



INTERNATIONAL  
SYMPOSIUM

ON OLD  
PHOTOGRAPHY  
TECHNIQUES

## THE CONFERENCE PRESENTATIONS

2020  
Šiauliai, Lithuania  
Photography museum



THE INTERNATIONAL SYMPOSIUM ON OLD PHOTOGRAPHY  
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## TABLE OF CONTENTS

<b>Author/ Authors</b>	<b>THEME</b>	<b>Page</b>
<b>Vilija Ulinskytė-Balzienė</b> Museum of Photography (Šiauliai 'Aušra' Museum)	<b>INTRODUCTION</b>	<b>3</b>
<b>Vaida Sirvydaitė-Rakutienė</b> M.K. Čiurlionis National Museum	<b>COLLECTION OF PHOTOS BY COUNT STANISŁAW KAZIMIERZ KOSSAKOWSKI AT THE NATIONAL M.K. ČIURLIONIS ART MUSEUM</b>	<b>5</b>
<b>Vilija Ulinskytė-Balzienė</b> Museum of Photography (Šiauliai 'Aušra' Museum)	<b>COLLECTION DISCOVERIES: BENEDYKT HENRYK TYSZKIEWICZ. PHOTO INSCENISATIONS OF EPOCHS</b>	<b>9</b>
<b>Laura Sallas</b> The Finnish Museum of Photography	<b>PORTRAITS OF THE NORTH - DAGUERREOTYPES IN FINNISH COLLECTIONS</b>	<b>17</b>
<b>Gintas Kavoliūnas</b> Vilnius Art Academy Public Institution Open Photography Workshop	<b>COLLECTION OF HISTORICAL PHOTOGRAPHY OF ŠIAULIAI PHOTOGRAPHY MUSEUM. A GLANCE THROUGH A MICROSCOPE</b>	<b>20</b>
<b>Radosław Brzozowski</b> Alternative Photographic Supplies Trójmiejska Szkoła Fotografii	<b>SALTPRINT – THE 'SEPIA TONED' PRINTS FROM 19TH CENTURY</b>	<b>26</b>
<b>Lauma Lanceniece</b> Photo Collection Manager of Museum of the History of Riga and Navigation	<b>INSIGHT INTO OLD PHOTOGRAPHIC PROCESSES IN COLLECTION OF MUSEUM OF THE HISTORY OF RIGA AND NAVIGATION (MHRN)</b>	<b>33</b>
<b>Žydrė Petrauskaitė</b> <b>Eglė Piščikaitė</b> <b>Vilma Šileikienė</b> Lithuanian National Art Museum	<b>RESEARCH AND CONSERVATION OF HISTORICAL PHOTOGRAPHS ADOMAS VARNAS. PHOTOS OF CROSSES. BEGINNING OF THE 20TH CENTURY</b>	<b>38</b>
<b>Daiva Banikonienė</b> Radvila Palace Museum of the Lithuanian National Museum of Art	<b>RELEVANCE OF OLD PHOTOGRAPHIC PROCESSES TODAY: INTERPRETATION AND APPLICATION IN CREATION, CULTURAL EDUCATION</b>	<b>45</b>
<b>Dr. Sandra Maria Petrillo</b> SPM International Photo Conservation Studio	<b>BIBLIOGRAPHY LIST</b>	<b>49</b>

## Introduction

On 4–6 September 2019, the first international symposium on earliest photography technologies was held in the department of the Šiauliai ‘Aušra’ Museum – the Photography Museum in Šiauliai – with the participation of specialists from Lithuania, Latvia, Poland, Finland, Italy and Ukraine engaged in various fields of photography.

Photos are stored in the collections of many Lithuanian and world museums, archives and libraries. In the many decades since the invention of photography, in particular, in the 19th century, its technology has been constantly improved, using new materials and methods have been sought for photographic production, therefore, today there are many difficulties in identifying and describing them, in choosing the strategies for storage and preservation due to the lack of methodological material, unified terminology, and practical skills. The symposium on ancient photographic technologies was organised at the Museum of Photography with the aim of bringing together specialists from various fields in solving these topical problems of preserving the photography heritage.

For three days, at the first meeting at the Museum of Photography, researchers, custodians, restorers, photographers, craftsmen and educators of old photographic techniques took a deep insight into various issues of research, identification, classification, storage, preservation, application and promotion of old photographic processes, discussed problems and exchanged experiences and information. The symposium programme consisted of 2 parts – a theoretical conference and a workshop. At the conference, various aspects of photography collections preserved in the museums were covered by the presentations from M. K. Čiurlionis National Museum of Art (by Vaida Sirvydaitė-Rakutienė), Photography Museum in Šiauliai (Vilija Ulinskytė-Balzienė), Finnish Museum of Photography (Laura Sallas), and Riga History and Navigation Museum (Lauma Lanceniece) also the issues of the research of old photography and individual processes were discussed (Gintas Kavoliūnas, Radosław Brzozowski). The experience in preserving old photographs at the Restoration Centre of Šiauliai ‘Aušra’ Museum and at Pranas Gudynas Restoration Centre of Lithuanian National Museum of Art (Vita Andrulienė, Žydrė Petrauskaitė, Vilma Šileikienė, Eglė Piščikaitė) were shared. The interpretation of old photography processes in the educational activities of the National Gallery of Art of the Lithuanian National Museum of Art was also presented (Daiva Banikonienė, Povilas Šnaras). Most of the conference papers are included in this publication.

The two-day theoretical-practical seminar on 19th and 20th century photographic materials and processes was conducted by a Professor at the University of Turin and the founder

of a private centre for the restoration and conservation of old photographs in Rome, Dr. Sandra Maria Petrillo (Italy). The participants of the seminar had a unique opportunity to benefit from the experience and work of one of the most famous Italian schools of photography preservation in the world in the field of identification and conservation of ancient photographic technologies. Dr. S. M. Petrillo presented a list of relevant bibliographies and useful references for the methodological publication.

In the creative workshop, the photographer of the Photography Museum in Šiauliai Edvardas Tamošiūnas (Lithuania) introduced one of the techniques of artistic photography – bromoil – used by photographers in the early 20th century. In the museum's laboratory the participants consistently recreated and tested the bromoil production process and had the opportunity to see the 20th century originals from the collections of the Photography Museum in Šiauliai.

Radosław Brzozowski (Poland), the founder, director and lecturer of Trójmiejska Szkoła Fotografii, a member of the Union of Polish Art Photographers, a photographer and master of old photographic processes, organised albumen workshops. Albumen prints have been one of the most common photographic methods from the middle of the 19th century until the beginning of the 20th century. They are abundant in the collections of Lithuanian museums, therefore, the experiences shared during the workshops were especially relevant for the participants of the symposium in all fields.

The symposium is expected to be a follow-up event, an active platform for inter-institutional and interdisciplinary collaboration between photography professionals.

Organizers:

Šiauliai 'Aušra' Museum

Photography Museum in Šiauliai

Sponsors:

Lithuanian Culture Council

Šiauliai city municipality

Partners:

Public Institution 'Open Photography Workshops'

Šiauliai Vocational Education and Training Centre

Vaida Sirvydaitė-Rakutienė

M. K. Čiurlionis National Museum of Art

## **Collection of photographs by Count Stanisław Kazimierz Kossakowski**

### **at the M. K. Čiurlionis National Museum of Art**

The unique legacy of photographs by Count Stanisław Kazimierz Kossakowski (born on July 3, 1837 in Vaitkuškis, Ukmergė district) preserved in the Photographic and Documentation Department of the M. K. Čiurlionis National Museum of Art (hereinafter the ČAM). In 1927, thanks to the State Archaeological Commission, 65 albums containing 6148 photographs, several hundred individual photographs and a graphic register-catalogue were moved to the temporary M. K. Čiurlionis Gallery (featuring the origins of the ČAM) because of the threat of destruction.

Over 50 years old, Count Stanisław Kazimierz Kossakowski became interested in photography, which has been around since the 7th decade of the 19th century and was becoming increasingly popular in the former areas of the Commonwealth of Two Nations. In about 1890-1894 the Count set up a photo laboratory in Vaitkuškis manor house, where he, in collaboration with Ukmergė photographer Juozapas Krajevskis, was taking photos until his very death in 1905. Both photographers belonged to the Warsaw Photographic Society. The Count participated in photography exhibitions in Panevėžys, Daugavpils, Vitebsk, Warsaw, Krakow, London and elsewhere, winning significant awards. J. Krajevskis was interested in photochemistry and phototechnics, wrote and published articles in the Polish press ([illustration 1](#), [illustration 2](#)).

Kossakowski's range of photography topics is very wide: individual and group portraits, nobility entertainment, celebrations and travels; architecture, interior, landscape, cityscape, ethnography, etc. Nevertheless, Kossakowski's photography is dominated by portraits. They were often taken against the backdrop of manor interiors and landscapes. Cheerful groups gathered for the joint photo in the salons of Vaitkuškis manor, in the courtyard, sometimes in the park called 'The Paradise', in the fields, and the Pivonija grove. Eglė Lukaševičiūtė, the compiler of 'Count Kossakowski's Album', wrote: *'In the manor or in the yard of the manor, images of large groups of people were taken against a painted fabric – a 'screen' depicting the landscape with Vaitkuškis buildings. The Count's son, Jan Eustachy, recalls that '[...] photos were taken with a giant old-fashioned camera with a squeeze-box and a pear-shaped leather presser. The photographer covered the camera and his head with a black cloth, and prepared the subject for the responsible moment. In the evening, he was making photos using a magnesia*

*explosion. Magnesia was filled into a vessel and ignited [...]*.<sup>1</sup> *Each guest captured in Vaitkuškis' photos received their own image or even a complete cycle of images performed during their stay as a gift.*<sup>2</sup> Most of the portraits are easier to identify, because the information about the persons is left in the album entries under the photos; it is also supplemented by the Details indicated in the register-catalogue of photographs. Portrait photographs introduce us to the Count himself, his family members – sisters Kotryna Lempicka and Aleksandra Broel Platerienė, wives Aleksandra Chodkevičiūtė, Michalina Zaleska (although, the first two wives look at us from the photos taken by Count Stanisław Kazimierz in the photo studio), Sophia Bower Saint Clair, son Juozapas, daughters Aleksandra, Sofija, Marija from their first marriage, daughter Gabrielė and son Mykolas from the second marriage, daughter Jadvyga and son Jan Eustachy from the third marriage, relatives, friends, Counts Radvila from Taujėnai manor, landowners Daugėla from Siesikai and many other personalities. Looking at the photos, it is easy to get the impression that the Kossakowski were very hospitable people. Only a few people whose names are listed in the catalogue of impressive size are mentioned here. The Count recorded data on the photographs in it. The catalogue consists of alphabetical indexes of place names and personal names. The Count was taking photos in all of his estates, which were situated in the provinces of Kaunas, Minsk, Grodno, Penza, Simbirsk, as well as in Poland. The manors in Greater Berastavica, Planta, Mlynove, Nesvizh and elsewhere were captured in ten or more photos, and Warsaw and the Kossakowski Palace on Nowy Świat Street were captured in dozens of images. Of course, the native Vaitkuškis and its surroundings (Pašilė, Vaitkūnai, Vepriai, etc.) enjoyed the most attention. Kossakowski left several images important for Ukmergė's iconography. The pages of the catalogue are divided into four sections: Cliché (photo) number, Album number, Date (day, month, year), Description (portraits, groups, location images). It is likely that this register-catalogue was specifically printed by order of the Count in Warsaw. It is filled in by hand in Polish. The entries in the catalogue suggest there were a total of 75 albums. Only 67 are currently known.<sup>3</sup> In addition to the already mentioned 65 albums in Kaunas, one is preserved in the Ukmergė Local Museum, the other in the Manuscripts Department of the Martynas Mažvydas National Library of Lithuania. 33 individual photos are stored in the Lithuanian National Museum, 8 in the Rare Prints Department of the Library of the

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<sup>1</sup> Count Kosakovskis's album. Compiler and text author Eglė Lukaševičiūtė, Kaunas, 2004. P. 13. Citation source: Pamiętniki J. E. Kossakowskiego. Notatki z lat dziecięcych 1903–1910. [Notes from childhood 1903–1910].

<sup>2</sup> Count Kosakovskis's album. Compiler and text author Eglė Lukaševičiūtė, Kaunas, 2004. P. 14. Quote sources: A. Orseti Letter of 9 May 1897 to J. Bagdonas, MAB RS, f. 110-21, l. 1; Letter of Popłowski of 1897, *ibid.*, l. 7; Letter of Aleksandra Platerienė in 1897, *ibid.*, l. 17; Letter from L. Touski, 11 November 1894, *ibid.*, F. 110-22, l. 15.

<sup>3</sup> *Ibid.*, P. 13

Lithuanian Academy of Sciences, and 31 photo documents, repeating the plots of the collection, – in the Ministry of the Environment are in the Kaunas Regional State Archive.<sup>4</sup>

The albums stored by ČAM are 20-24 x 29-35 cm in size, coated with brown cloth, leather backs with embossed numbers (1-7, 9-20, 22, 23, 26, 27, 29-31, 33-56, 58, 60-66) or letters (A, B, C, D, E, F, SK) and the words 'Wojtkuszki', while some of which are embossed with the years from 1894 to 1905. Individual photos have an imprint of 'Fotografia Amatorska 'Wojtkuszki' (Amateur photography 'Vaitkuškis'). The photos were glued on specially ordered cardboards, with the reverse of decorated with gilded ornaments, and the obverse marked with the crowned owner's monogram SK and the inscriptions: Wojtkuszki and Negatyw No (with the corresponding negative picture number next to it). From the records left in the albums and the catalogue, we learn that the Count used the clichés Imperial, Perorto, and Izotor, and the exposure time was usually 0.5 to 8-9 seconds. Occasionally, the format of the cliché, the method of photography (for example, taken with magnesia or telephoto lens), the peculiarities of exposure, weather conditions, and the quality of the result were also indicated.<sup>5</sup> Photo sizes are 13 x 18 cm and 18 x 24 cm. The smaller-format photos were taken with a travel camera (the youngest son of the Count, Jan Eustachy, mentions them in his memoirs), made by the German firm 'Emil Wünsche Aktiengesellschaft für Photographische Industrie'. The Count also used the lens of one of the best companies of the time, 'Goerz'. In about 1902 the Count purchased a small tripod-free travel device, the 'Goerz-Patent-Anschütz-Kamera', for 9 x 12 cm photos. He also used it on his last trip to Italy in 1904. One of the albums is dedicated to the images of Rome, Venice, Palermo, Florence. Using the method of positive photomontage, the Count 'visited' India, Cairo and Mexico with his family and relatives. For negatives, S. K. Kossakowski used factory-made 'dry' glass plates, pre-coated with gelatine with silver bromide emulsion.<sup>6</sup>

Historical sources mention that Vaitkuškis atelier had about 8,000 glass negatives, which, unfortunately, were lost during the First World War.<sup>7</sup>

The photographs of Count Stanisław Kazimierz Kossakowski, having reached the age of 100, provide lots of inspiration for articles by art critics, culturologists, historians, journalists and exhibition organisers. The museum's Count Kossakowski's photographic collection was researched and the first publication 'Count Kossakowski's Album' was prepared by historian and custodian of collections Eglė Lukaševičiūtė in 2004. The scientific and literary editor of this

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<sup>4</sup> Ibid, p. 13.

