PHOTOCONSORTIUM. THE INTERNATIONAL CONSORTIUM FOR PHOTOGRAPHIC HERITAGE

PHOTOCONSORTIUM

Introduction

PHOTOCONSORTIUM, the International Consortium for Photographic Heritage [1], is a non for profit association whose purpose is the promotion and enhancement of the culture of photography and the photographic heritage. To achieve its statutory goals, Photoconsortium aims to promote, organize and manage conferences, exhibitions, awards and training courses as well as to carry out publishing activities. The association participates, and promotes the participation of its members, in new projects and initiatives also in collaboration with third parties, including but not limited to participation in the Programmes of the European Commission. Photoconsortium is now responsible for the development of the Photography channel in the Europeana DSI.

EuropeanaPhotography [2] was an EC funded project under the ICT Policy Support Programme of the Competitiveness and Innovation framework Programme, led by KU Leuven and Promoter, which started in 2012 and successfully completed its work in January 2015.

The project delivered more than 450.000 digitised masterpieces of early photography, coming from photographic archives and museums in Europe, including the most representative collections, both in private and public hands. In addition, interesting archives were included that were hitherto unknown or inaccessible to the public, from various institutions throughout Europe. These digital collections were ingested into Europeana [3].

Besides the actual digitisation, managing a photographic archive involves many tasks: collection, documentation (metadata), curation and preservation. Publication of these digitized items involves a number of legal aspects. Key roles of the archive are protection of the authenticity and integrity of the stored documents, preservation of this cultural heritage and offering public access. In Photoconsortium, we gained several key experiences that we aim to provide as expert knowledge to other photographic archives. In what follows, we will first detail the different tasks involved from an archive management perspective, and then focus on the lessons learned from digitisation and publication.

Collection

In EuropeanaPhotography, we set up a content committee to oversee what collections were actually relevant to fit our goal, namely documenting the first one hundred years of photography. We had several kinds of archives: the world famous collections of Fratelli Alinari, Parisienne de Photographie, Imagno, Polfoto and TopFoto on the one hand, which are funded privately, and archives with a public mission such as Arbeijdersmuseet from Copenhagen, Denmark, ICCU/SGI in Italy or Gencat in Catalunya, Spain. Most of the masterpieces in these collections are widely known. We also had an important group of Central and Eastern European Archives which brought absolutely undiscovered material to the table. Archives such as Divadelny Ustav from Slovakia, the Museum of History of Photography in Krakow and ICIMSS from Poland, NALIS from Bulgaria, Lithuanian Art Museums from Lithuania brought in unseen collections. In the case of ICIMSS and NALIS, new material was researched and acquired from private family holdings. In Germany, United Archives specializes in acquiring unknown photographic collections to sell those to archives. Contributions were made by institutions that did not belong to the original partnership, such as the Cyprus University of Technology, the specialized centre Bali LTD, the Soviéta Géografica Italiana and the Israel Museum. The National Technical University of Athens provided technical support and the Koninklijke Musea voor Kunst en Geschiedenis in Belgium offered metadata expertise. The Centre for Image Research and Diffusion in Girona and the KU Leuven Imaging Lab took care of digitisation research.

Unknown. Leuven (Belgium) during World War I, 1914-1918. K.U. Leuven

Valentí Fargnoli. Girona. 15/1/1924. CRDI (Girona City Council)

Documentation and metadata

It is important to know that large parts of current archives are in fact undocumented, laying often unprocessed in maps and folders in their original packaging when they came from the donations. In large part, the activity in EuropeanaPhotography thus resulted in actually discovering part of the reality of the first one hundred years of photography as it emerged from the archives. To have some consistency in the descriptions and to allow thematic organization we setup a metadata committee that developed a multilingual thesaurus in originally 13 – now 16 – languages describing the techniques, styles and themes of early photography. This thesaurus has been published as linked open data in skossified format [4]. Of course we are open to accept translations in other languages and further additions to the vocabulary. It was the first time that European photographic heritage was described using a common vocabulary. Since many of the established archives already used their own database and metadata system, this required a mapping which we did using an intermediate LIDO standard, which was the mapped to the Europeana Data Model using the widely used MINT tool developed at NTUA. The metadata standard committee oversees the consistent use and quality of the applied metadata. Besides correct photographic metadata we want good content descriptions allowing for clear identification of the author, subject, place and time of the photograph, which often poses serious problems as many photographs are poorly documented by the original donators.

