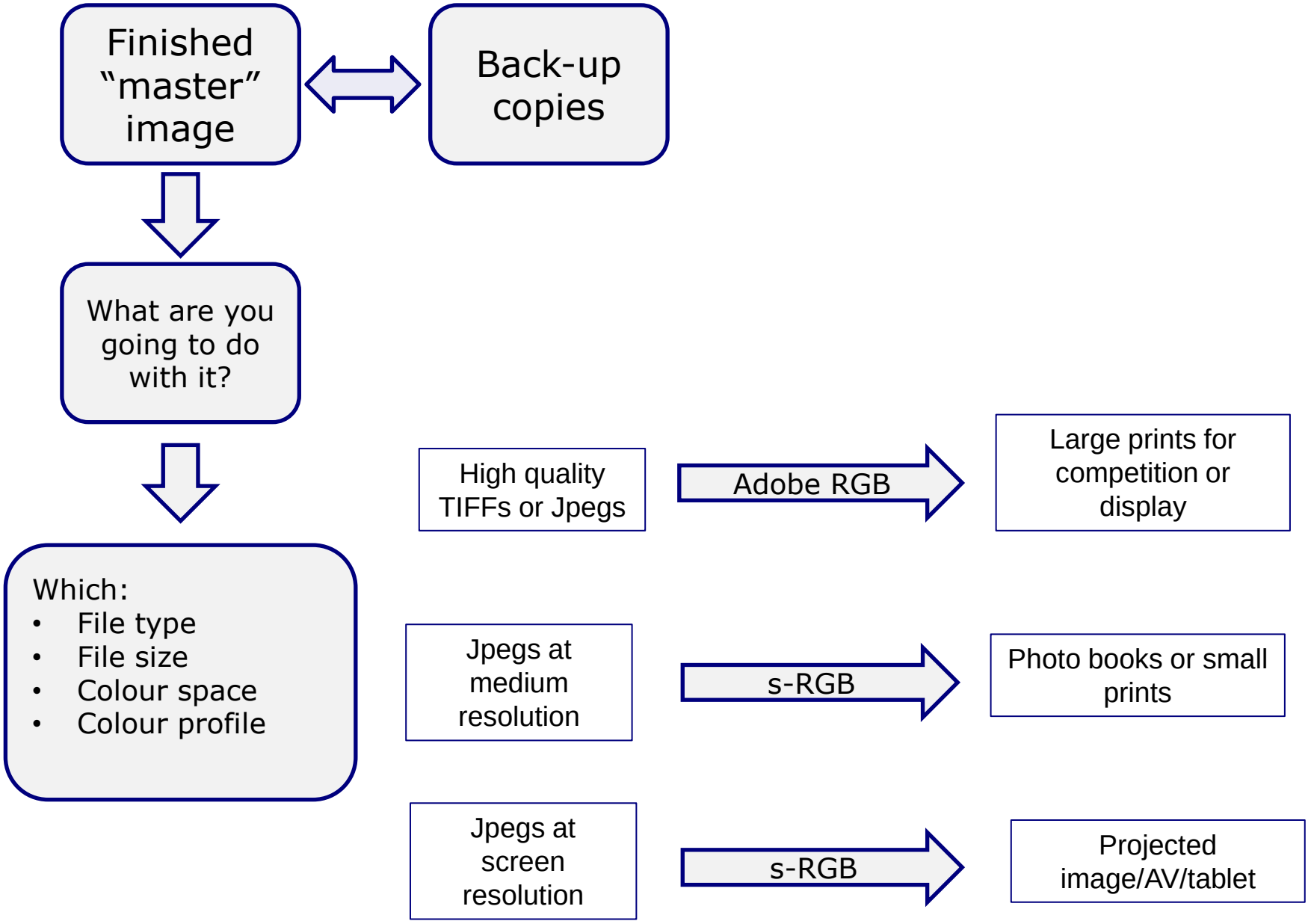
IMAGE OUTPUT

Bob Breach

So you have spent time adjusting your great image to its optimum state

-

What do you do with it?


Finished "master" image
Back-up copies
What are you going to do with it?
Which:
• File type
• File size
• Colour space
• Colour profile
High quality TIFFs or Jpegs
Adobe RGB
Large prints for competition or display
Jpegs at medium resolution
s-RGB
Photo books or small prints
Jpegs at screen resolution
s-RGB
Projected image/AV/tablet

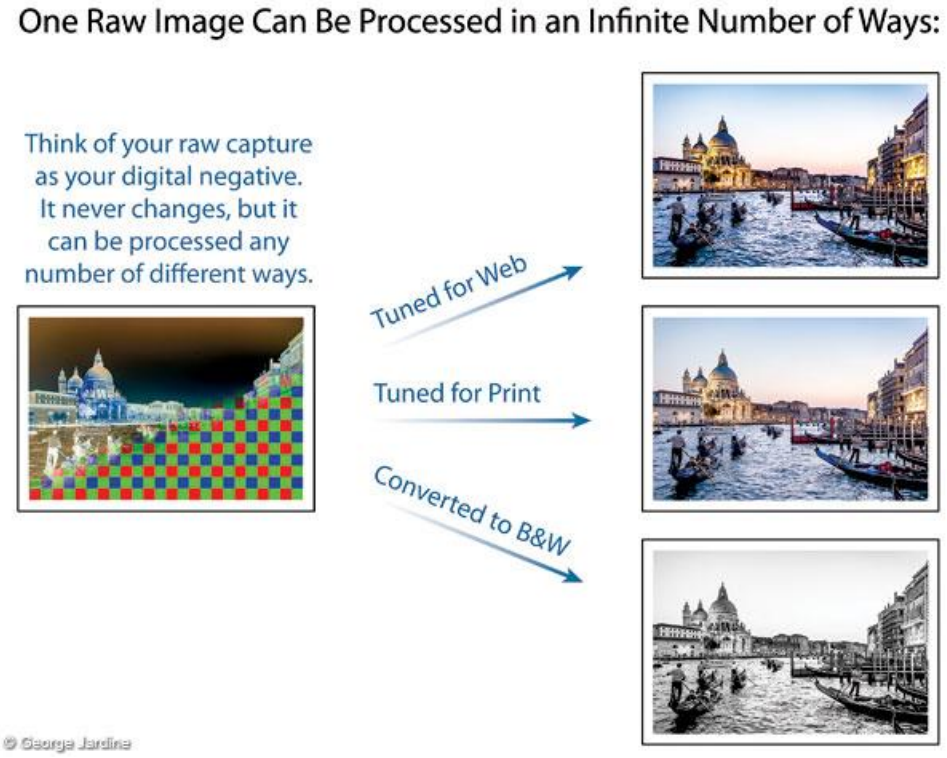
Right file type for right purpose

FILE TYPES

- Raw- contains maximum amount of “as captured” information. If edited in raw software the adjustments are usually stored as small sub file
- Tiff – output file with no compression. Best quality but can be large
- Jpeg- compressed file. Lower quality but smaller file size and fine for screen based output
- Psd- Photoshop specific file type with adjustments kept as layers. Can be very large
- Lots of others for a range of different purposes

