DATING VINTAGE HAND-COLORED REAL PHOTO POSTCARDS: A REVIEW AND APPLIED STUDY

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Abstract

Picture postcards with image captions help determine the precise message of photographs. In view of that, they are considered valuable and informative historical documents depicting many aspects of our rich past and culture. Postcards were developed through the last decades of the 19th century. This study is dedicated to real photo postcards. This type of postcards began to be produced from the early 1900s. Collecting postcard was an international hobby in the late 19th and early 20th centuries, resulting in the existence of a large number of valuable postcard collections around the world. Accordingly, this research aims to study the historical and technical background of postcards and photography and how they relate to each other; to use this information in the dating of an unknown hand-colored photo postcard. This study will provide non-professionals with simple guidelines that will help them date their collections, particularly in regions where professional help is not always available.

Keywords: Dating; Design; Inscriptions; Photographs; Postcards; Stamps

Introduction

The significance of picture postcards came from them being powerful documentaries of past people, places and events both by words (i.e. users' messages and image captions) and by images [1, 2]. They reflect how they were used, what kind of culture they were created in and they also imply who made them and for what purpose [1]. In view of that, picture postcards are valuable and informative historical documents depicting many aspects of our past and culture. Nearly, all objects, nations, celebrities, events and places have been documented in a postcard; therefore, picture postcards constitute the world's complete visual records.

Postcards were developed through the last decades of the 19th century [4]. Dr. Heinrich was the first to propose the idea of postcards. His idea was rejected by the Austrian Post Office; however, some companies privately produced them. The idea was reintroduced by Dr. Emmanuel Herrmann, an Austrian professor of economics, in 1869; since it is much cheaper and easier to send than traditional letters [5]. In Austria, precisely on the 1st of October 1869, the first postcard in the world was printed [6]. It was with dimensions of 122×88mm which is equivalent to 4.8×3.46 inches; nevertheless, six weeks later the dimensions changed to 121×74mm which is equivalent to 4.76×2.91 inches. It was decorated with the term "Correspondencz Karte" and the head of the emperor Francis Joseph I [7]. Postcards went through several stages, from the prepaid, imageless stationery card to cards with pictures and postage stamps, during the period from the 1870s to the 1890 [2]. At the turn of the late 19th

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into the early 20th century, picture postcards became the main social networking tool, sweeping Europe. People found them to be a better and more attractive alternative to traditional letters since they combine images with short messages, are cheaper, and easier to exchange within few hours [8]. The postcard sending and collecting fad began in Europe, in the 1890s [9]. Postcards were popular owing to them being economical pictorial items, a new collectible vogue, attractive souvenirs, and inexpensive and rapid media for sending short messages. Soon later, the postcard industry became a big business with approximately 30,000 employees in France alone by 1900 [2]. The postcard fad reached its peak in the world during "the Golden Age of Postcards" [1, 2, 8-12]. However, there is a disagreement among postcard historians as to the exact date of the golden age of postcards. A study situated the golden age of postcards between 1900 and 1920 [13]. Some select the years 1900–1925 [9, 12], others state that it lasted only until the advent of the First World War, 1914 [8]. Some mark the decline after 1920 [1], while others stated that it began in 1905 and lasted until 1915 pointing out that beginning of the end was in 1913 [11]. One study referred to the years between 1895 and 1900 and 1915 and 1920 as the golden age of picture postcards [2]. A study mentions the period from 1907 to 1915 [14]. Another study mentions the period 1898-1918 [15]. Nonetheless, around 200 to 200 billion postcards were produced and sold during this period [2].

There were two major types of picture postcards: printed and real photo. We focus our study on real photo postcards, abbreviated RPPC. Real photo postcards are original photographs produced from a negative on photographic paper with postcard versos [10]. These include real photographic images printed or developed out directly on the cardstock [1]. Most real photo postcards were equivalent of family photographs. They were also used for advertising and many showed celebrities [16]. The history of postcards and photography will be addressed since a real photo postcard is both a postcard and a photograph in one.