Curation

We implemented a two-phased approach on curation, as photographic archives contain a wide diversity of materials. At first, each archive would look into its holdings and look what themes emerged from the yet to be digitised material. This was then brought together when partners showcased their collections to each other. This allowed us in a second phase to determine topics of interest that would be pursued further, so that there were transversal links between the partner collections. We decided e.g. not to focus too much on the first world war, as there was a specific Europeana project working on this. Themes would include a.o. leisure, sport, politics, art, culture, news and media. To make the large EuropeanaPhotography collection (currently at more than 450.000 images) more understandable and “tangible”, a selection was made for a showcase exhibition, “All our Yesterdays”, [5] focusing on the lives in Europe in that era, with subthemes such as “The City Lives”, “The Art of the Portrait”, “Yesterday’s Children”, “Hardship and Drama”, “The Eye of the Beholder”, “Joy & Leisure” and “A Brave New World”. A special subset “The Photographer at work” emerged from the finding that in many collections a kind of “selfies” avant-la-lettre were discovered. The

focus on the average city lives was new to many of the archives, who usually focused on the important political, artistic and cultural heritage when curating collections. Rather than the famous poet of renowned prime minister we wanted to show people strolling the streets, enjoying a fair, going about their daily business. We discovered some lesser, more locally or even squarely unknown photographers that easily deserve a place among the world famous ones like Maurice Branger, Henry Cartier-Bresson and John Topham, such as Polish photographer Tadeusz Rząca or the unknown German photographer Karl Heinrich Lämmel.

Tadeusz Rząca | Krakow (Poland), ca. 1915. Autochrome. MHF

Karl Heinrich Lämmel | Düsseldorf (Germany), 1930s. United Archives

Legal aspects

Digitisation of cultural heritage allows for publication of this heritage in a multitude of formats and channels, thereby enhancing greatly access by the public. Communities have the **cultural right** to access their heritage, as has been advocated in important EC funded research such as Riches. The European Commission has made this goal one of its policies, hence its continuing support for Europeana, the portal to Europe's cultural heritage. This means there is some pressure on museums, libraries and archives to open up their content to the public. While this is quite natural for museums and libraries, this is not so evident for archives. The whole point of an archive is to protect the documents it keeps: it is absolutely essential that the very same, untampered document deposited at an archive can be retrieved unaltered decades later.

This often means that archives have to shield documents in their holdings from changing moods and political turmoil. Many archives have been threatened in the past when revolutions or civil strife took place. Changes such as the move from Baltic countries out of the Soviet influence have an impact on the expectations the public has about what is being published out of the archive, and what is kept behind closed doors. There should be no illusion that there is ever a thing such as simply opening up the whole contents of an archive to the public. Besides societal pressures and political interference, two major problems are faced by archive professionals when envisaging publication of archive contents: copyrights and privacy.

As for **copyrights**, this is one of the toughest areas in digitisation. While many legal systems have provisions for archives that allow to make copies for preservation ends – such as the US copyright law §108 – the same holds not true for publication. In particular, this is an issue for publication on Europeana. This is the very reason why Europeana developed a Licensing Framework, and provides in adapted Rights labels, partly based on Creative Commons Licenses. Anyway, it is a quite laborious effort to determine which works are in the Public Domain and which have rights attached to them that prevent publication. Photoconsortium built extensive expertise in this matter and published useful tools and reports on this [6].

An even greater challenge is the so-called "**Orphan Works**", of which the author cannot be determined. Europe provides in an Orphan Works Directive (in which for the time being photography is excluded), to be implemented by the national authorities, to make it possible for archives to publish these orphan works. Unfortunately, the procedure remains very cumber-

some and anyway involves a time-intensive “diligent search”, making it impractical. Collecting societies strongly oppose this idea and want to charge copyright indemnities, adding to the risk. Nevertheless, Photoconsortium published a large volume of reusable content in the form of Public Domain marked and Creative Commons labelled works. In particular, readers might want to explore the open collections of Generalitat de Catalunya or of Girona City Council.

