

## 19<sup>th</sup> CENTURY PHOTOGRAPHY WORLDWIDE AND IN CROATIA

Pavlović I., Mikota M.

University of Zagreb, Faculty of Graphic Arts, Zagreb, Croatia

**Abstract:** In this paper development of the photography from its appearance until the end of the 19<sup>th</sup> century is described and analyzed. Specifically the technical development of photography of that time, the development of art photography of the 19<sup>th</sup> century and photography in the 19<sup>th</sup> century in Croatia is analyzed. Technical specifications of the photographic system in the 19<sup>th</sup> century determined the photographic art of that time very much, but, also, in that time appear authors who have set up some settings of modern photography and the first photographic styles appeared as well. In Croatia, the photography appeared practically simultaneously with its invention and was largely, through the work of the first photographers, under the influence of Viennese and Italian schools. The very end of the 19<sup>th</sup> century in Croatia represents the time of serious beginnings of the art photography.

**Key words:** Daguerreotype, calotype, 19<sup>th</sup> century photography, photographic pictorialism, photography in Croatia

### 1. INTRODUCTION

Although some systems of recording images with the light were known even at the time of Pharaohs in Egypt, and in Europe maybe at the beginning of our era, it is not possible to connect them with the development of photography as it is known today. Pre-history of photography is usually connected to the camera obscura whose principle was known in China 3000 years before our era, and was described by Aristotle around 350 years BC, it served to Arabic scientists early at the beginning of our era for watching the solar eclipse and the Renaissance painters used it to translate three-dimensional reality into two-dimensional image (Mikota M., 2000), but it is connected to finding the media that could permanently retain the image formed by the light as well (Johan Shultz in the year 1727 made experiments with causing chalk with silver nitrate on the stone) (Fizi M., 1977).

### 2. TECHNICAL DEVELOPMENT OF PHOTOGRAPHY IN THE 19<sup>th</sup> CENTURY

However, experiments that are now, mostly, considered that directly led to the invention of photography began in the late 18<sup>th</sup> century – in 1793 brothers Nicéphore and

Claude Niépce tried to get a picture so that they replaced the blurred glass of camera obscura with a medium sensitive to light - a metal plate covered with asphalt layer. After exposing, the plate was put in the petroleum and the dissolution of unexposed asphalt parts was expected. As for the too small quantity of the light they were not able to get a picture, in 1816 Nicéphore Niépce starts to use the camera obscura with the lens which was carried out as the first camera that sets the basis of all photographic cameras, and in the year 1824, after twelve hours exposure and processing in the petroleum gets the first successful "photographic" picture (heliography - from  $\eta\epsilon\lambda\iota\omicron\sigma$  – the Sun and  $\gamma\rho\alpha\phi\omega$  – write - Figure 1) (Fizi M., 1977). The first real usable photographic system was patented on 7<sup>th</sup> January 1839 by Louis Jacques M. N. P. Daguerre. In 1831 he began experiments with coating metal plate with the layer of silver iodide, so coated plate was exposed in the camera and than "developed" in a cabinet in which mercury was evaporated - the result were mirror sided and unique images - "daguerreotypes" (Figure 1). (Mikota M., 2000; Fizi M., 1977)



Figure 1 a) The first heliography (1824) b) The oldest known daguerreotype (1837).

English teacher William Henry Fox Talbot at the same time got the picture with exposing the paper coated with silver halogenide (chloride or bromide). The first images were gained in 1835, but they were unstable to the light until 1839 when, on the Herschel's proposal they were bathed in sodium thiosulfate (fixation). As the image was hardly visible, in 1840 Talbot, after the exposure (of about 10 minutes), exposed paper places in the chemical, based on pyrogallol (developer - development) first, and then in fixing bath what got him quality picture of reversed tones - the so-called negative that with using the wax becomes transparent. After that it was contact copied on the photosensitive paper, which is then chemically processed in the same way as the negative (Figure 2). This system was patented in 1841 and named

collotype (Greek: κάλλος, εὖς, το - beauty, τύπος, ο - figure, image), and later in honour to Talbot was called talbotype. (Mikota M., 2000; Langford M., 1989)

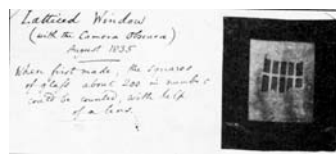


Figure 2 The oldest known negative (1835)

