

# The Pyro Debate: A Practical Approach

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In the history of photography, few subjects have attracted more fervent debate than the choice of film developers. And at the top of that list is pyro. On the one hand, many photographers, both in years past and today, have made many excellent images from negatives developed in pyro. Many of my photographer friends speak about the value of pyro with passion that approaches religious proportions. On the other hand, there are people who dispute the increased sharpness and tonal scale of Pyro, and are also concerned with its toxicity. So who is right?

Here's my two cents worth: ***It all depends upon what you want your prints to look like!*** Although it seems obvious, I don't think I've heard anyone say this before.

Your particular style of photography should dictate your materials, not the other way around. For me, pyro is not a good choice for most of my work. I love to photograph the interiors of old buildings here in New England. My style is to portray lots of texture across the entire exposure range of the image. In many cases I have had trouble making expressive prints from pyro negatives of these subjects, as I will describe below. On the other hand, I have several landscape images (that are of quite a different style from my work with old buildings) for which pyro has done a fine job. Since "a picture is worth a thousand words," I thought I would share some examples to illustrate my thoughts.

Let's first look at some basic information.

## Variable Contrast Papers

Years ago when pyro developer was first being used, the idea of store-bought photographic paper was unheard of. And when commercial papers first became available, variable contrast papers weren't even a part of most people's imagination. Early users of pyro either made their own printing materials, or printed on graded paper. Certainly no one used variable contrast paper until the later part of the 20<sup>th</sup> century. By then, many other film developer products had been invented, and most photographers had long abandoned pyro. So from a historical perspective, most photographers of the past did not use pyro and variable contrast paper at the same time.

The theory of variable contrast paper is really quite simple. When printing with magenta light, a high contrast print will result. On the other hand, when printing with yellow light,

a low contrast print will be produced. Intermediate contrasts are achieved by controlling the amount of magenta and yellow light the print receives. Different enlargers control the colors of their variable contrast enlarging light in different ways, but the principle is the same.

Now consider the yellow stain that pyro gives to a negative. In the relatively thin shadow areas of the negative, there is relatively little stain. In the brighter areas of the image, there is progressively more stain (in addition to silver density), with the brightest portions of the image having the largest amount of stain. Before the advent of variable contrast papers, this stain merely added to the silver density of the negative. However, with variable contrast paper, the pyro stain also adds a color shift of the enlarging light, moving it toward the yellow, lower-contrast region of the paper's sensitivity. So, where there is more stain in the negative (the highlights), there is less contrast in the print. The effect will be a print with good shadow detail and soft highlights.

### **When Pyro is an Advantage**

Figure 1 shows an example of one of my photographs that benefits from pyro developer. Clearing Fog was made in Maudsley State Park in West Newbury, Massachusetts on a foggy morning. I had waited a long time for a good foggy morning, and I was out of the house well before dawn and filled with excitement. The quality of light was wonderful, and as the sun began to break through the fog I made several photographs that I was very excited about. I chose pyro developer because I knew that I wanted prints that had good shadow detail, and that gave a sense of brightness in the foggy highlights without drawing the viewer's attention to lots of detail. The film was Tri-X developed in PMK pyro at 75 degrees for 11 minutes (normal development). The print was made on Forte Polywarmtone Art paper, developed in Dektol and split toned in Selenium to give the tree a slightly brown tone while leaving the foggy highlights relatively untuned. The result is a very pleasing interpretation of that soft morning which was filled with excitement.

### **When Pyro is a Disadvantage**

Figure 2 shows one of my photographs of the interior of an old building. Inside History was taken at Ft. Warren on George's Island in Boston harbor. In recent years I have been drawn to photograph these wonderful monuments to our past. Inspired by a set of diaries from my great grandfather, I am filled with wonder about the people who built and used these structures. I am fascinated by how the technology of life has changed, and at the same time how the human aspects of life – as described in my great grandfather's diaries – is exactly the same.

This scene is typical of much of my work with historic buildings. There is usually a very large range of brightness, from shadowed interior spaces to well lit areas near doors and windows. My style is to show detail throughout the print, and I frequently need to

do considerable dodging and burning to enable the entire density range to “fit” onto the print while at the same time containing good local contrast throughout. In order to separate highlight details, I use considerable magenta filtration when burning highlight areas. That’s where I run into trouble with pyro.

