



Ron Reeder | Brad Hinkel

Digital Negatives

Using Photoshop to Create Digital Negatives
for Silver and Alternative Process Printing



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Alternative Process Printing

Ron Reeder

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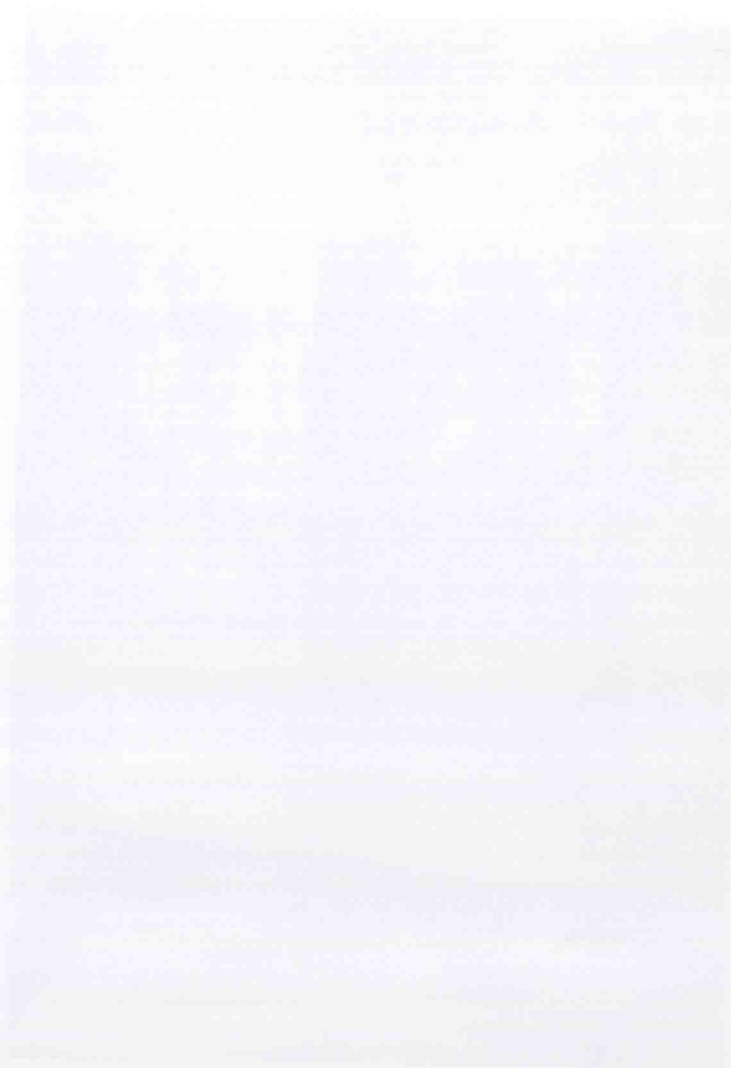
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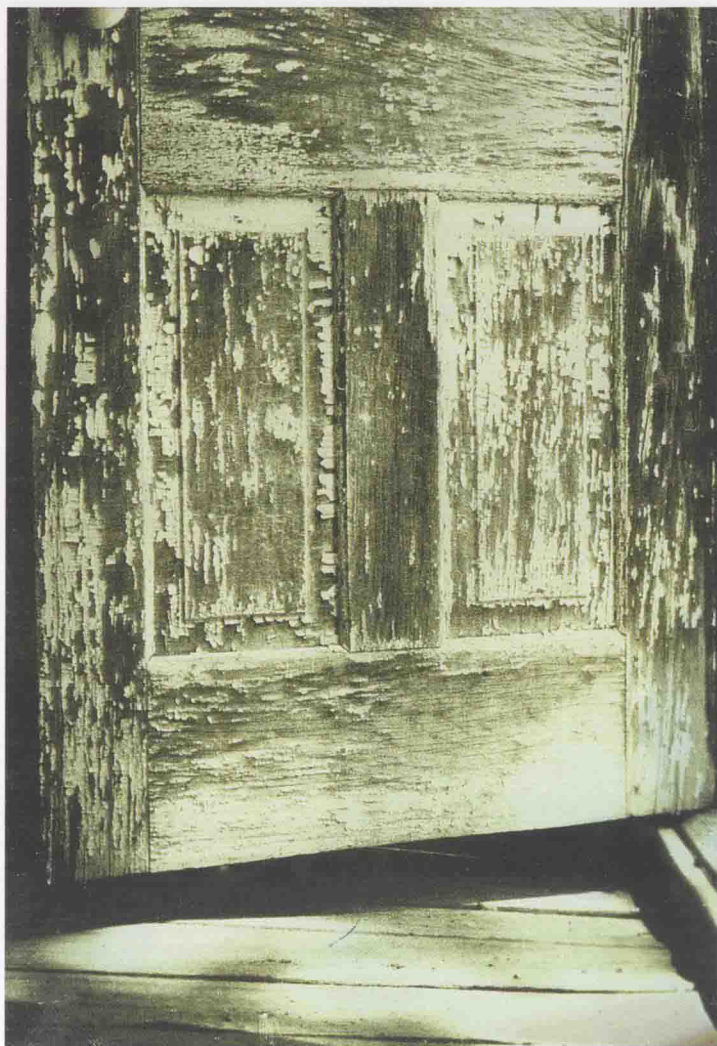
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digital negatives





