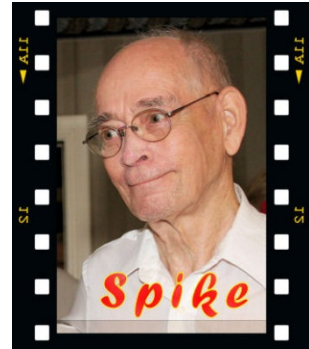


Digital Photography - Tips and Tricks

December 2010



Digital Photography in 2020©

(A photography projection for the next decade)

As we attempt to outguess our photographic future, we abide by traditional trends from; marketing that may be overly optimistic; financial resources that may be pessimistic; and then wishful thinking that merely loves exciting changes. What I yearn to see is a controlled advanced technology resulting with lower costs which in turn promote even more innovative and more improved methodology.

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Spike Smith

1. PHOTOGRAPHER'S THOUGHTS

Some factors that were not even a voice ten years ago have now become powerfully unique tools such as *Facebook, Twitter, Tweeter*, and such as that there. Professional photographer bloggers have stated certain guesses using this medium for presenting future trends potentially affecting their businesses as the new decade unfolds. Following are thirteen samples of interest originating from their blogs.

(1) Photographers will migrate from practicing solely still figures only or video only into sharing both media equally.

(2) Telling a story will definitely remain the primary factor for great picture creations.

(3) Cameras as integral subsystems within cell phones will improve with great quality comparable with our time-honored 35 mm film cameras.

(4) Digital imaging will improve overall definition by 10-fold or more.

(5) Amateurs will freely create digital photograph albums in printed format and digital movies.

(6) Service organizations will replace personal ownership, maintenance, archiving of captured images.

(7) Service organizations will persuade amateurs and corporations from processing new story photographs and just lease their pre-sorted package deals.

(8) Traditional wedding photography will continue strong as marriage itself will remain revered. Credit here is due to observing lasting professionally printed photo albums thus reminding generations of their genealogy, cultural trends, ties, and preservation of history.

(9) Professional photographers may become fewer in number but quality documentation and display of portraiture, weddings, and other events will remain in high demand for their expertise.

(10) Photography as a serious art will continue to improve. Creation of even more imaginative aural/visual technologies will emerge for our enjoyment.

(11) We will continue to have those excessive innovations or so-called improvements offered to entice us to replace equipment, software, and services every two years.

(12) Vast improvements in cost and size of digital memory will allow us even greater ability to document life and at greatly reduced costs.

(13) Trade schools and universities will realize the value of integrating basic chemistry, mechanical, and human engineering which in turn allows speeding up new and improved tools of the trade. Increased development of application-specific computer and camera chips will be the key to faster imaging with greater detail.

2. TRENDS

Traditionally we base our prognosis on trends. For example, when computer chipmakers researched methods for lowering the cost and improving the reliability of chips we then noted lower costs for developing an increased use of the products. Innovators then search and find more specific uses for chips (as we have seen with the computer on a chip) and today we can see most functions for a HDTV incorporated on just a few chips. Much earlier while I was in the U. S. Army, a walkie talkie radio was a marvel even though an officer-user had to have an assistant carrying this 100 plus pounds of vacuum tube radio and heavy battery pack. Twenty years later, portable transceivers with the same range were only a few pounds. As microelectronics grew, we called smaller as beautiful and power consumption became minimized. Trends were making units smaller and even had futuristic goals as with the Dick Tracy wristwatch radio and the Buck Rogers wristwatch two-way TV. Obstacles to these 'dream' devices were many as demands upon radio frequency resources were running out of supply for existing devices.

As can be seen, trends often create troubled products that have limited resources. Ingenuity is then called upon to erase, mitigate, and allow product growth beyond foreseeable trends. Our wishes may fight any unpleasant trends thus allowing remarkable breakthroughs leading to greater products as well as improving the economy.