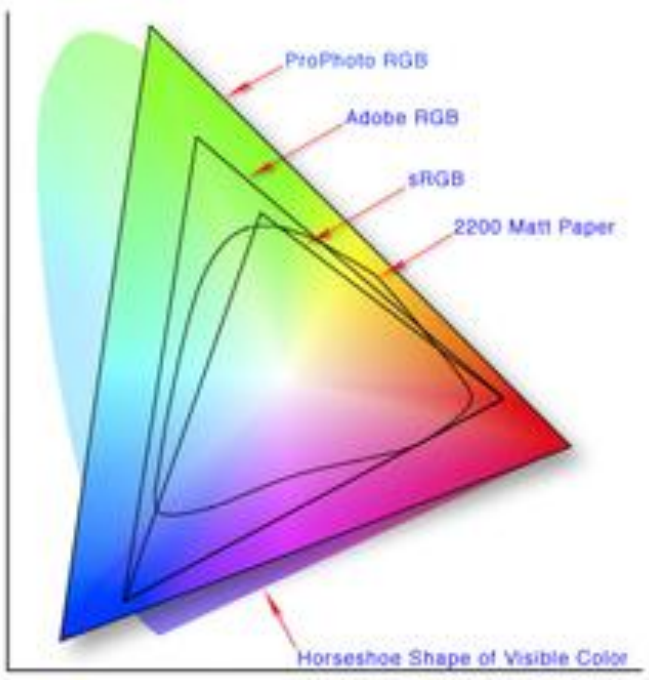
MASTER IMAGE FILES

- Ideally:
  - Take and store master image as edited raw file
  - Can then "develop" any number of other copies in different formats
- Alternatively
  - Keep one master copy in highest quality format available (TIFF or high quality jpeg)
  - Make other output files as necessary according to need



Getting the colour right: profiles and calibration

WHAT COLOUR SPACE?

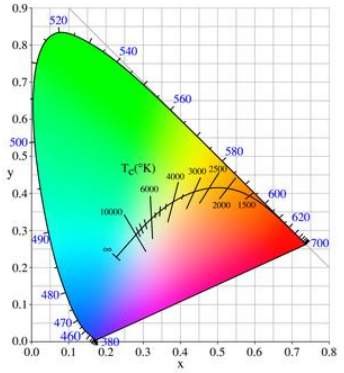


- Colour space defines the range of colours that can be displayed
- 2 main types
  - Adobe RGB: larger space optimised for printing
  - s-RGB: smaller space optimised for screen
- If saving files as jpeg in camera set as Adobe RGB (largest) and modify to s-RGB later if needed

COLOUR PROFILES

- A major subject in its own right and very complex
- Each piece of kit can reproduce colour slightly differently
- Photo editing software often allows sophisticated colour adjustment but useless if screen does not match printer (or projector)
- Ideally monitor, each paper type, and projector should be colour calibrated so that they match

E books by Spyder on colour available for detailed reading!!



COLOUR PROFILES BASICS

Camera colour space (adobe RGB)

Monitor profile sets "standard" colour reproduction

(*But will be influenced by lighting and monitor position*)

Adjust colour in editing software

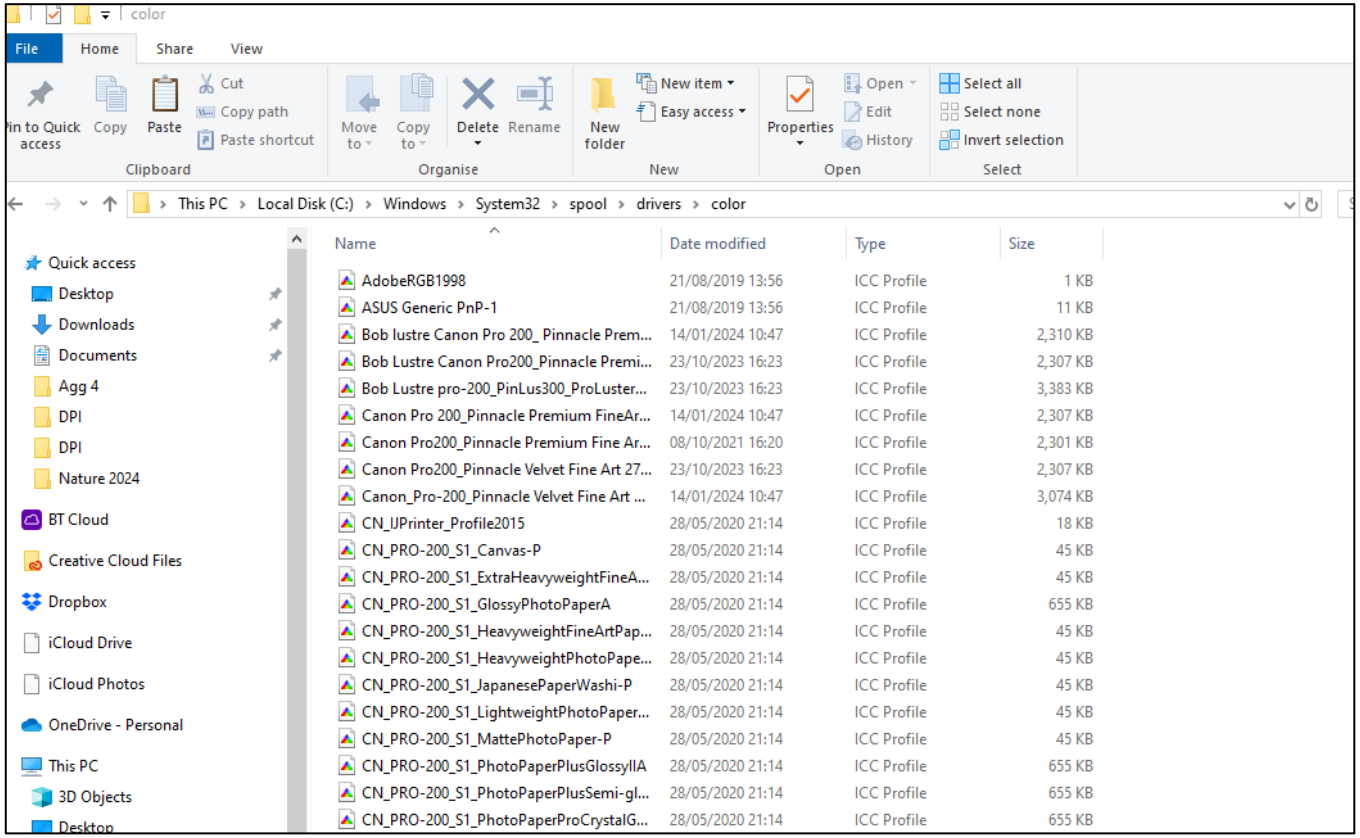
Paper profile 1

Paper profile 2

Paper profile tries to "match" monitor colour to printer/paper combination

Projector profile

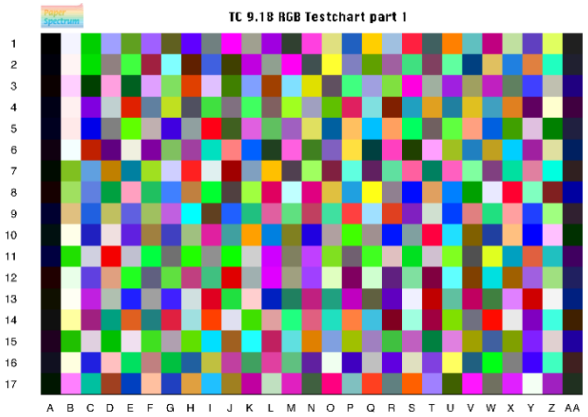
WHAT ARE ICC PROFILES



- Small files which are buried in your computer and which tell the monitor/printer how to interpret colours
- Check where yours are kept in your computer

