



Magnum photographer Elliott Erwitt in May 2010 examining a large-format platinum test print of his iconic photograph "USA. California. 1955."

MAGNUM
PHOTOS

Elliott Erwitt exhibits large-format platinum prints

Well-loved printing processes from the late 19th and early 20th centuries have received the kiss of life again thanks to a new, tone-accurate technique that marries the craftsmanship of analog with the efficiency of digital. Platinum printing and other alternative photographic processes that were high art forms during the *Belle Époque* are now making their comeback in larger format than ever and producing beautiful collectors' pieces of great value. Legendary Magnum photographer Elliott Erwitt, who is part of the *HP Experts & Mentors* network, has produced 76 x 102-cm (30 x 40-inch) platinum prints on 100%-cotton paper, of four of his iconic images, including "USA, California," that furtive glimpse from 1955 of a couple's kiss in the side-view mirror of a car.

Over the past decade, specialist printmakers have been struggling with the process to produce large-format negatives for platinum prints. The crucial element that has persistently eluded them is easy and reliable control over tone and contrast. But that control has now finally been achieved with the new *Large Format Photo Negative* application from HP. Erwitt was privy to this new solution before official release and has produced platinum prints

of fine-art quality that have a superior range of gray levels, smooth tonal transitions, excellent contrast, and well-defined detail in shadows, highlights, and mid-tones. His prints are on show in July 2010 at both the ArtHamptons International Fine Art Fair in New York and *Les Rencontres d'Arles* photography festival in France.

Platinum prints are for millennia

It was photographer and specialist printmaker Arkady Lvov, and digital printing expert Gabe Greenberg, who demonstrated the new process to Erwitt, and it was in their studios in New York, just a short walk from Magnum's offices, that he printed his four images in platinum in May 2010.

Lvov and Greenberg had worked in tandem for eight years, experimenting with various inkjet printers, searching for a streamlined method to create large-format photo negatives suitable for platinum printing. Their quest ended when they installed and tested the Large Format Photo Negative application on their HP Designjet Z3200ps Photo Printer. "The negatives we're getting from our HP printer are unparalleled by anything we've done before," said Greenberg.



Elliott Erwitt's images, test-printed in platinum. From left to right:

"USA. New York. 1974. Felix, Gladys and Rover."

"USA. New York. American actress Marilyn MONROE. 1956."

"USA. California. 1955."

"USA. North Carolina. 1950."

"The platinum prints they produce have smooth gradations and even gray areas. These are the crème-de-la-crème of prints. We're ecstatic about the new process!"

Upon examining the developed prints, Erwitt was very pleased: "When you put the platinum prints side by side with silver prints," he said, "you see the difference. The platinum is more lush. The tonality is creamier. Platinum printing is the Rolls Royce of photographic reproduction and has traditionally been limited to modest dimensions. These new, large-format platinum prints, with their unusual size, are a Rolls Royce and Ferrari combined. They are a new, unique way of seeing and experiencing familiar iconic images. The resulting four pilot photographs have a luminosity that is not achievable by any other process, old or new."

Lvov listed five reasons for his attraction to printing in platinum. "First of all, this noble metal is one of the most stable elements in the universe," he said. "Prints are good for as long as the paper lasts, and I know of papers that are thousands of years old. Indeed, if the ancient Egyptians had been able to make platinum prints, we would still have excellent examples of those prints today, on papyrus perhaps. Secondly, platinum has the most even tonal response in nature. Other elements display distortions in the shadows and highlights. Thirdly, platinum, when printed, has an absolute matte beauty to it. It has an almost luminous effect. All that is left on the paper are the particles of metal. The image is not suspended in a layer of gelatin, so it acquires a strong 3D effect. Fourthly, since platinum is expensive, it's a great way to add further value to the print. And finally, printing in platinum is safer than the traditional silver-halide process, both for my own health and for the environment."¹

The old art of analog, with a touch of digital

"The whole thing about analog is mastering the process," said Greenberg. "It's an art. No two prints are identical. A true selling point is their individuality. The idea of being able to produce beautiful platinum prints is a wonderful thing for people experienced in the old craft of analog photography and who still love the hand-coated processes."

In this revival of manual techniques for alternative printing processes, why use digital negatives? Because platinum emulsion, which is sensitive only in the ultraviolet spectrum, reacts extremely slowly to the UV rays. To produce large-format platinum prints, use of an enlarger with a small negative is out of the question because not enough light is available. The answer is to make a large-format negative that is the same size as the paper—something that is possible with digital technology—then sandwich the negative and emulsion-coated paper together in a vacuum frame, and expose the ensemble to a strong UV light source. In short, the negatives introduce an element of digital early on in the process, making possible the return to analog in the subsequent stages of coating, exposing, developing, and clearing.

Previous frustration with tone adjustments

Before Lvov and Greenberg tested the new Large Format Photo Negative application, they had found it difficult to achieve good tonal range and contrast on platinum prints. "Good-quality negatives are the key to good-quality prints," said Lvov. "To fully control the possibilities of tonal range, you must have a good negative." Although inkjet technology had advanced dramatically for the direct printing of digital prints (positives), none of the printers that Lvov and Greenberg tried had a special setting for the production of negatives. "It was an ordeal," said Greenberg. "We wanted to get the full range of tones with sharp quality, but if the ink on the film has the incorrect density, you get a problem that you wouldn't

¹ A detailed analysis on Lvov's Web site explains the safeness of each of the compounds used in platinum printing: www.platinumeditions.com



Erwitte instructs Greenberg as to the contrast he desires.
Right: Later they examine a negative.



see if you were printing directly on paper.” The duo had particular trouble achieving a clean white on the prints at the same time as well-defined details in the shadows. “Through trial and error,” said Greenberg, “we had to mangle the image files digitally, making adjustments.”