Often my duties were to report to my leaders of any undesirable trends so that management would never be caught in a failure mode. Marketing would criticize me as one that tries to sabotage a program. Reality then reminds us that leaders do not tolerate surprises unless they were pleasant ones.

My best guesses were weighted to never let my boss be caught promoting a potential failure while somehow telling him his most important dream project should be aborted. Golly, when he would be in an overly optimistic mood he would threaten me with, "Don't you dare tell me why this won't work!"

What I am attempting in this paper is to make the reader proud of the wonderful scientific and engineering feats in the making and please allow a breathing space for human error (both producers and mine). Our overly simplistic desires should exert care not to have influence over realistic trends and facts.

3. CREATIVITY

Creativity determines future products! This may not necessarily coincide with what we think we want. This places product sustenance and development under control of the following factors:

- Profit
- Cost
- Market

- Competition
- Can we borrow capital?
- What is return on investment?
- Creativity and ingenuity of development engineers!

Due to our present (undeclared) recession, an instant return on investment overrules more conservative and desirable futuristic approaches. This hampers funding future technology advances and further promotes wanton desires to seek something for nothing and that unfortunate approach forget tomorrow and react for today.

We can expect even some well-known suppliers to refuse to follow development of certain needed innovations and productivity will fail as they get left behind. Another number of suppliers will forget the value of maintaining proven basics within their organizations and will also fail. (Sorry, no names mentioned here!)

When cash flow is at a premium, we understandably will have moderate to severe experiments in cost-cutting. Too bad but look for creativity in cost control from our management to enlist help from our fine creative research developers to assist.

Many otherwise talented organizations will get left behind as they refuse to continue training managers, staff, and workers of necessary basics as well as emerging technologies.

Marketing will flounder and fall behind great technology as they remain oriented

as corporate story tellers instead of taking advantage of research and development.

4. VIDEO

Video may not advance much beyond the TV standard broadcast television high-definition 720p (1280 x 720 pixels) or 1080p (1920 x 1080 pixels), however audio capture and integrating into composite files will definitely improve. We should expect easier and varied transitions for adding to basic captures with other images and descriptive text. Extra high-definition video already is available but the demand for its widespread use is doubtful until broadcast TV standards go thru their typical long-term (decades long) evolution.

5. 3-D

3-D Imaging will grow thru several gyrations but may not be any more popular with general photography than what has evolved in the year 2000. Images for online game creation however will definitely advance 3-D technology for this continually popular application. We will see 3-D technologies advance tactical surveillance in warfare and security measures.

6. HARDWARE

Better computer chips make better photography equipment. When we advance from a 14 MP (mega-pixel) digital camera to a future one of 20 MP, we increase the cost in a very large step

and improve the overall picture size only a small amount (width and height). Not only does the light sensor chip cost much more, the rest of cyber electronics must be speeded up in proportion to accommodate (process) this greater file size. In order for us to have larger images in the order of magnitudes, we must have greatly improved technology with computer chip manufacturing. This may become possible but may not be where our dream camera would be in the next decade. One technology that I would like to see improved and integrated within dSLR cameras with HDTV capabilities is high-fidelity stereo sound built in. I just don't want big movies without great sound. This is likely to be accomplished as most SLRs have video capabilities. Unfortunately, most present video makers require us to separately provide quality sound mikes and converters.

7. PICTURE FRAMES

Image picture frames will continue to grow in size and maintain a competitive cost for personal use and commercial advertising. This popularity will increase as HDTV screens become larger and competitively priced. Advances will eliminate some life-size portraits used in well-to-do homes and corporate businesses.

8. PROJECTOR

Use of projectors may reduce drastically as LCD, LED, and other wide screen HDTV sets are available. The very large

screen will become lower in cost and will supplant digital projectors as the TV will have brightest picture and best contrast which makes them ideal for lit rooms. Large auditoriums and yes, movie houses, will have greatly improved definition in their special product line.

