

RECENT POSTS

Punctum Def

COVID in the U.S. (OT)

Open Mike II: It Only Makes Sense

Open Mike: The Princess Vanishes

Nikon FX / APS-C

Nikon-RED

Any Color You Like: so Long as It's Bland

Backups

Acquisitions: Nikon Acquires RED and LensRentals Acquires BorrowLenses

Open Mike: Replying to Comments (Blog Notes)

+ SPONSORS

RESOURCES

About Us

The Old Site

Advertising information

Comment Guidelines

Publisher's Statement

Contact

« The Fall of the Berlin Wall, November 1989 | Main | Here's Your Illustration! »

Tuesday, 12 November 2019

Dye Transfer and Me, Part III: Sweat and Tears

Words and photo by Ctein

Dye Transfer and Me: A Meandering Half-Century Journey: *As a prelude to the big [Black Friday Dye Transfer Sale](#) I'm writing a series of columns talking about dye transfer—how it worked, what it meant to me and other photographers and printers, and our perpetual jousting with Eastman Kodak. (Important note: You cannot put in print orders or requests before the sale. Please don't email me your preferences in advance.)*

Part 3 of an Uncertain Number...

In Which Our Hero Doth First Engage the Great Yellow Beast with Stealth and Guile

When we left off in [Part 2](#) (and mid-1976) I had written to Frank McLaughlin at Eastman Kodak about my ongoing and unsolvable-by-me problems getting good prints out of the dye transfer process. It was an act of desperation. It paid off.

Frank's reply answered all my questions, included a "DT care package" of every related publication Kodak had, and concluded with "The dye transfer process is complicated and sometimes frustrating, but...keep at it. If I can be of any assistance, please let me know."

Fortified, I plunged back into the learning pool. By the end of the year I had the process under control (no, not "mastered," never mastered). They were small prints and artistically insignificant, to teach me how to manage the process end of it. The art would come later, after I learnt craft.

Finally, the big moment—my first full-size (20x24-inch) print for my portfolio. I chose this photograph (figure 1) because I knew it would benefit from dye transfer's unique qualities. I needed a long density range to render everything from the disk of the sun to the near-silhouette Saturn/Apollo 17 vehicle with appropriate brilliance. In addition, the Ektacolor print was monochrome orange. I knew there was more of a range of hues than that, and dye transfer, with its excellent yellow (see [Part 2](#)) was the ideal medium for this photograph.