MINIMUM RECOMMENDED

- Colour profiling
  - Monitor
    - Buy or borrow profiling device
    - Make sure position and lighting good when setting up
  - Printer/paper
    - Can download free “standard” profiles for some papers
    - Best - use specialist service (free or small cost)
- Best to standardise on a few papers you like
- Make sure the profiles are set up properly in your software and changed when you use different paper



Typical test chart for colour calibration

COLOUR PROFILING SCREEN

- Spyder profiling gadget (available to borrow for Solihull members)
- Install software and run following on screen instructions
- Creates accurate colour profile for screen
- Make sure that lighting in room is optimum and use same conditions each time

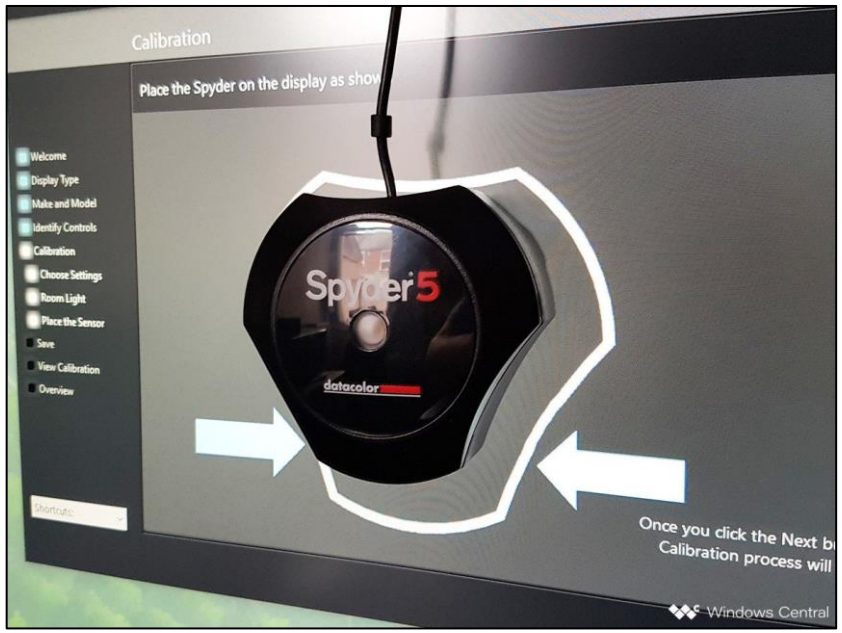
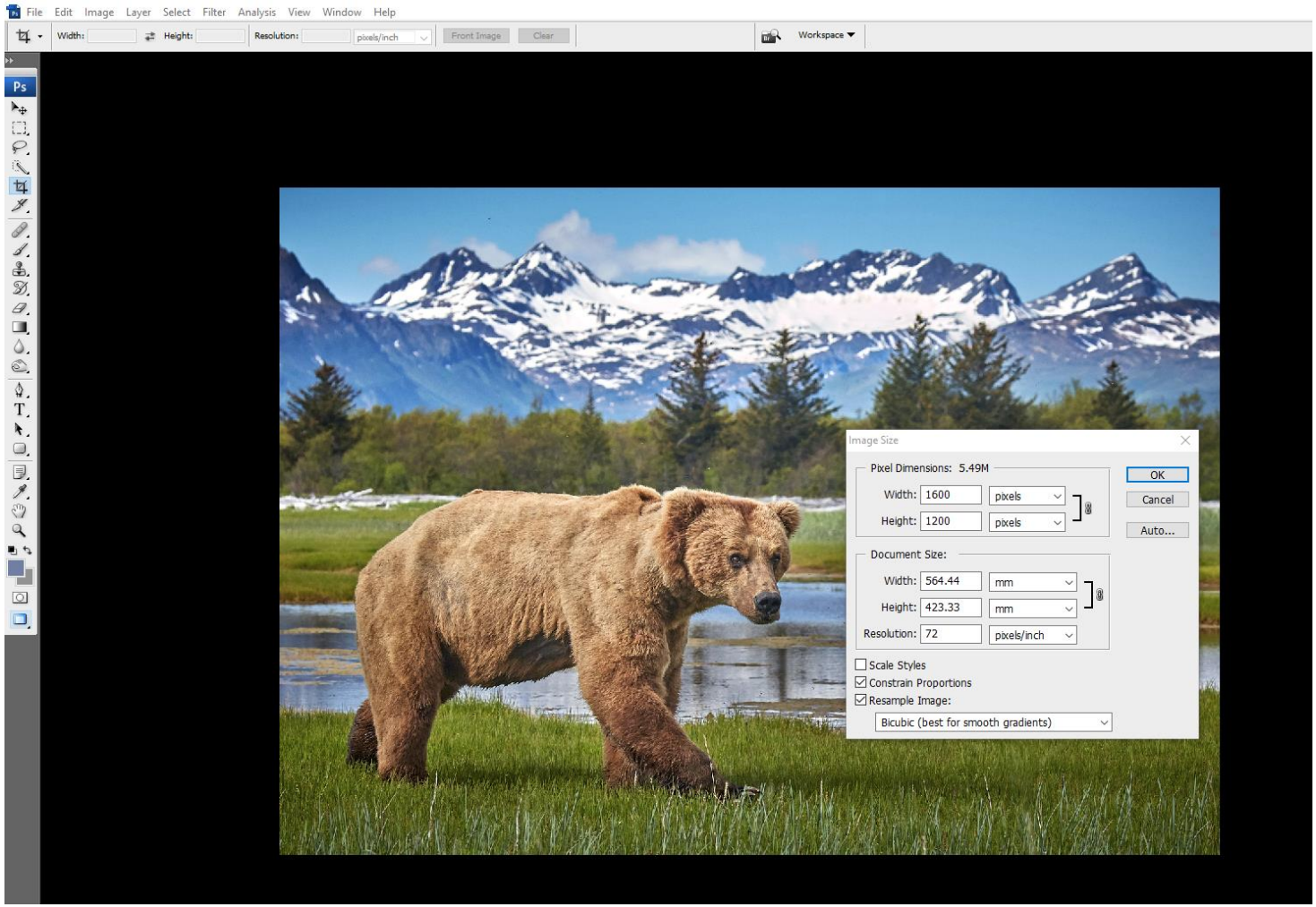