Bannack Door 1999

Brad Hinkel

'Bannack was the first capital of Montana and a major mining town through the turn of the 20th century. This door was the entry to a home that likely made its owner proud. Yet the years have had their toll.'

Daguerreotype

The original was captured with a 4×5 view camera onto TMax 100. The exposure time was about five minutes long to maximize the contrast. The image was scanned into Photoshop and edited to maximize the sharp details. I chose to print the final image onto a Daguerreotype to match the period of the original location and make the image as much an artifact as the door. The image was reduced on contrast and a positive was printed onto Pictorico High-Gloss White Film. The positive was contact printed onto the Daguerreotype plate. The Daguerreotype was processed using the Becquerel process.

Final print size, about 3×4 inches.

1 introduction

This book describes methods for making digital negatives that rival or exceed negatives made in the conventional wet darkroom. In the history of photography, most methods of printmaking have been contact printing processes, requiring a negative the size of the final print. This has been true for albumen, cyanotypes, platinum/palladium, and many other printing processes. Even for silver/gelatin, where enlargement from a small negative is possible, there are advantages to contact printing from a large negative. In the past, however, a serious drawback to contact printing has been the difficulty of obtaining that big negative. Two approaches were available, neither very appealing:

1. You could lug around a large camera, plus plateholders, and make the big negative in camera. Unless you had one of Ansel's mules, the size of the equipment severely limited your mobility, the choice of subject, and the number of exposures that could be made in camera.
2. You could take a small negative into the wet darkroom and enlarge it. This took time, involved making an interpositive, precise process control, and the near certainty of introducing dust and some image degradation into the final negative.



Figure 1-1 The original portable camera system.

The ability to make high-quality digital negatives has dramatically changed this situation. It is now possible to start from any image, digital or analog, and in a few minutes produce a digital negative whose size is limited only by the size of the available printer. The speed of this process makes it feasible to fine-tune the image to a degree previously unimagined.

In this digital age, a skeptic might ask: why bother with negatives at all? Why not just print the image on some fine art paper, using the latest inkjet printer, and be done with it? As the quality of digital printers continues to improve, it is true that many photographers will find that a digital print is an excellent end point for their images. However, it can be argued that the look and feel of classical printing processes has yet to be equaled, and may never be equaled, by digital prints. There is no question that digital prints can be beautiful. But, just as silver/gelatin prints never really replaced platinum/palladium prints, we think it unlikely that digital printing will completely replace the older printing methods. In fact, current photographers can enjoy the best of both the digital and analog worlds. Many of us, for example, still prefer to capture the original image on fine-grain analog film using a 4×5 view camera. This approach affords tremendous control and is still the most cost-effective way to capture and store a high-quality image file. These film negatives are then scanned with a scanner that essentially resolves the grain structure of the film, thus capturing all of the information in the negative. Once digitized, images are worked on in Adobe Photoshop®, which offers a powerful array of tools for maximizing the expressive potential of the image. Finally, the images are printed out as full-size digital negatives with contrast range precisely adjusted to match the requirements of whatever printing method is desired. This approach weds the undeniable power of Photoshop to all the lovely hand-coated printing methods that have been devised throughout photographic history.

We have tried to include in this book everything we know about how to produce the best possible digital negative. At the same time, we would like this information to

be accessible to and user friendly for any photographer with some basic Photoshop experience. These two goals are in some conflict with each other. Though the process of making a digital negative is basically quite simple, there are a lot of details along the road to making a really fine negative. Getting hit with all these details at the very outset can be daunting, and might discourage some photographers from learning a powerful and rewarding skill.