Historical and Technical Backgrounds on Real Photo Postcards

Regarding postcard history, postcards were authorized in France from 1872 [12]. The first postcards were blank; however, soon later, they were adorned with attractive illustrations making them extremely popular [13], particularly post the Exposition Universelle of 1889 with cards of the Eiffel Tower [12, 13], which sold around 300 000 copies in a few days [13]. Afterwards, the French production increased, reaching 8 million in 1899, 60 million in 1902 and 123 million in 1910 [12]. Popularity of picture postcards also increased through the 1890s, in terms of appearance, colors, and printing techniques [2]. Prior to 1912, most of the postcard printing was done in Europe, mainly Germany where lithographic techniques were superior producing high quality prints and painstaking workmanship was very cheap [1, 11]. Germany remained the leading country for postcard production until around 1910 [2]. Nevertheless, after 1912, postcard production by European printing companies dropped as result of the damage and destruction of their factories and buildings in the war. The printing industry in Germany never regained its worldwide dominance [10, 15, 17]. As a result of changes in postal regulations with regard to postcard verso design, there are seven eras:

I. The Pioneer era, from the 1870s to the1890s, during which the postcards went through several phases, the prepaid, pictureless government issue postcards, also known as stationery cards, which were printed on plain card stock, their versos exclusively reserved for addresses and the other side for the messages; and the picture postcards were produced in France and Germany by the 1880s, these have postage stamps and illustrations small enough to leave space for a written message to be added. Only government postcards were allowed to carry the term "Postal Card" [2, 14, 18].

II. The Private Mailing Card era, from 1898 to 1901. On May 19, 1898, private printing companies were given permission to produce postcards with the statement "Private Mailing Cards". Messages were not allowed to be written on the address side of the cards.

If the card were pictureless, the image space could hold a message. If it did have an image, then a small space is left for a message [14]. Private mailing postcards are referred to as PMC's. Many early Pioneer Era postcards were reprinted as PMCs.

III. The Postcard era. The right to use the term "Post Card" was granted to private printing companies in 1901. Once again, writing was not allowed on the address side [17]. The recto of the postcards contained the address and postage stamp, while the verso contained an image with a space for a very short message. For longer messages, one could write across the picture [2, 6]. The Post Card Period is also known as the Undivided Back era [14]. This change in postal regulation did not forbid the use of the older heading; and therefore, the "Private Mailing Card" term continued for years afterwards [6]. The terms postal card and postcard were often used interchangeably [9].

IV. The Divided Back era. This stage started in 1902 in Great Britain, 1903 in France, 1905 in Norway, and 1907 in the United States of America [2, 19]. The recto or the address side was divided into two parts: one part for the address and stamp, and the other for the message. The full front was used for the picture [2, 20]. This phase saw the beginning of many real photo postcard productions [14, 20].

V. The White Border era, from 1915 to 1930. A white border was often left around the image to save on ink costs [9]. These postcards were often of poorer quality compared to earlier cards [14, 17].

VI. The Linen era, from 1930 to 1945. This phase lasted through the World War II [15]. It saw a significant change in postcard production since a new printing technique was developed, allowing the production of cheap postcards on linen paper stock, giving them a textured feel [17] and vivid images. Generally speaking, these cards were panchromatic, photographically reproduced images that were colored by machine [6]. The firm of Curt Teich was among the most notable early linen publishers. Most linen postcard businesses ended around 1939 with the beginning of a new stage "the Photochrome era" [20].

VII. The Photochrome era, from 1939 till today [15]. The term Photochrome is derived from Kodak's Kodachrome film [6]. They contain color images that look like photographs [14]. The linen and chrome eras refer to the domination of particular color-printing technologies in the production of printed cards [10].