Image output for screen
(Projector, TV, Tablet)

IMAGE OUTPUT FOR SCREEN

- Best to use jpeg
  - Lower quality jpegs often OK since reduce file size and/or slide show processing time
  - Use s-RGB colour space
- Think about aspect (pixel) ratio needed for final output to TV or projector
  - Most programmes allow you to save images in different aspect ratios
  - Most TVs now at least HD (1920x1080 pixels) or 4k (4096 pixels wide)
  - High quality photo projector (1600x 1200 pixels) or sometimes higher
- In PS use image/image size and make sure constrain proportions is ticked
- Can use different colour backgrounds in some situations (e.g. panel) but if in doubt use black as background
- Always add keyline around image to improve appearance on screen

ADJUST IMAGE SIZE IN PS



MAKING BORDERS AROUND IMAGE

- Simplest way to use "stroke tool" *
- Alternatively modify image/canvas size
  - Example using DPI image for competition which is less than 1600x1200 pixel and want to make 3 pixel white border
    1. Image size – set as 3 pixel less than the required dimension for projection (e.g. if 1050 pixel square then set at 1047 x1047 pixel)
    2. Canvas size – set as 1050 x 1050 and background white (or other colour)
- Some software also creates borders for you
- Same approach can be used for prints and any combination of borders around print but if complex best to work out on paper first

* Note: Stroke tool only seems to work on duplicate layer and then need to "flatten" image

USING STROKE TOOL FOR KEYLINE

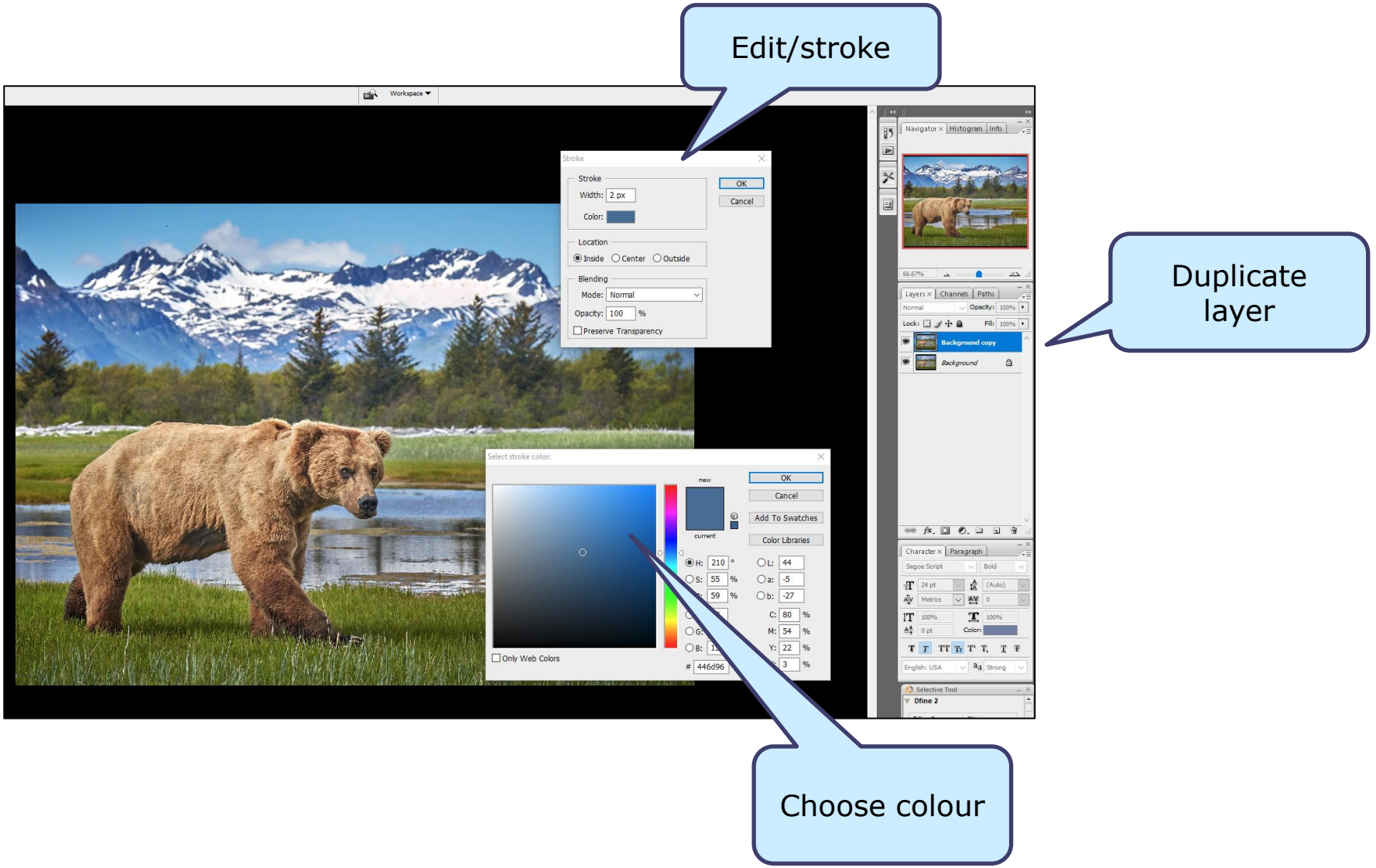


Image output as AV slide show

WHY AV?

- AVs are a great way to show your images to yourself, family and friends
- Can be used for holidays, short trips, family events or just some nice pictures
- Images do not have to be competition winners
- Music and other sound effects can significantly add to the enjoyment of the images
- Simple AVs are easy to produce and are often a better way to show your pictures than albums, photobooks or images on your smartphone
- AVs can be formatted for any output media -TV, PC, tablet, web, u-tube, Facebook

