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Op Ed-Opinions and Editorials-Pelikan's Antidisambiguation-Encoding, Reproduction and Fidelity

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Encoding, Reproduction, and Fidelity

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Against the Grain / November 2017

A welcome realization came my way recently. I was reading (no surprise there), reading a book, actually (by which I mean ink printed into paper), when the suitability-to-task of the medium asserted itself with a wallop.

"Wow," came the thought, "Books are really good!"

Sheesh! How far have things gone when a realization like that is enough to stop me in my tracks?

It had been a while, you see, since I'd read from a physical book. Such reading occupies a dismaying tiny proportion of the total reading I do. What, maybe five percent?

And yet I read constantly, all day long, at work or at leisure, just constantly. It's just that it has almost all, I mean, ALL, gone paperless.

The occasion for my return to print was the wish to re-access a title that hasn't made the jump, or rather, has not yet come across the digital Rubicon. The title? The Negative, by Ansel Adams.

This is Adams' masterwork in the area of black and white photography — the second volume of his series in which he explicates the otherwise fathomless depths of photographic image creation, specifically, how to harness previsualization of a to-be-finished image whilst examining a scene in reality. The making of a photograph entails first a very detailed sense of what you wish the final print to look like. Then, you must take objective measurements of the light in different parts of the scene in front of you. Next, you must determine the contrast range of the scene in reality, and compare that range to the potential contrast range attainable in the finished image. At this point, you map a desired part of the gray scale from the scene you've measured onto a chosen part of the gray scale on the image you plan to produce. You can then understand, based upon that placement, where on the target gray scale the other parts of the source gray scale will fall.

Now the fun begins! Now you can slide the entire source contrast range up and down the target gray scale — if I move this source gray tone here on the target, where will this other source gray tone fall as a result? Best of all, you can then, through adjustments to development time, expand or contract, stretch or squeeze, the gray scale mapping to take fullest advantage of the contrast range available in the target medium. It's not enough to plan the exposure, you must also develop the negative to achieve the resulting placement you have planned.

The result of this process, successfully accomplished, is a negative of stunning beauty. Adams, trained as a classical pianist, liked to say that if the negative is the score, the print is the performance. His next volume slides us into the next adjacent bottomless pool — making the print.

Have you ever had the chance to spend time looking at an Ansel Adams photographic print? I refer here to a real photographic print produced in a darkroom, not a reproduction of that print in a book or on a poster.

That said, the quality of the reproductions in the Ansel Adams book I was reading contributed to the fresh appreciation of the printed work. Adams, not surprisingly, took an active interest in the book printing process. He worked closely with the book designer to produce photographic reproductions in his printed works that attained as high a state of fidelity to the photographic originals as possible. From choice of paper, its brightness, its surface, its coating, to the selection of ink with its tone and sheen, Adams wanted to produce a mass-manufactured image that would be suitable to illustrate the principles he was trying to teach, but also to achieve a fitting aesthetic result.

It comes down to dynamic range — how much shadow detail can you pull out of the ink — typically the reproduction crushes the bottom two or three gray scale segments, known as zones, into a single dark gray-to-black murk. That's why seeing a genuine photographic print of Adams' work can be so impressive — the richness of the detail, deep into the shadows, imbues the print with a depth that cannot be found in a reproduction.

Nowadays we're most likely to encounter these images on a computer screen. Interestingly, the very best liquid crystal display (LCD) technology is capable of surprisingly good dynamic range. Viewing an image on paper, or on an eBook reader's electronic paper display, relies on light reflected from the base medium. The electronic paper and E-Ink technology behind the monochrome eBook reader is especially deficient in this regard. And yet even the best display technologies struggle to reproduce the look of a well-lit photographic image. Those photographic images have a metallic component, silver, or sometimes platinum, that lends a glow to the deep tones that is very difficult to produce any other way, or to reproduce at all.

Yet still, the best book printing processes do a decent job, with artful selection of paper and ink combined with attention to detail in all the steps of the printing process. It is for this reason that the printed book remains such a glorious medium to capture Adams' works, used throughout his instructional book series to illustrate his principles and techniques.