The era of "real photo postcard" is a subcategory which crosses several of these eras. This type of unique postcards began to be produced from the early 1900s [17], during the "Divided Back" era and continued through the "White Border" era [14]. Developments in photography added greatly to the postcard mania. Photo postcard paper varied in chemical composition and finish; around 450 types of paper were used [21]. The earliest examples of real photo postcards printed directly on hand-prepared card stock are cyanotypes [10]. It was the astronomer and chemist John Frederick William Herschel who invented the cyanotype process in 1842 [22]. Cyanotypes are produced using paper coated with light-sensitive iron salts by contact printing (i.e. a printing-out process) [10]. The image-forming material of cyanotypes is Prussian blue (i.e. hydrated iron hexacyano ferrate complex) [22]. Photo postcards very rarely used albumen paper due to their undesirable characteristics [21]. The albumen process was announced in 1850 and remained in use for 40 years [23]. It involved coating paper with albumen (i.e. egg whites) containing sodium chloride or ammonium chloride. Resultant paper had to be sensitized, exposed, gold toned, fixed, washed and dried [24-27]. Anyhow, most real photo postcards are silver gelatin prints [16]. Gelatin silver chloride paper was introduced in 1882 by W. Abney. This is a printing-out paper which required prolonged exposure to light [28]. The trade name for Kodak's gelatino-chloride paper was Solio [23]. At around the same period, the faster and more sensitive gelatin developing-out paper were introduced and began to replace printing-out papers by 1900 [25, 29]. The first developing-out paper to appear was the bromide paper (i.e. around the 1880s) [29]. Studies refer to the use of this paper in the production of photo postcards [30, 31]. Chloride paper was invented by Eder and Pizzighelli in

Austria, in 1881; however, it was not generally available until 1890. This was the era of gaslight paper [23, 29]. The first trade name for gaslight paper was Velox which was introduced in 1894 [28], but not in the form of photo postcard stock. Presumably, in 1899, George Eastman produced the first Velox-brand photo postcard stock. By 1910, the most popular photo postcard stock was gaslight manufactured postcard paper [10]. In the advent of the era of real photo postcards, they were made on thinner stock with matte backs and glossy fronts [32]. It should be noted that in the early 1900s, European photographic raw base was made almost entirely from white rags [33].

As the photographic processes evolved, so did camera design and manufacture [34]. George Eastman Kodak revolutionized camera design and made photography accessible to the average consumer for the first time by introducing the Kodak, a box camera, in 1988. The decline in postcard production saw one exception which was in real photo postcards [17], owing to the production of the Eastman Kodak Folding Pocket Kodak No. 3A in 1903, which took postcard size negatives [9, 18]. In 1907, Kodak introduced the Graflex No. 3A, a professional-grade camera that could be adapted to take panoramic photographs. Later in 1914, Kodak introduced the Autographic camera, which allowed the photographer to sign or inscribe some sort of explanatory caption on the negatives that would be reproduced, with the image, on the final prints [18]. In the 1930s, the 35mm Kodak camera also emerged as a popular type [1].

Early governmental postcards were made in different sizes, while privately produced postcards did not stick to the governmental regulations. Typically, after 1901, postcards were with dimensions of 3.5 × 5.5 inches [5, 14]. That size was standard, but some stock was slightly smaller and there was a type of card that was much larger. Double length cards 3½ by 11 inches, were most common. These were shot with special panoramic cameras. Real photo postcards are generally monochromatic, either black and white or with a distinct monochrome hue (i.e. blue, sepia and others). In addition to monochromatic real photo postcard, there were the hand-colored real photo postcards [10].

Collecting postcards, Deltiology, was very common in the late 19th and early 20th centuries [6], which resulted in the existence of many valuable postcard collections around the world. However, very little research has been done on such valuable items. The first aim of this research was to study the historical and technical background of postcards and photography and how they relate to each other. The second aim was to use this information in the dating of an unknown hand-colored real photo postcard. This will provide postcard collectors, librarians, archivists and non-professionals with simple guidelines that will help them date their own collections, if they were not able to seek professional advice.