I made 2 identical exposures of this scene on TMAX-400. One was given normal development in PMK pyro (11 minutes at 75 degrees), and the other was given normal development in HC-110 dilution b (5 ½ minutes at 68 degrees). Identical contact prints show that the pyro negative has a greater density range than the HC-110 negative, so one would expect the pyro neg to produce better local contrast at the same enlarger settings.

Figures 3a (pyro) and 3b (HC-110) show the wall detail in the left of the photograph. In this deep shadow area, the pyro stain is fairly low, and is not an important factor when making the print. The pyro print (3a) was made at a grade 2 setting on my Zone VI cold light enlarger (equivalent to white light on a dichroic enlarger). The HC-110 negative (3b) required considerable magenta in order to produce a reasonably equivalent print, due to the lower overall contrast of the HC-110 negative as predicted from the contact print. While magazine reproduction may not show it, the pyro print contains slightly better shadow detail than the HC-110 print.

Figures 4a (pyro) and 4b(HC-110) show the brightly lit floor detail in the lower right of the photograph. The HC-110 print (figure 4b) required the same base exposure that was given to the wall area, plus 1 minute 10 seconds of magenta burning to bring out the details of the door and floor. While this time may seem quite long to some readers, it is fairly typical for the Zone VI enlarger, which has a relatively low light output. I find the longer enlarging times with the Zone VI give me time to do dodging and burning controls at a relaxed pace.

While it is possible to produce an equivalent print with the pyro negative (see figure 4a), it requires 4 minutes and 45 seconds of magenta burning in the area of the floor and door (in addition to the base exposure given to the wall area) to reach the same print densities in these highlight areas. Burning at a lower contrast setting would result in a dull gray floor with almost no texture in the boards. What is happening here is that the yellow stain of the pyro negative is filtering out much of the magenta illumination used while exposing the print. Although one might expect better local contrast in the highlights of the pyro negative, as predicted from the greater contrast range of the pyro negative as shown from contact printing the two negatives together, and as seen in the shadow area of figures 3a and 3b, just the opposite is true because of the yellow stain in the highlights. While it is possible to make a reasonably similar print from the pyro negative, it is impractical to do so. In fact, it is only possible in this case because the darker wall area to the left is separated from the door by an area of D-max black in the print, enabling this burning to be done without being noticed.

## Conclusions

Pyro developer certainly has advantages for expressive photography. For images that require good shadow detail and delicate highlights, pyro is an advantage. However, for images that require well separated highlights, pyro is not a good choice. While the photograph in figure 2 is an extreme example because of the large amount of high contrast burning needed to produce the desired style, it does illustrate the basic truth that pyro stain affects the contrast of the highlights.

Think about your style, and what you want your prints to look like. Then choose whichever developer works for you, and get to know it intimately.

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## Figure Captions

**Figure 1.** Clearing Fog, Maudsley State Park, West Newbury, MA. Tri-X in PMK pyro, normal development. The pyro stain lowers the contrast in the highlights of the print, complementing the sense of light on this foggy morning without unnecessarily drawing the viewer's attention. The print is made on Forte Polywarmtone Art paper to enhance the softness of the image, and split toned in selenium.

**Figure 2.** Inside History, Ft. Warren, George's Island, Boston Harbor. Tmax-400 in HC-110, normal development, printed on Ilford Multigrade IV fiber-based paper developed in Ektaflo developer. Detail in the brightly lit lower right floor and door require considerable high-contrast burning, and is only practical with an unstained (non-pyro) negative.

**Figure 3a.** Shadow detail, pyro negative. This print was made at a grade 2 setting (white light). The pyro stain is not much of a factor in shadow areas.

**Figure 3b.** Shadow detail, HC-110 negative. This print was made with a somewhat higher contrast setting than the pyro print in figure 3a because the HC-110 negative has a smaller overall density range, as determined from making identical contact prints, and requires more contrast in order to make an equivalent print.

**Figure 4a.** Highlight detail, pyro negative. In addition to the base exposure given to the wall area of figure 3a, this area required more than 4 minutes of magenta burning to produce the desired highlight detail. The pyro stain is blocking the magenta illumination from the enlarger. Burning at a lower contrast setting results in a dull gray floor with very little texture to the boards. Although one might expect higher local contrast because of the pyro negative's higher overall contrast (as seen by contact printing), the opposite is true in the highlights because of the yellow stain.

**Figure 4b.** Highlight detail, HC-110 negative. This area of the print requires 1 minute 10 seconds of magenta burning in addition to the base exposure given to the wall area of figure 3b.