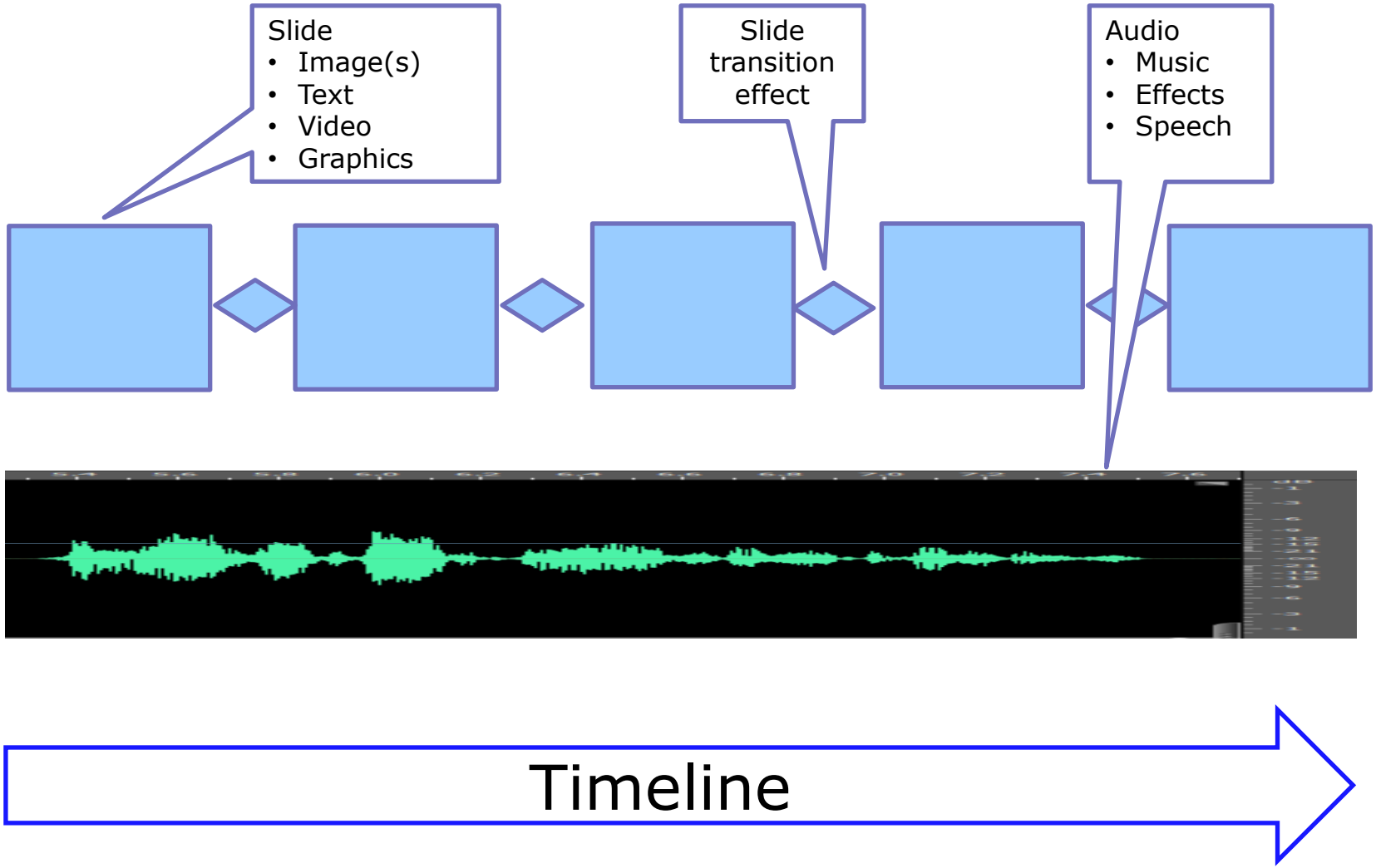
WHAT IS AV (AUDIO VISUAL)?

- Images: stills/video/captions/graphics

Coupled creatively with

- Sound: music/voice/sound effects

THE BASICS OF AV



AV PROGRAMMES

- Best current professional
  - Pictures to exe (www.wnsoft.com/picturestoexe)
    - £63 download – standard version
- Proshow Gold used to be good but discontinued although the software can still work
- Can use many others, sometimes free, but check features and trial first

COPYRIGHT

- Copyright of music or other material used in your AV is a minefield
- Unlikely to be a problem if used for family or strictly private purposes but be very careful if AV used for public or quasi commercial purpose
- Can use copyright free sites for music as long as not for commercial use
- Institute of Amateur Cinematographers has lots of useful information including a licence (£8) which helps to protect you

www.theiac.org.uk

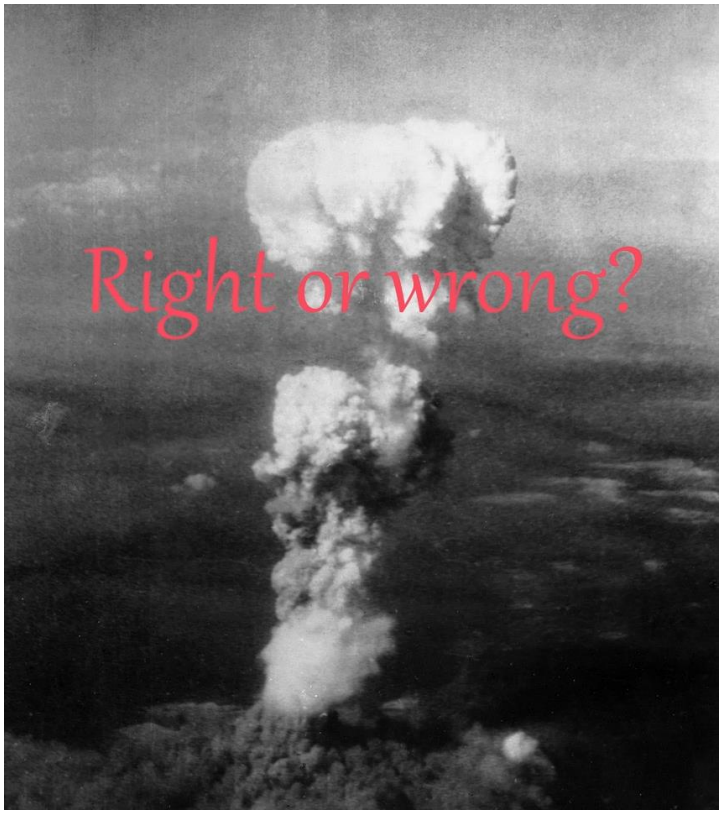
TWO DIFFERENT CATEGORIES OF AV

- Photo harmony
  - Should demonstrate skill in the production and visual progression of still photographs linked to sound. No script or commentary with a specific beginning, middle and ending are required but the images must flow well in a pleasing progression, not just in a random manner.
  - The emphasis is on visual harmony in colour, tone or graphic design. The aim is not to display a collection of individually excellent photographs, but rather a sequence of good pictures which blend well with each other and with a suitable soundtrack.
  - Good technique is essential, and it is expected that the sound and the pictures will start and finish together and that the original ending of the music is preserved, rather than an arbitrary fade out.
- Open
  - Includes more script or voice narrative along with pictures and music/sound effects which tell a story

