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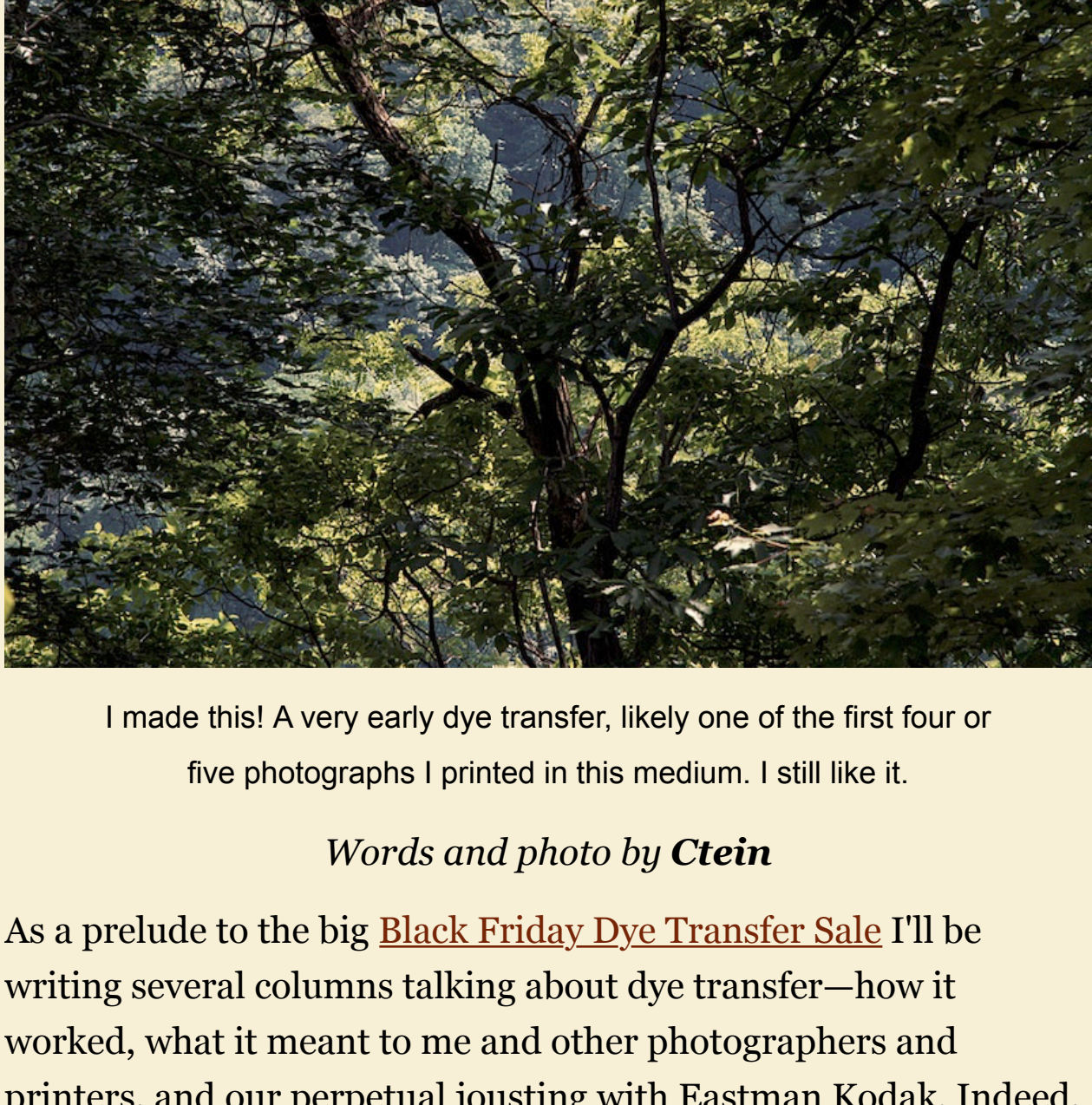
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Monday, 28 October 2019

Dye Transfer and Me: A Meandering Half-Century Journey

Part 1 of an Uncertain Number



I made this! A very early dye transfer, likely one of the first four or five photographs I printed in this medium. I still like it.

Words and photo by Ctein

As a prelude to the big [Black Friday Dye Transfer Sale](#) I'll be writing several 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. Indeed, there was much jousting.

As the title says, this is about me. Not just me, though. It's also about Frank McLaughlin, Bob Nadler, Karen Sue Geller, Phil Condax, Ronny Schwartz, Tom Rankin, Jim Browning, Ray DeMoulin and a cast of dozens. There are heroes galore. There are a few villains.