<sup>5</sup> Ibid, p. 13.

<sup>6</sup> "Vaitkuškis." Count Stanisław Kazimierz Kosakovskis (1837-1905) and 19th century amateur photography". Vilnius, Lithuanian Cultural Research Institute, Kaunas, M.K. Čiurlionis National Museum of Art, 2015, p. 15.

<sup>7</sup> Stanisław Kazimierz Kossakowski. Kocham fotografię For the Love of Photography I love photography. Warszawa, Dom Spotkań z Historią, 2019, p. 17.

publication Dr. Jolita Mulevičiūtė published her own monograph ‘Vaitkuškis’ in 2015. Count Stanisław Kazimierz Kossakowski (1837-1905) and 19th century amateur photography’.

Over the last five years, the interest of Poles, especially the descendants of the Kossakowski family, in this collection has grown significantly. Since 2015 the ČAM cooperates with the family of Paweł Szanajca-Kossakowski, the family of the grandson of Count S.K. Kossakowski, Kossakowski Foundation (Fundacja Kosakowskiego) and the House of Meetings with History (Dom Spotkań z Historią) in Warsaw, providing digital images to Vaitkuškis digital archive [www.wojtkuski.eu](http://www.wojtkuski.eu), organising joint exhibitions, and initiating publishing. On March 14, 2019, the album-catalogue ‘Stanisław Kazimierz Kossakowski’. I Love Photography’, was presented in Warsaw with over 150 photographs stored in the ČAM.

On 16 May 2019, the exhibition ‘Po Naktikovo ženklų: grafų Kosakovskių biblioteka’ organised together with Kaunas University of Technology was opened at the M. K. Čiurlionis National Museum of Art. It exhibited the books and photographs owned by Counts Kossakowski in the 18th-19th centuries with books from Vaitkuškis and other manors belonging to the Kossakowskis were immortalised in different ways.

As many as four generations of the Kossakowski family share the passion for photography. Although Jan Eustachy, the youngest son of Count Stanisław Kazimierz, became the pioneer of paediatric cardiac surgery in Poland, enjoyed photographing and experimenting with glass negatives and ink in his spare time. In one of the rooms in his house Jan Eustachy had set up a small photo lab to develop pictures. His son Eustachy Kossakowski (1925–2001) curiously watched the birth process of photography at his side. The influence of the father, and most likely the genes inherited from his grandfather, led to Eustachy becoming a famous photographer. Oliwia Szanajca Kossakowska, a granddaughter of Jan Eustachy, born and raised in Warsaw, chose to study photography and media at the Vilnius Academy of Arts.

Film director Andrzej Ciecierski from Gdańsk with the creative team of Polish TVP 3 set out to make a film about the prominent personality of Count Kossakowski. It is not surprising that at the end of July 2019 they visited the exhibition about the Kossakowski Library at the photo records and documentation department of the M. K. Čiurlionis National Museum of Art in the Count’s home place of Vaitkuškis. ([Illustration 3](#), [illustration 4](#))

Vilija Ulinskytė-Balziėnė

Photography Museum (Šiauliai 'Aušra' Museum)

### **Collection Discoveries: Benedykt Henryk Tyszkiewicz.**

#### **Photo Inscenisations of Epochs**

The name of Count Benedykt Henryk Tyszkiewicz (1852–1936) in the photography context was first heard more widely in Lithuania in the recent times in Šiauliai, at the Photography Museum, at the traditional conference held in 1995 'Photography. Heritage and Present', where the Head of the Applied Art Department of the M. K. Čiurlionis National Museum of Art (then the State M. K. Čiurlionis Art Museum), Dr. Aldona Snitkuvienė in the presentation 'Count Benedykt Tyszkiewicz – forgotten photographer of the end of the 19th century – beginning of the 20th century' introduced the biography of B. H. Tyszkiewicz and him as a photographer, whose creative works were almost unknown in Lithuania at that time, and demonstrated several of his works released in 19th century publications. The report referred to the collection of the Warsaw National Museum, known for hosting 2 large-format photos of B. Tyszkiewicz: 'Young man in uniform smoking a pipe' and 'Portrait of Cyprian Godebski' and the author's largest known collection of works acquired in of the Paris antiques in 1993, currently stored in the Nicephore Niepce House Photo Museum in France (86 works glued on 46 cardboards), named as a collection of ethnographic photos created by the author at his summer residence in Raudondvaris (Lithuania) and Viala (currently the territory of Belarus).<sup>1</sup>

It's a paradox but at that time the works of B. H. Tyszkiewicz were indeed better known in France than in Lithuania, because the Nicephore Niepce House Photo Museum presented the acquired collection in 1994 at the exhibition and published a small catalogue<sup>2</sup>. Only later did a detailed article of Dr. A. Snitkuvienė about Count B. H. Tyszkiewicz appeared in the Polish bulletin of the history of photography *Dagerotyp* and a detailed study of articles 'Counts Tyszkiewicz and their legacy', presenting some collections stored in foreign institutions, including the previously non-mentioned collection in the Warsaw Royal Castle Museum (32 sheets, 76 pictures).<sup>3</sup> Eventually, in 1999, the Contemporary Art Centre in Vilnius and 2000. M.

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<sup>1</sup> Snitkuvienė A. Count Benedykt Tyszkiewicz – forgotten photographer of the end of the 19th century – beginning of the 20th century, *Photography. Heritage and present*, Šiauliai, 1995, p.10-11; Snitkuvienė A. *Raudondvaris. Counts Tyszkiewicz and their legacy*, Vilnius, 1998, p. 166.

<sup>2</sup> *Le Comte Benoit de TYSKIEWICZ. Collection Musée Niépce*. Chalon-sur-Saone, musée Niépce, 1994, 12 p., 9 ill. Broché. Exposition à Chalon-sur-Saone, musée de Niépce, 5 février/15 mai 1994.).

<sup>3</sup> Snitkuvienė A. Benedykt Henryk Tyszkiewicz (1852–1935) z Czerwonego dworu – zapomniany fotograf, *Dagerotyp, biuletyn Stowarzyszenia Historii Fotografii*, Warszawa, Instytut Sztuki Polskiej Akademii Nauk, 1997,

Žilinskas Gallery in Kaunas presented an exhibition of B. H. Tyszkiewicz works from the Nicephore Niepce House Photo Museum, and issued an album.<sup>4</sup> The above publications and the study of Dr. A. Snitkuvienė seemingly facilitated the formation of a sufficiently detailed view of B. H. Tyszkiewicz work and its scarce legacy, which was preserved almost in its entirety in foreign cultural establishments. It is estimated that almost all of his 40-year work – more than 20,000 photographs and negatives – burned down after fires at his photography studios at the Viala manor and in Paris.<sup>5</sup>

But unexpectedly, at the end of 2018, several works by B. H. Tyszkiewicz appeared at the ‘Ars Via’ auction from an undisclosed foreign source. 1 sheet with the directing composition ‘Peasants’ with the peasants by the river in Viala, 1893 (the plot is close to the works in the Niepce Museum) was acquired by Šiauliai ‘Aušra’ Museum to the collection of its department – Photography Museum, ([illustration 1](#)) 3 other sheets with images of Viala, Raudondvaris residences and Šamoni (Chamonix) resort – by Kaunas District Museum, 1 sheet with 4 photographs ‘Wheat harvesting in Viala manor’ in July-August 1896 was acquired by a private individual in 2019.<sup>6</sup> In 2019, with the support of the Lithuanian Council for Culture, ‘Aušra’ Museum bought another 27 (40x50 cm) sheets with 93 glued photos of different formats, revealing more unexpected aspects of creative works of B. H. Tyszkiewicz.

Thus, what do we know most important in the history of photography about Count B. H. Tyszkiewicz, and what do the acquired values reveal? First of all, he is a passionate traveller and perhaps the first Lithuanian traveller – photographer. The latter statement is still under discussion today,<sup>7</sup> as sources and researchers differently describe the authorship of B. H. Tyszkiewicz set of travel photography in Algeria in 1875 displayed at the International Exhibition in Philadelphia in the United States in 1876, indicating B. H. Tyszkiewicz but sometimes his colleague<sup>8</sup> for early Oriental travels and photographer Bronisław Jaworski as the

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tom 6, s. 13–24; Snitkuvienė A. *Raudondvaris. Counts Tyszkiewicz and their legacy*, Vilnius, 1998, 219 p.; Mossakowska W. Zdjęcia Benedykta Henryka Tyszkiewicza na Zamku Krolewskim w Warszawie, *Kronika Zamkova*, t. 1(35), 1997, s. 131-136.

<sup>4</sup>Tyszkiewicz. Vilnius, 2002, 107 p.

<sup>5</sup> Žvirgždas St. Benedykt Tyszkiewicz – a rediscovered photographer, *Intertwined branches of one tree*, Vilnius, 1999, p. 31;

<sup>6</sup> *ARS VIA art and collectibles auction, catalogue*. Vilnius, 27 September 2018, p. 65-67; *ARS VIA art and collectibles auction, catalogue*. Vilnius, 13 December 2018, No. 7, p. 69; *ARS VIA art and collectibles auction, catalogue*. Vilnius, 23 May 2019 No. 9, p. 75; *Lithuanian integrated museum information system LIMIS*. Available online at: <https://www.limis.lt>, accessed on 10-08-2020.

<sup>7</sup> I would like to thank the historian of photography Dainius Junevičius for this doubt, which encourages further examination of this detail of Tyszkiewicz biography.

<sup>8</sup> Snitkuvienė A. Benedykt Henryk Tyszkiewicz (1852–1935) z Czerwonego dworu – zapomniany fotograf, *Dagerotyp, biuletyn Stowarzyszenia Historii Fotografii, Warszawa, Instytut Sztuki Polskiej Akademii Nauk*, 1997, tom 6, s. 14.

author.<sup>9</sup> In the official catalogue of the exhibition, the collection is presented under the name of B. H. Tyszkiewicz with the inscription 'taken by his artist', which literally might be understood as the authorship of B. Jaworski, but the question arises why the name of the latter as author was not mentioned at all in the official publication of the exhibition and the collection was presented to the exhibition by B. H. Tyszkiewicz, not B. Jaworski?<sup>10</sup> Could it be that, according to the feedback of contemporaries, an impressive collection of travel report images could have been the result of the creative collaboration of Tyszkiewicz and Jaworski? Although B. H. Tyszkiewicz was really close to photography by that time<sup>11</sup>, we do not know how much he had mastered the complex method<sup>12</sup> of wet collodion prevailing at that time, which probably was used to make the photos displayed in the exhibition; could it be that B. H. Tyszkiewicz at that time could not do without the skills and technical assistance of the experienced photographer B. Jaworski? Be that as it may, it was probably at that time that B. H. Tyszkiewicz, with the assistance of a friend and companion, then an already experienced photographer B. Jaworski, took his first steps in photography, which evolved into the great passion of his life.

B. H. Tyszkiewicz never parted with the camera, apparently in any of his life's journeys. He not only travelled to many countries as a traveller (he is said to have travelled almost the entire African continent, many times have been to China, Japan, America, where he met his future wife), but also had far from sedentary lifestyle, living in Paris, residences in Raudondvaris, Viala, Madeira, frequently visiting his relatives in Nice (France), Garbów (Poland)<sup>13</sup>. During the travels, the Count photographed the culture, inhabitants, customs or landscapes of the distant lands. The fate of photographs of the Count's first travels in the 8th decade of the 19th century is unknown, but some images of his later travels have survived, some whereof have also been included in the collections of the Photography Museum in Šiauliai. The purchased collection contains 52 photographs, reflecting the geography of B. H. Tyszkiewicz' travels at the end of the 19th century: (Vesuvius, April 1897 (1 sheet, 3 photographs), trip to Amsterdam August 1891 (1 sheet, 6 photographs); a visit to relatives in Garbówin 8-15 July 1892 (1 sheet, 5 photographs), stay in Nice in January – end of April 1892 (8 sheets, 38 photographs) ([illustration 2](#)). In the images from Nice we can see a lot of photos of B. H. Tyszkiewicz' loved ones – he experienced many losses in life, and constantly recorded precious moments with his closest people and friends in everyday life and trips, created their portraits (images with family life in Raudondvaris are acquired by Kaunas District Museum and the

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<sup>9</sup> *Aide-Mémoire de Photographie*, 1877 (reference by D. Junevičius); Listy z wystawy filadelfijskiej, Sygurda Wiśniowskiego, *Tygodnik Iliustrowany*, No. 44, 1876, c. 286.

<sup>10</sup> *Official Catalogue of the U.S. International Exhibition 1876*. Philadelphia, 1876, p. 145.

<sup>11</sup> Snitkuvienė A. *Raudondvaris. Counts Tyszkiewicz and their legacy*. Vilnius, 1998, p. 69.

<sup>12</sup> *A New History of Photography*. Edited by Michel Frizot. Paris, 1998, p. 233.