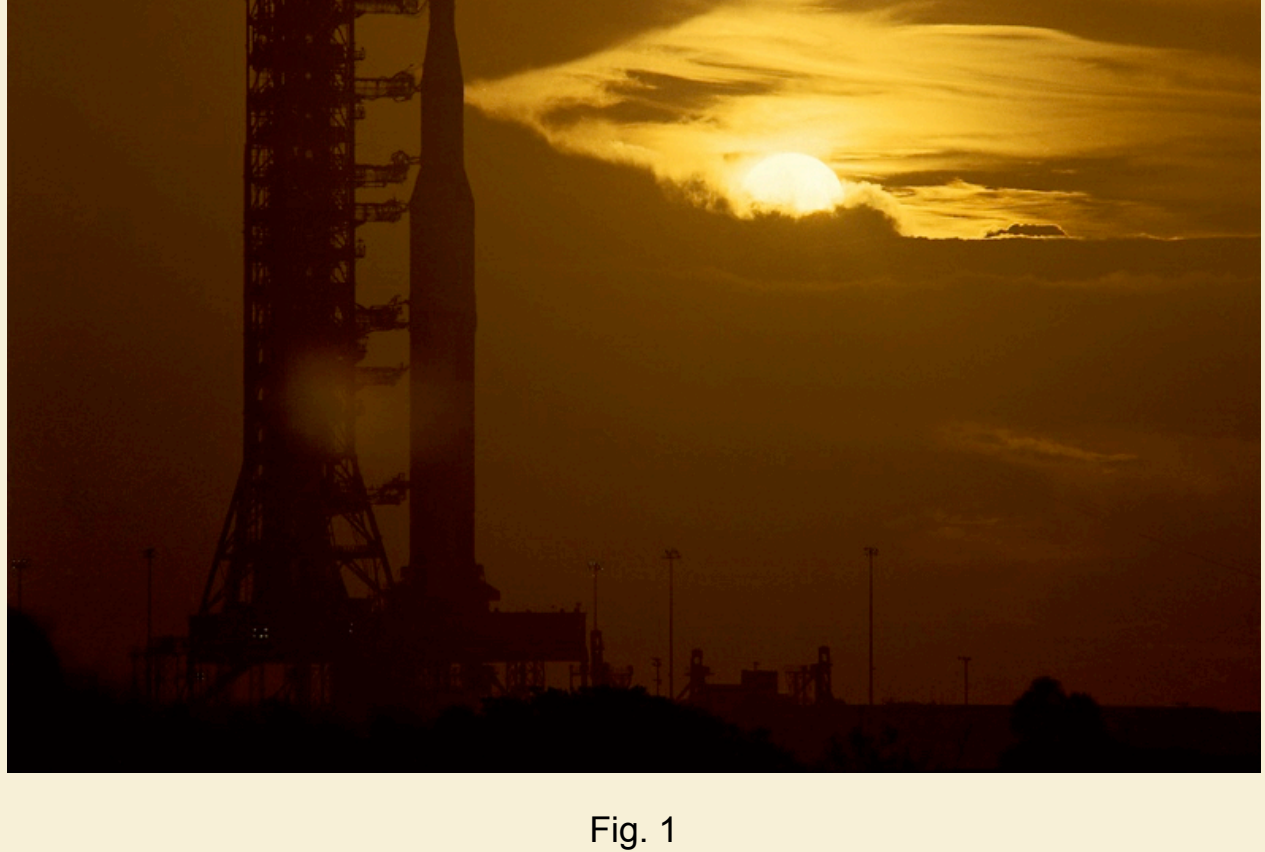


Fig. 1

I ordered a box of 16.5x21.25-inch Pan Matrix Film, the largest sheet size it came in. Not quite large enough for a 16x20 image area, not if I wanted big enough borders to handle the film, but close enough. It would've been nice to have 20x24 film, but it was already fabulously expensive—800 current bucks for 25 sheets.

Into the darkroom! I spent a day making test strips, nailing down the correct exposure and color balance. My first process innovation had been controlling the color balance using the dial-in filtration in my enlarger's color head. The usual way to control color balance was to vary the relative exposures for the red-, green-, and blue-light-exposed matrices. I knew how to color balance this way, but it had disadvantages. I had to do annoying calculations to make fine color shifts as appropriate RGB exposure adjustments. More significantly, exposure times much beyond 90 seconds would induce reciprocity failure.

Photographers think of reciprocity failure in film as being about time. Really, it's about intensity. The lower the light level hitting the film, the less effective the film is at recording it. Reducing the light intensity by a stop reduces the recorded image by more than a stop, because the weaker light isn't recorded as efficiently as the stronger.

Reciprocity failure causes contrast to increase. A one-stop luminance difference in exposure might become a 1.1- or 1.2-stop effective difference in what the film records, or worse. The lower the intensity (the longer the required exposure) the stronger the effect. This would be very bad news for color separations. They all have to have the same contrast or you'll get color-crossover in the highlights and shadows, even if the midtones are correct.

Many of my exposures were going to be a lot more than a 90 seconds. Well, I couldn't get rid of reciprocity failure, but I could equalize the exposure times by dialing color filtration into my enlarger's color head. For example, if the red exposure was half that of the green and blue, dialing 30CC (one stop) of cyan filtration into the color head would make the red exposure time match the other two. Yes, with very long exposures there'd be an overall contrast increase, but I had tools to correct that.

This worked beautifully. My most extreme case was a dense negative of a very high contrast subject which needed a very strong contrast-reduction mask. I wound up with 12-minute exposures, but the print looked gorgeous.

Okay, enough about my cleverness. It's a new day; it's time to make my first big set of matrices.

They are horribly dense, badly overexposed. What happened?!

In my enthusiasm, I'd forgotten to stop the lens down after focusing. There went \$100 worth of film.

Matrix Set 2. The exposures are just fine, but two of the sheets of film stick together in the developing tray and I can't get them apart fast enough (developing this stuff was hard). There's a big blotch in one of the matrices.

Another \$100 worth of film. *Grrrr*.