Applied Study

Materials

The photo postcard is a hand-colored black and white portrait of a seated lady in a beautiful and distinctive sleeved, long dress. Her cheeks are lightly tinted in pink and her hair in brown. The dress is adorned with dazzling yellow, red and blue beads. She appears to be posing for the camera with her right hand behind her head and the other on her left knee. The size of the photo postcard is 3.5 × 5.5 inches, the universal standard size for postcards (Fig. 1). The image side of the postcard (i.e. verso) carries several inscriptions such as Reutlinger Paris, Melle Charclais, S.I.P., 855/1 and Th. Moderne. A border is present around the entire postcard image (Fig. 2). The image surface is matt; however, it seems as if a coating has been applied on the surface giving it a semi matt sheen. On the other hand, the recto of the postcard is undivided, unused and shows the headings Union Postale Universelle and Carte Postale (Fig. 1). In terms of preservation, the photo postcard appears to be in good physical state; however, initial visual inspection showed the presence of surface dirt, slight paper yellowing, silver mirroring, creases and missing beads (Fig. 3).
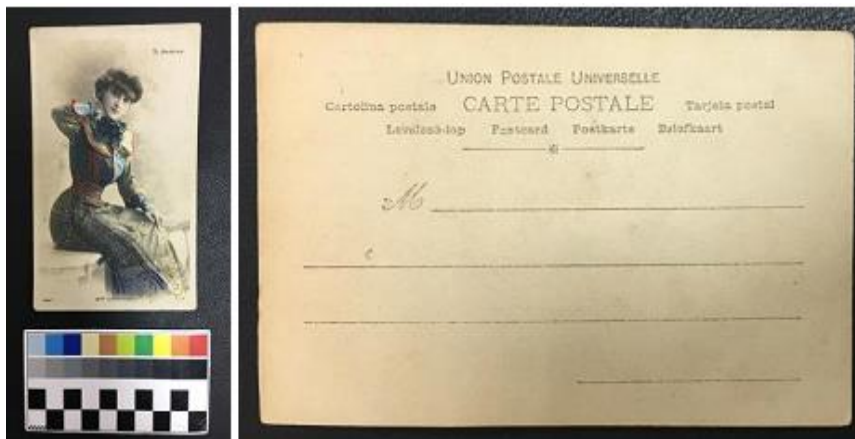
Fig. 1. Unknown hand-colored photo postcard of a seated lady (left).
The undivided back of the photo postcard (right)

Fig. 2. Close-up shot of the lady in a dress adorned with blue,
red and yellow beads, the cheeks are tinted in pink and the hair in brown (left).
Inscriptions found on the image side of the postcard (right)

Fig. 3. Silver mirroring caused by the damaging effect
of certain chemical reagents on image silver

Used copies of the same photo postcard have been found for sale on several websites (Fig. 4). Also, different photo postcards of the same lady have been spotted online. While this information may seem very basic, they greatly aid with the dating process (Fig. 5).

Fig. 4. A used photo postcard that is identical to our case study without
the beads and hand-coloring from the early 1900's, available for sale on eBay

Fig. 5. A used hand-colored photo postcard that is identical to our case study (left), source: Zinzinsdcartes;
A hand-colored postcard of Melle Charclais-Reutlinger postcard SIP series 50No. 1(center), source: Jean Ritsema;
A black and white photo post card of Miss Charclais (right), source: LaFrenchRiviera

Dating Methods

The object was thoroughly studied by examining both the postcard and the image it holds. The postcard design, inscriptions, image qualities, and image subject were all used in the dating process.

Results and Discussion

When dating a real photo postcard, there are three main moments that must be taken into consideration, the date of the original photograph from which the postcard was made, the date of the publication of the card and the cancellation date [35]. For many cards, these three dates are close, but for others they differ [10].

