Reilly, James M., Care and Identification of 19th Century Photographic Prints, Kodak Publication G-2S, Rochester 1986.
- Rundbrief Fotografie, Analoge und digitale Bildmedien in Archiven und Sammlungen. Ed., Deutsches Dokumentationszentrum für Kunstgeschichte – Bildarchiv Foto Marburg, Marburg (Hubert Locher, Christian Bracht), available from the publisher and editor Wolfgang Seidel, Stuttgart, contact@seidelpublishers.de, quarterly publication.
- Schmidt, Marjen, Fotografien. Erkennen – Bewahren – Ausstellen (Museumsbausteine, Vol. 17), Berlin-Munich 2018.
- Schulze, Sabine (Ed.), ReVision. Fotografie im Museum für Kunst und Gewerbe. Sammlungskatalog, Göttingen 2016.
- Starl, Timm, Bildbestimmung. Identifizierung und Datierung von Fotografien 1839 bis 1945, Marburg 2009.
- Tropper, Eva (Ed.), Format Postkarte. Illustrierte Korrespondenzen, 1900 bis 1936, Vienna 2014.

Links (December 16, 2018)

- Central Archives of the State (1999): Artistic and historical heritage. Sheet F, first part. Structuring of the data of the sheets of the catalogue: URL: <http://www.iccd.beniculturali.it/getFile.php?id=250>
- Archivschule Marburg – Institut für Archivwissenschaft (2002³): ISAD(G). Internationale Grundsätze für die archivische Verzeichnung. (23): URL: https://www.ica.org/sites/default/files/CBPS_2000_Guidelines_ISAD%28G%29_Second-edition_DE.pdf
- File formats suitable for archiving: https://www.bar.admin.ch/dam/bar/de/dokumente/konzepte_und_weisungen/archivtaugliche_dateiformate.1.pdf
- Dew Point Calculator: URL: www.dpcalc.org – by entering temperature and humidity data into a Dew Point Calculator you can estimate the storage potential of organic materials.
- International Council on Archives/Conseil International Des Archives (2000): ISAD(G): General International Standard Archival. Description. Adopted by the Committee on Descriptive Standards, Stockholm, Sweden, 19-22 September 1999: URL: https://www.ica.org/sites/default/files/CBPS_2000_Guidelines_ISAD%28G%29_Second-edition_EN.pdf
- International Council on Archives, Committee on Descriptive Standards (ICA-CDS) (2007): ISAAR(CPF) International Standard Archival Authority Record for Corporate Bodies, Persons and Families: URL: https://www.ica.org/sites/default/files/CBPS_Guidelines_ISAAR_Second-edition_DE.pdf
- Cooperative group on the theme of “Long-term digital storage”:
<https://www.langzeitarchivierung.de/>
- KOST. Koordinationsstelle für die dauerhafte Archivierung elektronischer Unterlagen: <https://kost-ceco.ch>
- MEMORIAV, advice about photos: URL: www.memoriav.ch
- Ministry of Cultural Heritage and Activities, Directorate General for Archives. Description Standards Committee (2004): ISAAR (CPF) International Standard Archival Authority Record for Corporate Bodies, Persons and Families: (URL: https://www.ica.org/sites/default/files/CBPS_Guidelines_ISAAR_Second-edition_IT.pdf)
- Stored Alive! URL: www.imagepermanenceinstitute.org

Suppliers of archival materials

- Hans Schröder GmbH: <https://archivbox.com>
- Japico: <http://www.japico.at>
- KLUG Conservation: <https://www.klug-conservation.de>
- Monochrom GmbH: <https://monochrom.com>
- REGIS: <https://www.regis.de/de/archiv>
- Schempp Bestandserhaltung GmbH: <https://www.schempp.de>
- Shades International: <http://www.shadesdirect.eu>



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