But...back to me. I've always been a print-oriented photographer. Possibly that's because the first photography I ever took seriously I did with a [Polaroid camera](#). Or possibly because in my early photographic years I was interested in newspaper photography. Or maybe it was just me. I like paper.

When I started doing darkroom work, late in high school, it was all black and white prints. That changed in 1970, starting my senior year in college. A company called KMS Industries introduced the Unicolor line of easy-to-use color film and paper chemistries and color-printing tools and filters. Intrigued, I dived in and quickly discovered that I loved working in color. I also discovered that the best color negative films were nowhere as good as the best black and white films. By comparison, they were grainy, unsharp, and had poor tonality. I considered slides, but the slide-printing (a.k.a. "reversal") materials were lousy—contrasty, poor in color, and not very sharp themselves.

I considered my options carefully and leapt into medium format photography with one of the first Pentax 67's to make it into the US. That was my go-to camera for the rest of my four-decade film career. That solved the grain and sharpness problems. I rapidly climbed the color printing learning curve and in a matter of months was turning out prints that still look good to me (ignoring the small detail that they have faded like mad).

Fast forward four years to 1974. I'm not established as a full-time professional but working on it. I visit the East Coast to exhibit my color prints from the last Moon launch, Apollo 17 (you can see a [bunch of them here](#)) and make the rounds of the photography magazines hoping to get a start as a writer. The latter is going better than the former. I make the acquaintance of Peter Moore, Jason Schneider, and Arthur Kramer at *Modern Photography*, acquaintances which prove both valuable and pleasurable in years to come. Bob Nadler, the technical editor at *Camera 35*, gives me my first assignments. Maybe there's some future in this writing game, after all! (Yes, this will tie into dye transfer, you'll see.)

The exhibit, though, doesn't drum up a lot of business. A little, enough to pay expenses, but I'm not taking the world by storm. It's questionable whether it was worth my time and trouble.

Until a fellow walks up, looks approvingly at the work and says, most pleasantly, "You do lovely work. I'd love to get some good prints of it."

Oh, really? I'm making professional-quality 16x20" color prints in my apartment-dinette-converted-to-darkroom. I'm doing contrast control masking, which involves duplicating the original color negative on low contrast black and white film and sandwiching the two together for printing, to decrease or increase the contrast of the final print. Not as convenient as having the multiple grades of paper available for black and white printing, but it accomplishes the same purpose. Between that, and the dodging and burning skills I'd learned doing black-and-white printing, and an innate eye for fine color balance, I was more skilled than 98% of the other printers out there. I'd looked at a lot of other people's's [sic] color prints by then; none of them were much better printers than I.

There were two possibilities. One was that this guy, Charlie, was a pretentious jerk. The other was that he knew something about color printing that I didn't.

If the latter was the case, I wanted to know what he knew that I didn't. "Let's get dinner," I said. That was the branching point for my entire adult life. I found myself on the road less traveled by, and indeedly-do, it made all the difference.

Because, he *did* know about something I didn't. Something called "dye transfer printing."

Oh, sure, I'd heard of it. I read the photo magazines voraciously and owned most of the Sierra Club books. I was well aware that big-name advertising agencies made heavy use of it as well as photographers like Elliott Porter, who photographed on large-format color slide film and produced the most gorgeous color prints. It was supposed to be the best color printing process ever devised. But that was all I knew. I'd never seen a dye transfer print and I'd never known anybody who made one. Making them was certainly way beyond anything I could contemplate; it wasn't like I had a well-funded commercial lab, and besides, I was printing color negatives, not slides. Dye transfer wasn't going to do me any good.

Except...

I learned that dye transfer wasn't a positive-to-positive process; it was a negative-to-positive process. (For details about how that works, read ["Dye Transfer: The Ultimate Color Print"](#) starting at at "How I Make Dye Transfer Prints.") It was just that 99% of dye transfer printing was for commercial/advertising markets, where transparencies were the norm. Dye transfer was by far the best way to print transparencies.

If you're old enough to remember when point-of-sale and advertising displays were large backlit color photographic (not digital) prints, you've seen dye transfer prints, even though you didn't know it. The advertising kiosks in transit stations? Dye transfer. The backlit display signage in fast food restaurants? Yup, same.

The unexpected reality was that it was much easier to make dye transfer prints from negatives than slides. You didn't need to go through an extra generation of separations to get a negative. You also didn't have to do elaborate color-correction masking; color negatives already had that built into the film.

One obstacle disposed of. But I wasn't equipped. I'd looked into what commercial labs had in the way of equipment for doing dye transfer printing, and it was daunting. Several tens of thousands of dollars (in today's dollars) worth of gear. I didn't have anywhere near that kind of money, or space. Charlie and I argued about this for months. He finally won the argument by pointing out that dye transfer had been developed in the 1930s and hadn't changed very much since then. Did I really think the commercial labs circa World War II had the kind of fancy equipment of a 1970s lab?