Until about 1860 the daguerreotype prevails as photographic system, but collotype slowly replaces it and photography of what is known today, developed in this system (Mikota M., 2000;). The first collotype photographs were realized in salt paper technique (Langford M., 1989), and various procedures were used to try to improve and simplify the system – in the year 1842 John Herschel found the cyanotype process, in 1849 Janez Puhar patented glass as a carrier of the photo layer, in 1851 Frederic Scott Archer publishes wet collodion process, procedures of ambrotype and tintype develop (Hamilton L. Smith), and in the year 1855 albumin procedure appeared (Langford M., 1989). In 1871 Richard Leach Maddox replaces the collodion plates with so-called dry plates that Eastman began to produce in 1880. Dry plates were more sensitive not only to the blue part of the spectrum (“unsensibilised”), but also on the green (from 1873 - Vogel) and exposure was reduced to the part of a second (Mikota M., 2000; Langford M., 1989). In 1886 Carl Zeiss, Ernst Abbe and Otto Scott began to develop a whole range of new lenses, and in the year 1887 Hanibal Godwin patented celluloid film and Eastman Kodak began to produce it in 1891. (Fizi M., 1977). In 1889 the name photography was introduced (Greek: φως, φωτος, το – light, γραφω – write) which maintained until today (Mikota M., 2000). Since the mid-19th c. so called noble printing techniques that the peak experienced at the time of the photographic pictorialism, but today are almost completely forgotten, appeared as well. The first high printing techniques were pigment Press (1855), and rubber printing (1889). (Heidtmann F., 1986)

### 3. PHOTOGRAPHIC ARTS IN THE 19TH CENTURY

Beginnings of the photography as a medium and art, are called the pioneer phase, which is considered to began with the first appearance of daguerreotypes and collotype in the mid 19<sup>th</sup> century and lasted until 20<sup>th</sup> century (Pavlović I., Knapić L., 2006). This phase, especially in its first time, was determined with the technical possibilities of photography - especially with long exposures and unsensitised materials. Typical motifs of that time are still life, biblical motifs, and, generally, photographs with dramatic atmosphere, but the photography was already then, despite its limitations, recognized as portrait technique. From 1940 photographic studios were opened (including most famous Richard Beard studio from 1841 and Antoniea Claudeta studio from the 1851) (Mikota M., 2000; Langford M., 1989). Typical representative of pioneer

stage of photography was American secessionist Fred Holland Day (1864 - 1933), whose work is characterized by biblical and dramatic motives (Figure 3). However, also in this period authors that develop and use specific photographic techniques appeared. Among them is Henry Peach Robinson (1830 - 1901) who initially used daguerreotype technique (exhibition in London in 1851), but later moved to the talbotype technique using sandwich photography technique and merging of negatives in order to get photographs with desired illumination of certain parts of motives. By the practical photographic work Henry Peach Robinson, was also practicing a theory of photography and in 1884 he published book *The Picture Making by Photography* in which he describes his creative techniques of work (Pavlović I., Knapić L., 2006). In the Mid 19<sup>th</sup> century as a photographer highlighted English painter Oscar Rejlander (1813 - 1875). Although in the beginning he used photography as an aid for painting portraits, he quickly revealed the possibilities of photography as a media, opened a photographic studio and defined a "new process" - photography as more than mechanical assistance to painters. Oscar Rejlander produced photographic illustrations for Darwin's book *The Expression of emotion in Man and Animals* (1872) photographically analyzing facial expressions (Figure 3) (Pavlović I., Knapić L., 2006). At that time photography was used as an illustration in the way that cliché (woodcut) was hand made through photography, but from 1880 a screen reproduction began to be used (Mikota M., 2000).

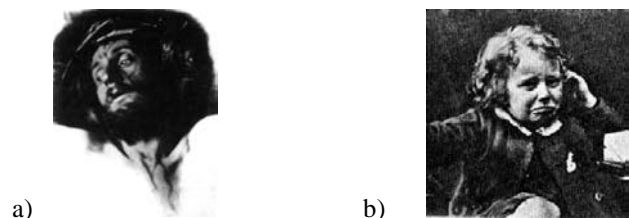


Figure 3 Pioneers of artistic photography: a) F. H. Day (1898), b) O. Rejlander (1872).

