

Digital

A monthly column by Harry

This column follows on from last month when I wrote about showing photographs to each other. What about preserving our images for *future* generations?

Will my images be accessible in the future?

Many old photographic prints are still somewhat serviceable, although often faded, scratched and unlabeled. What about our digital images? Will future generations be interested in old photos? How can we make sure our images will be preserved?

One way to preserve a digital image is to print it and store the print carefully (clean, dry, cool, dark). An “archival” print made with long-lasting ink and paper may last up to 200 years. There are two distinct advantages to this method. First, no special technology is required to view the print. Second, the print is preserved as created by the photographer; no worries about colour range, colour matching, output sharpening and so on. Iris and I create small albums of our best prints. These are great for showing to friends and relations now and may be the best way to preserve the images, as well.

But, I hope you are thinking, doesn't the digital image keep for ever without changing? Wouldn't a CD or something like it be a better archival method? In principle this is true. However, there are two practical problems. First, no existing digital storage medium will last for ever because of things like cosmic rays or chemical degradation. Second, obsolescence of the digital medium (such as a CD) will eventually make it difficult to recover the image in the future. Old hands with personal computers remember using cassette tapes and 5 ¼ inch floppy discs (they really were floppy) but few of us have the technology to read those media today. Even more-recent technologies such as ZIP drives are now obsolete.

These problems can be partly overcome, in theory, by making digital copies of the images at regular intervals onto current media. In fact, I have files from the early 1980's now stored on a modern external hard drive in my safe. Provided the copies are perfect, regular copying could keep images for ever. This doesn't solve the problem completely, though, because the original display devices may no longer be available in the future. New printers and screens may not easily reproduce the images as we intended, even though the original digital information is complete and accurate. It may be that storing high resolution scans of prints is the best approach, following what is done with non-digital media such as slides. As an example, I have never seen an Ansel Adams original print but I have seen copies that are still inspirational.

Libraries and publishers already have procedures in place to keep their digital collections up to date and secure. We need to support those efforts, which are costly.

How serious is the obsolescence problem? Some digital media are actually proving quite long-lasting. For example, current Blu-Ray drives can still read old CDs. For a newer technology, solid state drives (already up to 256 GB in lightweight laptops)

may hang around for a long time, provided their USB or SATA interface is still available. There has been some scare-mongering in the press about losing our images to obsolescence but maybe this is not such a big problem in the short term. Bill Gates is credited with observing that we tend to over-estimate short term changes and under-estimate long term changes. I tend to agree with Gates and I think reasonable foresight and diligence on our part will take care of our images for a decade or so. In 20 or 30 years, though, who knows what will happen? Maybe we will store everything “in the Cloud” (new jargon for “on the Web”) and rely on the “Cloud” to maintain it.

Obsolescence is not only a hardware problem. Even if we have the hardware to read our data, we still need a program (software) to interpret the data and change it from a jumble of ones and zeros to an image we can see. For example, Kodak Photo CDs need special software and the future of this software is in serious doubt. If you have any Kodak Photo CDs, now is the time to re-save them in a modern format.

What format should we use? I don't have space now to discuss this in detail but Adobe has released a format that is in the public domain and that has significant flexibility to store different types of images and to be extended as necessary as new image types appear. For example, it can be used to store images that were originally JPEG, TIFF or RAW camera images, amongst others. This format is known as “DNG” (*digital negative*). In addition to storing the image itself, a DNG file contains camera metadata, development metadata and user metadata. So, a DNG file stores information about the the image as well as the image itself. This addresses the issue of *retrieving* a particular image from a large collection, a very important factor that deserves another column.