<sup>13</sup> Snitkuvienė A. *Raudondvaris. Counts Tyszkiewicz and their legacy*. Vilnius, 1998, p. 27-33, 69-71.

Niepce Museum collections also contain them)<sup>14</sup>. The collection of the Niepce Museum also has images of the already mentioned trips to Nice (1892) and Mount Vesuvius (1897). The album, housed in the Royal Castle Museum in Warsaw, Poland, is dominated by the images from 1892 of Nice, other parts of France, and several sheets from Garbów, Carnol, Poland, which the Count visited in 1892.<sup>15</sup>

Eventually, the hobby of photography turned into a way of life. B. H. Tyszkiewicz set up photo laboratories and a pavilion at his home in Paris and at the Viala manor, and had the most modern photographic equipment of that time. The collections of reportage photography were supplemented by creative searches and experiments – B. H. Tyszkiewicz became the forerunner of Lithuanian creative photography. He was an active participant of the photography community. In 1884 he belonged to the Société Française de Photographie, since 1898 was a member of the prestigious Photo-Club de Paris and its board, which often met at his Paris studio, and participated in the club's exhibitions in 1897, 1902 and 1905.<sup>16</sup> His works have been published alongside other renowned French photographers of the time, Constant Puyo, Robert Demachy and others.<sup>17</sup> B. H. Tyszkiewicz' works were also on display at the Universal Regional Exhibitions in Lviv in 1894, at the Berlin Photography Exhibitions in 1896 and 1899, at the Warsaw City Hall in 1901, Photography Exhibitions in Vilnius in 1902 and other exhibitions.<sup>18</sup>

What do we know about the legacy of Count's photography, what are the peculiarities of his creative photography? In addition to the travel reports discussed and the perpetuation of autobiographical, personal environments, portraits of friends and loved ones, B. H. Tyszkiewicz's tendency to seek artistic photography is obvious. Here he was undoubtedly most influenced by the Parisian environment and the ideas of the Parisian photo club, which brought together the French elite of progressive photography at the time, and their aspirations to establish photography as an artistic position through creative photography and pictorial aesthetics. Pictorialism is characterised by the desire to bring photography closer to art by reproducing the plots of paintings and its characteristic compositions in photographs, dominating B. H. Tyszkiewicz' creative search for photography of this period.<sup>19</sup> In the last decade of the 19th century, he became involved in the creation of distinctive directorial compositions in the style of 'living paintings'. Photo staging such as

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<sup>14</sup> *Le Comte Benoit de TYSKIEWICZ. Collection Musée Niépce*. Chalon-sur-Saone, musée Niépce, 1994; *Lithuanian integrated museum information system LIMIS*. Available online at: <https://www.limis.lt>, accessed on 24-08-2020.

<sup>15</sup> Snitkuvienė A. *Raudondvaris. Counts Tyszkiewicz and their legacy*. Vilnius, 1998, p. 178-187

<sup>16</sup> Poivert M. *La Pictorialisme en France*. Paris, 1992, p. 101; Žvirgždąs St. Benedykt Tyszkiewicz – rediscovered photographer. *Intertwined branches of one tree*. Vilnius, 1999, p. 30.

<sup>17</sup> *Esthétique de la Photographie*. Paris, 1900. Library of the Photography Museum (Šiauliai 'Aušra' Museum).

<sup>18</sup> Snitkuvienė A. *Raudondvaris. Counts Tyszkiewicz and their legacy*. Vilnius, 1998, p. 72-73.

<sup>19</sup> Bulhak J. Photography in France in the late 19th century. *Aesthetics of light*. Vilnius, 2008, p.163;

one of the trends of imaginative photography, in which the photographer realizes that artistic stage of his imaginary reality or myth, appeared in the works of the pioneers of pictorialism in the mid-19th century (Oscar Gustave Rejlander, Henry Peach Robinson, Humbert de Molard, and others<sup>20</sup> and resonate in contemporary photography (some of the most famous examples in Lithuania ‘Staged Paintings’ by Audrius Puipa and Gintautas Trimakas). B. H. Tyszkiewicz passionately ‘immersed’ in this world of photo imagination. His accumulated valuable and rich costume collections from various countries and epochs, works of art, furniture, and other collectible attributes allowing him to create settings of various plots – mythological, ethnographic or salon. Of these compositions, most famous are the mythological plots that have reached us from old publications (Berenice, Judith ([illustration 3](#)), Athene Pallas)<sup>21</sup> and the genre compositions from the life of Viala peasants and B. H. Tyszkiewicz' own gees and anthropological portraits in the Carpathian style, preserved in the originals in the collection of the Niepce Museum. <sup>22</sup>

The content of B. H. Tyszkiewicz' works preserved in the Orse Museum in Paris is still unknown (A. Snitkuvienė mentions them<sup>23</sup>). Photography in one scene ‘Study etude’ (from ‘L'art Photographique’ No. 3, 1899), as well as a portrait of the famous dancer Cléo de Mérode and two directed photo compositions are stored by the French National Library in Paris.<sup>24</sup> One of them, the ‘Game of Dice’ (from ‘L'art Photographique’ No. 7, 1899), has also been purchased by the Photography Museum in Šiauliai ([illustration 4](#)). Another work (library metrics ‘Woman and Officer in the Salon. The Living Painting of the Empire Period’)<sup>25</sup> is an example of a Count’s favourite subject of whose works we have known little so far, the staging of the Empire style, or the ‘Empire era’ as he called it, and from a similar period, the era of the 1830s.

The imperial style, the Empire, is a style of decorative art, architecture, interior decoration, clothing of the first decades of the 19th century, which spread in Europe and the USA during the reign of Napoleon I or the First Empire (1804–1814). It is a trend of late classicism art, characterised by monumentality, ornate decor, depicting symbols of power – laurel wreaths, eagles, war trophies etc. It is very prominent in the outfit – the aim was to form a silhouette with a high waist, the front of the dress was narrow, the ornamentation was used, short sleeves revealing the hands. The ideal of the Empire style was followed (clothes aimed to visually extend the body, highlight the bust). The fashion of the 1830s is a denial of the Empire

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<sup>20</sup> Rozenblum N. *A World History of Photography*. New York, 1997, p. 209-229.

<sup>21</sup> Excerpts from magazines, Photography Museum archive (Šiauliai ‘Aušra’ Museum).

<sup>22</sup> *Le Comte Benoit de TYSKIEWICZ. Collection Musée Niépce*. Chalon-sur-Saone, Musée Niépce, 1994;

<sup>23</sup> Snitkuvienė A. *Raudondvaris. Counts Tyszkiewicz and their legacy*. Vilnius, 1998, p. 166.

<sup>24</sup> Letter of Flora Triebel, curator of the 19th century photography of the National Library of France in Paris to the Photography Museum in Šiauliai, 6 September 2019.

<sup>25</sup> Fashion history timeline. Available online at: <https://fashionhistory.fitnyc.edu/1800-1809/>; <https://fashionhistory.fitnyc.edu/1810-1819/>, accessed on 27-08-2020.

style in clothing. In the 1940s and 1930s, ruffled collars or large puffy sleeves typical of the 18th century Romantic era became popular, wide necklines accentuating the shoulders, narrow skirts were replaced by looser long and wide skirts forming a narrow and low waist, lace, high-knotted hair curls and braids returned. The men's clothing was designed to create a silhouette with wide shoulders, considered ideal at the time, and to form a narrow, tight waist. Tailcoats, coats, cylinders were trendy.<sup>26</sup>

By far the best known work of B. H. Tyszkiewicz in the style of the imperial epoch is 'Visit' from the publication 'Die Kunst in der Photographie', 1898. In the photo, a young man is talking during a visit to two young ladies (it seems that Benedyct Jonas, the son of B. H. Tyszkiewicz, posing) is in an Empire-style salon. You wouldn't tell at first glance, but after taking a closer look, it becomes clear that the photography environment is a prop that carefully imitates the chosen pre-photographic era, accentuated by a reproduction of a 19th-century French painter Ernest Meissonier drawing of 'Napoleon I on a horse'.<sup>27</sup> Only the character costumes and the items of the interior are authentic. The very composition of photography and the static, mannered poses of the characters are like a quote from a work of art of that time.<sup>28</sup>

The collection acquired by the Photography Museum allows to get to know B. H. Tyszkiewicz' directorial photo experiments better. There are 39 photographs themed by the period of 1830s of the Empire, glued on 15 sheets. All compositions are believed to have been made in the author's Paris photo pavilion. 4 sheets with the same number of glued photographs are dedicated for the Empire epoch. They are not dated by the author, but are presumably created in around 1897–1899. The photos show a girl in the same interior, 'Madam Alice Couly', wearing the Imperial-style costumes (probably the original costumes from the B. H. Tyszkiewicz collection) ([illustration 5](#)). Each sheet contains, presumably, the Count's own handwritten name and the subject – 'Epoch of the First Empire'. A painting on the wall in the interior (reproduction) by Jean Georges Vibert (1840-1902), the French painter 'Planning the Coronation of Napoleon in December 1804'<sup>29</sup> is a clear reference to the depicted era, which corresponds to the decorations, furniture and clothing imitating the interior, apparel and hairstyle – everything down to the details in the Empire style. In other photographs, with little changed or in the same

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<sup>26</sup> *Fashion history timeline*. Available online at: <https://fashionhistory.fitnyc.edu/1830-1839/>, accessed on 27-08-2020.

<sup>27</sup> *Jean-Louis-Ernest Meissonier*. Available online at: [https://lt.wikipedia.org/wiki/Jean-Louis-Ernest\\_Meissonier#/media/Vaizdas:Jean-Louis-Ernest\\_Meissonier\\_-\\_1814\\_-\\_Google\\_Art\\_Project.jpg](https://lt.wikipedia.org/wiki/Jean-Louis-Ernest_Meissonier#/media/Vaizdas:Jean-Louis-Ernest_Meissonier_-_1814_-_Google_Art_Project.jpg), accessed on 27-08-2020.

<sup>28</sup> For comparison, the artist Emil Brack's composition 'Unwanted Disorder' ('Unerwünschte Störung'), exhibited at the Great Berlin Art Exhibition in 1899. Baden-Württemberg and GBV digital library. Available online at: <https://www.digishelf.de/objekt/71859374X-1899/235/>, accessed on 27-08-2020.

<sup>29</sup> *Jehan-Georges Vibert. Planning Napoleon's coronation*. Available online at: <http://www.sothebys.com/en/auctions/ecatalogue/2009/19th-century-european-art-including-orientalist-paintings-drawings-sculpture-n08542/lot.3.html>, accessed on 27-08-2020.

interior, the characters' clothes are already different from the previous ones – the fashion of the 1830s and another group of works, most of them are named by the author: '1830s Epoch', 'Youth 1830', 'Young Women of the 1830s' etc. ([illustration 6](#)). Some of the works in this group have a creation date of 1899, and one sheet is marked with the date 1897. It is likely that all works on this topic were created in a similar time interval. The plots of the works depict the interaction of young people, leisure activities and entertainment, *mise-en-scenes* of sweet flirting. The scenery changes in the photos, and we have the opportunity to see the examples of the Count's collection of musical instruments – the harp, the lyre – the often-found attributes of the 'le belle epochue' and art photography of that time. It is noteworthy that the decoration also changes slightly but meaningfully – Napoleon's paintings on the wall are replaced by salon works that reiterate the script happening in front of us (Luigi Rossi's 'Dancing in the Palace' ('Danse au Chateau')<sup>30</sup> and others, proving once again that there is nothing accidental in the photographs, each purposefully selected detail helps to create the reality imagined by the photographer and serves as a code for the viewer to understand it ([illustration 7](#)). All the decorations on the walls, windows or floors are painted, you can see the joints, which in some places were attempted to be retouched quite unsuccessfully or not carefully enough. In some of the photos the action moves to the park, also butaphoric, where the natural environment is replaced by painted natural scenery. Several episodes were taken in a neutral environment, emphasising the costumes, details, moods. The photographic image of the compositions itself is realistic, refined, specifically studio-like. B. H. Tyszkiewicz was fond of the documentary nature of the photographic image, nor did he seek to 'match' them, as was usual in pictorialist photography of that time.

All sheets in the collection are of the same format, the sizes of the photos pasted on them are different. Albumen emulsion paper was used for the prints, the technical quality of their performance was efficiently high, however, we do not know whether the photographs were printed by the Count himself or whether he entrusted this work to a laboratory technician. Remains of fabric and gluing marks can be found on the edges of the sheets, which suggests that they have been glued to albums, which is why theme collections of B. H. Tyszkiewicz' works are often called albums in the bibliography.

All photos are probably described by the current itself, usually marking e.g. what and when is depicted, or followed by brief comments from the author. The sheets are numbered in a

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<sup>30</sup> *Danse au Chateau*. Postcard, reproduction of a work by Luigi Rossi, end of the 19th c. Photography Museum archive (Šiauliai "Aušros Museum). B. H. Tyszkiewicz was obviously impressed by the stylistics of L. Rossi's works depicting the palace life. There was a postcard in his collection with a reproduction and autograph of this author's work (stored in the Museum of Photography), a similar plot was repeated in one of B. H. Tyszkiewicz' photographs.

clear system, suggesting that the author was irresponsible about the archiving and systematising of his works and perhaps by understanding the principles of this system, it will be possible to learn more about the author's archive, which is still in the process of being explored, therefore, in the future we are still waiting for a number of discoveries associated with the name of the Count.