The simplest approach to solving the problem is to follow one of our recipes. If you would like simply to make a decent negative and print, without immediately learning all the whyfors and howsomeners, go straight to either Chapter 4 or 5. In Chapter 5 we tell you what to buy and how to use it to make a digital negative and a very respectable palladium print. In Chapter 4 we tell you the same information to make a negative for exposing a silver/gelatin print. All you have to do is follow the steps verbatim and we can practically guarantee pleasing results.

If you like the prints you made following the recipes, then you might want to learn the reasoning behind each of the steps and how to fine-tune the processes. This information is presented in Chapters 2, 3, 6, and 7.

The core idea behind digital negatives is to measure the density changes caused by your specific photographic printing process and create a custom 'correction curve' tuned to make a perfect print for that process. Learn to make correction curves, and a whole world of photographic process becomes available to you.

In our work, we have used two fundamentally different methods to apply this necessary correction. One method is to make a correction curve in Photoshop, save it as an .acv file, and apply it to an image prior to printing. This is the correction method currently used by most digital negative printers. We use this method in Chapters 4 and 5 to make the basic palladium and silver prints, and we describe the process for creating these correction curves in detail in Chapter 7. We recommend that you start with this first method; it is effective and will help you understand how correction curves work.

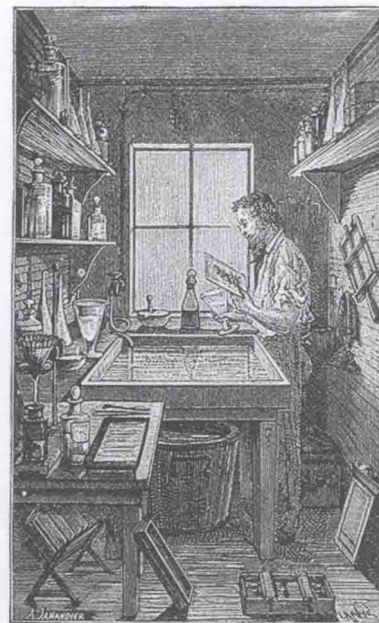
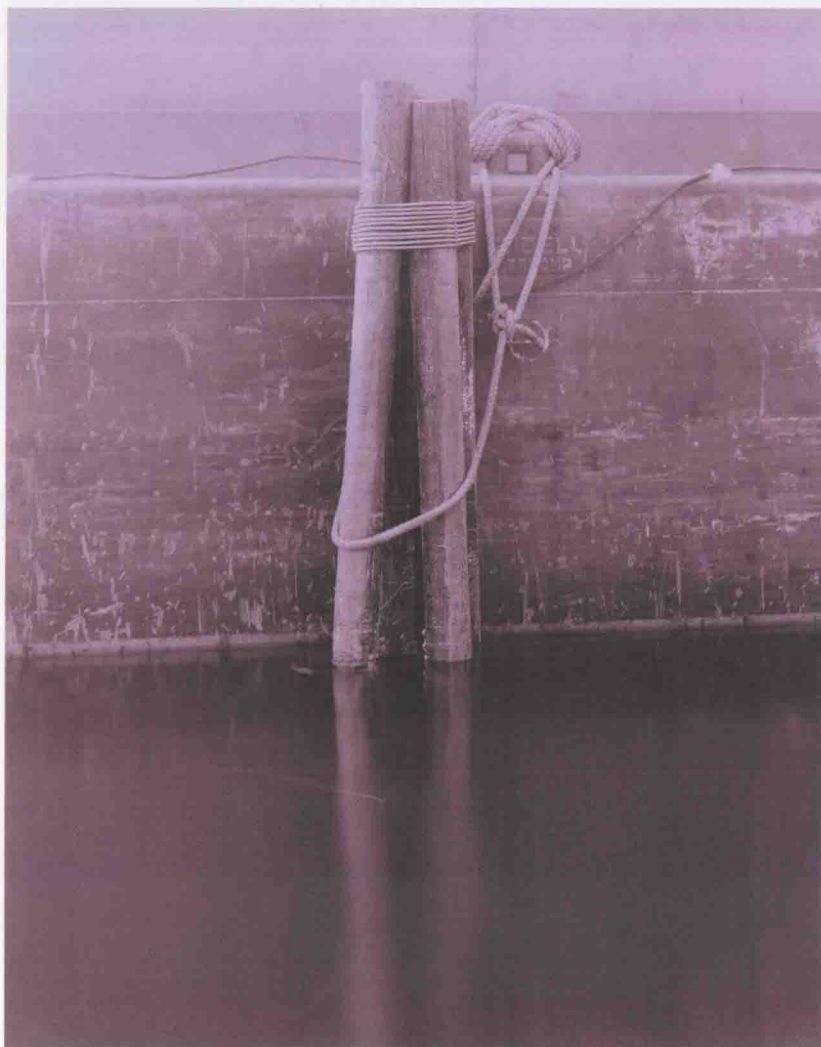


Figure 1-2 The photographer as chemist.