PHOTOHARMONY EXAMPLE

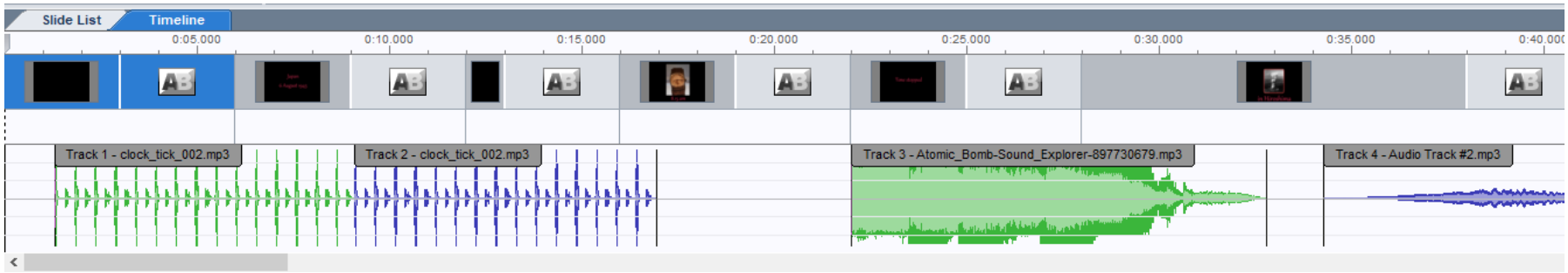
Westonbirt

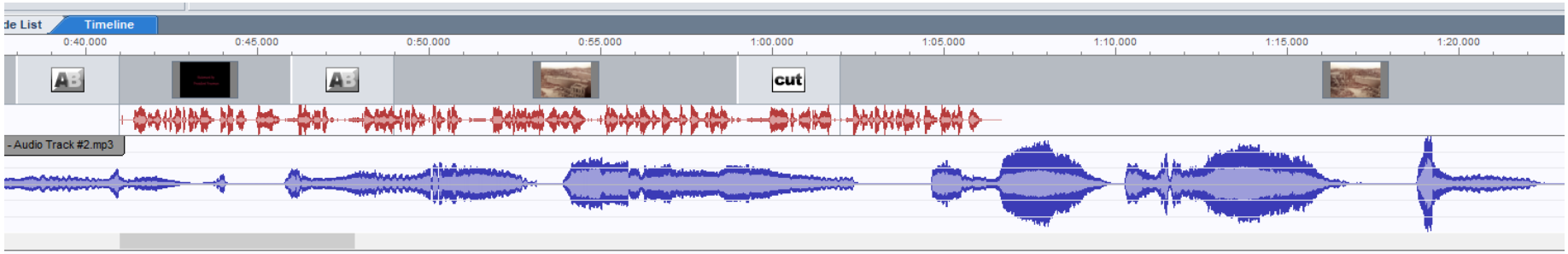
AV STORY EXAMPLE



Right or Wrong.mp4

STORY BOARD EXAMPLE





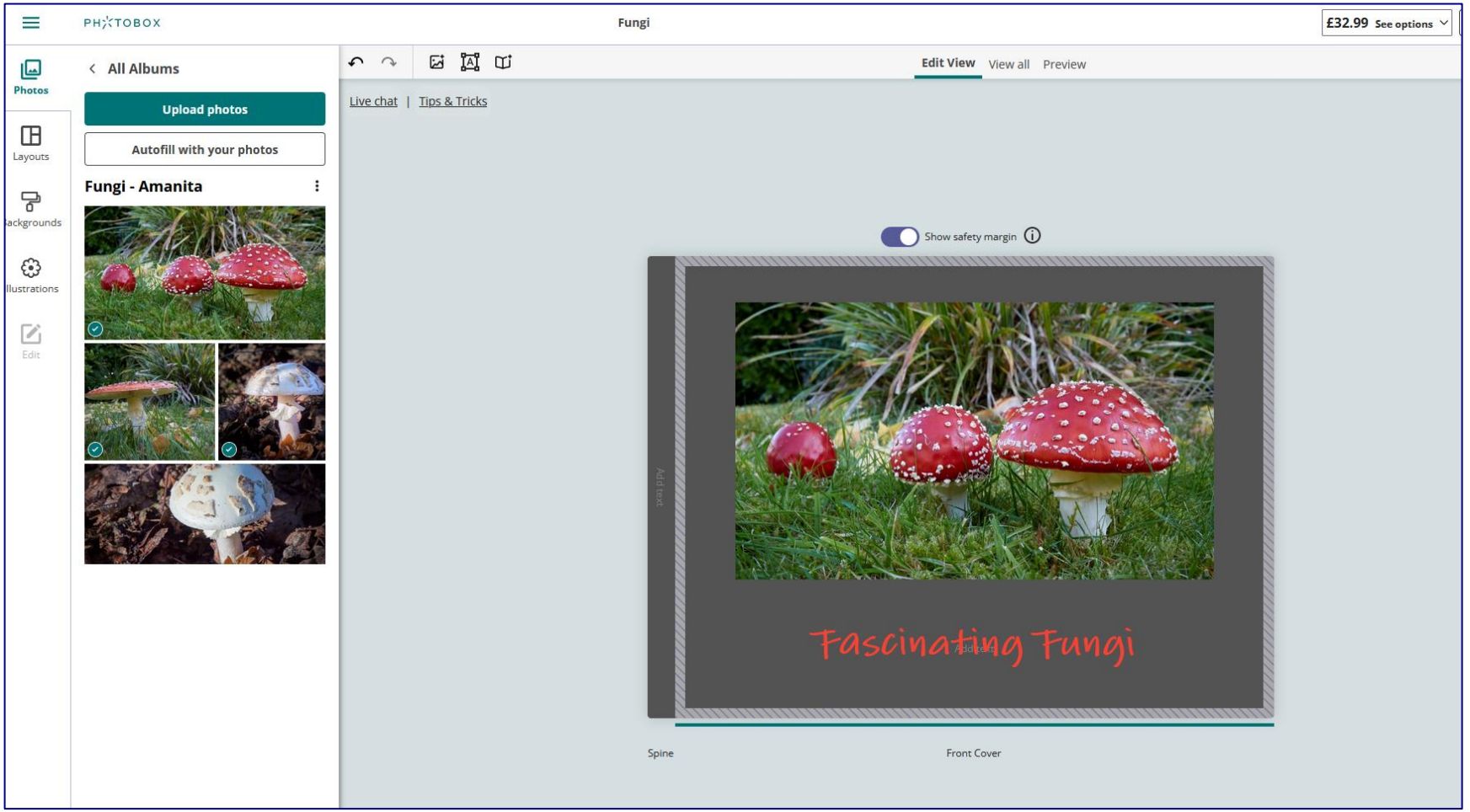
More information on making AVs in appendix

Photobooks

PHOTOBOOKS

- Photobooks can be another good way to display your images – an electronically produced photo album printed for you
- A number of commercial companies which do this
- The process:
  - Upload the images into albums
  - Create the book on-line with different layouts/formats/titles/text etc
  - Decide on book size, paper type, quality etc
  - Pay your money and then wait for it to arrive
- Tip - you can make your book over a long period of time and then wait until the company has a special offer on costs before initiating printing

PHOTOBOOKS


PHOTOBOX
Fungi
£32.99 See options
Photos
Layouts
Backgrounds
Illustrations
Edit
All Albums
Upload photos
Autofill with your photos
Fungi - Amanita
Edit View
View all
Preview
Live chat | Tips & Tricks
Show safety margin
Add text
Fascinating Fungi
Spine
Front Cover