Smooth prints with clear details

HP was lucky. One of its color scientists, Angel Albarran, who is a photographer with a passion for alternative printing processes, discovered that *green* Original HP Photo Ink just happens to have a very linear response to ultraviolet light. As the density of this green ink on a negative increases, the amount of light that makes it through to the coated paper decreases in a very predictable way. Albarran developed the Large Format Photo Negative application to exploit this linear response, providing accurate differentiation among tones right through the grayscale spectrum. The result is that well-defined details automatically show up in shadows, mid-tones and highlights, and there’s also a clean white on the final prints. Printmakers can now forget about digital tone adjustments before printing, unless they particularly want to darken or lighten part of the original image.

The Large Format Photo Negative application instructs the printer to use only green and black ink when printing negatives (black is added for better opacity on the film). Designed for HP Designjet Z3200-series photo printers, the application consists of a simple package of *paper presets*, downloadable for free from HP’s Web site.² Whenever printmakers want to print a negative, they can easily select one of the presets on the printer’s front panel. “The application is clean and efficient,” said Greenberg. “We don’t have to ‘bend’ the files. It allows for a smooth workflow. Now we can work on a platinum image as if it were any other image. HP has provided a tool that is reliable and right on. It does what we want it to do. That really changes the ballgame for us.”

As well as printing in platinum—or rather in a mixture of platinum and palladium, which gives an even wider tonal range—Lvov has also done tests to produce large-format *silver* prints from the negatives.

“The results are superb,” he said. “The application is good for all the antique processes.” In fact, large-format photo negatives can be used as masters to produce high-quality fine art prints in a wide range of classic, alternative photographic processes. These include both monochrome and color processes, such as cyanotype, photogravure, dye-transfer, gum bichromate, and carbro.

The importance of the breakthrough

As a comparison of how important the arrival of the Large Format Photo Negative application is, Lvov recounted how, for years, printmakers had been searching for a suitable paper to use for platinum prints. “In the mid-90s, a new paper finally came out for platinum,” he said. “It was called *Platine*, developed by Arches in France, and was such a breakthrough that it’s still the main paper I use today. The new Large Format Photo Negative application is a breakthrough on a par with that. Now I’m saving time, not having to test and retest, and every platinum print is good because I have reliable negatives.”

Erwitte was looking forward to the enthusiasm that the new solution would spark once released. “This application from HP is a good advance and will definitely get the attention of photographers,” he said. “Collectors will be particularly interested because a platinum print is something rare and valuable, something quite special.”

Erwitte has tagged his large-format platinum prints with ARTtrust, a simple self-certification system from HP that allows artists to provide individual identity to prints produced using HP Designjet Z-series printers. ARTtrust provides traceability and control of authenticity for each print.

Later in the lab, Lvov contemplated Erwitte’s images once more before locking up for the evening. The couple he saw in the car mirror had kissed in the year he was born. Their embrace would be preserved in platinum for thousands of more years to come. He imagined the excitement of a distant future civilization on finding the print. Would it match the emotion experienced in our era when an ancient Egyptian papyrus is discovered?

² The package of paper presets will be available for download from www.hp.com/go/Z3200/paperpresets once the new application has been released. Release is planned for August 2010.

At a glance

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CHALLENGE

- Produce high-quality, large-format platinum prints of four of Elliott Erwitt's iconic images.

SOLUTIONS

- Large Format Photo Negative application
- HP Designjet Z3200ps Photo Printer
- Adobe Photoshop® (for digital “dodging & burning”)
- Premier Imaging Graphic Arts Film (for negatives)
- Arches Platine, 100%-cotton paper (for final prints)
- Size of both negatives and prints:
76 x 102 cm (30 x 40 inch)
- Potassium chloroplatinate and sodium chloropalladite solution
- Ratio of platinum to palladium: 2:3
- Sensitizer: Ferric oxalate
- Restrainer: Potassium Chlorate
- Brush and acrylic rod for coating
- Hair dryer for drying coated paper
- Protective mask
- Violex ultraviolet light source with 3000-W metal light bulb
- Vacuum frame
- Hydrometer (to measure relative humidity)
- 12-minute exposure time
- Developing solution: Potassium oxalate
- Clearing solution: Heico Perma Wash

RESULTS

- Fine-art-quality, large-format platinum prints containing a superior range of gray levels, smooth tonal transitions, excellent contrast, and well-defined detail in shadows, highlights, and mid-tones
- Prints that are more lush than silver prints, with a creamier tonality and increased luminosity



Elliott Erwitt (left)
with Arkady Lvov
in the final stage
of making test
prints in platinum.

“When you put the platinum prints side by side with silver prints, you see the difference. The platinum is more lush. The tonality is creamier. The photographs have a luminosity that is not achievable by any other process, old or new.”

— Elliott Erwitt, Magnum Photographer, New York, USA

To learn more, visit www.hp.com/go/graphicarts

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