9. SLR CCAMERAS

Digital single lens reflex (dSLR) cameras will go away except for the few high end cameras where highest quality and diversity is still required. The SLRs are already being phased down as better monitor screens are provided with compact cameras and even for live viewing. Although an optical viewer provides more advantages and operates in worse environmental cases; marketing trends however state a smaller camera and larger monitor is better. Also, eliminating the viewer optics (mirror and pentaprism) lowers size and more importantly – cost.

10. INEXPENSIVE CAMERAS

Everyone is buying cheaper cameras today. We may at first believe that all cameras are rather expensive but really – milk and bread also costs more. We may not see large improvements in our food staples, however, we will see large improvements in image quality with affordable cameras and we can well expect this to keep growing. We will see better quality and still at an affordable price range.

11. DIGITAL BOOKS

A digital book as a text and graphics media will replace a majority of what today is printed paper textbooks, instruction manuals, and entertainment literature. These are digitally formatted and stored in memory that can be read on a reader (digital monitor) as easy and pleasant as one reading a book or magazine. The goal here is to replace the cost and delays in printing media on paper and distributing the final product.

Digital books and digital readers will enjoy a rush in development and sales. Their popularity will take away from printed books, magazines, and newspapers. Unfortunately, this trend causes a reduction in printed material; thus increases their already higher costs; resulting in hard copy to nearly fail altogether. People will begin to miss the convenience and durability of printed matter but the turn-around will have already taken its toll.

The success in printed matter was its permanence and standards. Titles, dates, credits, quality of reproduction, overall cost, availability, and ownership of copies are all in for radical changes. The freedom of the Internet has challenged ownership standards as users will continue to find many ways to plagiarize, provide false information, misinform, and not pay royalties on another's rights.

A serious problem comes along with the desire to convert to digital media at any cost. Hardware and software associated with retrieving older digital media

becomes obsolete. We lose archival compatibility thru obsolescence and discontinuance of this latent methodology. We then have many computer programs, analog files of aural and readable media that will never be preserved onto current sources. Magnetic recordings have already suffered permanently lost copies as newer devices lack transducers and/or software that will to replay or convert these to present day devices. Economics will not allow all data to forever be updated into whatever current format available to preserve its value.

Losing valued history is evident in several categories. One example of these is the bible with word of mouth stories before printing in stone. As these various translations became written around 300 BC, albeit different languages, then after the Gutenberg press was invented, a stable environment for printed media was developed. This new format allowed an increased amount of data to be preserved to date.

We will see very large blocks of written history missing and these holes will remain unfilled.

12. TABLET

Tablet monitors and computers for graphics creation and photo editing are great. Will they be around next decade? You bet! However, they will not be sold alone as today. All new personal computers will have tablet features already built in.

Tablet designs have already made strides for new and improved designs. We presently see this with Microsoft's making preliminary developments. Apple Computer then successfully marketed the iPad. Apple will continue with innovative technology while Microsoft will be putting their knowhow together. Much of this will bring down the price of graphic interface devices. We will also be thanking application specific chip suppliers such as TI and others. To complete the cycle for comfortable and efficient tablet-like design innovations are those dozens of smaller and ingenious developers.

Touch screen will inevitably become an integral feature on all tablets and monitors soon. As much as many believe that this appears as an unsanitary way to operate – this methodology will expand and remain as touch sensitive as well for control that will eliminate the popular mouse of present.

13. MARKETING PHILOSOPHY

What are the technology goals of the photography industry's engineering and marketing? Cameras are to shoot perfect pictures without the picture taker having any related technology knowledge at all. An example as to how this philosophy had changed photography from a small industry to world-wide picture-taking for the common man using the Kodak Brownie box camera by Eastman. Should we expect another evolution (revolution) with *in-camera editing*? I believe this philosophy will initially create a very large market but will not become

permanent. Marketing technology will create standards concerning what perfect photographs are to follow and users will have then these compromised standards and nothing more. Emerging photographers will realize this and purchase unique cameras which allow them to bypass these onerous standards to become exacting and more creative with their own accuracy and dreams – whatever is required for their technical growth.

