Chapter 5 ~ Restoration

Restoring old photographs is a rewarding activity, though not always easy. However, AI has simplified it for everyone. We will look at mild to catastrophic restorations.

> ***Must Know***
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> ***Restoration Tips for Success***
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> Specific restoration commands may be needed in the AI prompts.
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> 1. Become familiar with and use graphics terms.
> 2. Describe the exact type of damage to repair.
> 3. If needed, describe the damage place.

A Worst Case

This World War I card-mounted photograph has endured rough treatment over the years.

World War I Soldier

Items near him and in the background were nearly unidentifiable, and several cracks crossed the image. But ChatGPT brought everything into clarity and agreed with the elements. Close examination of his face reveals a perfect restoration.

Prompt: *Restore photo, keep original face and expression, replace missing pieces, remove scratches and blemishes, darken image and increase contrast. (ChatGPT)*

The first result produced a pure black-and-white image, which seemed to disappoint, though it was accurate. A follow-on prompt included:

Add a light sepia tone.

The image was now perfect for this restorer.

Tintype Photographs Darken

Generally, paper photographs fade when exposed to excessive sunlight. Tintypes experience the opposite. Over time, they become darker, nearly unrecognizable. There are many reasons they turn dark, some due to careless processing by the developer, and some due to the nature of the chemicals used. Little can be done to prevent them from darkening. That is one reason to make copies and restore them.

Even though some tintypes are nearly black, there is usually enough variation in the image that AI can see it and expand or stretch its range of visible light reflection.

Tintypes were extremely popular in the Civil War era because they were easy and cheap to make and durable enough to be mailed. Photographers followed military units across battlefields and captured images of battle scenes and individual soldiers when possible. And hometown photographers were available to take one last photograph before a soldier left for the war.

This is a great photo of a Civil War soldier and, presumably, his wife, though the years have darkened it.

Original Civil War Tintype

A compound prompt in Gemini restored the tintype to possibly an original condition.

This prompt was fairly complex, with several commands needed to address the darkened tintype. If all those commands had been applied to the entire image, the paper sleeve would have looked washed out or too light. That is why the separate command for the outer frame was included.

Prompt: *Restore this tintype, retain current faces and expressions, lighten image, increase contrast, and reduce noise. Keep the outer frame intact with no changes.*

Note: Not all tintypes continue to darken, though they should still not be displayed, as this could hasten new deterioration.

Albumen Prints Fade

Early paper prints, beginning around 1860, were prone to extreme fading and exhibited a yellow tint due to the underlying solution that held the silver-based image to the paper. This solution was made from egg whites, and the tone is called sepia, the Greek word for "rot." This method of creating paper prints was eventually replaced by a more stable process, though fading still occasionally occurred.

A Typical Cabinet Card

This 1892 cabinet card (4.2" x 6.4') experienced extreme fading. Common Photoshop adjustments could return it to a very good state, but that can be tricky and time-consuming for a novice. This restored version was accomplished in a minute by ChatGPT with a fairly simple prompt.

Prompt: *Restore this image, increase contrast, and sharpen. Leave the card frame around image intact with no changes. (ChatGPT)*

The photograph in this cabinet card was colorized by ChatGPT, without being requested. Such overachieving can be suppressed with additional commands such as "do not colorize", "maintain sepia coloring", or "make image grayscale."

Restoration Note: The original image was scanned at 600 DPI, yielding an image of 2652 pixels wide by 3877 tall. Considering the degree of fading and the amount of possible detail in the photograph, this should be the minimum for restoration. More pixels would not harm anything, but fewer might, with the possibility that the AI application could substitute the face.

Scratched Sailor

This was a small photo, probably carried in a wallet; it was in terrible condition. It was scanned at 1200 DPI to capture enough detail for restoration, which ChatGPT performed very well.

Original 2″ x 3″

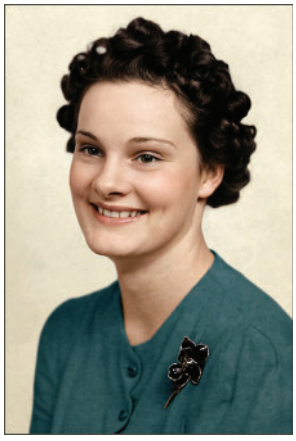
Prompt: *Remove scratches, sharpen image, keep original face. (ChatGPT)*

Modern Prints Also Fade

Fading also affected many post-1900 photographs, as film manufacturers invented new films and developing processes that did not all age well. This 1940 photograph, likely a high school graduation photo, is typical of faded 20th-century photos. This type of faded photo is usually restorable. Two restorations were conducted to illustrate the flexibility of today's AI applications. One is a grayscale image, the other is colorized for the 1940s. The prompts are simple. (Gemini restored both.)

Original Photograph

Prompt: *Restore image to rich grayscale, increase contrast, sharpen*



Prompt*: Restore image, colorize with 1940s colors, increase contrast, sharpen*

Some popular, non-specific AI programs can adjust brightness and contrast, though they seldom produce the range of colors, hues, and contrast needed to truly restore a faded image to its best condition.