Set 3: The exposures are good, the development feels good. As I rinse the magenta matrix in hot water to remove the excess emulsion (see the [process description](#)), the entire image slides off the film! I'd accidentally exposed one of the matrices wrong-side up, and that's what happens if you do.

At this point my memory fails me. I can't recall what went wrong after that...traumatic amnesia, I'd guess. All I know is that I went through four—that's right, *four*—more sets of matrices, and there was something wrong with each and every one and it was different each time.

What I do remember is being in tears. I'd expected that very expensive box of film would get me (optimistically) a half dozen finished prints, but I had zero. I gave up for the day.

The next day, calm and less tearful, I went back into the darkroom, took a deep breath, centered myself as much as I could, and made Matrix Set 8. It was good. My first successful portfolio print, achieved through sweat, blood, and tears.

Okay, no blood—there were enough of the other two, thank you.

Fortunately, I never had another experience remotely like that first one. Occasionally I would screw up a set of matrices—galling, and expensive—but the majority of the time everything went fine. In fact, I can't remember much about my dye transfer printing for the next year, it was so uneventful. It's what they say, no news is good news.

Not that I didn't come up with all sorts of little questions; and in early 1978 I sent a long list of them off to Frank McLaughlin. He courteously answered most of them and encouraged me to continue writing him. I did, and we quickly struck up a friendship that lasted for the rest of his life.

Correction: something noteworthy did happen in June of 1977—my first professional publication, an article on contrast masking color negatives, appeared in *Petersen's Photographic*, the big photography-craft magazine in the US (circulation: 300,000+). It was an article Bob Nadler at *Camera 35* had wanted, but it had taken me a couple of years to get around to writing it and by that time Bob had moved on. That taught me an important lesson—never, ever put off writing an article that an editor has asked for! I sent the orphaned article to Karen Sue Geller at *Petersen's*, who bought it and launched my writing career.

As I wrote back in [Part 1](#), one of the reasons I had a five-part series for *Petersen's Photographic*, "Dye Transfer for Beginners," in 1980, was so that no one else would ever have to go through the hell I went through climbing learning curves I didn't even know were there when I started. There was a second reason. I was scheming.

I met up with Bob Nadler in early 1978 when he was in San Francisco on a book tour. On hearing of my success in learning how to make dye transfer prints, he told me that Kodak was thinking seriously about killing off the process or, at the very least, eliminating shipments of anything less than professional-lab quantities of supplies. Think thousands to tens of thousands of current-dollars minimum orders. That would eliminate the likelihood of anyone new taking up the process—a slower path to demise, but no less certain.

That would not do. With Frank's off-the-record and sometimes tacit support, I approached *Petersen's* later that year with the idea of a five-part series on making dye transfer prints. Karen had also heard the rumors and said she'd be on board with me doing that...but only if I could guarantee supplies would be available in reader-affordable quantities. I said I could. Technically, that wasn't true at that moment.

Okay, nothing technical about it.

My then-partner Terry and I made annual driving trips cross-country each fall, so a few months later I was in Rochester meeting Frank for the very first time. I told him that he could tell Kodak that *Petersen's* had "committed" (nudge nudge, wink wink) to running a series on dye transfer. Frank was a loyal Kodak employee, but he was more loyal to dye transfer. Our co-conspiracy worked. Kodak management bought it and canceled their plans for discontinuing or drastically restricting product availability.

"Dye Transfer for Beginners," Part 1 of 5, appeared in January of 1980. Through a scheduling SNAFU (Paul Farber's, not Karen's), Part 2 did not appear in the February issue but was delayed until March. The magazine got no fewer than *five* letters from readers asking what had happened to the second installment, which was incredible!

I know how funny that sounds in these days of instant Internet communication. It was different back then. When all correspondence with magazines was by mail and there was no such thing as a "Web presence," letters from readers were few and far between. It was significant when an article got even two letters from readers. Five? That was unheard of. We had a hit on our hands and dye transfer was safe for another few years.

It was my first joust with Kodak. It wasn't going to be my last by any means, and I won them all, save at the very last. Okay, a few beyond the very last. Yes, friends, more dirt will be dishd. Stay tuned to this channel.

Ctein

(To see all the comments, click on the "Comments" link below.)