Privacy is another issue that needs careful handling. Many archives document periods of strife and conflict. Certainly in smaller communities where families share long histories opening up an archive to the general public might stir up emotions and open old wounds. Serving the right of the public to access these testimonies of their shared past requires a professional, respectful and balanced approach, as collections themselves might be biased and do not necessarily reveal the whole story.

Besides these two major issues other problems need some consideration. First of all not all objects that are safely kept in an archive are fit for publication. Some are legally forbidden, as is the case for some Nazi works, or would be perceived differently today as they were in the past. As communities and ethics have diversified and evolved, many documents or works that would have been perceived as neutral or harmless in past times could be felt quite offensive or divisive today, for example as being utterly racist. A related issue is the status of the original metadata. Depending on shifting ethics and sensitivities, past documentation of works, e.g. the assigned title or description, could be perceived today in a very different light. This is often the case with archives of colonial heritage. This poses a dilemma: the public, in particular also stakeholders and researchers, have a right to know the complete original metadata, while sometimes these cannot be published within the confinements of the law. Photoconsortium members agreed in such cases to adapt the metadata, but to indicate that this has happened and that the original ones are available for consultation at the archive. However, none of the partners has indicated that they actually had to use this procedure, probably given the fact that our collections did not focus on conflict documentation.

A particular problem faced by Photoconsortium is the concern of many private contributors to archives about the **moral integrity of the works or documents** they deposit. Many people would love to donate family photo heritage to their local archive, but fear that when it becomes published online as public domain material, it could be reused without any moral restraint. Photos of their family might be altered, “defaced”, ridiculed and republished. Or worse: they could be used in computer shooting games! The fear of desecration of personal

or cultural heritage is important, and e.g. the Italian law has a provision protecting Italian Art works against such misuse. In many cases however, the owners think that only copyright protects them against such malpractice, and so are reluctant to donate when these copyrights do no longer exist, as with public domain works. However, in many jurisdictions there are solid protections of moral rights that can be successfully defended in court, regardless of copyright. Anyway Photoconsortium was forced to develop rich documentation on these issues, and would recommend archives to provide similar information to their stakeholder communities.

Preservation

Digitisation has become part of any serious preservation strategy. Often because original documents are prone to decay, and it is cheaper to preserve a digital copy. In the case of photography, glass negatives and metal plate positives such as daguerreotypes or tintypes preserve well on their own, but the same certainly does not hold true for paper and celluloid negatives. For the original period worked on by Photoconsortium, the first 100 years of photography, the main issue are the calotypes and albumen prints, which are difficult to preserve and where digitisation allows at least to keep the information that we have now. However, since the focus of Photoconsortium will move upwards in the 20th century, al lot of acetate and nitrate films in real danger of being lost forever urgently need to be digitised.

This means of course that this digitisation needs to be done at the highest standards. For Photoconsortium collections, with a large number of silver gelatine and wet collodion glass plates, specific digitisation procedures with backlighting and multiple exposure in high dynamic range (HDR) were developed. For the KU Leuven collection, e.g., a dual exposure method was developed so that both the glass diapositive photograph as well as the surrounding frame with metadata could be captured in one image.

Current technology deployed amongst partners in Photoconsortium is very well suited for glass and celluloid negatives and diapositives. For Daguerreotypes, Ambrotypes and Tintypes research is being done with reflectance imaging techniques to yield better results and capture the true properties of the analogue object.

The consortium decided on the best suited file formats to store and preserve the photos, where more band more the Jpeg format comes into consideration as it has broad industrial support. Photoconsortium established a liaison with the Jpeg standard committee. In particular we are interested in encoding multispectral image data, in fingerprinting and invisible watermarking, and interoperability issues. But Photoconsortium also looks into the digital preservation cycle as a whole, on the long term, and the physical storage and preservation. For this, common best practices were developed and shared. They are available to the larger community through the Photoconsortium website.