Studying all aspects of an unknown photograph such as image subject, photographic process and style, among other age indicators will greatly help in the dating process [16]. First, it is significant to address the issue of real photo postcard identification. One way to distinguish between a photograph and a photomechanical print is by using 30-100X microscope. Photomechanical processes tend to produce a distinct ink pattern. Conversely, real photographs have a continuous image tone [16, 36]. Accordingly, examination by a 1000X ROHS Digital USB microscope showed that it is a real photo postcard (Fig. 6).
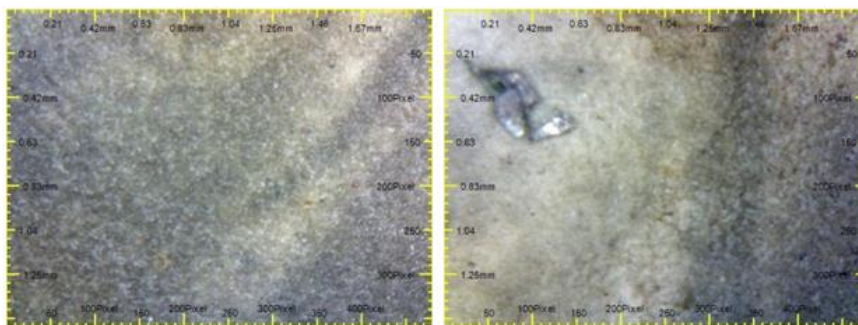
Fig. 6. Microscopic examination of the image surface reveals the continuous image tone characteristic of true photographs. This image represents the brown hair area of the sitting lady

As pointed out earlier, many photographic processes have been introduced. Each process has its own characteristics in terms of image tone, image details, surface sheens and texture, layer structure, and distinctive damage forms [37]. In many cases, visual and microscopic examination is sufficient in the identification process. Given the fact that the majority of real photo postcards are silver gelatin prints, with many suffering from mirroring, it is most likely that the studied photo postcard was produced by a silver gelatin process. However, early 1900s' silver gelatin prints are often mistaken for albumen prints [16]. In view of that, we looked into the distinctive characteristics of both albumen and silver gelatin prints in order to make correct identification of the photographic process used.
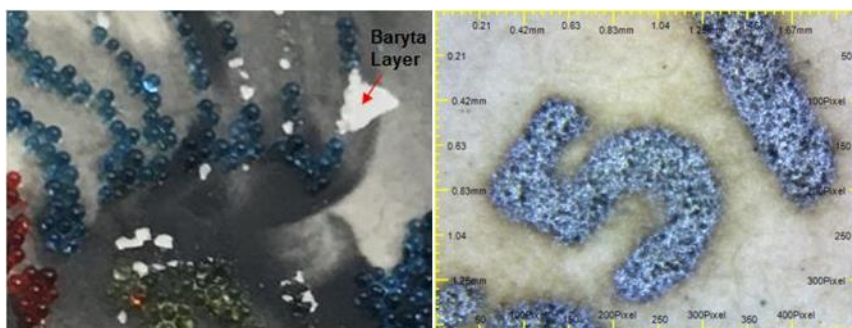

Fig. 7. The image is of an area which suffers from binder loss revealing the presence of the white baryta layer obscuring the paper fibers (left) and a microscopic examination of the surface showing silver mirroring (right)