Featured Comments from:

Dave: "Ctein, Thank you for writing this series! Such interesting tidbits about the dye transfer process, along with a fortuitous series of events that allowed you to learn the process and practice it for years. The columns read as though they were part of fictional story, but you persevered by learning the process, asking questions to your contact at Kodak, figuring out a way to prolong the manufacture of dye transfer materials, and more to come! Even though I know nothing about dye transfer, this series fascinates me with all the twists and turns of the story. I commend you for continuing after the first results were disastrous and expensive! I can almost imagine how you felt when that expensive box of film was depleted without a decent print—"traumatic amnesia" indeed! I'm eager to read the next part in your series."

Posted on Tuesday, 12 November 2019 at 07:42 AM in Ctein, Film and Darkroom | [Permalink](#)

Unique contents copyright © 2019 by Ctein and the commenters

Comments

A wonderful, wonderful story.

Posted by: [Martin D](#) | Tuesday, 12 November 2019 at 09:47 AM

Ctein,
Thank you for writing this series! Such interesting tidbits about the dye transfer process, along with a fortuitous series of events that allowed you to learn the process and practice it for years. The columns read as though they were part of fictional story, but you persevered by learning the process, asking questions to your contact at Kodak, figuring out a way to prolong the manufacture of dye transfer materials, and more to come!

Even though I know nothing about dye transfer, this series fascinates me with all the twists and turns of the story.

I commend you for continuing after the first results were disastrous and expensive! I can almost imagine how you felt when that expensive box of paper was depleted without a decent print -- "traumatic amnesia" indeed!

I'm eager to read the next part in your series.

Posted by: [Dave](#) | Tuesday, 12 November 2019 at 11:56 AM

Ctein just a vote of appreciation for you for writing this series. Very enlightening

Posted by: [Terry Letton](#) | Thursday, 14 November 2019 at 10:06 AM

I agree with Dave; this is fascinating, thanks Ctein!

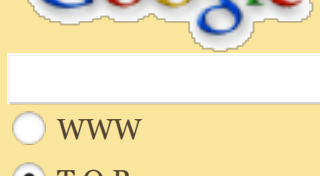
Posted by: [Don McConnell](#) | Friday, 15 November 2019 at 08:07 AM

The comments to this entry are closed.

PORTALS



SEARCH



WWW
T.O.P.
Google Search

CATEGORIES

Around the Web (226)

Baker's Dozen (50)

Blog Notes (571)

Bon Mots (10)

Book of the Week (15)

Books (522)

Camera Reviews (138)

Cameras, new (785)

Cameras, old (256)

Carl Weese (23)

Collecting (53)

Computers (93)

Ctein (371)

Digital Techniques (73)

Eamon Hickey (2)

Editing and Portfolios (76)

Exhibits (84)

Film and Darkroom (133)

Followups (157)

From the Archives (38)

Geoff Wittig (2)

Gordon Lewis (15)

Interviews (7)

Jim Hughes (31)

John Camp (8)

John Kennerdell (17)

Ken Tanaka (11)

Kirk Tuck (8)

Legal and social issues (113)

Lenses (316)

Mini-Portfolios (5)

Morning Coffee (32)

Music Notes (106)

News and Occasions (478)

Obituaries (82)

Off-topic posts (498)

Open Mike (343)

Oren Grad (1)

Past Blasts (23)

Peter Turnley (66)

Photo equipment (346)

Photo industry (171)

Photo-tech (223)

Photographers, current (240)

Photographers, historical (165)

Photographic aesthetics (222)

Photography businesses (27)

Photojournalism (85)

Polls (16)

Print Offers (262)

Printers and Printing (169)

Quote o' the Day (95)

Random Excellence (247)

Random Snaps (125)

Reader Prints (7)

Recommended Cameras (14)

Reflections (199)

Reruns (24)

Roger Overall (2)

Sarge (1)

Satire Alert! (25)

Shooting Skills and Camera Handling (7)

Shooting techniques (158)

Software (75)

Sunday Support Group (73)

TOP contests (6)

TOP's Own Books (10)

Visual Culture (271)

Websites and links (141)

Weekend Exercises (5)

Workshops (19)

Your Turn (9)

ARCHIVES

March 2024

February 2024

January 2024

December 2023

November 2023

October 2023

September 2023

August 2023

July 2023

June 2023

More...

STATS



Blog powered by Typepad
Member since 06/2007