LESSONS LEARNT AND BEST PRACTICES

As has been explained in the text above, Photoconsortium has already an important background that makes it possible to focus in specific aspects for managing the photographic heritage that is relevant for the mission and goals of the association itself. In this second part of the text, we would like to highlight some of the work carried out and the results obtained in order to get some lessons in a technical and technological level. We will focus on the experience of one of the partners, in this case the CRDI, that allows to explain the evolution in different aspects related to the digitisation of a collection, a qualitative leap affordable for any partner in Photoconsortium with responsibilities over photographic collections.

Digitisation

Digitisation is one of the central elements of the project EuropeanaPhotography in which a high quality reproduction was required. We will not describe in this text the process, the training, the resources consulted, the results obtained, etc. but we will concentrate on the learning achieved from training and work experience. The lessons learned can be specified as follows:

- Technology is a major aspect for the digitisation of the archive. For this reason, for the selection and characterization of the devices it is highly recommended to get in contact with skilled professionals, that is, with specialists in the area of image quality.
- It is essential to have a working protocol to meet the quality objectives and to achieve a high level of work efficiency. The management of a digitisation project requires a precise methodology and information resources that allow monitoring and evaluation.

- Quality controls at the end of the work can be done from technical metadata. They allow evaluating information about the capture and image processing and they also allow an assessment about files preservation.

Referring to **technological aspects**, we must say that the selection of the working devices is decisive for the results obtained from digitisation. For this reason, there is a preliminary stage before digitisation that should be necessarily focused on the selection of the whole equipment. The first decision to be taken was the acquisition of a camera or a high performance scanner. The election was determined by the fact that high-performance scanners were discontinued while the digital back camera market is evolving. Additionally, the leading institutions in the project were already working with a digital back camera: Alinari (Leaf / Mamiya), Parisienne de la Photographie (Hasselblad) or KU Leuven (Phase One) as examples. We can mention some of the advantages of the camera related to the scanner such as the fact that there is no limitation with respect to the original format, they can always use raw format for capture, it is a more quick process and thus they offer greater efficiency at work, etc. Alongside with choosing a digital camera back most of the partners chose 120mm macro lenses. Partners also had a preference for working with flash lights, for lower exposure time of original materials to light, for the stability of color temperature and for the possibility to work in bright environments.

Once the digitisation equipment is selected, it is essential to analyse the behaviour of devices in different working conditions, considering all possible variants. This is probably one of the biggest lessons learned. It is very important to know in detail the response of the camera when capturing and also in relation to the setup of the software used, which can have a significant influence on the final results. It is important to note that many memory institutions do not have qualified specialists to carry out this work. In this case it is necessary to contract these services to professionals from the technological sector, just as it happens with conservation and restoration, which also require highly specialized professionals. One of the most successful initiatives in the framework of the project was the collaboration of the Image Quality Laboratory (LQI) of the UPC (Polytechnic University of Catalonia) with CRDI to carry out this work. This experience was shared in a training session with all partners of the project.

The importance of this task in any digitisation project and the need to advise to different memory institutions to include technological partners in these types of projects, motivated us to further inform about this task. Taking as an example the work carried out by the LQI at

CRDI, we can explain that the evaluation and characterization study of digitising devices is focused on the following aspects:

- Technical information of the devices, focusing on the technical characteristics of the particular model of camera, the digital back, the optics and the lighting system. It is important to provide information about the CCD such as the pitch size (distance in microns separating two photoreceptors, calculated from the central part of each) that has a major impact on the final quality of the capture.
- Characterization of optics to detect possible residual aberrations of lens. These aberrations may influence in the image quality, although we should bear in mind that the resolution of the lens is always higher than the sensor.
- Measurement of MTF to see the response of the system in different working conditions. The result of this test should allow determining the best diaphragm openings for different sensor configurations.
- Measurement of aliasing to determine in which working conditions there exist difficulties in representing high frequencies.
- Measurement of OECF to determine the system response to the different optical density values and to check the dynamic range of the system.
- Color management, which basically consists in creating color profiles for the reproduction of different originals (negatives and prints) with different lens, with different working conditions (i.e. overlapping a glass to flatten the papers presenting curvature) and with different sensor configurations.

Regarding to the **management of a digitisation project**, it is important to identify tasks in a right way, to make an efficient distribution of work and to monitor the process to ensure productivity. We can group tasks in: preparatory work, focusing on the characteristics and condition of the originals; the execution works, including the capture and the image edition; and monitoring and quality control works.