Staring at the artifact I was holding, a thirty-year-old mass-produced book — the paper still white, the images still stunning, the text so black and crisp — I was struck with a sudden sense of the sheer value of the medium and its irreplaceability.

Nevertheless, without the mass-produced reproductions, many images of world-class importance would struggle to achieve the impact they've had.

Long ago, Picasso's Guernica was still in New York. I had seen the image of this painting many, many times, in books, as a wall poster. None of those prepared me for the impact of walking up to the real thing. It's difficult to convey just how immense the painting was in person. I made bold, leaning in for a closer look. It was astonishing — if you took any particular square foot of that painting and examined it closely, there was a complete painting, in its own right, in each portion of the larger work. Zoom in further and examine a square inch, and each square inch revealed a miniature masterpiece. I finally reached the limits of the guards' forbearance and was gently asked to step back. Now in hindsight I feel lucky to have been permitted to be in the painting’s presence at all. Now when I see the reproductions, I think of the real thing. Having seen it in person lends quality to the reproductions.

I’ve run into the same thing with music production and reproduction. Though a classical music listener all my life, I was never much of an opera fan — until I was able, on occasion, to attend the real thing. In recent years I’ve been very fortunate to be able to travel
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to the Metropolitan Opera in New York fairly regularly. As a person who’s produced and presented concert and performance recordings over many years, I can truthfully say that the very finest examples of the recorded form only approach, and barely so, the sound of an orchestra in a well-designed space. To achieve reproduced sound results close to the live concert experience requires a listening room environment, carefully placed and tuned equipment, and a production process aligned to the anticipated listening environment (much as Ansel Adams employed previsualization of the finished image, right down to the surface on which it would hang and the light that would fall upon it). It is a supremely non-trivial undertaking.

And even then, the resulting finished product does justice to the original only enough, and barely at that, to justify the effort that went into producing it. Its saving grace comes from the fact of its longevity, and that it can be used to reach a vastly wider audience, over a far longer period of time, than the original performance could ever achieve.

The exception to the reproducibility of these observations is staring me in the face. Here, in these faint letters, here on a screen, there on paper, we find evidence for the power of words captured in text to capture and convey ideas. Ideas, encoded as written words, can retain a level of fidelity rarely attainable in the graphic media used for images, or the recorded media used for music. The fidelity is durable; if the text is legible, the encoding is preserved and the idea can be conveyed and reproduced in the mind of the reader with a level of fidelity limited only by the skill of the author and the ability of the reader to permit those words to flow back into their original form, that of thoughts.

Thanks goodness for all these forms! As well, thank goodness for all the care that has gone into the capture and keeping of thought. It isn’t much, but it’s the best we have. 🍪

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Some of the blame for this state of affairs, beyond the mere fact that flawed human beings are, well, flawed, is the pressure on everyone to produce articles, research, grants, and so on. This does not excuse the misprisions, but it does put them in context. Furthermore, when promotions or dollars are not at stake, there is the tantalizing hook of fame, most of us forgetting how easily fame can become infamous.

But even when none of these things is present, there still exists in peer review the bias of the reviewer. Any reviewer can find fault, and I am surely not the first person to point this out. This is especially true in the case of academics. Isn’t it our nature to be, if not distrustful, then at the very least, skeptical? To find fault, even if it’s a handful of merely minor problems — should that kill a good idea, a strong case, or a potentially innovative approach?

This point becomes particularly important in the humanities when a given paper may well not have one right answer or approach, at least not in the case of the sciences when sure outcome can be anticipated mathematically. Nevertheless, even accounting for this poses its own problems as we have seen recently in the case of the social sciences when outrageous papers have appeared, having successfully made their way through what would appear to be a rigorous peer review process. I am thinking here of Alan Sokal’s exposure of gravity as a construct (http://bit.ly/1eVR13m) some decades ago, and of a more recent, if hilarious misstep, regarding the evolution of a social construct (http://bit.ly/2weyN0A).

I wish I could say what the answer is. Peer review appears to be taking a downhill slide, fake news is everywhere, and predatory journals threaten to unravel open access. Trying to untie this Gordian Knot is not an easy task.

Fortunately, librarians are equipped with modern day Fragarachs, that legendary sword that when placed upon the throat of anyone forced the truth out of them. 🍪