The industry knows this as the Brownie got the masses started the 35mm camera gave a similar the required boost to do considerable more.

The camera for everyone got started with the Brownie and grew from this simple camera to an industry providing many thousands of point and shoot cameras. When this phase reach its pinnacle along came the 35 mm camera that not only could anyone use it for point and shoot it had capabilities to add considerable advanced features to establish a new standard size for beginners thru professionals. Outside of very large enlargements, the versatile 35 mm became the can-do everything camera.

Yes, even more digital cameras will be built with the *let me do it for you* point of view. These will be sold as a panacea for the unlearned as they are today. However, demanding users will look for and find a new series of camera devices and software that allows the user to do it themselves – *their way*. (We have this

today with optional manual settings on a few cameras. This will be rediscovered with these manual and semi-manual options reappearing on a larger variety of cameras and editors.)

14. A NEW PHOTO IMAGING CREATOR

The new creative photographer will understand basic technology so that he will not be hampered with these marketing dreams;

- one-size-fits-all,
- it takes no effort,
- anyone can do it, or,
- the imaging tool that merely creates an enormous proprietary profit.

You create your own niche. Develop a quick, unique, and profitable work flow.

Should we assume this style creator (or a favorite supplier) be phased out if;

- too conservative,
- using time-honored tools and tricks,
- maintains expensive editors
- without yearly upgrades, and
- keeps years-old ancillary and auxiliary tools polished and in use.

No! This will actually keep photographers and developers on their toes. Game developers must strive for that step ahead of fast moving technologies.

Golly, gee, I know many marketing and sales representatives make this a prime issue. I would consider your services or product dead by the next decade if

- you are continuously updating,
- upgrading,
- spending money without reason.

Whereby forcing yourself to constantly relearn products having their instruction hidden and indiscriminately changed as their method of operation. I have been told we simply must keep up-to-date (their way) to remain a business.

What will consumer be willing to pay for professional photography? After all, camera marketing says everyone can make photographs just like a professional. With this statement in mind, I firmly believe that the man on the street will realize that camera compromises cannot compare with the learned professionals and will be using their services.

15. OWNERSHIP

We are bombarded with service organizations today that offer us photographic editing and just about any other service available. The goal is for you to never worry about having to own and update computer programs and archiving data. Today's free archiving will go away and nominal charges will be assessed. It will be difficult for us to find take-home programs in the future.

For those persons who defy relinquishing ownerships of their priceless archival wonders to cyber service organizations will see even greater improvement in professional and home photographic

printing. The archival quality of the printed media will be phenomenal where problems in cyber techniques will continue to plague us with obsolescence leading to non support and lack of spare parts for maintaining cyber archives.

We will see losses of our historic media thru trusting our file saving thru service organization that goes bankrupt or otherwise decides to go out of this type of business.

We will continue to wonder ten years hence if we should do it ourselves or rely upon the one-sized-shoe-fits-all that service companies offer. It will be more difficult to make the decision though as a high percentage of users will have dropped their computers with memory and live off of the mercy of the Web.

Following traditional trends, internet services (World Wide Web) providers (ISP) will continue to be the ones continually cutting costs by making access, reliability, and desired features marginal. It is doubtful that these problems will be mitigated even by the huge hardware and software corporations trying for ownership of all cyber services.

Internet access will remain our weakest link.

16. IMAGING EDITING

Digital technology for image editing has become quite active with the ability to create and alter the mood of a sketch or of a captured photo. Image editing has

migrated beyond the computer based editor and into in-camera editing. This particular trend will continue to grow and bring with it the philosophy '*what one fool can do, so can another.*' This inherently compromising methodology will slow the development of clever and more complex innovations.

As beginners and amateurs learn less intricate editing techniques us die-hard creators, serious artists, and technicians desiring to further improve photo quality and outshine, of course, those using compromise networks. Innovative personal computer and work station software for advanced editing will have fewer sources but will be available.