Concerning the preparatory work and focusing exclusively on the original, it is important to make a preliminary analysis of these photographs to identify the physical characteristics that constrain the digitisation process, such as polarity, carrier, format, color and photographic processes. This information will be needed for major issues, such as prioritizing vintage copies to reprints and later copies or to organize the work in batches according to these technical characteristics (the organization by formats would be a good example). It will also be important to check the condition in order to decide if cleaning is needed, to take preventive measures and even to think about restoring the materials.

About the realisation of digitisation it is important to have a guide about technical parameters. This basically involves the capture resolution, the output size, the pixel resolution and color space. All these parameters can be defined by using specific digitisation guidelines even if it can be necessary to adapt them to the peculiarities of each centre. In that sense, the partners mostly followed the parameters defined by the FADGI guidelines (Federal Agencies Digitisation Guidelines Initiative, 2010), adapted to the needs and capacities. Alongside with defining parameters, some strategic criteria for digital preservation should be decided beforehand, such as the choice of graphic format as a digital master, the convenience of using compression algorithms and the embedding of essential metadata that allows basic identification of images.

Finally, with regard to project management, you need to monitor the production in order to ensure and respect deadlines. All processes must be well documented and it is good to provide critical information for monitoring. Concerning contents, it is necessary to inform about the fund or collection that photographs belong to, the technical staff assigned for the work, the implementation schedule, the number of digitised images or the preparatory work carried out. Concerning technical information it is necessary to inform about the devices used, the software or the technical characteristics of files. In short, it is a methodical work that should allow putting in objective terms through quantitative and qualitative data the evolution of the project.

Linked to the monitoring of the project, we could place the work of **quality control**. In this case, focusing on the analysis of technical metadata.

PARISIENNE DE PHOTOGRAPHIE

Characteristics of originals

Carriers	glass plate, acetate film, nitrate film.
Dimensions	6x6, 9x12, 13x18, panoramic plates (started on 16x42)
Processes	Mostly gelatin silver bromide

Digital masters

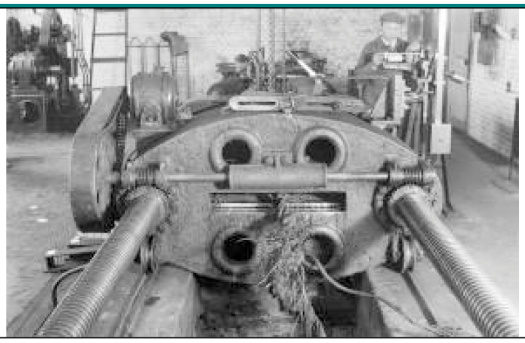
Resolution	4500X6500 pixels, 4500X4500 pixels
Bits per sample	8 bits
Color	RGB
File format	TIFF_LZW (storage format). Raw format Hasselblad (not stored)

Digitising equipment and software

Cameras
Camera + digital back : H4D40 (Hasselblad)
Lens: 120mm Hasselblad

Software for capture
PHOCUS (camera control & development)
Photoshop CS6 (for retouching)

Software for management
Our photo library management system has been developed in-house using a software product from Canadian firm Dorotech.
It is SQL-server (version 2005) based with some sections in MySQL.



Name: 41172-1
Size: 20,91 Mb
Format: TIFF / Version: 6.0
Profile: TIFF/IT-MP (ISO 12639:1998)
CompressionScheme: uncompressed

ImageWidth: 5850
ImageHeight: 3748
ColorSpace: Gray Gamma 2.2
SamplingFrequencyUnit: inch
XSamplingFrequency: 300
YSamplingFrequency: 300
BitsPerSample: 8 / SamplesPerPixel: 1

FileSource: DSC
digitalCameraManufacturer: Hasselblad
DigitalCameraModel Sensor: H4D40
ScanningSoftware: Adobe Photoshop CS6 (Windows)
DateTime: 2014-12-23 18:21:10

Name: 72274-22
Size: 96,58 Mb
Format: TIFF / Version: 6.0
Profile: Baseline RGB
CompressionScheme: uncompressed

ImageWidth: 6820
ImageHeight: 4921
ColorSpace: Adobe RGB(1998)
SamplingFrequencyUnit: inch
XSamplingFrequency: 300
YSamplingFrequency: 300
BitsPerSample: 8, 8, 8 / SamplesPerPixel: 3

FileSource: DSC
digitalCameraManufacturer: Hasselblad
DigitalCameraModel Sensor: H4D40
ScanningSoftware: Adobe Photoshop CS6 (Windows)
DateTime: 2012-06-13 10:52:24

In this datasheet of one of the project partners you can see the information about digitisation and the information provided by the metadata of two digitised images.