Special places among the pioneer stage of photography take up Felix Tourachon - Nadar and Margaret Cameron (Figure 4). They used specifics of photographic techniques in their portraits, and thus gave them uniqueness and put the basis of photographic portraiture. Nadar (1820 - 1910) celebrated with his portraits of French intellectuals of the sixties and the seventies of the nineteenth century, allowing the models to behave naturally in front of the camera and he is considered to be the first photographer whose portraits show the character of the personality building portraits on realistic and monumentality of expression (M. Mikota et al., 2008). In addition to that, Nadar is considered to be the founder of photo interview as a type of news photography. Margaret Cameron (1815 - 1879) has pointed out that with her photographs she doesn't only want to document the appearance of her models, but also wanted to show their "inner greatness" and was often using low key technique, and because of atmosphere on her portraits she is often called Rembrandt of photography. She is known for her portraits - head, among which are the most famous

portraits of John Herschel, Charles Darwin and Henry Taylor (M. Mikota et al., 2008).



a)



b)

Figure 4: a) Nadar (1860) i M. Cameron (1865)

End of the nineteenth century in artistic photography is marked with the appearance of the first true photographic style - photographic pictorialism that occurs in the UK. For the official start of this style exhibit of the photograph called "The Onion Field" (Figure 5) by George Davison exhibited in 1890 is taken. George Davison (1855 - 1930) initiated a group Linked Ring Brotherhood, which for about twenty years gathered known photographers of that time such as Robert Demachy (1859 - 1936), Fred Holland Day (1864 - 1933), Alfred Stieglitz (1864 - 1936), Dudley Johnston (1868 - 1955) and others. In technical terms, photographers of this direction were using noble printing techniques to show that photography is not only an accurate record of object recorded with technical means but in order to near the photography to the other art works. Although photographs made in this direction often have high compositional values and although the photographic pictorialism significantly contributed to the recognition of photography as art, pictorialists did not use more specifics of the photography as a medium for their expression, and these techniques, over the time, were almost completely forgotten. (Heidtmann F., 1986; Pavlović I., Knapić L., 2006)



Figure 5 Photographic pictorialism - G. Davison (1888).

At the end of 19<sup>th</sup> century begins to act Jacob August Riis, who was in 1870 emigrated from Denmark to the United States where in the 1877 started to work as a police photo reporter of New York Tribune, and who used photography to document his stories with accented social character. In 1880 he published his key work *How the Other Half Lives*, where his photographs document life in the squalid immigrant quarters of New York. Riis is considered as the creator of documentary photography. (Mikota M., 2000, Langford, M., 1989)

#### 4. PHOTOGRAPHY OF THE 19<sup>TH</sup> CENTURY IN CROATIA

News about finding photography, i.e., daguerreotype, is published in only three months after it was published in France - 6 April 1839 in the newspaper *The Danica Ilirska*. Shortly thereafter, daguerreotype comes to

Croatia, in Zagreb, thanks to Demeter Novakovic about whose daguerreotype surroundings of Zagreb in January 1840 was reported in Pest's weekly magazine *Der Spiegel*, and it is considered that, while he stayed in Paris, he was taught daguerreotype by Daguerre itself, and that the above-mentioned daguerreotypes were taken in late 1839. Unfortunately, none of his daguerreotype are preserved and, generally, very few have been preserved in - 20 in Zagreb, 10 in Varazdin, three in Rijeka and Zadar, one in Samobor, Split, Orebic, etc. In 1841 in Zagreb starts to work, with enhanced daguerreotype system Johann Bosch - a representative of the Viennese school. Shorter time of exposure (about minute), allowed him to portrait the citizens, and with that he photographed city panoramas of the town towards which he made lithographs. As a daguerreotypy of Viennese School who worked in the area of Zagreb Joseph Stroberg has to be pointed out (who is best known for the panoramic view of St. Mark's Square in Zagreb, and portraits of Joseph and Sophia Jelacic), while in the area of the Adriatic first known daguerreotypy was pharmacist Antun Drobac (which operates from 1844<sup>th</sup> year) in Dubrovnik. (Maleković V., 1994) As the worldwide, also in Croatia period between 1850 and 1860 marks the arrival of collotype, which, in its various performances, until 1860 has almost completely pushed out daguerreotype. This is obvious from two preserved albums from count Juraj Draskovic who begun with collotype in 1851 recording mostly portraits and his property (Figure 6). (Maleković V., 1994)



Figure 6 J. Drašković (1853)



b)



c)

Figure 7 a) Pomer (I. Kukuljević Sakcinski, 1856), b) J. Huehn (I. Kukuljević Sakcinski, 1861), c) I. Standl (Plitvice, 1869)