### Portraits of the North - daguerreotypes in Finnish collections

Daguerreotype was the first commercially successful photographic process, which was published in 1839 by Louis Jacques Mandé Daguerre. Daguerreotypes are unique images; the image is created on silver surfaced copper plate through direct exposure in the camera.<sup>1</sup> A few hundred, approximately 400-500 daguerreotypes have preserved in Finnish collections. Most of the collections are in possession of museums and archives, but there are also daguerreotypes in private collections. Part of collections are of foreign origin; they can be linked to Central European and Russian daguerreotype studios. Some of the studios are well-known, like Sergei Levitsky's studio in St. Petersburg and Paris.<sup>2</sup> Anglo-American daguerreotypes are also relatively well presented in the collections. ([Illustration 1](#))

The first daguerreotype in Finland was taken by Henrik Cajander, a doctor and amateur photographer, in 1842. It shows the Nobel house in Turku. Two other daguerreotypes by Cajander have survived, self-portrait and a view of Vartiovuorenmäki in Turku. Cajander had learned to photograph in Paris, where he had visited.<sup>3</sup> ([Illustration 2](#))

Finnish daguerreotypes are mainly portraits which is typical for the technique and the era. Only the privileged part of the population had the opportunity to have themselves photographed, the pictures usually feature members of the wealthiest families, noblemen, military officers, priests and sea captains. About half of the daguerreotypes have identification information. Also, information on the photographers is often lacking. In some cases, professional studios added a label behind the picture or even signed on plate, case or passepartout making it possible to trace its origin. ([Illustration 3](#))

Approximately 50-60 daguerreotypes in Finnish collections can be connected to itinerant daguerreotypists. There were around ten daguerreotypists who visited Finland in 1843-1857. They produced modest, but often characteristic portraits of Finns. Unfortunately, limited amount of information has survived of their work. Daguerreotypists usually arrived at the

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<sup>1</sup> *Daguerreotypes. Europe's Earliest Photographic Records*. Available online at: [www.daguerreobase.org](http://www.daguerreobase.org) accessed on 2019-10-30.

<sup>2</sup> Avetyan, Natalia, Miruliubova, Galina & Petrova, Tatiana. *Daguerreotype Catalogue of the Collection*. St. Petersburg: The State Hermitage Publishers, 2012, p 18-19.

<sup>3</sup> Savolainen, Irma. *Taiteilijoita, käsityöläisiä ja taivaanrannanmaalareita, turkulaiset valokuvaajat vuoteen 1918*. Turku: Turun maakuntamuseo, 1992, p. 11.

country from Stockholm, Tallinn or St. Petersburg. They travelled through the coastal region and visited the largest towns.

It has been possible to trace the movements of individual daguerreotypists in Finland because of the press materials from the mid-19th century. Before arrival to town advertisements of daguerreotypists providing their services were published in local newspapers. The advertisements gave the basic information of who will photograph, where, when and at what price. According to advertising the year 1848 stands out as a particularly active period for daguerreotypists. Also, closer look at the dates when the advertisements were published shows that the work of the daguerreotypists concentrated in the spring, summer and fall seasons. The Finnish winter conditions may have been too demanding for photographing daguerreotypes. The advertisements also show that the daguerreotypists were most active in Helsinki and Turku, the largest towns.

Itinerant daguerreotypists came to Finland from several European countries. The first daguerreotypists to come to Finland, in 1842, were Bavarian Benno Lipschütz and Baptist Tensi of Sardinia. They came to Helsinki from Tallinn and visited at least Turku and Viipuri.<sup>4</sup> Later daguerreotypists August Hviid and Carl Neupert from Denmark, Pehr Lindberg and Isak Rossander from Sweden, Friedrich August Reinhold from Germany and Johann Siegl from Austria visited Finland. ([Illustration 4](#))

Fredrik Rehnström was a daguerreotypist who was originally from Finland, but he studied making daguerreotypes in St. Petersburg and permanently lived there. He regularly toured photographing in Finland's largest towns in 1844-1851. Fredrik Rehnström's daguerreotypes have a recognizable style, appearance of his portrait is plain and modest, framing is simple. Subjects are seated in calm and dignified manner and his portraits are skillfully colored.<sup>5</sup>

Auguste Desarnod of French-Russian background was the only of the itinerant daguerreotypists who permanently stayed in Finland. His studio was in Porvoo, Southern Finland. His daguerreotypes were mostly taken outdoors, elements of the townscape or the branches of trees can be seen in the background. The persons in the photographs are townspeople of Porvoo, Desarnod's acquaintances and members of the upper classes of the town.<sup>6</sup> ([Illustration 5](#))

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<sup>4</sup> Hirn, Sven. *Kameran edestä ja takaa, valokuvaus ja valokuvaajat Suomessa 1939-1870*. Helsinki: Suomen valokuvataiteen museon säätiö, 1972, p. 16.

<sup>5</sup> Hirn, Sven. *Kameran edestä ja takaa, valokuvaus ja valokuvaajat Suomessa 1939-1870*. Helsinki: Suomen valokuvataiteen museon säätiö, 1972, p.6,18.

<sup>6</sup> Herranen, Merja. *Sadan vuoden kuvat, Valokuvausta Porvoossa 1844-1940*. Borgå: Porvoon museoyhdistyksen julkaisuja nro 5, 1992, p. 20.

Images and information of Finnish and other European daguerreotypes are available in Daguerreobase, which is an online application and a growing database designed to contain detailed information about daguerreotypes.<sup>7</sup> Daguerreobase is a useful tool in research. It has been used for example in identification, genealogy and in conservation research.

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<sup>7</sup> Daguerreobase. Available online at [www.daguerreobase.org](http://www.daguerreobase.org) accessed on 2019-10-30.

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**Collection of historical photography of The Photography Museum in Šiauliai.  
A glance through a microscope**

Since the discovery of photography, the photographic process has changed beyond recognition, from the image on a metal, mirror plate to everyday photography on mobile phones. The first decades of photography were full of advancements in the photographic process and new inventions. To date, researchers know more than one and a half hundred different ways of obtaining photographic images<sup>1</sup>. Why are the old photographic processes relevant today? One aspect is that by correctly identifying the printing process of an old photo, the most suitable archiving conditions, as well as conservation or restoration can be selected, if necessary. The second aspect is that each old way of obtaining a photographic image has its own resolution and materials. This is what today's artists use to create their works.

**Terminology problem.**

With the advent of digital photography, it became necessary to use a different term for the earlier, non-digital photography. Several terms are currently used to describe non-digital photography. Their use depends on the context in which the particular word is used, but the use of the terms also depends on the region. No uniform classification exists not only in Lithuania, but also abroad. Terms are used depending on the context.

The first term used to distinguish non-digital photography was borrowed from the vocabulary of electronics and programmers. They divide an electrical signal transmitted into a logical (digital) signal by the type of signal, which uses a binary number system, and an analogue signal which is '*<... > understood as continuously varying electrical or physical value*'<sup>2</sup>. Based on this term, the entire 'non-digital' photography was referred to as 'analogue photography'.

The term 'analogue photography' is also used by Frans Peter Verheyen, although adding that this is an inaccurate term that describes the essence of non-digital photography and that

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1 Stulik D. Kaplan A. Alternative Process Photography and Science meet at the Getty Conservation Institute, 2010. Access on internet: [https://www.getty.edu/conservation/our\\_projects/science/photocon/alt\\_processes.pdf](https://www.getty.edu/conservation/our_projects/science/photocon/alt_processes.pdf), accessed on 01-25-2020.

2 Kanapeckas P., Kazanavičius E., Mikuckas A. Computer elements. – Kaunas: Technologija, 2008, p. 11

analogue photography should be called 'photography that uses chemical processes'<sup>3</sup>. However, his proposed interpretation of the term would bring even more confusion, as some digital imaging techniques also use 'chemical processes', such as: classically coloured photographic prints, displayed on photographic paper by designing a digital image signal with LED or laser beam light.

In an attempt to classify 'non-digital' photography, we can further distinguish the oldest photograph, when everything, even cameras, were made by the photographers themselves. Photographer and lecturer Alan Greene uses the term 'primitive photography' to describe these processes. This is also the name of his book 'Primitive Photography. Guide to the production of cameras, lenses and calotypes'. Primitive photography is photography, when, at the onset of photography, the photographer was making the equipment used and the necessary photographic materials himself. A. Greene uses these processes to introduce students to the origins of photography, when even photographic negatives were made by hand. Teaching the photographic alphabet is like solfeggio in music. The very word 'primitive' is identified by A. Greene not with naivety or simplicity, but with the origin of the subject<sup>4</sup>.

The old photographic processes involve perhaps the most different ways of obtaining photo images and cover a rather long period of time, culminating with the end of the pictorialism movement, when virtually the entire photographic market was occupied by factory made silver-gelatine photographic materials. In the context of the present day, the old photographic processes in the literature of English-speaking authors are still referred to as alternative photography. Alternative photography is described as non-traditional (silver gelatine process) artisanal handmade prints or processes for making such prints. The term dates back to the 1960s, the rise of dissatisfaction with Kodak's monopoly about photography materials<sup>5</sup>. Occasionally, some of the old processes are also called non-silver (those with the use of photosensitive salts of metals other than silver), and the oldest and less often used processes are also called historical or, according to Stanislovas Žvirgždas, the early photographic techniques<sup>6</sup>.

As there is no uniform terminology of today's photography in Lithuania, this sometimes leads to ambiguities, and the field of terms defining the old photographic processes is especially narrow. There are terms that are not used or used very rarely available in Lithuanian and are not Lithuanianised, for example: 'POP printing out paper' – photopaper self developing after

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3 Verheyen F.P. Unlimited grain portraits. – Rotterdam: THIAPS – publications, 2011, p. 3.

4 Greene A. Primitive photography: a guide to making cameras, lenses and calotypes. – Boston: Focal Press, 2002, p. xiv.

5 Rexer L. Photography's antiquarian avant-garde : the new wave in old processes. – New York : Harry N. Abrams, 2002, p. 10.

6 Žvirgždas S. Early photography techniques // Daguerreotypes, Ferotypes, Ambrotypes in Lithuanian Museums. – Vilnius: Lithuanian National Museum, 2000, p. 16-20.

exposure, and ‘DOP developing out paper’ is paper that is developed after exposure. The same situation as with photo process descriptions. Some processes are not described at all, others have many terms and names to describe the same process. Perhaps most variations can be found for naming the classic silver-gelatine process.

There are also processes with name differing by only a few letters, and the method of production and results obtained are completely different. For instance, calotype, also known as talbotype, kallitype, collotype or heliotype. These three processes are sometimes confused with each other, especially in translations, but they differ radically in terms of the process: the first, the calotype, is a process of photographing silver salts, developed by the gallic acid to obtain a negative of the photographed image<sup>7</sup>. The second is the process of silver nitrate and iron oxalate for positive contact printing<sup>8</sup>. The third is a photomechanical process using gelatine curing under UV light with sensitization with dichromates and using gelatine reticulation effect, most used for high-volume photo printing<sup>9</sup>. ([Illustration 1](#)<sup>10</sup>, [illustration 2](#), [illustration 3](#))

After discussing the problems of terminology, we see that Lithuanian terminology for naming old photographic processes or describing processes of definitions has not been refined. However, the terms accepted in other languages can be used by Lithuanising them.

### **Imprint identification and analysis results.**

There is another field with shortage of information when describing photos stored in museums and archives. The descriptions indicate only the most common and most easily recognisable printing methods such as daguerreotype, ferotype, ambrotype, albumen, silver-gelatine processes. However, it is very unlikely that the abundance of photographic processes was not used in Lithuania and we do not have a single example in the archives apart from a few processes, named most often. It is more likely that a significant proportion of prints are not identified and classified by the printing method. The primary task of this research was to investigate a part of the old photo collection of Šiauliai Photography Museum and attempt to identify the printing methods of the researched photos.

To identify the printing method, the photo has to be analysed in several aspects:

it first determines what basis is used to obtain the photographic image. The most common substrate is paper, but there are also prints on glass, silver, silver-plated copper, painted iron, or zinc. Sometimes we also find photoceramic prints and prints on fabric or even on leather.

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7 Sutton T., Dawson G. A dictionary of photography. - london: Sampson Low, Son, & Marston, 1867, p. 36–39.

8 Brown G. Ferric & heliographic processes a handbook for photographers, draughtsmen, and sun printers. – New York: Tennant & Ward, London : Dawbarn & Ward Ltd 1900, p. 28–36.

9 Wall E. J. A dictionary of photography - for the professional and amateur photographer. – New York: The Scovill & Adams Company, 1889, p. 31.

10 Talbot H.F. calotype negative. Internet access: <https://www.bl.uk/collection-items/invention-of-photography> accessed on 01-20-2020.

In some cases, the substrate can refer quite accurately to the process, as the daguerreotype is always on a polished silver or silver copper plate. Paper base has most options.

The second simple method of research is dating. If the photography has a clear date, i.e. it is indicated in the printout or a specific historical event is recorded, it is possible to attempt to reject the chronological methods that appeared later. However, this method only facilitates the identification of extremely old photographs, because, the closer to the 20th century the photo is made, the fewer printing methods can be ruled out when comparing according to the date.

Another aspect is visual check. Sometimes photographers indicated the printing method on a photo or on a passport as a distinctive mark of quality ([illustration 4](#)<sup>11</sup>).

In order to better understand the old photographic processes printed on paper, it is necessary to take a deeper look into their production process and the structure of the resulting image. For this monitoring, microscopy and a method of comparative analysis must first be used, comparing the observed image with the samples of known prints.

By observing through a microscope, it is possible to determine the structural peculiarities of the print surface, and to determine the paper structure. All prints can be divided into single-layer, double-layer and three-layer, however, it should be noted that sometimes, additional protective, varnish layers of gelatine, shellac, beeswax or gum arabic were used to protect the photo surface. This may result in additional layers may appear and the surface of the print may have a different composition than the print itself. For example, the albumen print is varnished with colloidal varnish. Monolayers include all processes that are printed with chemical agents by direct sensitization of the paper substrate. For instance, cyanotype, calotype ([illustration 5](#)). Albumen or carbon print is the two-layer type. It is a paper in which a light-sensitive layer is poured or printed directly on the paper and the image is formed by a binding layer above the paper base ([illustration 6](#)). Three-layer prints include all papers with a barite (barium sulphate) bleaching-levelling layer ([illustration 7](#)).

Microscopy on monolayer papers would mostly reveal the paper structure and fibers. In a two-layer print, the structure of the paper is less visible, it is somewhat covered by the flooded binder layer. The bonding layer is often cracked due to changes in temperature and humidity regime. Three-ply papers stand out for their flatness and complete coverage of the paper structure, however, it is sometimes possible to err if the aim of the manufacturing process was to obtain matte surface, in which case the bleaching levelling layer was very thin or starch was added to the surface layer. When analysing matte photos, it is necessary to look into what causes

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11 Stulik D. Kaplan A. The Atlas of Analytical Signatures of Photographic Processes. Carbon. – Los Angeles . The Getty Conservation Institute. 2013, p. 15.

the matte or paper structure or additional additives in the top layer that forms the image ([illustration 8](#)).