One of the lessons learned is the value provided by metadata for the general understanding of the whole process, mainly with regard to image editing and processing carried out by software. Technical metadata inform us of important issues. We would like to highlight some of them:

- Devices: the model of camera and optics; the scanner model.
- The technical characteristics of the final image: resolution, bit depth, color space, graphic format, etc.
- Technical characteristics of files: the structure of the graphic format (directories) and the encoding of metadata standards (from namespaces).
- The dates: capture date, file modification date and the metadata editing date.
- The historical data that allow us to trace the history of the image editing tasks and issues significant for preservation such as the transformation of the file format.

Publication of the images

The other pillar of the project is the publication of the images on the Europeana portal as it entails many methodological issues. The requirements to publish on this site must be seen as a benefit for each institution. It is interesting to see the general approach for the whole technical process for publication and the technological challenge. The main lessons learned can be summarized in the following points:

- To share catalogues online or to publish data in other systems it is essential to have well-structured data, systematic information and based on standards. All this regardless of the technology used.
- The universal encoding metadata significantly enhances interoperability and make it easier any mapping of metadata when we communicate with other systems.
- IPR ownership is a critical issue for the dissemination of photography and there is diversity in European legislation that affects specific aspects for the use of the images. However, it does not stop work on a reasonable common framework where the limitations are not an insurmountable barrier.

Concerning metadata it is important to understand the transformation process to the standard used by Europeana, the EDM (Europeana Data Model), which we will briefly explain. However, the lesson learned that really contributes value for the management of photographic collections is the one referring the structure and standardization of local metadata

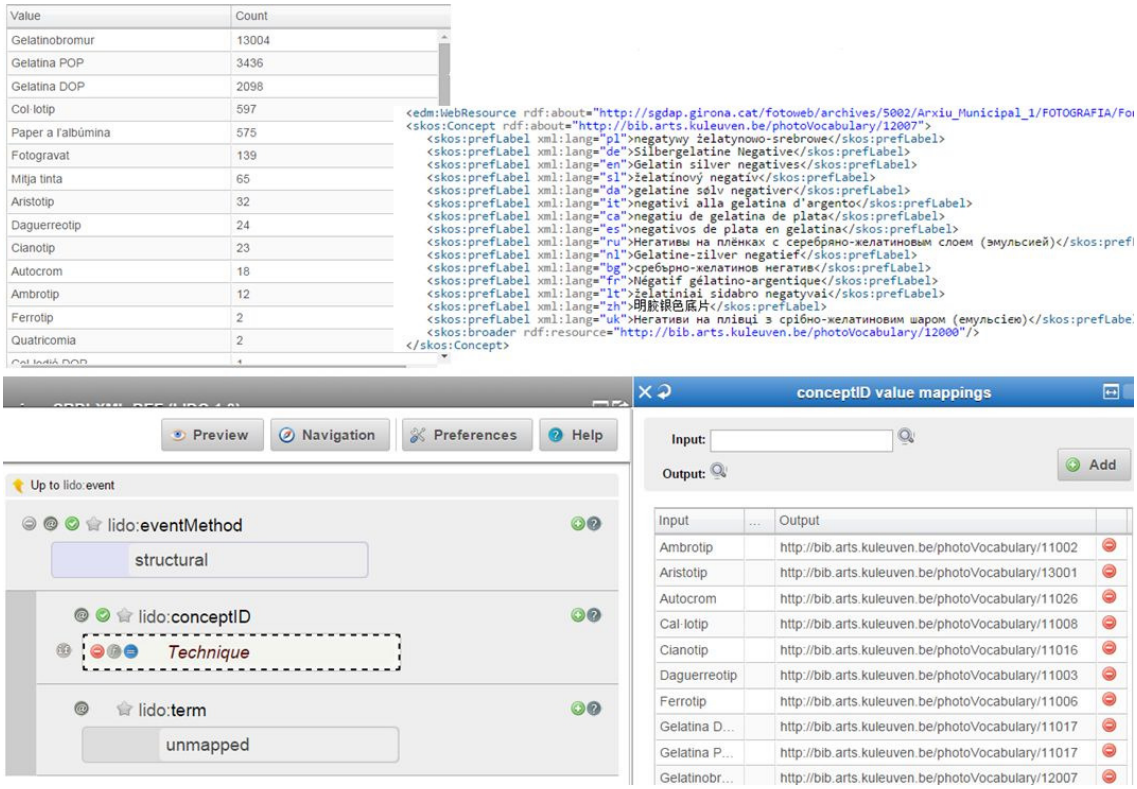
and also its enrichment. To enrich metadata you need to encode keywords and vocabularies in a skosified vocabulary, using hierarchical and semantic relations and multilingualism.