The first photographic ateliers in Croatia opened in Zagreb (Fig. 7) – the first was opened by Franjo Pomer, who opened a studio (which worked for twenty years)

after coming from Denmark. In 1856 Pomer represents his album of Croatian writers, and in early sixties in portrait photography introduces the so-called Disderi format. Other permanent studio in 1858 opens Julius Huehen (from Saxony), who, along with portraits was photographing Zagreb and its surroundings. His negatives on glass are the oldest preserved negatives from Croatia. In 1864 in Zagreb, after arrival from Prag, Ivan Standl also opens a studio. He photographed the city panoramas, architecture, monuments and landscapes. In 1864 he published the album "Jurjaves", in 1871 "Photography pictures from Croatia", and in 1881 "Images of earthquake in Zagreb on 9<sup>th</sup> November 1880". (Maleković V., 1994) With them in the second half of the 19<sup>th</sup> century in Zagreb, work other photographers - Ludwig Schwoiser (in 1864 - Album "The memory of the Zagreb city"), Gjuro Varga (portraitist) and others. In the last decade of 19<sup>th</sup> century photographers in Croatia begin to use dry plates, and more and more appeared retus corrections, but also photographic technique provides research in the field of photomontage (Stjepan Erdoedy, Lujó Vranyczany, Karlo Drašković - Figure 8). (Maleković V., 1994; M. Grčević, 1997)



Figure 8 K. Draskovic (Jump of count Erdoedy around 1897)

In the area of Karlovac the first permanent photographers appear in 1960 - Anton Suppan (portraits of Karlovac citizens and officers) and Hinko Krapek (Figure 9) (1889 - Album "The City of Karlovac and its surroundings"). (Gursky Z., 1998)



Figure 9 H Krapek (A. Starčević 1886)

The oldest preserved signed callotypes originate from Varaždin, and were recorded by Alojs Kramolina. Most famous photographs of that time from Varaždin arise in the Atelier Lypoldt (mostly portraits in Disderi format), and at the end of the 1980 begins to act Rudolf Mosinger (Figure 10), a representative of the Viennese school, which introduces longer "format Mosinger" (Maleković V., 1994)

In the 1960 began to act permanent photographers Erdmund Berkovic and Georg Knittel, and in seventies and nineties Julius Exner and Makso Screcker (Maleković V., 1994; M. Grčević, 1997).



Figure 10 R. Mosinger (Varaždin 1900)

Generally, it can be said that photographers from the continental part of Croatia from that time were mostly under influence of Viennese school of photography while in Adriatic/coastal part they were mostly influenced by Italian photographers. In Rijeka, the permanent photographers appeared in the early sixties of the 19th century - Nathan Hering (his only preserved photographs are photographs of Sofia Hering). In sixties and seventies in Rijeka worked Carlo Zamboni (mostly portraits and less, exteriors), after him Antonio Funk (Figure 11) which was active in eighties and nineties of the 19th century, when also works and Antonio d'Ancona. From Rijeka originates the first known female photographer from Croatia - Marie de Meichsner which was photographing family portraits (Maleković V., 1994; M. Grčević, 1997).



Figure 11 A. Funk (Rijeka, 1890)

At the beginning of fifties of the 19th century in Zadar began photographer-portraitist Joseph Brčić with work, and in 1859 Dragutin Parčić, which is known for photographs taken by telescope, and photomicrography. In mid-seventies of the 19th century in Zadar acted studio Andrović & Goldstein, which is best known for the album "Album svetlopisni s opisovanjem putovanja cara Frane Josipa po Dalmaciji" (Figure 12) which is one of the earliest attempts of photo reportage in Croatia and also photographer Tomaso Burati who in 1875 released the album of pictures of Zadar, which is considered the forerunner of photo monograph in Croatia. (Maleković V., 1994)



Figure 12 Andrović & Goldstein (Arrival of Emperor Franz Joseph in Zadar, 1875)

The earliest photographer in Split is Edoardo Gallicy whose portrait photographs with style reminiscent of those that were photographed by Pomer, and with him in the 19th century as the photographer worked count Pietro Zinka who photographed the sights of Split, Josip Popovic, who is known for portraits of famous people in



Split, Mark Joseph Goldstein and Manenizza (Figure 13) (Maleković V., 1994; M. Grčević, 1997).



