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EARLY COMMERCIAL PHOTOGRAPHIC PAPERS IN THE WENTZEL
COLLECTION AT THE GEORGE EASTMAN HOUSE

By: Barbara N. Brown*

This presentation, with the aid of slides and of a display of some of the objects themselves, was given to bring attention to some of the material/information available within this particular collection at the Eastman House.

While examining several Atget prints for condition reports prior to an exhibition loan, I came across some which were difficult to identify as to process. This led to a discussion with Grant Romer about the types of photographic papers available at the turn of the century and into the early 1900's. He noted that Atget used commercial papers, and that the types of photographic papers available during this time included matte and glossy collodion, and gelatin, printing-out papers, gelatin developing papers, some albumen papers, as well as ones I had not heard of before -- such as casein.

The Wentzel Collection was then shown to me as a good resource for further information on and examples of commercial photographic papers. Dr. Wentzel's autobiography, Memoirs of a Photochemist, has been another primary source of information.

This collection consists of:

- Numerous manufacturers' instruction sheets for their various photographic papers (most are in German, a very few in French and/or English). Some are from companies for which Wentzel worked, or from affiliated companies; others are from other companies in the field.
- A number of examples of photographic prints on some of the papers. Many of the prints are by Dr. Wentzel himself, and bear his notations in graphite on the verso regarding paper type, surface (matte or glossy), and toning used.
- Other interesting items of photographica, such as manufacturers' notes on toning. (Noble metals, such as palladium, platinum, or gold could be used to successfully tone printing-out papers; sulfur could not. Sulfur toning was used on gelatin develop-out papers).

This collection serves, as well, as a sort of a time capsule for a segment of history of the photographic industry.

Some brief background information on Dr. Wentzel follows, which will indirectly explain how these materials came to be collected. There will then be a brief historical review of some photographic processes, and some of the photographic samples and information on the papers will be described.

Dr. Fritz Wentzel was born in Berlin, Germany, in 1877. He became interested in photography as a boy and pursued this as an avocation throughout his life. He studied under some of the leading men in photography/photographic science, and, as Louis Siple noted, became a leading authority on photographic emulsions and the coating of plates, films, and papers.

During the years from 1900 - 1920, he worked for several of the better-known European photographic manufacturing concerns, and from 1926-46 -- after emigrating to the U.S. with his family -- he worked at Ansco in Binghamton, N.Y.

The time from 1890 up through WWI was a time of transition, experimentation, and industrial growth -- with several photographic processes in wide use at the same time. During the first twenty of this century, printing processes such as albumen, and matte collodion with gold and platinum toning were still used. Meanwhile, machine-coated and prepared papers were increasing the accessibility/affordability of photography to amateurs. The increasing technology also led to a cornucopia of variations of older formulas and techniques and the evolution of new ones. In short, this was a golden age, a flowering of photographic processes. Dr. Wentzel was involved in photography on a personal and industrial level during this fertile period, which is reflected in this collection of materials.

Briefly, a historical review of some processes: Albumen papers were preferred by photographers until 1890; invention of the gelatin dry-plate (1868-1871) set off a large demand for photographic papers and "the elaboration and production of collodion and gelatin printing-out papers" [Wentzel, p.51]. These papers had the advantage of being ready for use at any time.

Two brands of matte collodion papers widely used by professionals were Christensen and van Bosch. Examples in the collection have tones like those found in gold- and platinum-toned matte collodion carte-de-visite portraits, and probably were processed in that manner.

Four examples of Christensen brand paper are highly colored in gray, blue, green, and rose, respectively. The color is due to that of the paper support, and not simply the result of a tinted baryta layer.

The same manufacturer also made van Bosch chamois paper (matte collodion). The "chamois" refers to the warm, yellowish tone of the paper/support.

Self-toning collodion papers came about with the invention of incorporating gold salts into the emulsion, this process being first published in 1885 by Ashman and Offord. They claimed only that this shortened the toning step in processing these papers. Three years later, D. Bachrach published the fact that the separate toning step was actually not necessary for these papers.

The manufacturer of the Christensen and van Bosch collodion papers (Vereinigte Fabriken Photographischer Papiere) also made gelatin printing-out paper -- called Aristo in Europe. (In America, Aristo referred to collodion-chloride paper).

As noted earlier, in the 1890's, albumen paper was largely replaced by collodion and gelatin printing-out papers. Then, when the competition was noticeably increased by developing papers "around 1900, producers were forced to improve it" [Wentzel, p. 69]. Matte albumen papers were created, in different surface textures; and according to Wentzel, of better stability. Matte albumen papers were made by combining equal parts of albumen and starch.

Some of the characteristics of this print material, Wentzel noted, are its dull, matte surface, long tonal scale, fine shadow details, and beautiful tones -- which could be obtained by gold- or platinum-toning or by combined toning. (These visual characteristics are evident in the examples in this collection).

Most of the visual characteristics described for matte albumen are also those of the platinum print -- a medium that was much admired at this time, but too expensive for most people to afford. It also was a process somewhat more difficult than printing with silver materials.

As mentioned above, gelatin developing papers of this time came to compete very strongly against albumen papers. They were called gaslight ("gaslicht" in German) papers because it was possible to handle them in the subdued light of a gas lamp -- which was often used because electricity

was not yet in general use. "Palabrome" and "Pyra" papers by the Gevaert Company and "Velox" by Kodak were some of the silver bromide papers available.

"Ixi" Papier, produced (1913) by the Societe Anonyme Utocolor in France, was an example of a pure silver chloride paper. The different tones/hues (red, green, violet, etc. -- seen in the slide and object on display) were obtained by changing exposure time and concentration of developer.

Another interesting item in Wentzel's discussion of photographic paper stock was that a paper of a very fine and uniform texture was used for the negative process, as a substitute for the heavier and fragile glass plates. He also mentioned, briefly, stripping films and papers. There are two items in the collection which may be examples of these processes. This is one instance, out of many(!), in which being able to read German proficiently would be a big asset in obtaining information.

Two other lesser-known materials, of which I found no examples in the collection, are protalbin and casein papers. Wentzel notes that these two types of printing-out papers, "now long forgotten", were produced and marketed in the 1890's [Wentzel, p. 67].

Casein is a protein -- the main constituent of milk curds or cheese. Casein printing-out paper was occasionally prepared, by Oscar Wilde (of Goerlitz, Germany, not the British writer), and later by Gevaert Company. To quote Wentzel, the "finished prints had a solid, tough, [yet] pliable layer, very resistant to mechanical damage" and to the effects of high humidity [Ibid.]. The paper never achieved an important role in practical photography and disappeared, as did Protalbin.

Protalbin was made from zein, corn protein. This paper was exported to the tropics in great quantities because of its highly hardened, glossy surface, and excellent stability of pictures printed on it. However, it was affected by alkali -- it became slippery and could not be toned in alkali gold baths. Other than this, Wentzel records that finishing was like that of other printing-out papers.

This has been just a sampling of the wealth of material and information available in this collection. The result of going through and studying many of these materials has been to impress and overwhelm me with the variety of processes concentrated during this time, and

to emphasize to me the complexity and uncertainty in identifying photographic processes -- particularly from the earlier part of this century.

Reference: Wentzel, Dr. Fritz, Memoirs of a Photo-chemist. Louis Walton Siple, editor. Copyright 1960, American Museum of Photography, Philadelphia, Pennsylvania.

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