Publishing on Europeana means a process that consists on a metadata mapping and a transformation through intermediate software that converts local metadata to EDM. To be more specific without going into details, we can say that in EuropeanaPhotography the process began with the publication of an XML file on an external server according to the structure and metadata agreed in this project. Through mapping conducted in the MINT system, metadata were converted to LIDO schema, an intermediate metadata schema, and after this they were converted to EDM. The process ended when Europeana harvested the metadata and published them on its catalogue.

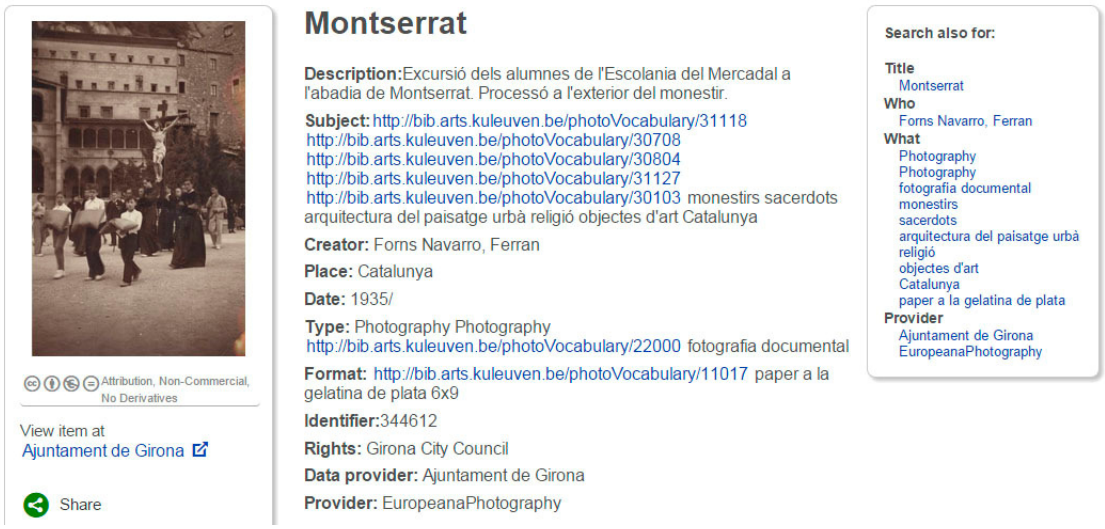
We can deduce from this process that an initial structuring of metadata based on universal standards and a high level of knowledge in the description of the photographs facilitates the entire work. We cannot think of a single standard. The variety of photographic collections in different types of institutions: archives, museums, libraries, agencies, etc., in different countries and at different stages of treatment, doesn't allow us to follow this approach. However, a good level of expertise in the treatment of photography and the use of a standard reference, constitute the essential basis for tackling the process.

Moreover, regarding metadata, we should consider the use of embedded metadata, with properly encoding with universal unique identifiers (UIRs). This is a qualitative leap in collection management. It is a big advantage to keep all the information closely linked to the image, to not depend on specifics software and to be more on the same wave length with others sectors outside the heritage field, such as the news agency, image banks and even personal and family archives. In this sense, we must remember that the imaging industry evolves favourably toward unified management of metadata, a confluence of interests that can also benefit the heritage sector.