Barge & Piling 2001

Brad Hinkel

'The gentle motion of the water was still able to move this massive barge, albeit slightly. The log piling was the foundation that kept the whole scene steady.'

Chrysotype (gold print)

I captured this image using a 4 × 5 view camera onto TMax 100 film. The exposure was fifteen minutes long to accentuate the slight motion of the barge and soften the waves in the water. I scanning the image into Photoshop to maximize the overall contrast. A negative was printed onto Pictorico OHP film and contact printing onto a chrysotype emulsion on Arches Platine paper. The chrysotype print is very similar to the platinum print except gold is used in place of platinum. This print creates the magenta/blue split tone in the final image.

Final print size, about 4 × 5 inches.

As it turns out, a second, more effective correction method has been available, but only for those with programming skills or expensive printing software. This second method applies the correction in the ink settings of the printer driver, and does not correct or change the image file. Recently, an inexpensive printer driver called the QuadTone RIP has become available that allows ordinary mortals (like us) to control the ink settings and place the necessary corrections in the printer driver. In Chapter 10, we describe how to use the QuadTone RIP for digital negatives, building on techniques described in earlier chapters. We think the QuadTone RIP will cause a minor revolution in digital negative printing.

Digital negatives can be used to print in any photographic process that has ever been invented. Some of these processes we have tried and many we have not. We include a final chapter describing some slightly offbeat uses of digital negatives and speculate on how they could be used in other processes.

This book contains all of the instructions for printing digital negatives, but you will also need a few digital files for the recipes and to create your own correction curves. These can be found on the Web site for this book at www.digital-negatives.com. References to the Web site can be found in various sections of the book.

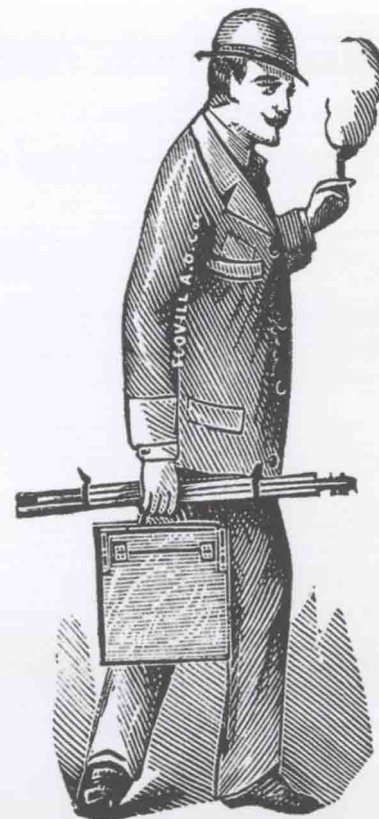


Figure 1-3 The sophisticated photographer, circa 1890.



Waterfall 1999

Brad Hinkel

'This small waterfall captured the rocky texture of the mountain rocks, the strong motions of the water and the bright mountain light.'

Platinum/Palladium

I captured this image using a 4×5 view camera onto TMax 100 film. I used filters to lengthen the exposure time to one second to ensure the smooth flowing water. The small streaks of water were from bright drops of water moving over the waterfall. I scanned the image into Photoshop and adjusted the contrast of the rock wall and the waterfall separately so they would each have full contrast. A negative was printed onto Pictorico OHP film and contact printing onto a Platinum/Palladium emulsion on Arches Platine paper. The emulsion had about 80% Palladium to create a rich warm print.

Final print size, about 11×14 inches.

2 basics of digital negatives

This chapter provides the theory portion of this book. There really is not much dense theory for digital negatives, so this should not be too big an issue. In our experience some photographers love theory and others just hate it, so some readers might be frustrated. In fact, most of the theory in this chapter applies to basic ideas about photographic materials, so you should become familiar with it.

The basic concepts for digital negatives are

- Photographic processes are nonlinear. The density on a final print is not the same as the inverse of the corresponding density on the negative, but is based on a complex response curve.
- Correction curves can fix the nonlinearity of the photographic process.
- Each photographic process has its own relationship between the negative density and the print density; thus, each photographic process requires its own correction curve.
- Digital negatives are contact printed.
- There are many varied and exciting photographic processes.

At the end of this chapter, we will also provide a basic overview of the whole workflow for printing with digital negatives. Hopefully, this provides a good framework for reading through all of the many steps listed throughout this book.