Good point. I was a Caltech-trained physicist. I knew how to build lots of equipment or make do with what I had. I understood how to do densitometry and densitometry without modern photoelectronics.

After a year, he'd finally worn me down. Intellectually, anyway. I'd still never seen a dye transfer print nor talked to anybody who had made them, and it turned out I had some serious misconceptions, but I didn't know that. What I had done was pick up Kodak's pamphlet, *The Dye Transfer Process* (E-80). It laid out every step from making the matrices through spotting and finishing the finished prints, all explained in 24 pages. How hard could it really be?

As I said, some serious misconceptions. Ignorance is sometimes bliss. Mostly, though, it's just ignorance. Ultimately there were some benefits to those ignorances and, honestly, some of the things I didn't know would've stopped me dead in my tracks before I even started had I known them. Still...one of the reasons I wrote 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.

That wasn't the main reason I wrote the series—I had far more Machiavellian motives—but I'm getting ahead of myself. I'll get to it. (Look, Ma, foreshadowing!)

Meanwhile, back in 1975, Charlie had beaten down all my objections. Well, almost all. Dye transfer was never a cheap way to print. Figure a hundred dollars, more or less, to get to the first finished print. That's once you know what you're doing. I still had to learn. I told Charlie that I would definitely put it on my to do list, but I probably wouldn't get to it for a while. He sighed with the mildest of exasperation and said, "How much?"

"How much what?" I am a little slow on the uptake sometimes.

He pulled out a checkbook. "How much money will you need to get started?"

I did a quick mental calculation and quoted a number that would be around \$5,000 today. He wrote out a check. "Let me know if you need more. Now go make me prints."

That was that! I had the instructions, I had the money to turn them into reality. In six months, I'd be turning out masterful dye transfer prints.

Right?

Oh, kiddies, if you believe that, I have so many bridges I can sell you. Hardly used, even!

I wasn't jumping into the deep end of the pool, I was jumping into the deep end of an uncharted lagoon, populated with all manner of who-knows-what. Things were just starting to get interesting.

Tune in next time for the further exciting adventures of "Ctein Bites Off Far More Than He Ever Imagined."

Ctein

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

Featured Comments from:

Michael Elenko: "Wonderful story. I grew up in a color lab. My grandfather started one of the first national mail order color processing businesses out of NY, and both my folks were involved with the family business. Many decades later in the early 1980s I used the Kodak Ektaflex diffusion transfer process as it was quite a convenient method for color printing that used a single chemical."

Alan Fairley: "Ctein—I'm hooked. Eagerly awaiting the next installment!"

Joseph Reid: "For anyone who has never seen dye transfer prints, all this fuss may seem weird. But it's not. I had a chance once to get a super close-up look at some of Mary Ellen Mark's dye transfer prints, and was floored at the color. It's not really describable, but they are like no other color experience short of life in front of you. All other prints seem lifeless next to them. And to echo others, I'm looking forward to the rest of Ctein's series. Good to have him back at TOP."

Posted on Monday, 28 October 2019 at 07:58 AM | [Permalink](#)

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Comments

Fascinating. Can't wait to read more. One correction: Petersen's Photographic, versus Peterson's.

Posted by: Dale | [Monday, 28 October 2019 at 09:44 AM](#)

That is how life wants to be lived. We perceive something that we know matters to us, and we allow ourselves to follow it through and to get it right, without undue concerns about the costs. Easier for the young, perhaps, but we can all preserve some of that energy and rawness and allow it to continue to shape our path. A great story, you got me hooked.

Posted by: Martin D | [Monday, 28 October 2019 at 11:15 AM](#)

Not relevant to this post, but I just wanted to thank Ctein for answering my previous comment regarding digital infrared. I'm catching up on my reading and was oh so pleasantly surprised to see his reply. I can't figure out how I missed those three articles way back when; In addition to faithfully reading TOP for years, I was also very immersed in digital IR at that time (and through the present). Again, thank you!

Posted by: William Cook | [Monday, 28 October 2019 at 01:54 PM](#)

About the same time as Ctein, I, too, learned of the beauty of dye-transfer prints and the even more difficult process of pigment printing. I was in high school and soon to college in the mid 1970s. Part of my college curriculum color printing. There were three sections, Positive-positive, then using I think the Kodak 500 system, C-printing with the then starting C-41 & RA-4 process (I think) and the one few would venture and try, Dye Transfer.

