PHOTO FUNDAMENTALS

CAMERA AND DARKROOM PART FIVE: DARKROOM BASICS

TYPES OF PROCESSING

1. Film Processing: Where you develop the film.
2. Print Processing: Where you make prints from the developed film.

FILM PROCESSING

Black and White film is sensitive to all colors (panchromatic), and reproduces them all in shades of gray. Because it is sensitive to all colors of light, the film must be handled in total darkness during every step of processing. What follows is a brief explanation of what happens during each step.

1. Pre Soak. During this step, the film is soaked in water at the same temperature as the remaining steps. This softens the emulsion, and ensures that the entire roll of film will be developed evenly.

2. Development. This step uses a liquid developer to change the latent image into a visible image. The amount of time the film is developed, the amount of agitation the solution receives, and the temperature of the solution are all very important during this step.

3. Stop Bath. This is a weak acid that makes the developer (which is slightly basic) stop working. Stopping the developer this way helps ensure that the film receives the most accurate time for this process.

4. Fixing. The fixer solution removes the unexposed silver salts from the film. It “fixes” the film and makes it safe for daylight.

5. Washing. Once the steps are completed, the film is washed thoroughly to make certain all the residual chemicals are removed. If the film isn’t washed, the fixer will eventually stain the image and make it difficult to print.

6. Post Wash. This step involves soaking the film for a few moments in a weak soap solution called “Photo-Flo”. The soap helps break down the surface tension of the water on the film, and allows it to dry without spots.

7. Drying. The last step, and the one where many students often cook the film until it curls into a tube.
8. Storage. Once dried, the film is cut into 5 or 6 frame strips that are placed inside plastic sleeves. The clear plastic sleeves allow you to view the negatives, and also allow you to print through them to make a contact sheet.

PAPER PROCESSING

Black and White paper, unlike film is not sensitive to certain colors of light. Because the print is being made from a negative without color, it does not have to change all the colors of the rainbow into a shade of gray. As a result, papers can be viewed in a weak amber light without exposing the emulsion. This type of light is called a “safe light” and is the reason we are able to view the print making process in the darkroom. Below is brief explanation of the paper processing steps.

1. Development. Like film, the developer changes the latent image into a visible image. You will see the image form as the paper is placed into the developer.

2. Stop Bath. Like film, the stop bath ceases all development so the image density can be controlled. In addition, since the paper carries developer with it from tray to tray, the stop bath protects the fixer from contamination, and extends the life of that solution.

3. Fixer. Like film, the fixer “fixes” the paper and makes it safe for daylight.

4. Washing. Like film, washing removes the chemicals that have an adverse affect on the image. You may not see it for a few weeks, but eventually the print will stain or fade until you don’t recognize it.

POST PROCESSING

As we’ve discussed in class, photographic prints and negatives are images created using metallic silver. If processed correctly, a black and white print will last without fading for over 100 years. Although you may not think keeping your prints and negatives that long is absolutely necessary, I’ve included a list below of recommended methods for displaying and storing prints and negatives.

1. Archival Sleeves. Usually made from an inert plastic, these clear plastic sleeves protect both the print and negative from fingerprints, dust, and environmental debris. Your assignments must be submitted in just such a sleeve or envelope so that I don’t get mustard on them. (Mustard is considered an environmental debris in my kitchen.)

2. Acid Free Storage. Boxes made from paper with a neutral PH are available for storing your prints and negatives. Because the boxes are free of acid, it cannot transfer any acidic content to the paper support from which your prints are made of. Newspapers turn brown over time
because they are made from wood pulp paper that contains a great deal of acid. Fine photographic papers are made from cotton fiber, and are treated to reduce their acid content.

3. Matting and Framing. The easiest way to store your prints and enjoy them forever is to mat them using acid free mat board, then frame them under glass or acrylic cover. Although beyond the scope of this class, a matting and framing course is offered at Hughes Fine Arts, and I recommend you enroll if you are at all interested in framing your prints.