The albumen process was the most popular process used for producing prints in 1800s', while silver gelatin prints were most popular in the 1900s' [16, 36]. Basically, albumen prints are composed of the paper primary support which provides the physical support to the photographic image, the albumen binder layer (i.e. egg white); and image silver, a two-layer structure. They have a light brown chromatic tone; however, very often they undergo toning treatment using gold chloride, thiourea, tartaric acid and sodium sulphide to give darker chromatic tones [38, 39]. Albumen prints produced before around 1870 usually had a less glossy surface sheen compared to those made later. Albumen prints are subjected to different degradation processes. One distinctive form of damage commonly found in albumen prints is yellowing of the albumen layer, which is particularly obvious in the highlight areas (i.e. Dmin). Another common aging characteristic is the presence of a fine network of surface microcracks. Microscopic examination of the surface will show the paper fibers due to the absence of paper coating [38], preferably 50X [16]. A silver gelatin print has a three-layer structure which is composed of the paper primary support, the baryta layer, and the gelatin binder layer holding

the image silver particles [40-43]. The baryta layer is finely grounded barium sulfate, a white pigment, in gelatin [44]. Mainly, silver gelatin prints have a neutral black and white image tone, distinct to the purplish, reddish and brownish image tones of albumen prints [36]. Nevertheless, many vintage silver gelatin print closely resemble 1800s albumen prints with regard to their image tones. Silver gelatin prints were produced in varying surface sheens and textures [42]. One of the key characteristics to look for when identifying silver gelatin prints is the absence of paper fibers and the presence of silver mirroring [16]. There are other terms used to describe this form of damage including sulphide out, mirroring and silvering out [45]. Mirroring is found in most 19th and 20th century silver gelatin prints [46]. The mechanism through which silver mirroring occurs involves the oxidation of image silver grains to mobile silver ions (Ag^+) [47, 48]. These invisible silver ions travel to the surface where they react with environmental sulfur-based compounds [49, 50]. This image damage appears as a bluish metallic sheen in the shadow areas of the image [51]. Based on the previous information, the image side of the real photo postcard under study has been identified as a silver gelatin print via visual and microscopic examination that revealed the absence of paper fibers, the presence of the baryta layer, and the presence of mirroring (Fig. 7).

Another significant dating tool is to identify the photographer by finding a mark, a name, a logo, or some other identifier on the card [10]. By examining the inscriptions found on the image side of the postcard, we were able to identify the photographer as "Reutlinger". In Paris, precisely in 1850, Charles Reutlinger, a daguerreotypist from Germany, opened a photography Studio [52, 53]. In 1890, Charles's nephew Léopold took over the studio, developing the postcard business. Léopold's main interest was women and fashion. He took photos of women from opera and theatres in beautiful dresses. He sold his photos and published them as postcards by different publishers, notably "Société Industrielle de Photographie S.I.P." in Paris/France [54]. Most Publishers' initials appear on the back of a postcard but sometimes they might be found on the front [21]. Photographs beared the "Ch. Reutlinger" stamp until 1895 [53]. From 1985, photographs carried the well-known Reutlinger-signature (Fig. 8). Reutlinger's business was very successful all over the world [54]. He was well known for his unique style of mixing photography and art nouveau fantasy overlays and also for good hand-coloring [55]. Léopold continued to own the Studio Reutlinger until his death in 1937 [54]. Today, most of his work is held by the Bibliothèque Nationale de France in Paris [53, 56].

Fig. 8. Léopold Reutlinger (left). The photographer's signature, compare to Figure 2 (right). Source: Schmidt and La Rock, 2013

Many real photo postcard producers captioned their images by placing permanent text on the image side that gave information about the subject. Captions also included numbers as part of photographers' method of organizing their prints and negatives into filing systems [10]. Looking into the subject's caption, we found "Melle Charclais". According to very limited references, Melle Charclais was an early 1900s' French stage actress [57, 58]. The image also carries the caption "Th. Moderne". It is most likely that it refers to the theatre Mademoiselle Charclais performed at Le Théâtre Moderne. Le Théâtre Moderne is a former Parisian performance hall located at 12 Boulevard des Italiens - 29 bis passage of the Opera (Galerie du Baromètre) (1er ardt.). The theatre was built in 1825. However, it was multiply rebuilt and

renamed, changing its genre before devoting to vulgar genre from 1919 under the direction of Alice Choppy-Desgranges, to be renamed in 1922 "Moulin Rose" [59].