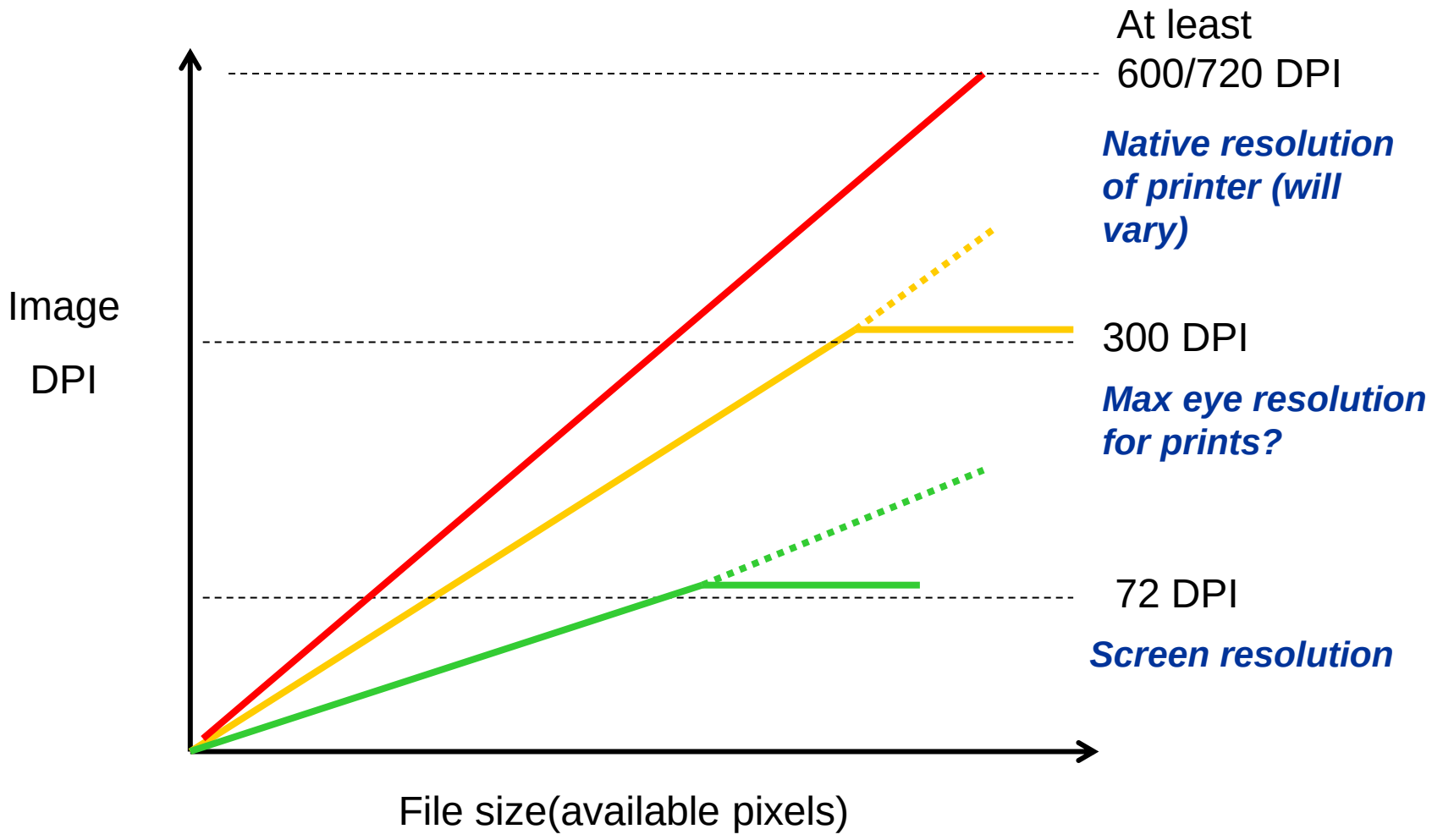
Printing and printing software

PRINTING

- Making high quality prints can be a complex process
- Requires decent printer, inks and paper
- Plus three main technical pillars:
  1. Proper set up of software and printer drivers
  2. Interpolation - optimising available pixels to print size
  3. Colour profiles- getting the colour "right"
- The overall "look and feel" of the print can be significantly enhanced by choice of paper
- Which paper to use for which print is personal choice but standardise on a few you like to minimise effort and need for separate profiles

An alternative is to use good quality commercial printer

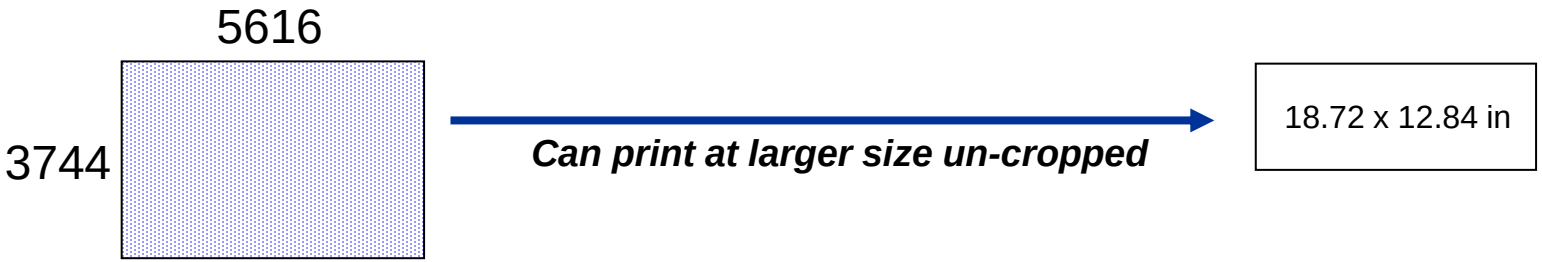
DPI AND FILE SIZE



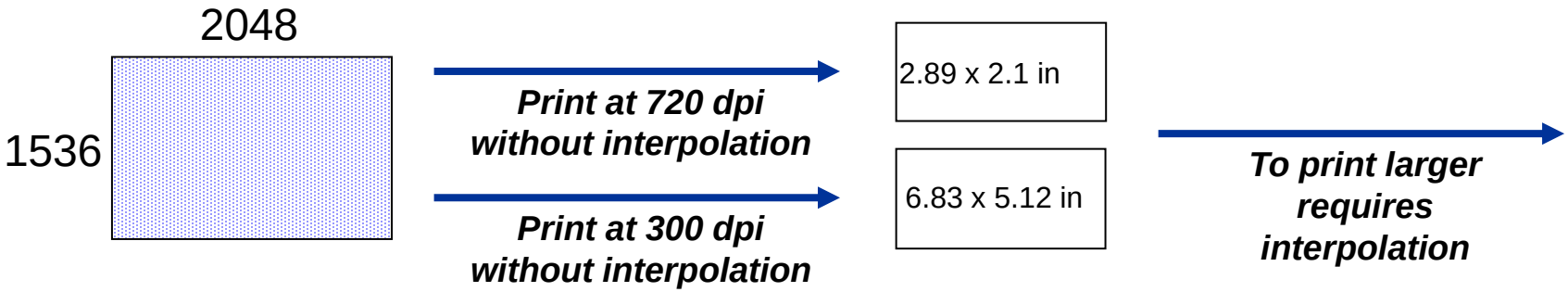
For most decent sized prints there are often not enough pixels so software has to create extra ones (interpolate)