We cannot ignore in this text the strategic relevance to include the use of skosified languages for indexing images, for both technical concepts and thematic concepts. Regarding the themes, it is an issue that goes beyond the field of photography and, in fact, the existence of free thesauruses such as AAT (Art and Architecture Thesaurus) from the Getty Institute solves this issue. The differentiating factor is found in technical concepts. EuropeanaPhotography vocabulary is a meritorious achievement in a strategic aspect, for today but mainly for the future online re-use of digitised photographic collections.



Example of metadata mapping and of vocabularies mapping in MINT, before the publication on Europeana. You can see the use of SKOS vocabulary in order to provide greater functionality to the keywords. The most obvious is the multilingual relationship.



Example of a visualization of metadata in MINT, before the publication on Europeana. You can see the correct correspondence of values in the different elements of the description and also the use of the SKOS vocabulary (you can see the URI for each keyword)

Finally, in this brief overview of the publication of images, we cannot forget the legal issues, especially those related to **intellectual property rights (IPR)** as it determines decisively the reuse of the photographs. It should be noted that these rights referring to photographic creativity are similarly regulated in different European countries, at least in terms of its structure. The legal paper usually includes a definition of the photographic work to be protected (the originality attributed to the photographer); it regulates the property rights belonging to the author; it regulates also the successive transfers of ownership; it differentiates economic rights and moral rights. In all countries signatories of the Berne Convention, 70 years after the death of the author the works go to public domain. The main lessons learned on the management of IPR are as follows:

- The importance of using open licenses, especially Creative Commons, to promote cultural and educational use of images, without giving up business. Attach a CC license to a high-resolution image facilitates its management.
- The importance that digital images include information about authorship, copyright ownership and licenses. This information can be included using standards and mainly metadata from IPTC Core Schema (metadata scheme used by news agencies).
- The need to properly inform about the public domain. Photos that are in the public domain, they cannot be subject to restrictions because of rights issues. However, it is possible and reasonable to charge for the acquisition of a digital reproduction.
- The need to reconcile respect for legality with business expectations. Keep in mind that in private sector it exist a business around the photographic heritage and that these companies invest in the processing and preservation of this heritage. Therefore, they must be economically sustainable and so the business model differs necessarily from centres financed with public funds.

Conclusions

From the lessons learned that we have explained in this paper and as a final thought, we can underline three main elements that should be taken into account in any digitisation project:

- Digitisation is fundamentally a scientific fact that compels to take measures to optimize the quality of work based on existing technology. Preparatory tasks are an important part of the process and they are decisive for the final result. We therefore need a thorough preliminary study of the working conditions that guarantee good results. This study should allow to objectify the quality of work. In this sense, as already mentioned, it is essential to have a technological partner.

- Photographic heritage was created over 160 years of history. The constant technological evolution as a result of the scientific research on this subject has contributed to embrace under the umbrella of photography multiple variants of the photographic object (from the morphological point of view). This technical evolution has had important consequences for the social use of photography. A detailed knowledge of the originals to reproduce is important in order to get a successful digitisation. Aspects such as the output format, the image definition, the tone, etc. are closely linked to the understanding of the original.

- The digital object that comes from digitisation is an image with a high potential for reuse. Because of the nature of digital image we need a different perspective when thinking about parameters for editing, management and dissemination. For this reason many tasks need a different approach comparing with the ones carried out for traditional photographic heritage management. The meanings directly linked to specific groups of pixels opens the possibility to explore new ways for access. This is nowadays mainly linked to the evolution of the Semantic Web and the application of techniques derived from computer vision.

All these lessons learned constitute a solid basis for the achievement of some of the main goals in Photoconsortium, such as offering specialized services related to the assessment and reuse of photography. However, in the course of various projects the advantages of cooperation within the heritage sector are becoming obvious. It is also evident that there is a need to become a lobby at the international level in order to defend the legitimate interests arising from the custody of photography, for its historical and technological importance and especially for its relevance as a social phenomenon.

FRED TRUYEN, President of PhotoConsortium

DAVID IGLÉSIAS, Officer of PhotoConsortium

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