Digital Cameras – some introductory notes for Genealogists

Ken McInnes *Notes from the presentation at the VicGUM Workshop* *19 June 2005*

Introduction:

In many instances it may be quicker and easier to use a digital camera, than to use a scanner. A camera can go places and capture electronic copies of documents and images that might not otherwise be possible. For example, a photograph of a page of a large old book that cannot be placed on a scanner; a large painting, or photograph that could not successfully be scanned; a photograph of a microfiche reader screen; a large document that would otherwise have to be scanned in sections and 'stitched' together; photographing large family keepsakes.

Selecting a Digital Camera

To help you decide which Digital Camera is the most appropriate, consider all or some of the following points:

- **Your camera / photographic skills.** Do you want a 'point and shoot' camera, or a camera you can manually control? What features do you want or need? What are you primarily going to use the camera for? Do you manually want to control focus, exposure, white balance, self-timer?
- **Price.** How much can you afford – prices range from $200 to $2000
- **Resolution.** The higher the resolution the better the picture. A camera with ***3 million pixels*** will provide you with an image that can be printed out clearly at A4, and possibly at A3.

  Note: Higher resolution might not get you a better image - just a bigger image. The combination of the quality of the lens and the quality of the image receptor is what can give you a high-resolution good quality picture.
- **Lens.** At times you may want to shoot an up-close portrait, or a close-up of a document, or a flower. Without a ***zoom*** or ***macro*** lens, the closest you'll be able to shoot is about one metre, and small objects will become practically invisible. ***3x optical zoom*** is common. There might also be, say, a ***3x digital zoom*** within the camera so you can zoom the preview within the LCD monitor, or perhaps do some editing in the camera.
- **LCD monitor and viewfinder.** With a digital camera, when you take pictures, you can immediately review them through the LCD monitor. (about 80,000 pixels) You can then discard the ones you do not want to keep. Most digital cameras now include both an LCD monitor and a viewfinder. Use the viewfinder: this is better for framing pictures, and will give longer battery life.
- **Image formats.** What image file formats are used by the camera? In most cases the format will be ***jpeg***, perhaps with options for different levels of compression, and with ***Exif 2.2*** image details and ***DCF***, ***DPOF***. What other image formats can be used? (uncompressed ***tiff*** ?)
- **Memory.** Where are the pictures stored, how many pictures can you take. Most cameras have removable memory (recording media), some also have built in memory as well. How expensive is the removable memory? (Note: Prices for memory cards range from $30 to $1400) How fiddly is it to load tiny memory cards? Do you also need a memory card reader for your computer?
- **Interface.** How does the camera connect to your computer, printer, or TV, so that you can easily view, print and edit the images? Most cameras come with USB cables. Some cameras have 'interface cradles' that enable the camera memory to be accessed directly as 'another drive'. Some cameras have audio/video cables to connect to TVs, so you can preview / show photographs on a TV screen. Some cameras can connect directly to a printer using ***PictBridge***. How long does it take to transfer files?
- **Software.** In most cases you will need special software installed on your computer to access the images in the camera, unless the camera memory can be recognised as 'another drive'.

- **Ruggedness.** Are you going to also use the camera on field trips? Does it have a metal case or a plastic case? A lens cover? An LCD cover? A protective camera bag?
- **Power.** What battery power is used? Do you need a recharger? How many images can be taken with one set of batteries / one recharged battery? Is a second set of batteries needed? Is an AC/DC adaptor needed to save batteries when you are using the camera connected to your computer?
- **Flash.** The right light can be particularly important with digital pictures, so be sure to look for a camera with a built-in or auto flash so the camera can compensate when light is lacking.
- **Movie Mode.** Some cameras enable you to capture short (say, 60sec) digital movies. Some will also capture sound. Do you need this?

Menu Options:

- **'Film Speed' – ISO sensitivity.** Most cameras enable you to select the sensitivity thus enabling you to get good pictures in different lighting conditions. Low light / night light conditions may be difficult with some cameras.
- **White Balance.** Digital cameras allow you to compensate for different light sources: sun light - too much blue; fluorescent light - too much green; incandescent light - too much yellow; auto
- **Bracketing.** Some digital cameras enable you to shoot a series, or 'bracket' of photographs using, say, a rapid sequence of action shots, a range of ISO values, or a range of exposure values.

Other useful Extras:

- **Good tripod** - useful if you want to force a slower ISO and therefore longer exposure
- **Extra memory cards** - useful if you want to take lots of high quality pictures
- **External memory devices** – backup your data to a 300Gb pocket storage device
- **Image editor software** - useful for post-photography editing, adjusting images
- **Laptop Computer with CD-RW** - for travelling / on-the-road

Digital Photography: A few general observations

- **Contrast:** The lighting contrast across a flat image can be exaggerated, compared with film photography. Often you get a better photo on an overcast day. *Use 'lowest contrast' setting.*
- **Colour:** Unlike a film image, a digital image contains colour information that is able to be 'drawn out', using an image editor, by adjusting the brightness. Thus providing the ability to 'rescue' what would have been a photograph that was too dark. The results can be stunning. *Try to get it right in the camera first.*
- **White Light:** yellows from incandescent light and blues from daylight. Compared with film cameras, a small amount of daylight or incandescent light can profoundly alter the colours in a captured image.
- **Low light:** can lead to 'pixalation'
- **Lag:** Most digital cameras are slow to start-up, and slow between shots. This can mean that you miss that special shot.
- **Copying photographs:** use a tripod, slower ISO and longer time, rather than a faster ISO and a faster speed. (Less pixalation)
- **Copying photographs**: turn auto-flash off, flash will often 'flash back' and leave a 'white patch' on the copy image.

Conclusions:

- Digital Cameras are a great 'tool' for family history researchers that can help you quickly and cheaply capture images. Images that can be previewed, and be redone if necessary.
- Digital Cameras can affordably enable you to take extra shots at different exposures, at different 'film speeds', and so ensure that you have a variety of images to choose from later on, for including in your family history records.