

Gum Over Platinum Printing

By

Les Allert

June 2019

Introduction

The gum over platinum printing process was identified in the text “Gum Printing and Other Amazing Contact Printing Processes” by Christina Z. Anderson, 2013 as a combination printing process. While early photographers Rejlander and Robinson used multiple negative to create a single positive, this method uses one or more negatives to print on a single positive using two different printing processes. The first process is a standard platinum/palladium contact print. This is followed by recoating the positive and printing one or more gum layers containing watercolor pigments. The same negative may be registered on the positive and exposed. Thus, adding color to the black & white print. Masking negatives can also be used to selectively add color to portions of the print.

History

In the early years of photography, efforts to create prints that would not fade over time met with various levels of success. Gum printing was the first process to have permanence. The father of Gum Printing was Alfonse Louis Poitevin who in 1855 patented the original process in both France and England. Different inventors came up with similar processes and legal and literature battles ensued.

In 1864, Joseph Wilson Swan introduced the carbon printing process. Gum printing fell out of vogue for the next 3 decades. In 1873, William Willis patented the platinum process, to produce black & white prints with a very long tonal range and great stability.

In 1890, articles on Impressionism triggered a change in the photographic community. Several members of the Photographic Society of Great Britain left to form the Linked Ring. The new form of photography moved away toward a more painterly form. Gum printing returned.

During the mid 1890's, popularity of gum printing began spreading quickly in Europe. Three members of the Linked Ring, Dr. Hugo Henneberg, Heinrich Kuhn and Herr Watzek worked to improve the process of gum printing. Although the original patent by Poitevin had suggested using multiple layers, these three men perfected the process of multiple layers of gum and tricolor printing. The use of multiple layers of gum addressed issues involving shadows, mid-tones and highlights and were able to achieve a very long tonal range.

In 1902, M. Herbert Silberer displayed the first Gum over Platinum print. Jose Ortiz Echague began working with gum over carbon in 1906. With the change to Paul Strand's “straight photography” and the advent of silver printing, the use of gm printing again faded. In a photographic exhibition in 1917, 80% of the photos were platinum and 20% were gum over carbon. World War I disrupted the availability of platinum, ending that process.

Paul Anderson continued using and writing articles about gum printing. This kept the process alive into the 1950's. But with the end of the Photo Secessionists, the interest in gum printing again died. In the 1960's, the interest in all forms of alternate processing began to grow. Since 1978, articles and book have been published about the alternative processes as a choice different from Silver printing controlled by the large corporations of Kodak, Ilford and Agfa. With the development of digital photography, silver printing has joined the alternative processes as a hand-made printing process alternative to computer generated photography.

Platinum printing returned to use in 1980 when Bostick & Sullivan started producing the chemistry necessary for the process. The chemistry has changed from being primarily platinum to primarily palladium. A minute amount for Sodium Chloroplatinate is used to increase contrast.

Dan Burkholder discovered digital negatives in 1992 thus changing the contact printing processes. The improvement to scanning technology allowed digital negatives to be made large without the use of huge cameras. This has introduced the concept of "hybrid photography", a marriage of the analog and digital worlds of photography.

Training

My first exposure to gum over platinum came in 1999 at a Platinum Printing Workshop with Chuck Henningsen in Taos, NM. The process was not well presented, so I did not understand how useful to enhancing the photo.

Over the years, I realized how I could use the technique to accent the subject or mood of a photo. In 2017, I took the Gum Over Platinum Workshop with Kerik Kouklis at Ansel Adams Darkroom in Yosemite NP, CA. Since this workshop was all about this process, it was presented much better, with a lot of information about various techniques involved.

Methodology

The Platinum Print need not be perfectly exposed. In fact, a print that is a little light works best. Preparing the print for the Gum Arabic coating can involve a coating of Sizing, though this is not necessary. The sizing prevents the color of the gum from infiltrating the paper, thus making its removal, if necessary, easy. The sizing is 4% gelatin with glyoxal (40%) as the hardener. The coating of sizing is applied with a glass rod, known as a puddle pusher.



Pouring sizing next to puddle pusher.



Spreading sizing with puddle pusher.



Drying sizing on a group of photos.

The Gum coating has three parts, watercolor pigment, gum Arabic and Ammonium Dichromate. One gram of high-quality artist-grade watercolor with permanence, transparency and staining are used. This is added to 10ml of gum Arabic and 10ml of ammonium dichromate in a 35mm film canister and vigorously shaken. NOTE: ammonium dichromate is a strong oxidizer and known carcinogen, so gloves are a must. This is the photo reactive portion of the coating and is stored in brown bottles.

A small amount of the Gum mix is placed on glass or plexiglass and picked up and applied to the print using a foam paint roller. The coated print is dried flat. A hair dryer may be used.



Measuring watercolor.



Using a 10 pipette pump to pull Gum Arabic.



Using another pipette pump to pull the ammonium dichromate.



Picking up the gum solution.

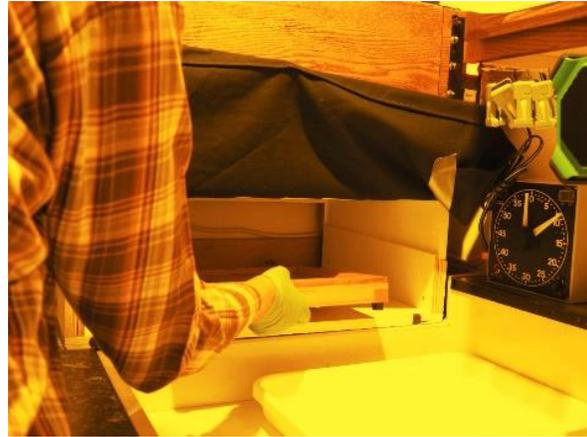


Coating the print.

Once the print is dry, the negative is registered to the print and taped into place. It is then placed in a contact print frame and placed in the UV light source and exposed for the standard length of time (9 minutes for my UV source).



Placing print into the contact print frame.



Contact print frame goes into the UV Source (9 Minutes).

Development is done in at least 3 trays of water. The print is placed face up in the first tray for 30 seconds. The print is moved to the next tray and placed face down for 5 minutes. The print is moved into a fresh tank every 5 minutes for a total of 15 to 30 minutes of development. As I move the print to the second tray, I dump the first tray and shift the other tray to the left and refill the tray now in the fourth position. The gum Arabic coating is extremely fragile during development, so if some portion of the print needs to have the color removed, a small paint brush can be used to gently brush away those areas. Once development is done, briefly hang to drip off water and then dry flat face up



First tray.



Next tray.

Conclusion

The Gum Over Platinum process is a rather lengthy process that takes a lot of experimentation to get the colors tailored to the print. Not all images are suitable to tinting through this process. I will continue to work with this process to improve my photos.

References

“Gum Printing and Other Amazing Contact Printing Processes”, Christina Z. Anderson, 2013

“An Introduction to Platinum/Palladium and Gum Printing with Kerik Kouklis”, Kerik Kouklis, November 2016 (PDF provided during workshop)

“A Brief Manual for the Preparation of the Gum-Platinum Print”, Kerik Kouklis, 2016 (PDF provided during workshop)