Knowledge of fashion styles is also essential to identify and date photographs. The Edwardian Era/La Belle Époque is the period from 1900 – 1914 [60]. By examining the fashion trends throughout the different possible eras, one can conclude the approximate time period the photograph was taken. This period was well known for peace and consequently creativity in music, art and design. During the Belle Époque, women's clothing was more practical and feminine as they fought for independence. The authors' focus will be only on women's fashion since the postcard is of a lady. Prior to 1900's, women's corsets were very painful. However, later, they figured out that straight front enhanced the natural beauty of a woman's movement. As a result, women wore softer skirts that were made of more supple material; still the skirts fitted tightly to below the knee and then spread into a flowing train [61]. During the 1900s, particularly around 1905, the S-bend corset was in fashion. These corsets embraced the waist and exaggerated the hips, forcing the chest forward and creating the iconic pouter-pigeon shape. Women wore blouses with frilly fronts, lace collars and broad ribbon ties and fluted skirts [62] (Fig. 9). Waved hair arranged in pompadour was fashionable during this time [61] (Fig. 10). During the 1910s, women's clothing was slender [63] (Fig. 11).
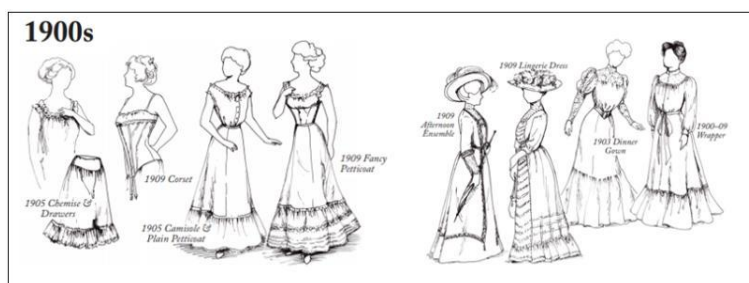

Fig. 9. Women's clothing during the 1900s'. Source: Lavender's Green Historic Clothing, 2016

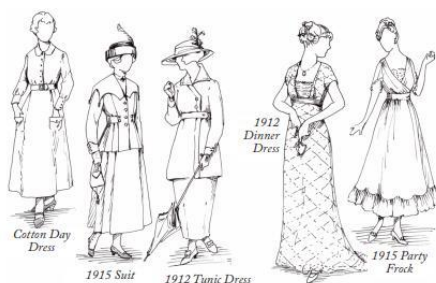**Fig. 10.** Hairdressing during the 1900s. Source: McGlinchey, 2012

Fig. 11. Women's clothing during the 1910s'. Source: Lavender's Green Historic Clothing, 2016

Fig. 12. Comparison of the women's clothing in the 1900s' as illustrated in a fashion sketch from 1903 – 1905 (left, Source: Scanlon, 2015) and the style of Melle Charclais dress (right)

A postmark is one of the simplest methods for determining when a postcard was printed [6]. However, this is not the case here, since the postcard was never sent. Postage stamps can help establish approximately when a card was sent [10]. Again, in our case study, this is not applicable since the stamps are on the envelope which might have been sent years and years after its production. On significant tool that helped with identifying the printing date is the undivided back of the postcard which indicates that the postcard was printed before 1903, or 1904 [55].

Based on the postcard design, the photograph, the photographic process and the fashion style, this real photo postcard dates back to the early 1900s' (Fig. 12).

Conclusions

This study reviewed the history and technical background of real photo postcards (RPPC). It further provided a practical study on the dating of real photo postcards using a simple methodology through investigating the photographic process used, the fashion style of individuals appearing in the photo, existent inscriptions and postcard layout. These simple guidelines pointed out in this study will help non-professionals date their vintage postcard collections, particularly in regions where professional help is not always available.

Acknowledgments

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