Though this class was on the curriculum, it came with no hands-on training and I was off on my own.

I was in! Luckily, my mentors of the process were fully into the process or knew who to ask. Phil Hyde and Al Weber answered many questions for me and offered their guidance.

The first couple of prints took weeks to learn the craft and run the numbers of the separation negatives with a densitometer, each round getting me closer. Finally, success!

I spent a summer session doing a couple more and getting a little better since I was considered the "expert" at college, but in a semester, neither got too far.

I still have several of those prints today. However, I realized though this was the ultimate process, Cibachrome then coming into fruition, was more to my liking and the skills and craft I learned doing dye transfer went far into taming many of the issues of printing with this medium.

Shortly after my trials and tribulations, there in Petersen's PhotoGraphic was Ctein! Many of the issues he had written about were similar to what I had spent months overcoming. It was simply a matter of timing and perhaps I, too, would have continued this unique process.

Posted by: Larry Anglie | [Monday, 28 October 2019 at 03:26 PM](#)

"Ignorance is sometimes bliss. Mostly, though, it's just ignorance." That sums up my entire early photographic exploits (and plenty of my later ones too).

Posted by: Mikal | [Monday, 28 October 2019 at 04:18 PM](#)

Great story! Looking forward for more!

Posted by: Richard Man | [Monday, 28 October 2019 at 04:18 PM](#)

I first learned of the dye transfer process about 30 years ago, when the Philadelphia Museum of Art hosted an exhibition of Richard Misrach's prints. Many were dye transfer process. I loved the prints. So, what is dye transfer? I acquired a "how to" book, investigated Kodak's materials costs, and realized that I needed a darkroom, which I then built.

Long story short, my wife gifted me with a block of flying lessons. I couldn't do both at the same time, so dye transfer remained an orphaned project. Now, having just read the real-world how-to in your link, I'm glad I did. I believe I would have wasted LOTS of money. (Not that getting my pilot's license was cheap.)

My current fascination is carbon ink-sets for B&W printing. Any day now

Posted by: Mike | [Monday, 28 October 2019 at 06:02 PM](#)

I smiled when you mentioned Unicolor processing chemicals. The very first roll of film that I ever processed was in 1980. It was a roll of Ektachrome 64, which I processed using a Unicolor E-6 processing kit. I was dazzled when I saw the results. I still have slides from that processing job in a slide storage box somewhere.

(On a side note, I was an avid reader of columns written by Jason Schneider and Arthur Kramer in the old *Modern Photography*. I also remember buying and reading Peterson's Photographic back in "the day".)

I heard about the dye transfer printing process at around the same I started processing film myself. I think recall reading a very good article about it in a series called Marshall Cavendish's The Photo. I was fascinated by descriptions of the process, along with illustrations and photos showing how it was used to create prints.

The first examples I had seen of selective-colour editing, which Photoshop handles with ease, was via the dye-transfer process. I doubt I would have tried this process myself - it looked too laborious, and I would have had no idea about where to get the necessary materials and chemicals.

In 1984 I tried printing with pearl-finish Cibachrome, which I used to create very nice prints from my slides. I later used the glossy version to create prints that still hang in my parents' house, and look as good as the day I printed them in the mid-1990s.

I no longer try to print photographs, but I still enjoy reading about printing. I look forward to the next instalment of this series.

Posted by: Craig Voth | [Monday, 28 October 2019 at 06:36 PM](#)

Dear Michael,

Ah yes, Ektaflex! The easiest imaginable way to make color prints from slides or negatives. It barely even required a darkroom! It also produced prints of excellent permanence and color quality. Like dye transfer, its dye set was much more accurate than other print materials, so the color fidelity was very good. In fact, I used it to proof negatives to give me some idea of how they'd look as dye transfer prints.

Ektaflex disappeared for two reasons. One was that it was extremely expensive, two to three times the cost of more conventional color prints. The other was that it, like Kodak's instant cameras, infringed on a number of Polaroid's patents! Polaroid sued, won, got a huge amount of money and forced Kodak to discontinue their instant cameras and Ektaflex.

Don't cry too many tears for Kodak, though. They got into the instant camera business to siphon off enough of Polaroid's revenue that Polaroid couldn't compete with them in product development. They never intended to make money off of that business — the pure corporate warfare. Sleazy but legal. And, it worked — the money Polaroid got from the lawsuit was too little and too late.

- pax \ Ctein
[Please excuse any word-salad. Dragon Dictate in training!]

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-- Ctein's Online Gallery: <http://ctcin.com>

-- Digital Restorations: <http://photo-repair.com>

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Posted by: Ctein | [Wednesday, 30 October 2019 at 06:30 PM](#)

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