Microscopy can also help detect surface damage structures, such as colloidal paper with bright fine scratches reminiscent skate marks on ice ([illustration 9](#)).

In not all cases is it easy to accurately assess the printing method by microscopy; further and more accurate examination requires the use of XRF and FTIR analysis, as well as other examination methods.

In 2019, I started to apply the accumulated theoretical knowledge in practice. After adapting the biological microscope for photography, I performed the first identification tests at the Šiauliai Museum of Photography. After photographing the selected examples of *carte de visite* and *cabinet portrait* at the end of the 19th century, I visually divided them into 4 groups.

The first group corresponds to the category of a two-layer print, the structure of the paper is sufficiently visible, binding material in some prints is slightly wrinkled, forming characteristic surface cracks. Compared to the known prints, these photos are most corresponding to the albumen printing process. The composition of the binder should be determined to confirm the presumption ([illustration 10](#), [illustration 11](#)).

The second group corresponds to the category of a three-layer print, the structure of paper is not visible; an even, white layer is visible wherever the image is light. By comparing the characteristic scratches with known examples, the prints can be assigned to collodion-on-paper print ([illustration 12](#)).

The third group is also of the three-layer type, but the image structure and characteristic surface lesions are already quite different from the second selected group. These photos are visually closest to the gelatine prints. However, without further analysis, it is difficult to determine which of the gelatine process options was used. Depending on the timeline, this could be POP printing out paper print or DOP developing out paper print. Without further research, this cannot be told unequivocally ([illustration 13](#)).

The fourth group consists of images with the structure and surface not unambiguously corresponding to any surface of the known imprint, e.g. the surface structure looks like albumen, but the scratches are closer to collodion-on-paper print; one might speculate it is a matte collodion print without baryta or with a thin baryta layer, or an albumen print coated with collodion varnish. There are prints similar to sober gelatine, but with atypical dots more characteristic of pigment prints. The exhibits in this group need to be further investigated using the FTIR and XRF analysis methods ([illustration 14](#)).

As performing XRF and FTIR analysis in Lithuania is quite difficult, this far these exhibits have not been analysed by the indicated methods, but I have performed the first multi-

exhibit FTIR analysis from the personal collection, and during this study have microscoped one of the exhibits and found that it is a collodion print according to the characteristic lesions. The diagram obtained by FTIR analysis is close to the nitrocellulose diagrams provided in the databases, which allows to assume that the surface of this imprint is also nitrocellulose. Nitrocellulose is a binder for both wet and dry collodion processes ([illustration 15](#), [illustration 16](#), [illustration 17](#)<sup>12</sup>).

After examining only 59 exhibits in the archives of the Šiauliai Museum of Photography, it can be stated that there are indeed more prints of various processes stored here than have been named and described so far. Collodion-on-paper print were preliminary identified, but FTIR analysis is required for the study validation. Also, many questions are asked, and hopes for identifying other processes are raised by the distinguished group of 4 exhibits, which contains a number of prints with unique character, but the final result will be demonstrated by further research together with The Photography Museum in Šiauliai.

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12 A typical example of nitrocellulose FTIR analysis chart, Internet access: [http://cameo.mfa.org/wiki/File:Cellulose\\_nitrate\\_FTIR.PNG](http://cameo.mfa.org/wiki/File:Cellulose_nitrate_FTIR.PNG), accessed on 01-20-2020

### **Saltprint – the ‘sepia toned’ prints from 19th century**

First of all, it must be explained that the title of this article comes from a typical misunderstanding caused by the colour of historical prints, particularly saltprints, which are often referred to as sepia or sepia toned, a name that points to their brownish colour and perceived similarity to the much later technique of toning silver gelatin prints with sulphur. In reality, even the colour of the pictures is markedly different than sepia, not to mention the fact that the chemical make up of the print is markedly different.

Contrary to toned images, the colour does not result from the use of sulphur compounds but from the size of silver particles creating the image, a fact that has a profound impact both on the permanence of the resulting prints and on the way they should be treated.

The saltprint process as such was invented by William Henry Fox Talbot, though in fact the first prints utilizing the sensitivity of silver chloride to light were created much earlier. It was, however, Talbot who first not only found ways to fix or at least stabilize the print but, above all, realized the potential this form of recording reality had and popularized it around the world. It is worth remembering at this point, that nearly all the techniques of making photographic prints utilizing the sensitivity of silver compounds to light that preceded the use of emulsions are in fact variants of the saltprint.

The first prints Talbot made were actually not fixed in the modern sense of the word but ‘stabilised’ by saturating the paper with a solution of iodide. This lowered the sensitivity of paper to light and allowed for a relatively safe viewing of the images by candle light. It must, however, be remembered that if such an image is found in a museum collection it must under no circumstances be exposed to light for prolonged periods even if its spectrum is limited to the theoretically safe yellows and reds. This results from the so called Becquerel effect that takes place in a saltprint once it has been exposed to UV light and renders it virtually panchromatic, sensitive to all wavelengths including red. This was confirmed among others, by the research carried out by Mike Ware, PhD<sup>1</sup>.

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<sup>1</sup> Ware M. *Photogenic Drawings*, available online at: [https://www.mikeware.co.uk/pages/main/conservation/Photogenic\\_Drawings.html](https://www.mikeware.co.uk/pages/main/conservation/Photogenic_Drawings.html), accessed on 04-09-2019.

The next step in the development of the process was the introduction of the process of fixing, first in ammonia, and later in sodium thiosulphate introduced by John Herschel. The latter method is used till the present day.

Since the very early days of the process, a number of shortcomings was realized. The dissatisfaction of the early photographers was caused by the following features:

1. Low contrast, and above all, the lack of ability to render clear highlights,
2. Colour that was considered unattractive by the contemporary photographers,
3. Relatively low permanence of the prints.

In the years following the discovery of the process, attempts were made to eliminate the above issues which in effect led to the creation of the majority of important print making processes, at least those utilizing silver salts.

Let us scrutinize the above issues and ways in which they were addressed.

1. Low contrast and muddy highlights.

A variety of ways to increase the contrast were proposed including the addition of potassium bichromate to the sensitizing solution and/or to the first wash as well as lowering the concentration of salt solution used to pre-coat paper. Another solution was to split the exposure between shade and direct sunlight which proved to be a reasonably effective approach. Since the use of developers was also quite common, it may be presumed that in some cases this may have been caused by the fact that their use tends to increase the contrast rather than by the simple wish to shorten the exposure time. Still, none of these methods made it possible to achieve contrast that was later made possible by other, more modern processes, notably the silver gelatin print. This may not have been a serious issue in the days of wet plate collodion negatives with inherent extreme contrast, but must have become a serious issue with the advent of faster and less contrasty silver gelatin materials.

The issue of muddy highlights which resulted from the silver particles 'sinking' between paper fibres was addressed by adding a variety of glues or 'sizings' to the salt solution which made it possible to keep the silver particles on the surface of the paper. Among these starch, gelatin, bone glue, albumen, dextrin and agar were used. It was these attempts that led to the creation of the most important techniques (or variations) such as the albumen print and arrowroot paper, which produced a marked increase in the image quality. Speaking of the techniques deriving from the salt print it should be remembered that they are mere variants, differing only by the addition of glue or 'sizing'. This results in the fact that all recipes used to process salt prints will also work with the derived processes and vice versa.

2. Unattractive colour

The clear brownish or orange brownish colour of untuned salt prints was considered particularly unattractive by the contemporaries. Thus attempts to improve it started almost immediately after the invention of the process. One of the first solutions described in literature was to use a spent fixer to fix the prints<sup>2</sup>. This did indeed improve the colour by making it cooler, more chocolate like. Unfortunately, the rather attractive shift in colour resulted from sulphur contamination which drastically reduced the print permanence and was one of the key sources of the suggestions that the process was not a permanent one. This method was rejected quite soon and frequently reviled in the 19th century texts. Unfortunately, it appears to be regaining popularity among present day practitioners.

The next solution was to use toners, primarily those utilizing gold chloride though platinum and palladium compounds were also used. This is an excellent solution as it not only allows for a marked improvement in the image colour and shifting it almost freely to hues ranging from warm to cool, nearly neutral black and white but above all it markedly improves the image permanence. At this point it should be remembered that the salt print is created of silver particles many times smaller than in silver gelatin prints and consequently they are much more susceptible to all sorts of pollutants, primarily sulphur. Toning at least partly replaces silver with a nobler metal (or coats the particles with it) and protects the image from corruption.

### 3. Limited permanence

As mentioned above, in the early days of photography issues with print permanence resulted from the lack of fixing (images were stabilized) or from incorrect processing (using worn out fixer and/or inadequate washing). Simply eliminating these obvious technological errors allowed for a marked increase in print permanence. The next step used for this purpose was toning, explained above. Other procedures which would influence print permanence were varnishing or waxing which sealed the silver particles from environmental pollution. Still, it must be remembered that due to the small size of silver particles, even toned images are susceptible to damage by contamination. Hence very careful archival processing is mandatory as is proper storage.

The main types of salt print and derived processes

1. Classic salt print – this is the most primary form of the technique where the paper is first coated with a chloride solution (ammonium, sodium or potassium chloride in most cases). Once dry, this is sensitized with a silver nitrate solution, usually with the addition of citric acid or one of its salts, practically indispensable for proper results. Sometimes a small amount of gelatin

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<sup>2</sup> Lea, Matthew, *Manual of Photography*, 1968, p. 300.

is added to the salt solution. Once the silver nitrate dries, the image is exposed and then washed, toned and fixed.

2. Arrowroot paper – the basic difference between this process and the traditional salt print is the addition of starch, most commonly arrowroot starch. All the steps used to process prints are identical as is the case with traditional salt prints. The final appearance of the processed and dried print will be similar to the traditional salt print with a marked improvement in the image quality, better contrast and clearer highlights.

3. The albumen print – in this case salt is dissolved in pre-conditioned albumen, the egg white, which is very effective in protecting the paper surface from being penetrated by silver particles. The processing is once more identical and the colour of the print will be similar. The surface of a typical albumen print is semi glossy. Double coated albumen prints were also made which allowed the photographer to get more gloss. To understand the scale of popularity of this process in the nineteenth century it is easiest to say that just one factory producing albumenized papers in the vicinity of Dresden used approximately 6 million eggs a year. Generally speaking papers from the area of Dresden (there were at least 10 factories in the area) were considered to be of prime quality which later turned out to result from the fact that albumen was fermented in elevated temperature prior to coating the paper.

4. Matte albumen paper – this is actually a combination of the two above techniques with a mixture of starch and albumen being used to coat the paper. The resulting images were more subtle than was the case with pure arrowroot paper while offering a perfectly matte surface that was popular at the time.

A typical issue with all albumen papers is yellowing that appears in the images with time and affects both the highlights and shadows. This can on occasion be used for print identification, especially if matte albumen has to be told from arrowroot paper.

It might also be interesting to know that the silver content in various types of salt print changed with time. This was not an error but resulted from successive lowering of the concentration of salt used to pre coat paper. This on one hand led to lowering the silver consumption (and the cost of making prints) and on the other allowed for an increase in contrast that was required by the fact that modern silver gelatin negatives were considerably lower in contrast than the older collodion ones. The resulting lowering of silver content may also be a factor in dating a print.

#### Salt print and fashion

Similar to modern times, customer taste was subject to changes in fashion. The preferred print colour changed as well as the most fashionable surface. There were times when the matte surface of arrowroot and matte albumen paper were in vogue and times when glossy surface was

sought after. This led to the popularity of burnishing prints at the turn of centuries which made it possible to produce more glossy surfaces. Photographers would also compete by offering more glossy prints than the competition. We should, however, remember that gloss might have been lost with time and the form in which the images survived till this day does not do justice to their original appearance.

Archival processing of saltprints.

This processing scheme comes from Reilly<sup>3</sup> and is generally accepted to constitute the recommended standard in saltprinting.

Step 1 – a five minute long wash in salted water that will convert any superfluous silver into silver chloride. This wash should be frequently stirred (for example by rocking the tray). Omitting this step may lead to the appearance of yellow stains.

Step 2 – a five minute wash in clear water. It is advisable to rock the tray a couple of times during the wash.

Step 3 – this is a repetition of step 2 with a fresh change of water.

Step 4 – toning. There are at least a dozen toner recipes utilizing gold, platinum and palladium salts most of which make it possible to change the colour of the print. Multiple toning was also used, for instance gold toning could be followed by platinum toning. During the process of toning the bath should be constantly in motion as otherwise uneven toning may result. It is impossible to give fixed toning times as they will depend on the expected results and the strength of the toning bath itself which will decrease after each picture. The progress of toning is assessed by inspecting the changes undergoing in the print and requires considerable experience. As a point of interest, in the past toning was a separate photographic profession performed by a ‘toner’.

Toning is a step that may be omitted though this is not recommended as this step is crucial in obtaining permanent prints.

Step 5 – a brief wash in water lasting a couple minutes. Rocking the tray is recommended.

Step 6 – first fix in a 15% solution of sodium thiosulphate with a splash of ammonia. The typical time is 3-4 minutes and it is recommended that the tray be rocked a few times. Acidic fixers should not be used.

Step 7 – second fix in a FRESH solution of thiosulphate with a splash of ammonia. The time should be the same as of the first fix. This step is essential if permanent images are to be produced.

Step 8 – a careful wash in running water lasting approx. 30 minutes. The use of hypo eliminators and testing for the presence of hypo are recommended.

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<sup>3</sup> Reilly James, *The Albumen & Salted Paper Book*, 1980, p. 22.

### Most common mistakes in salt printing

1. Uneven pre-coating with salt. Historically paper was soaked or, more commonly, floated on the salt solution until it flattened out which provided for very even, uniform coating. Since this procedure requires a considerable amount of salting solution and is relatively time consuming, these days we often try to replace it with brushing which doesn't always produce expected results.