Figure 13 M. Manenizza (A. Link, 1875)

In Dubrovnik after daguerreotype work of Antun Drobac since the mid sixties to the nineties of the 19th century operates Antonio Jellasca (Figure 14), who is the best known for his portraits, and in the nineties Antun Miletic, whose work reminiscent on the work of photographers in Zagreb of that time worked (Maleković V., 1994; M. Grčević, 1997).



Figure 14 A. Jellasca (1870)

Along with professional photographers in Croatia during the 19th century operated a number of amateur photographers - mostly due to high cost of equipment, from well situated part of society who insisted on technical perfection in their work, but and in the aesthetic values of photographs as well. In early nineties of the 19th century, this approach resulted in need to promote artistic tendencies in photography, and in 1892 in Zagreb gathers group of photographers in the "Association for the Arts and Crafts". In 1894 Julio Rorauer gathered around 30 photographers in the first photographic club in Zagreb stressing artistic goals in the photography and in the same year the first group presentation of the club members at the national exhibition of the Art Society in Zagreb was organized. (M. Grčević, 1997; Gursky Z., 1998)

## 5. CONCLUSION

The invention of photography is related with 19th century and Niepce's invention of heliography. However, heliography system did not enable concrete use, and the first photographic systems, which had practical application, were the daguerreotype and callotype. Although in the period from 1840 until 1860 daguerreotype prevailed, after 1860 systems based on callotype worldwide and in Croatia dominate. Art photography of 19th century was essentially determined with technical limitations of that time photographic systems - especially with long exposures and unsensibilised and, later, orthochromatic materials, but

also with the fact that then photographers-artists were associated with painting. However, in this period, the photographer-authors that set the foundations of modern access to photography appeared. The very end of 19th century marked the emergence of the first photographic style - photographic pictorialism. The photography in Croatia appeared in parallel with the appearance of daguerreotypes - in 1839 invention of photography was published in "Matica Ilirska", and in the same year, D. Novakovic, who is regarded that was taught daguerreotypes technique from Daguerre himself, captured the first daguerreotypes. 19th century photography in Croatia is mainly possible to follow through the work of photographic studios and professional photographers who were in continental Croatia primarily influenced by the Viennese school, and in Adriatic Croatia, by the Italian school. Through this work the parallel development of photography as a medium which was largely developed as a new portraiture technique worldwide and in Croatia can be followed what is in the best way illustrated by the comparison of work of Nadara and Pomer (portraits of writers in France and in Croatia). However, the development of art photography in the 19th century did not fully follow the world events. Nevertheless, in the 19th century in Croatia appeared photographers amateurs whose work at the end of the century led to the association of photographers with very artistic approach to photography.

## 6. REFERENCES

- Fizi, M. (1977), *Fotograafija*, Grafički zavod Hrvatske, Zagreb
- Heidtmann, F., (1986), *Kunstphotographische Edeldruckverfahren Heute*, Berlin Verlag, Berlin
- Langford, M. (1989). *Enziklopaedie der Fotopraxis (The Complete Encyclopaedia of Photography)*, Weltbildverlag GmbH, ISBN 3-926187-62-X, Augsburg
- M. Grčević, *Razvoj umjetničke fotografije u Hrvatskoj od 1981 do 1940*, Društvo povjesničara umjetnosti Hrvatske, Zagreb, 1997.
- M. Mikota, I. Pavlović, M. Jurković, *The appearance and development of the portrait photography i the 19th century*, 12th international conference on printing, design and graphic communications Blaž Baromić 2008 - proceedings, Bolanča, Zdenka (ur.), Faculty of Graphic Arts, Zagreb, Faculty of natural science and engineering, Ljubljana, Matica hrvatska ogranak Senj, Pulp and paper institute, Ljubljana, Zagreb 2008., 143-147, ISBN: 987-953-96020-9-1
- Mikota, M.; (2000), *Kreacija fotografijom (Creation by Photography)*, VDT Publishing, ISBN 953-6838-01-X, Zagreb
- Pavlović I., Knapić L., (2006), *How art photography was born*, Proceedings of the 10th international conference on printing, design and graphic communications Blaž Baromić, Faculty of Graphic Arts, Ogranak Matice hrvatske Senj, Pulp and Paper Institute, Ljubljana, Zagreb, 43-48
- V. Maleković (ur.), *Fotografija u Hrvatskoj 1848. - 1951.*, MUO, Zagreb, 1994.
- Z. Gursky, *Svjetloslikarstvo - knjiga o fotografiranju*, Matica Hrvatska, Karlovac, 1998.