I expect the next decade will realize that individuals should be treated as such. Everyone is not created alike as robots are created. This is realized now but sellers of product today find it difficult to sell basic building block learning tools. This will change as learned people will still have enough history available to recreate and put to use these foretimes of value and thus preserve tools for positive creativity.

17. WEDDING PHOTOGRAPHY

When I hear a videographer state he is going to convert entirely to still shots of great value, is he serious? You bet! He had taken his video story (wedding, event, dreams) and shooting with hot lights, sound pickup, and various video equipment - all in real time. [Real time is to include mom's organizing, art director,

and just about entire families' kin.] It then becomes a tedious chore to splice the many pieces together with sound and provide a pleasant balance. When he converts to a story picture or a fine album, with stills, and the occasional full-length portrait, he is under less pressure with picture capture and has more time to expend with retouching images and editing them for a lovely permanent album.

Old fashioned picture display in expensive frames drifted away from the average home. I believe the largest factor here was price and not a lack of desire to have these wonderful keepsakes. Many small weddings get planned by a professional who tells the bride and mom that they need a \$1,000 for the ballroom, a \$1,000 for the dinner, \$800 for a gown, and 500 dollars for a one-time usage cake. Now that the planner has her commission, there is little left for a photo budget. Although the cake is gobbled up and gone – the gown is worn once - wouldn't it be nice to have some hard image memories that will last for more than 100 years? I believe learned brides and moms will start realizing that those glorious pictures hung in hallways and printed into albums need to be brought back into our lives. The wedding planners will be forced to listen to B & G and moms or be forced out of job opportunities. Oh yes, the wedding planner must not interfere with the professional photographer's ability to create the most pleasant documentation of bride, groom, families,

and honored guests. [I helped my brides' short photo budgets by suggesting a great portrait of her but not necessarily starting with an overpriced frame. She could then reframe later but never assume she can recreate her official wedding picture any old time.]

About those nice wall portraits and beautiful albums, they are temporarily going away. They will go away because nearly everyone will continue wanting something for nothing just cut corners to be cheap. New technology will also contribute to waysiding these traditions as people's desire for going for new may be selecting short-lived fads. Everywhere! When the service people realize that cheap, undocumented, Web marketing destroys quality at leaps and bounds – they (the photographers) will learn that people learn there is no market in sacrificing quality. They (the buyer) will learn that the undocumented Web marketing and promise that this is what you really want is not what mother and grandmother had. They will look up and realize that those old-fashioned ideas (prints) are really of value and they want one. The photographer can explain that with those old faded photos that are still wonderful that you can provide newest technology that provides prints that do not fade and even look better. See! These will be back with us in full force in the next decade.

Event and wedding planners will still be looking for their commission on overall sales. After a discouraging shortfall and discontent from brides and family,

planners will reconsider re-establishment of time-honored everlasting traditions Marriage itself has had its ups and downs of late but this is expected to take an upward swing. As the event becomes revered again, participants will be returning to preservation of wonderful memories.

18. STUDIO PORTRAITS

It takes a studio for a portrait or product photographer to become cost efficient. Ancillary and auxiliary equipment must be at our fingertips. We should expect elimination of all hot lights for color corrected, cost reduced, new light developments. For strobe and stopping movement, these devices will be nearly stagnant except for more straightforward manipulation. A majority of new studios will be built for sound as well thus providing a place for custom video creations and talking books.

How often have you been approached by someone while you have your camera in hand and they say, **"Your camera takes good pictures!"** Here is where photographers need to make inroads and teach potential clients that anyone can buy an impressive looking camera. It takes an experienced photographer to make that camera take great pictures. I find myself in a (wrong) camera store on occasion and watch as a near blind person looks for a beginner's camera. The salesman brings out the top of the line dSLR and states that this is a fine camera, just for you. No concern about the weight or complexity is given. Staff

guy is only looking at his commission. Maybe you see these too as days go by. We will have even easier cameras to use in the future and also some more difficult ones. We will unfortunately see the wrong product sold in the future as well as now.