2. Uneven sensitizing with silver nitrate solution. It must be remembered that excess of silver must be present on the surface of sensitized paper, a six to one ratio being recommended. This results from the fact that during exposure, particles of silver chloride decompose and the chloride that is freed recombines with excessive silver producing more silver chloride which will subsequently decompose and so on. This way proper image density is produced. If insufficient silver is present this process will not take place and expected density cannot be achieved. Effectively this means that we must not only remember about the proper concentration of the silver solution but also about using a sufficient amount of the sensitizing solution. Historically paper was sensitized by floating it on silver solution which prevented any problems with obtaining a sufficient amount of silver.

3. Imperfect washing after the exposure. If all the silver nitrate is not fully removed prior to fixing, yellow stains will appear on the paper. This is effectively prevented by using a salt solution for the first wash. Similar staining may with time be produced by not using two fixing baths or using spent fixer in the second bath.

### Less typical printing methods

#### Using developers.

Saltprinting with all its varieties is a POP (Print Out Process) where the image is produced by exposure alone. It should, however, be remembered, that photographers in the 19th century did not have artificial sources of UV light and exposures done with sunlight late in autumn or in winter could last hours, not to mention days. In order to shorten this step, the images were underexposed (exposed up to the point when both the shadows and most mid tones would print) and then developed in a solution of galic or (more frequently) pyrogalic acid. This enabled the photographer to produce sufficient densities with much shorter exposures. This procedure would also alter the image colour, usually to a more likable one and markedly increase the contrast. Sometimes pictures made in this way ended up with very good shadow density but slightly thin highlights, often lacking detail.

### Colour prints

Contrary to the common opinion, a considerable number of colour prints were produced in the 19th century, though they were hand coloured rather than printed in colour. The pigments, usually in powder form, were coated onto selected parts of the print by means of a brush. This method was so popular that 'all respectable' shops would stock pigments for the process and popular textbooks would offer detailed instructions for hand colouring. Most coloured images in existence come from Japan and Great Britain where they would have been produced on a semi industrial scale with each worker specializing in just one step. Hand colouring may also cause problems with image identification. The hand coloured images, for example arrowroot prints, could be varnished or, for instance, coated with albumen for extra gloss or pigment protection.

#### Main dangers to the permanence of salt prints

The key dangers to the permanence of salt prints come from the characteristics of the prints themselves as well as from the way in which they were historically presented.

1. The image may be damaged by pollutants present in the atmosphere or in the paper, notably by sulphur compounds.
2. The image may be damaged by fungi or bacterial growth. Prints made with use of gelatin or albumen are particularly susceptible to this form of damage.
3. Another cause of potential contamination that will lead to the print being damaged is the cardboard on which the prints were customarily mounted. In the 19th century prints would be routinely printed on very thin paper and then mounted on cardboard. There were a number of reasons for this. First of all, the paper used for printing had to be of top quality which made it expensive. Using thinner paper reduced the cost. Secondly, the area of the print just outside the image area is rather unattractive in salt printing so it was best to just cut it away. Thin paper was more suited to floating which was a preferred method of coating paper. Finally, toning was the most expensive part of the process and the consumption of the toner was directly proportional to the amount of silver being toned. Its concentration is the highest not in the image itself but in the parts of the paper that are just outside the image area; that were sensitized and exposed but not covered with the negative. Clipping them meant considerable savings. Most unfortunately, contrary to the paper itself, the cardboards were usually made from low quality pulp that would soon start decomposing and contaminating the paper. That is why one of the routine steps in image conservation is removing or replacing the mounting boards.

Lauma Lanceniece  
Photo Collection Manager of Museum  
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### **Insight into Old Photographic Processes in Collection of Museum of the History of Riga and Navigation (MHRN)**

The history of MHRN dates back to the 18th century, when Riga Town Council in 1773 founded the first public museum in Baltics based on the legacy left by Baltic German doctor and collector Nikolaus von Himsel. Today MHRN is a state museum and its photo collection includes around 100 000 items. Its purpose is to give visual evidence of the history of Riga, development of the city and the life of its inhabitants from earliest times until nowadays.<sup>1</sup> Thanks to the museum's long standing origin and history, there has been an opportunity to collect photography from its very beginnings. Although a lot of photographic heritage was lost in both World Wars and Baltic German repatriation in 1939, there are still treasures that make our photo collection one of the richest in the field of historical photography in Latvia. The collection represents such old photography processes as daguerreotypes, ambrotypes, tintypes, various paper-based print out print techniques (salted paper print, albumen, collodion, silver gelatin), autochromes and various pigment print techniques made by pictorial art masters.

Memory institutions and especially history museums regard photography mostly as a source of information and illustration, so this is the first attempt to inspect the collection of MHRN from material and technical point of view as independent and unique phenomena. The interest of photography from this point of view is new in Latvia and there is lack of specialists who could assess and identify old photo techniques. I would like to admit that the technique identification is based on my self-trained empirical findings making visual observations with microscope, using comparison method and consulting with photo conservator.

The photo techniques will be presented chronologically by selected groups.

The oldest technique represented in the museum's collection is **daguerreotype (1839–1860)**, which is a photograph on a copper plate covered with a layer of finely polished silver.<sup>2</sup>

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<sup>1</sup> Rīgas vēstures un kuģniecības muzeja 2018. gada darbības publiskais pārskats, 2019, p.-3.

<sup>2</sup> Lavédrine B. *Photographs of the Past. Process and Preservation*. The Getty Conservation Institute, Los Angeles, 2009, p. 26.

There are only 16 daguerreotypes<sup>3</sup> preserved in state memory institutions and we have 5 of them. All of them have open European style housings, which means that they are inserted into cassettes, consisting mainly of glass and paper or cardboard.<sup>4</sup> Thematically they are portraits depicting known wealthy people, mostly Riga merchants, which also means that daguerreotypes have local origin. Interesting example of this technique is stereodaguerreotype with unknown girl wearing nightgown. Relaxed posture with flowers in her hands and free clothing could indicate that it is made for entertainment purposes ([illustration 1](#)).

Next photo technique that at the first sight looks similar to daguerreotype is **ambrotype (1852–1870)**, which is positive photograph on glass made by a variant of the wet plate collodion process.<sup>5</sup> There are 6 ambrotypes in our museum's collection. All of them are portraits of known and unknown people and families, supposedly wealthy Riga's citizens. For example, we can see portrait of Stepanida Menšikova, who was Riga merchant's Golubev daughter and married to merchant, who owned ironware or leather goods shops in Old Riga<sup>6</sup> ([illustration 2](#)). Another ambrotype represents Groswald family<sup>7</sup> – one of Latvian peasant families that after serfdom annulment became well-regarded and affluent family, part of newborn Latvian intelligence. Their son Friedrich became lawyer and politician, he was elected as the president of Riga Latvian Society in 1886. All ambrotypes have European style housings and they are dated with 1850–1860s.

Proceeding overview of non-paper based photographs there are six **tintypes (1853–1930)** in museum's collection. The process is similar to ambrotype – only the support is different: tintype is a positive photograph supported on a sheet of lacquered iron plate.<sup>8</sup> Unfortunately, the portraits all are unknown as well as the authors. They are dated by the end of the 19<sup>th</sup> century and the beginning of the 20<sup>th</sup> century.

The oldest examples of paper-based photography are **salted paper prints (1840–1860)**, which is positive image made on photosensitive paper in contact with negative. The print has matte surface and commonly warm image tones.<sup>9</sup> Until now there are 6 salted paper prints identified in our collection, but it is very likely more to be discovered. These could be the oldest

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<sup>3</sup> Latvis K. *Dagerotipu saglabāšana un restaurācija*. Diplomdarbs. Lietišķais pētījums. RCK, Rīga, 2015, p. 2.

<sup>4</sup> Deckers A., Maes H. *Daguerreotype*. FoMu, 2007, p.12.

<sup>5</sup> Lavédrine B. *Photographs of the Past. Process and Preservation*. The Getty Conservation Institute, Los Angeles, 2009, p. 52.

<sup>6</sup> VRVM 94649. Pieņemšanas-nodošanas akts Nr. 3275, 31.05.1968.

<sup>7</sup> Kalnačs J. *Tā kā es neesmu bibliotekāre. Latvijas kultūras nosargātās vērtības un Mērijas Grīnbergas, jaunākās, mūžs.*//Mākslas vēsture & teorija, MVI, 2006/6-7, p.77-89.

<sup>8</sup> Lavédrine B. *Photographs of the Past. Process and Preservation*. The Getty Conservation Institute, Los Angeles, 2009, p. 34.

<sup>9</sup> Stulik D.C., Kaplan A. *Salt Print. The Atlas of Analytical Signatures of Photographic Processes*. The Getty Conservation Institute, Los Angeles, 2013, p. 4-7.

known architectural photographs, dated by the second half of 1850s. We can see there the Blackheads House, which history dates back to the 14<sup>th</sup> century, but which was totally destroyed in the Second World War. One of the first public buildings is Riga Bourse (1855) which appears in salted paper print shortly after its construction works were finished. Unique example is photograph with Riga fortification walls which deconstruction begun in 1857. This image lets you imagine the truly Old Riga before the development of multi-story buildings around boulevards ([illustration 3](#)).

There are also three portraits – two of them depicting notable historical persons and Baltic German professors and rectors of University of Tartu, which was the main educational center in Governorate of Livonia. Karl Christian Ulmann (1793–1871) was theologian. He played a significant role in development of Latvian schools and translation of educational and religious book into Latvian language.<sup>10</sup> The portrait has exquisite cool tones and skillful retouch with graphite and black and white color. The cool tones could also indicate that this is a later print, probably taken in 1860s. Friedrich von Bidder (1810–1894) was Baltic German physiologist and anatomist. His name is known in medical history and connected with his studies of nutrition and gastric physiology.<sup>11</sup> Only his age portraits can be found on the internet, so here we can see him in his forties wearing luxurious fur coat. The photograph has warm brown-yellow tone, it is nicely retouched with dark brown color (watercolor most likely) and housed into thick cardboard mount with rounded golden framework as it was popular in 1850s.

One of the oldest processes is **cyanotype (1842–1930)**, which is a photographic print on a piece of plain paper, on which the image is composed of a blue pigment.<sup>12</sup> It is very easy to identify thanks to its color. Although it is considered as common technique, there are only two of them in our collection depicting the lake in Riga suburb and factory equipment before its evacuating in the First World War.

All the above-mentioned techniques were surpassed by **albumen print (1850–1900)** technique in 1860s by its high resolution and good reproduction of fine details. It is a positive photograph with an albumen binder layer that holds a silver image and is supported on a sheet of paper.<sup>13</sup> The albumen print is the most popular technique in our museum collection until the end

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<sup>10</sup> *Kārlis Kristiāns Ulmanis*. Šķirkļis literatūras personu datubāzē. Available online at: <http://literatura.lv/lv/person/Karlis-Kristians-Ulmanis/872411>, accessed on 22-01-2019.

<sup>11</sup> Bing F.C. *Friedrich Bidder (1810–1894) and Carl Schmidt (1822–1894)–A Biographical Sketch*// The Journal of Nutrition, Volume 103, Issue 5, May 1973, p. 637–648. Available online at: <https://doi.org/10.1093/jn/103.5.637>, accessed on 22-01-2019.

<sup>12</sup> Lavédrine B. *Photographs of the Past. Process and Preservation*. The Getty Conservation Institute, Los Angeles, 2009, p. 151.

<sup>13</sup> *Ibid.* p. 114.

of the 19<sup>th</sup> century. It is so common that exact number is not known, but it could be a couple of hundreds or more. As albumen print was popular for commercial portraits – especially *carte de visite* format – we have great collection of them, also inserted into albums. Some of albums can be considered as masterpieces of applied arts. But in this short review I would like to present some more interesting and technically unusual albumen prints.

For example, you can find one of the first Old Riga street scenes in stereophotography by Alfons Behrmann. This photographer from Mecklenburg had a stereophotograph series of Riga and he was one of the first known photographers who depicted new city shortly after fortification walls deconstruction in 1860s. He also captured the moment of ice jam on the banks of river Daugava in Riga suburb in 1865. There are two photographs – original albumen print and albumen print glued on canvas with oil overpainting. So the result looks more like real painting than photograph ([illustration 4](#), [illustration 5](#)).

Rare example of presenting albumen print is **chromophotography** – a portrait technique with a three-dimensional effect. This technique was mastered by only a few photographers, and was a specialty of Central Europe. It is a technique, somewhere between painting and photography, which evolved in the second half of the 19th century. Firstly, two prints of the photograph were made. One was hand-painted with very bright colors; the other was painted in paler colors, and then made translucent by applying wax to the paper. The second picture was then superimposed over the first, with a small air gap in between, resulting in a three-dimensional effect. It took a long time for me to identify this technique, I couldn't find it mentioned in professional literature, only one article in Wikipedia, where Czech photographer Alexander Seik was mentioned as its pioneer.<sup>14</sup> There are two chromophotographies in our collection – portraits of unknown couple probable made by polish photographer Stankiewicz ([illustration 6](#)).

The **collodion printing out print (1885–1910)** technique became popular and is quite often represented in our collection starting from 1890s. Probably thanks to the richness of tones, sharpness of details and image stability<sup>15</sup> it was very common used in souvenir photos sets. *Souvenir de Riga* was commercially made photography sets on cardboard mounts with typographically printed vignettes and inserted into folders. It represented the most famous places

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<sup>14</sup> *Chromophotography*. Available online at: <https://en.wikipedia.org/wiki/Chromophotography>, accessed on 22-01-2019.

<sup>15</sup> *Collodion POP*. Image Permanence Institute. Available online at: [http://www.graphicsatlas.org/identification/?process\\_id=222](http://www.graphicsatlas.org/identification/?process_id=222), accessed on 22-01-2019.

and objects of the city, its development and remarkable events. These sets were made by the major photo studios and usually sold into bookshops.

In the beginning of 20<sup>th</sup> century, the **silver gelatin process** took over the mainstream of photographic prints – beginning with silver print out prints, then – develop out prints. As it was so popular and widely spread in our collection and elsewhere, it won't be further analyzed in this article.

Focusing on other photo techniques in the beginning of the 20<sup>th</sup> century it is worth to mention **autochromes (1907–1935)**, which is a color transparency supported on a glass plate, considered as the first commercial successful color photo technique. Lumiere brothers in France invented it. It is rather rare technique.<sup>16</sup> There are seventeen autochromes in our collection. Fourteen of them comes from famous photographer Vilis Rīdzenieks, who mostly has captured his young wife Maria in romantic scenes. Interesting examples of stereoautochromes can be found in amateur photograph Ēriks Zuitiņš collection – he has depicted himself and wife at their home, creating calm and lovely atmosphere.

There was no institution specializing in photography until 1993, when Latvian Museum of Photography was founded as the branch of MHRN. Despite it and thanks to my previous colleagues, who were personally interested in photography, art photography collections of old masters of the beginning of the 20<sup>th</sup> century were already bought in 1970s. Today we can be proud of our great pictorial art photography collection made in various **pigment print techniques**. We have bromoil, bromoil transfer, gumarabica and ozobrome processes represented in our collection by old masters as Vilis Rīdzenieks, Roberts Johansons and Kārlis Iltners. The techniques can be identified only by the notes left by the author on the prints. Lot of them are still unknown.

In the conclusion, I would like to remark that as photo technique identification as well as conservation is at its beginning, a completely new and exciting horizon has opened to explore. There is also great work ahead on terminology. The photo collection of our museum with its wide range is a good foundation where to start. Because the more we know, the more we see.

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<sup>16</sup> Lavédrine B., Gandolfo J.P. *The Lumiere Autochrome. History, Technology, and Preservation*. The Getty Conservation Institute, Los Angeles, 2013, p. 70-71.

Žydrė Petrauskaitė  
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Lithuanian National Museum of Art

**Research and conservation of historical photographs**  
**Adomas Varnas. Photos of crosses. Beginning of the 20th century**

In the beginning of the 20th century in Lithuania, the dwindling ethnographic heritage was captured in various ways – both by drawing and photographing. At that time, with the camera prices going down, cameras becoming smaller and improving, increasingly more amateurs could afford photography. However, sometimes there are misunderstandings as to the authorship of amateur photography and their clarification is not only interesting but also complicated, sometimes resembling the Sisyphos job. Another problem related to with photography is the preservation of photos and negatives. As we know, photos are sensitive to the environmental effects, therefore, in the beginning of the 21st-century, sometimes the need to be ‘rescued’ in order to preserve for future generations.

Adomas Varnas (1879–1979), a well-known painter, graphic artist, and active public figure, was also an amateur photographer, leaving a deep footprint on the collection and promotion of cross-making. The artist believed that ‘<...> *a famous phenomenon of our folk art, our ornate crosses are the wealth of the whole nation. They are the source from which the future generations will draw material and stimulating material for national cultural history to understand and shed light on it <...>*’.<sup>1</sup> In 1925 he wrote in ‘Baras’ magazine that ‘*Lithuanian crosses are disappearing, we all know that, and we know that there is no means to prevent this loss. We only have the national and civic duty to save at least images from their past as much as we can.*’<sup>2</sup>

A. Varnas was one of the first to consistently capture Lithuanian crosses, chapels, chapel columns, roof pillars and other sacral monuments and features of small architecture. For convenience, we will call them with one word, crosses or monuments.

A. Varnas became interested in crosses in his youth, after reading about them in the book by Vandalinas Šukevičius ‘Ornate Crosses of Vilnius Province’.<sup>3</sup> The artist first captured

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<sup>1</sup> Lithuanian Literature and Art Archive (LLMA) F 374, ap. 1, b. 97, l. 8

<sup>2</sup> LLMA F 374, ap. 1, b. 97, l. 2; Varnas A. Lithuanian Crosses, *Baras*, 1925, vol. 5, p. 81

<sup>3</sup> Szukiewicz W. *Krzyże zdobne w gubernii wileńskiej, Wisła*, 1903, t. 17, c. 699–706

them in 1905, when secretly driving from Krakow to Lithuania with somebody's else's passport and spending the whole summer travelling, making photos and drawing crosses and chapels with friends, course student Adalbertas Staneika and future sculptor Petras Rimša. Later, after returning to Krakow, A. Varnas summarized the material collected during the summer in a lecture at the 'Rūta Society' meeting. Unfortunately, the material of this expedition has not survived.<sup>4</sup>

In 1921, while on a holiday with his wife in Raseiniai, A. Varnas discovered interesting crumbling crosses in the graveyard, prepared for burning by the priest. The artist, who had no camera with himself at the time, immediately called a town photographer and asked to capture every one of them. A Jewish photographer from Raseiniai made photos of about 40 crosses in the graves and developed the negatives. These negatives were the beginning of a great work.<sup>5</sup> At that time, several photographers were working in Raseiniai, and, unfortunately, the author of this article could not identify the actual author of the photos/negatives.

In 1921-1929, A. Varnas began compiling a collection of photographs of crosses, believing that *'our crosses are invaluable not only for the Lithuanian art, not only for the Lithuanian history, ethnography and archaeology, but their complete collection can also have an indisputably significant global significance.'*<sup>6</sup> He believed that *'systematic collection'* must be carried out in accordance with scientific requirements and that *'only a good photograph can yield serious material to the depiction of the cross, both in science and in art.'*<sup>7</sup> It was an area of vast and rather urgent work. In 1923, he bought an architectural camera with a sliding door in the back.<sup>8</sup> A. Varnas not only made photos of the monuments himself, but also collected photos by other authors. The photo collection by the artist also contains the photos from the first and second decades of the 20th century by Pranas Mašiotas, Kazys Šimonis, Pranas Budvytis, Captain Aleksandras (?) Balsys, Jonas Balis and several other authors. Some of them were not originally printed from negatives, but re-photographed. Many photos were submitted to A. Varnas' photo collection by Balys Buračas, who, as he wrote, worked *'not so much for profit as for rescuing the dying jewels.'*<sup>9</sup> B. Buračas admired Varnas' work on recording crosses and understood its magnificence. At the time, the most important thing was to capture the endangered heritage. Thanks to A. Varnas photography collection, today we can see how

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<sup>4</sup> LLMA F 374, ap. 1, b. 61, l. 13-19

<sup>5</sup> LLMA F 374, ap. 1, b. 61, l. 19-20

<sup>6</sup> LLMA F 374, ap. 1, b. 97, l. 2-3; Varnas A. Lithuanian Crosses, *Baras*, 1925, vol. 5, p. 81-82

<sup>7</sup> LLMA F 374, ap. 1, b. 97, l. 3; Lithuanian Crosses, *Bar*, 1925, vol. 5, p. 82

<sup>8</sup> LLMA F 374, ap. 1, b. 61, l. 21

<sup>9</sup> Letter of B. Buračas to A. Varnas from Žygaičiai, 1926-04-12, *Etnofrafija*, yearbook, 1991, vol. 1, p. 34

interesting and beautiful monuments were in our country, as many of them have disappeared long ago.

A. Varnas' photo collection contains images from almost all over Lithuania. Monuments were recorded in the counties of Alytus, Biržai-Pasvalys, Kaunas, Kėdainiai, Kretinga, Marijampolė, Mažeikiai, Panevėžys, Raseiniai, Rokiškis, Šiauliai, Tauragė, Telšiai, Ukmergė, Utena, Zarasai, several – in Šakiai and Švenčionys.

In the summer of 1924 Vytautas wrote in *Klaipėdos žinios* that he had seen the collection of Lithuanian crosses organised by A. Varnas, consisting of ‘*nearly 400 individual photos of original crosses...*’.<sup>10</sup> In 1925, A. Varnas wrote about having 800 images of ‘*various types and varieties of crosses*’.<sup>11</sup> In his memoirs, the artist stated that his collection had over 2,300 of negatives, both on glass and film plates<sup>12</sup>, most of them – 15x10 cm in size. A list of metrics for the recorded monuments was also compiled. Based on the A. Varnas' collection management system, three postcard-sized (14x9 cm) prints were made, divided into collections by the year of imaging – the ‘calendar course’, the type of monument – ‘characteristic external features’ and location – ‘by geography’. Most of the postcard-sized photos were tinted in sepia, as for Varnas, the material appeared ‘*softer, more colourful, and perhaps more durable*’, while fainter photos were retouched.<sup>13</sup>

While organising the photo collection of crosses, A. Varnas noticed that ‘*both artistic and scientific research requires the greatest possible sharpness and precision of every detail*’, which is better seen on large, 50 cm high photos.<sup>14</sup> A. Varnas took photos for enlarging, retouching and framing to a photo lab on a nearby street.<sup>15</sup> A special swivel stand was made for viewing and exhibiting them. The large photos had bilingual labels, indicating which author's photo was enlarged, among other details. By the way, the exact number of big photos is not very clear. In 1925, 430 of them were ‘*not retouched and with signatures in two languages*’, but only 300 of them ‘*finally ready*’, ‘*framed and glazed*’.<sup>16</sup>

They were most likely displayed to the general public for the first time in 1924. In 1924, a total of 180 enlarged photos from A. Varnas' photo collection were exhibited in Kaunas at the Agricultural and Industrial Exhibition and awarded a gold medal. They aroused great

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<sup>10</sup> Bičiūnas V. Collection of Crosses by artist A. Varnas, *Klaipėdos žinios*, July 14, 1924, No. 160

<sup>11</sup> LLMA F 374, ap. 1, b. 97, l. 4

<sup>12</sup> LLMA F 374, ap. 1, b. 61, l. 152

<sup>13</sup> LLMA F 374, ap. 1, b. 61, l. 175

<sup>14</sup> LLMA F 374, ap. 1, b. 97, l. 3; Varnas A. Lithuanian Crosses, *Baras*, 1925, vol. 5, p.

<sup>15</sup> LLMA F 374, ap. 1, b. 61, l. 176

<sup>16</sup> LLMA F 374, ap. 1, b. 97, l. 10

interest.<sup>17</sup> In the autumn of the same year, in the newspaper ‘Lietuva’, priest J. Narjauskas offered to take photos of the A. Varnas crosses to the Vatican.<sup>18</sup>

In 1925, Lithuanian crosses were presented to the world for the first time at the II International Exhibition of Applied Art in Monza, alongside with other masterpieces of the Lithuanian folk art ([illustration 1](#)). The entire 4-storey building of the Royal Palace of Monza with side arches was dedicated to this international exhibition. The II International Exhibition of Applied Arts occupied about 240 halls. As in the first exhibition two years ago, the ground floor was dedicated to folk art.<sup>19</sup> Since, after long disputes and deliberations, Lithuania decided to participate in the exhibition at the very last minute, it received only one room as a matter of exception and, as ‘Krivulė’ wrote, one of the worst.<sup>20</sup> Lithuania was represented by artist A. Varnas on behalf of the M. K. Čiurlionis Gallery. Upon arrival to Monza, he found only one room officially assigned to Lithuania, and received another from the Finns established in the neighbourhood on the last minute.<sup>21</sup> Those two tiny rooms were interestingly and uniquely decorated urgently. 300 photos of large framed crosses and chapels were brought. However, the exhibition only had space for 80 photos, while others, according to A. Varnas, were exchanged from time to time.<sup>22</sup> Almost all of the wooden sculptures and half of the fabrics brought in were also on display.<sup>23</sup> The framed photos were stacked in several large wooden boxes during transport. Unfortunately, some of the photos were affected, the glass was broken, and few photos were damaged.<sup>24</sup> In Monza, A. Varnas was greatly assisted by A. Staneika, Secretary of the Italian Embassy, and Giuseppe Salvatore, a journalist and a great fan of our country. During the exhibition, the abstract of J. Šlapelis article on Lithuanian folk art and 7 photos of sculptures were distributed to visitors and critics.<sup>25</sup>

Warm reviews about the Lithuanian exhibition appeared in the Italian press, and Lithuanian crosses surprised everyone with their beauty and originality. The illustrated Italian weekly ‘II Mattino Illustrato’ wrote that *‘the two lower-floor halls in the Royal Villa of Monza are dedicated to Lithuania and constitute one of the biggest points of attraction in the*

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<sup>17</sup> LLMA F 374, ap. 1, b. 97, l. 4

<sup>18</sup> Priest J. Narjauskas. Should Lithuania participate in the exhibition of missions in the Vatican, *Lietuva*, December 29, 1924, No. 292 (1794), p. 3-4

<sup>19</sup> Lithuanian folk art in the international exhibition, *Krivule*, 1925, No. 3, p. 22

<sup>20</sup> Lithuanian folk art in the international exhibition, *Krivule*, 1925, No. 3, p. 22

<sup>21</sup> Letter from A. Varnas to P. Galaunė from Monza, 1925-04-28, Manuscripts Department of Vilnius University Library (VUBR), F132, b. 34

<sup>22</sup> LLMA F 374, ap. 1, b. 61, l. 184

<sup>23</sup> VUBR F 132 b. 104, l. 16

<sup>24</sup> LLMA F 374, ap. 1, b. 61, l. 182-183

<sup>25</sup> VUBR F 132 b. 104, l. 17

*Decorative Art Exhibition.*'<sup>26</sup> In the article entitled 'Alla Biennale di Monza' by the Italian art critic Luigi Caglio stated, '*The most striking variety in the crosses is the extraordinary variety of types and the wealth of decoration <...> the uneducated sculptors of the north, with their self-inspiration and clarity of feeling, present beautiful materials and an honourable study for our contemporary artists.*'<sup>27</sup>

In the spring of 1925, A. Varnas, after considering the scale, cost, and public interest in the work he began, wrote: '*I have neither my own palace to make my set of crosses available to the public... <...> nor I have funds for further collection work. Therefore, I would like to hand over what I have collected and finally arranged, to the State of Lithuania, trusting that its Government will be best able to use them for the public good of the nation.*'<sup>28</sup>

In 1926, the great photos of A. Varnas' collection have already been exhibited in gallery of the M. K. Čiurlionis. According to the documents, the gallery had to buy 270 large photos of framed crosses, but actually acquired 261 – as many as the M. K. Čiurlionis National Museum of Art currently has. Other Lithuanian museums also have several photos from the collection of large crosses.