19. DIGITAL COMMUNICATION

FCC – Spectrum Crunch

As mentioned with the Walkie Talkie, radio frequency spectrum has always been scarce. The first mitigation always seems to limit quality and use until situation becomes intolerable. I have worked on many project developments where we found clever ways of using the communications spectrum more efficiently. Then with higher frequencies (microwave) we engineered less expensive and better control of these new frequencies. We knew that a few kilobits of data can carry lots of text; however with graphic photos we require many times this amount of space (bandwidth). While moving certain communications media from kilohertz to megahertz assignments into newer 1000 megahertz spectra we obtained magnitudes of working space improvement and even so, within in a few decades, we are overcrowding the available spectrum.

We will have problems in our near future finding new (or reusing) radio spectrum for use. Previously, we just developed better cable systems to move vast communications away from radio and

onto newly developed fiber optics cable networks. This gave our trend makers the opportunity to either vastly improve efficiency or create an entirely new innovation to replace much radio frequency use.

20. CONCLUSION

When someone says, "Your camera takes good pictures," and you wonder how to get them to realize that it was you that performed near miracles to get them the end result from a snapshot they are viewing? How do you just flatly state that all of the following was required?

- Image cropping
- Blemish remover
- Remove several unattractive hair clumps
- Remove background object that looked like a horn growing out of their body
- Remove part of your lunch spilled on your clothing
- Whiten your teeth (also remove the raisin).
- Use programs like 'Portrait Professional 9' to change drooping jowls into facial smile
- Correct unbalanced lighting temperature
- Print on premium photo paper
- Spend two hours doctoring your image
- Give copy to you free-of-charge

Don't thank my camera – it doesn't have ears.

Would you believe that when these persons come into your studio - they fail to realize?

- The studio has several different types of lighting
- Backdrops that complement their appearance and clothing
- You select props for the mood in mind
- For an upper torso or head shot you have them relaxed and seated
- Fans are available for energy-effects.

You have a big selling issue in addition to proving the camera does not do it alone – neither does a light bulb. It takes photography experience to select environment, camera, adjustments, and posing. Let them know that cousin Joe can't just point and shoot and always come up with a winner.

The winners in the next decade are not merely consumers of information. Those successful will be creating.

Schools will return to teaching basic allowing baselines for development.

Consumers of cameras and image editors will have the tools to create.

What have I not mentioned? Perhaps in ten years we will find several things we have not thought about today. After all, we know there are some mighty fine creators, innovators, research and development, and yes – even ingenious marketing personnel coming up with fascinating thoughts which will be

developed and presented for our entertainment and businesses.

For sure we will see the very typical indisputable practice of substituting inferior plastic parts to replace metal. This has been a regular and intolerable experience for us and it will continue with full propensity. Today we see popular respected named cameras replace parts as with their 18-55mm glass lenses with plastic ones that tend to bind and refuse to allow fine tuning. Nope! We will have this façade continually place cheapened product on the market merely because it costs less throughout the next decade. The fact that the formerly great product becomes non-usable doesn't influence those placed in charge of inferior and irresponsible quality degradation. Cost reduction engineering must never assume unrestricted freedom.

In decades past I well remember shortcomings experienced with our products and then we became so proud to have made 5% to 10% improvements and then perhaps breakthroughs from another source leapfrogged performance by another 1000%.

Yes, we will be quite proud of the decades planned improvements (*plastic horrors excluded*) and truly amazed by unexpected near miracles that will just pleasantly show up.

Thanks to all developers that will make our next product lines more fun and profitable.

Spike Smith,

SIG Leader

Digital Photography Sig and
Photo Editing SIG

The Digital Photography SIG (10:00 am) and Photo Editing SIG (11:00 am) meets on third Saturdays each month.

NTPCUG schedules and information at: WWW.NTPCUG.ORG

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