The Lithuanian Art Museum has a photo collection of Lithuanian crosses and chapels, containing 2,000 postcard-sized photographs by A. Varnas. More recently – in 2017 – the Lithuanian National Museum of Art acquired 14 large photos from the photo collection of A. Varnas.

The large photos in A. Varnas' photo collection are similar to the small ones, all in warm tones. It may be a natural shade of photo paper produced at the time. However, the possibility of tinting cannot be ruled out. In Lithuania at that time, positive photo prints were tinted with chemicals (medicines) available in pharmacies. The hue of the photos is slightly different. This minimally different hue can be affected by the level of negative contrast (the change in hue occurs naturally during printing on photo paper). On the other hand, the colour of the photo imprint can also be changed by emulsions of gelatine or glue, used for gluing the photograph to the cardboard.

A contact positive imprint is always bright if only it is printed from a bright negative. Due to the technical limitations, the qualitative magnification at that time was difficult – the lenses were intended for contact prints and not for image magnification. Reproduction technology was used. Reproduction is a technically complicated and expensive process and was

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<sup>26</sup> Le statuette sacre della, *Il Mattino Illustrato* Nr. 37, September 21, 1925. Translated and printed in the newspaper *Lietuva*, October 30, 1925. No. 244.

<sup>27</sup> Galaunė P. *Fascination with Lithuanian folk art*. Short stories of the museologist. Vilnius 1967. p. 152

<sup>28</sup> LLMA F 374, ap. 1, b. 97, l. 8

therefore not used on a mass scale. In the 1920s and 1940s, this was done by printing houses or individual experienced artisans ([illustration 2](#)).

Retouch of positive and negative was used to obtain better quality of magnified photography. Corrections were made to the background in the positive print. This enhanced the photography object and created contrast of the image. Residues of materials used in this process (insufficiently washed out) might also have affected the hue of the photo paper.

Each photograph is glued on a larger base – a cardboard sheet, with its visual side is wrapped in decorative gray, brown or green paper. Two labels with printed text are affixed to the bottom of some of the base cardboards. All photos are damaged. Over time, the base paper and cardboard have been affected particularly, with prominent deformations, tears, delamination and missing fragments.

Prior to preservation, microbiological and chemical tests of photographic paper and substrates were performed. The works have now microbiological contamination. The acidity (pH) of the photo paper varies between 6.01 and 6.37 and that of the coloured substrate to which the photographs I build, has an acidity of pH 4.67 to 5.50. The base cardboard fiber is of extremely poor quality. Its acidity at pH 4.42 to 4.69 is dominated by wood pulp, high amount of lignin, which affects the colour changes of the fiber and the formation of acids.

Based on the results of technological analysis, a conservation programme has been developed. It envisaged the separation of photographs from low-quality cardboard. It was decided to preserve the original coloured paper bases, thus maintaining the aesthetics of the exhibition of photographs chosen by the author.

The article presents the conservation of one photo by A. Varnas. This is a cross in Raseiniai cemetery (A. Varnas' collection of Lithuanian crosses [illustration 3](#)).

First, the top thick layer of cardboard was removed. Part of it was separated mechanically with the help of a Teflon knife without wetting the media. The remaining thinner part of the cardboard was carefully layered off with a scalpel. The thin layer of cardboard remaining on the coloured base was separated using compresses with 5% Tylose MH 300 (methylhydroxyethylcellulose) solution. This way, the cardboard residues as well as the old glue were completely removed.

The next stage of conservation was the conservation of the photograph itself. Most of the photographs in the collection were glued directly to the coloured substrates, without any interlayer. During preservation, they were separated during sheet washing.

‘The Cross in Raseiniai cemetery photo’ is glued on the coloured base through an intermediate layer of low-quality cardboard. The photo, together with the cardboard, was securely separated with a Teflon knife. The cardboard was delaminated by local irrigation with

distilled water. The photo was washed in a cold water bath, then dried in a mechanical press between wool fabric, protecting the emulsion layer with Holyte xpolyester sheet. Cardboard and duplicating glue residues were removed from the coloured paper during washing. Coloured base paper was alkalisied with calcium bicarbonate solution (pH 6.23). The paper corrosion rate rose to 6.31. Paper tears were glued with wheat starch glue. Missing fragments were restored using similar paper, lined with long-fiber Japanese paper (9 g/m<sup>2</sup>, pH 6,78). Both the edge of the coloured base sheet and the photograph were irrigated in the ultrasonic irrigation chamber (relative humidity 100%, irrigation time 3 hours).

A restored sheet of coloured paper was glued with wheat starch glue to the museum-quality cardboard *Canson*, a photograph was glued to the old site. A brown thin paper (40 g/m<sup>2</sup>, pH 6.81) was glued to the back of the cardboard, similar to the one used by the author. The work was then straightened and dried in a mechanical press between the wool fabric, protecting the emulsion layer with Holytex polyester sheet. Damage to the colour paper image is tinted with watercolour using the dot retouching method. Photo not retouched. All the large photos of A. Varnas from Lithuanian art collections were similarly preserved ([illustration 4](#), [illustration 5](#)).

Conservation works were performed by paper restorers of P. Gudynas Restoration Centre: Janita Petrauskienė, dr. Dalia Jonynaitė, Eglė Piščikaitė, Rytė Šimaitė, Jurga Blažytė–Denapienė, Paulius Zovė.

Technological research was performed by Rūta Butkevičiūtė, Irena Bubinienė, Vilma Šileikienė, technologists of the Research Department of P. Gudynas Restoration Centre.

Historical research was performed by Žydrė Petrauskaitė.

Photographed by Vilma Šileikienė, P. Gudynas Restoration Centre photographer technologist, Olga Bicane, document restorer of the National Library of Latvia.

Advised by Gintautas Trimakas.

Daiva Banikonienė

Radvila Palace Museum of the Lithuanian National Museum of Art

**Relevance of old photographic processes today:  
interpretation and application in creation, cultural education**

Some of the educational programmes of the Lithuanian National Museum of Art (LNMA) at the Radvila Palace Art Museum (RPAM) are dedicated to the exhibition 'European Art of the 16th to 19th centuries'. The publication discusses educational activities related to the field of old photography and art and presents several examples: analysis of the predecessor of the camera and the possibilities of its use in art; integrated general education subject activities organised in the museum environment.

Today, the museum is a unique space for gathering information, researching and learning, housing the magnificent, invaluable collections collected in the recent centuries. At the beginning of the 20th century, the importance of the educational museum function was recognised in many major countries of the world. The museum is a creation of the last centuries. In the Middle Ages and in the Renaissance, ideas of education were emerging in Europe. They are still relevant in museum activities, because the process of human cognition is deeper if information is accumulated through the relationship between the man and object – this is beyond doubt. Education must form perception, and then memory and opinion<sup>1</sup>.

It is no coincidence that the museum culture that exists today seeks to unite the universal history of mankind and the world, all fields of science and art into a whole, thus returning to the universalism of the Renaissance era by its foundations. Based on the comprehensiveness of artistic and scientific activities carried out in museums, we can view a new cultural direction in museum activities<sup>2</sup>.

**'Forgotten spaces'**

LNMA constantly prepares and implements educational programmes and projects. The aim of the programmes is to reveal to the visitors the content of the existing exhibitions and displays. Educational activities for children and young people of all ages are an initiative

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<sup>1</sup> Jarockienė N. Educational activities of museums: history, concept, practice, 2006, Internet access: [http://www.museums.lt/Ateitis/images/Kurkime\\_ateities\\_muz\\_leidinys/leidinys\\_56\\_62.pdf](http://www.museums.lt/Ateitis/images/Kurkime_ateities_muz_leidinys/leidinys_56_62.pdf) accessed on 2019-12-20.

<sup>2</sup> Oberhuber K. Standpunkte: Anmerkung zu einer Psychologie des Museums. Kunstpsychologie heute. Göttingen, 1993, p. 197–207.

promoting productive cooperation between different institutions<sup>3</sup>. When initiating learning opportunities in RPAM spaces, professional developers and teachers who can give new impetus to the development of educational activities are invited.

The German didactic B. Rese presents an example: if the goals of the museum and the school subject coincide, then the goals important for the lessons must come from the teaching purpose of the museum – visitors must relinquish their role as passive recipients, become active audiences and move from a one-dimensional interpretation of the past to a multi-dimensional storytelling of history and art<sup>4</sup>. One of the goals of RPAM education is to share knowledge of culture and art history in order to enable participants to see the greater value in works of art. During the implementation of educational activities in the context of ancient art, the museum exhibits telling the participants are presented in various perspectives. From today's point of view, the invitation to move to the Renaissance, the Baroque era for children and young people is like a journey to the ‘forgotten spaces’, therefore, educators often have questions: how to engage in travelling to the past in thought? When can a trip to these ‘forgotten spaces’ become interesting? In answering these questions, RPAM educators sought out the points of contact between science and art, relevant topics, and interactive methods. These searches were promoted by cooperation with photographer Gintas Kavoliūnas and teachers of Vilnius educational institutions, Edita Dijokienė, Miglė Glebuviene. After analysing the theory enjoying the growing interest, stating that the sudden turn towards realistic depiction in Renaissance art is the result of the use of optical devices, integrated physics and art lessons of camera obscura were prepared and started to be implemented ([illustration 1](#)).

### **Camera obscura**

Participants of integrated lessons taking place in the museum environment are encouraged to think independently, creatively, to interpret, explore the camera obscura (‘dark room’), do not hesitate to communicate and express their opinions. The aim of these sessions is to provide participants with the opportunity to develop scientific and cultural competencies by actively learning in new, unusual spaces, and to seek practical knowledge by researching works of art, the optical device, developing the ability to apply the available knowledge, research methods and at the same time, to develop scientific and aesthetic perception. Tasks: 1. To introduce the possibilities of using the optical device camera obscura in physics and art to the participants. 2. When applying the light propagation law, to understand the principle of operation of the optical instrument and be able to describe how and what image is formed. 3. To develop

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<sup>3</sup> Banikonienė D. Inter-institutional educational program ‚Museum - a repository of identity and memory: source and space for creative learning‘. Yearbook of the Lithuanian Art Museum 21. Vilnius, 2019, p. 156.

<sup>4</sup> Rese B. Didaktik im museum. Systematisierung und Neubestimmung. Bonn, 1995, p. 27.

the ability to observe, interpret and critically evaluate artistic expression, to explain the ways and methods by which realistic images can be conveyed in art. 4. To teach to work effectively in small groups in the museum environment. 5. Be able to summarise the obtained results of research and formulate reasonable conclusions. 6. To develop creativity, independence, and standards of cooperation.

During the integrated lessons, one of the most prominent issues in the discussion was, how they attempted to convincingly recreate three-dimensional reality on the plane? During the discussion, together with the participants, the theory of a sudden turn towards realistic depiction is discussed, and examples of the works of famous artists about the use of convex mirrors and optical devices are introduced. In order to achieve a more influential engagement of the participants, a camera obscura model with a mirror (also called the camera's predecessor) created by photographer G. Kavoliūnas is displayed. Participants are introduced to the significance of the camera's predecessor, namely, one of the oldest optical devices in which light penetrating through a small hole projects an inverted act to image of an object on a completely dark wall of a room. In 1533, Italian Giovanni Battista della Porta presents the use of camera obscura in a drawing in his book 'The Spells of Nature'. In his words: *'if you cannot paint, you can draw in this way with a pencil'.* You only have to apply colours. This is done by mirroring the image down on a drawing board with paper. And it's very easy for a skilled person.'<sup>5</sup> In such a way, this optical device became a tool for artists to help convey an image in a plane and sketch it with a pencil ([illustration 2](#)). Art critic D. Karatajienė describes the activities of the Renaissance Academy of Arts, in which artists relied on analogy to achieve a new status: their work requires deep knowledge of anatomy, geometry, perspective, equating the artist to a scientist. *'Apparently, this is why many Renaissance art treatises described the artist's innovativeness as an oral invention.'*<sup>6</sup>

### **Physics and art**

By exploring the principles of operation of the camera obscura, learners have a great opportunity to consolidate their knowledge of physics. Physics teacher E. Dijokienė emphasises in the visual material prepared for the lessons:

- Camera obscura utilises the feature of linear light propagation.
- From the illuminated subject, the rays propagate in all directions, with some entering the camera through the hole and falling on the screen.
- The screen displays a true, inverted, and reversed image.

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<sup>5</sup> Matulytė M., Narušytė A. Camera obscura: History of Lithuanian Photography 1839 – 1945. Vilnius, 2016 p. 44.

<sup>6</sup> Karatajienė D. A look into the past: historical aspects of art teaching. Vilnius, 2009, p. 29.

[\(Illustration 3, illustration 4\)](#)

Samples of paintings by famous artists and the most interesting facts were selected for the sessions. After getting familiar with the visual material, participants are invited to answer the following questions: what do we see? How can we judge? Photography teacher M. Glebuviene singles out the features of using optical devices and several facts:

- ‘Photographic’ level of detail;
- Precise painting of the smallest details;
- Accurate communication of perspective;
- Painter Giovanni Antonio Canal (1697-1768) admitted to using the camera obscura;
- The visible reverse image results in all left-handed people in the paintings;
- Painter Johannes Vermeer (1632-1675) had set up the whole room in his workshop as a camera obscura.

In the practical part, participants of integrated lessons are invited to work in groups for which different tasks have been prepared: 1. In the first group includes those who like to draw. The task for the group is to draw a live model using an optical device and from nature. 2. Those who want to immerse themselves into the world of science are invited to the second group. The ‘Dark Camera’ task sheet is provided for the group's work. 3. Those interested in art history are invited to the third group. The work of this group is presented with the ‘Art History’ task sheet.

[\(Illustration 5\)](#)

RPAM has been involved in the formation of the Cultural Passport services since the first stage. According to the decision of the Cultural Passport experts, the physics and art lesson ‘Camera obscura – dark camera’ is included and integrated in the services of the cultural passport. In 2020, it is planned to welcome visitors in the renovated spaces of the museum, where it is planned to continue the implementation of integrated lessons.

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