AN EXAMPLE

23 Mp full frame camera



Heavily cropped 3Mp image



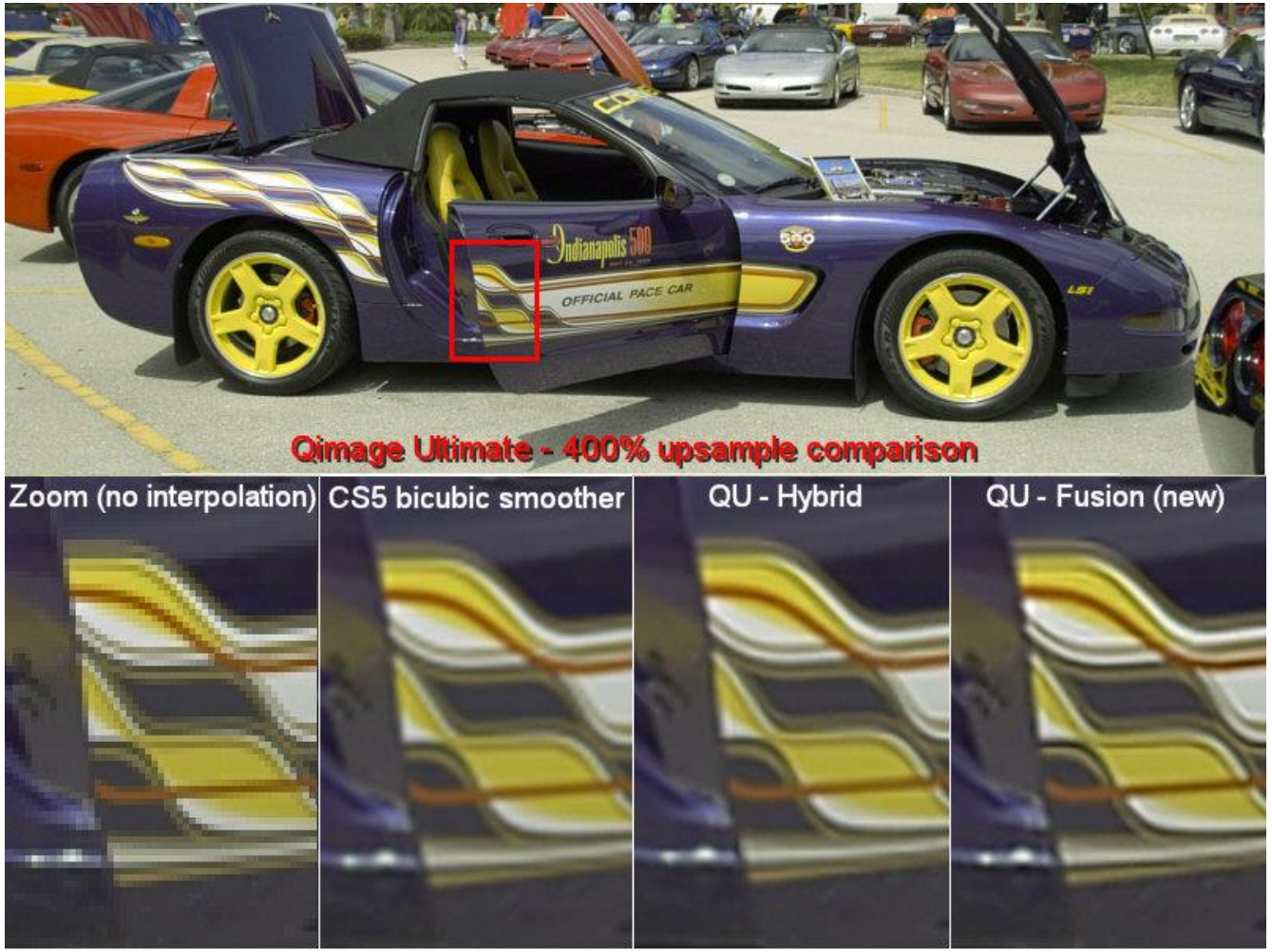
Likely that many/most images will need to be interpolated for printing at large size *particularly if cropped*

INTERPOLATION

Creating extra pixels by informed guesswork

Uses a variety of complex mathematical formulae with various names e.g. bicubic interpolation

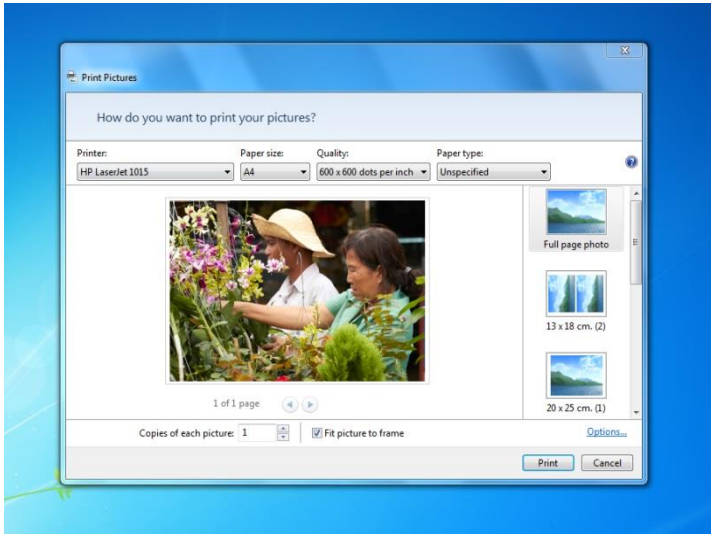
DIFFERENT TYPES OF INTERPOLATION

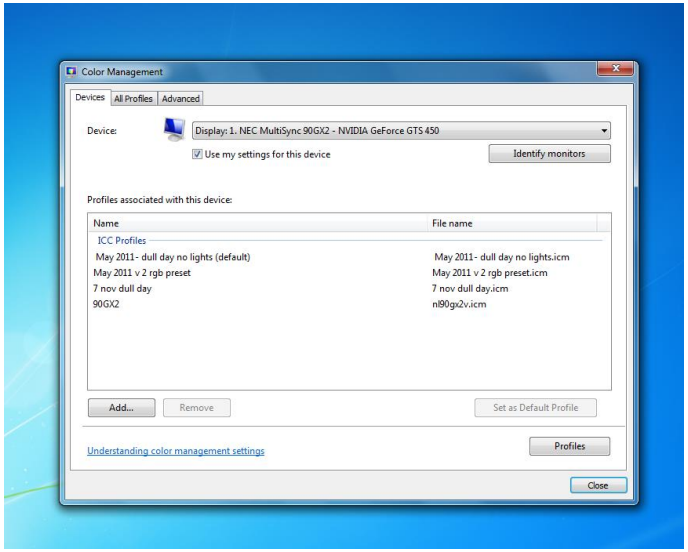


PRINTER PROGRAMMES

- Many to choose from
  - Better raw processors
  - PS Elements/CS
  - Windows free software
  - Specialist printing programmes
- Same principles
  - Decide on paper type and size
  - Decide on image size on paper
  - Decide on DPI
  - Set up suitable ICC profiles

But always switch off printer driver in favour of the print software driver

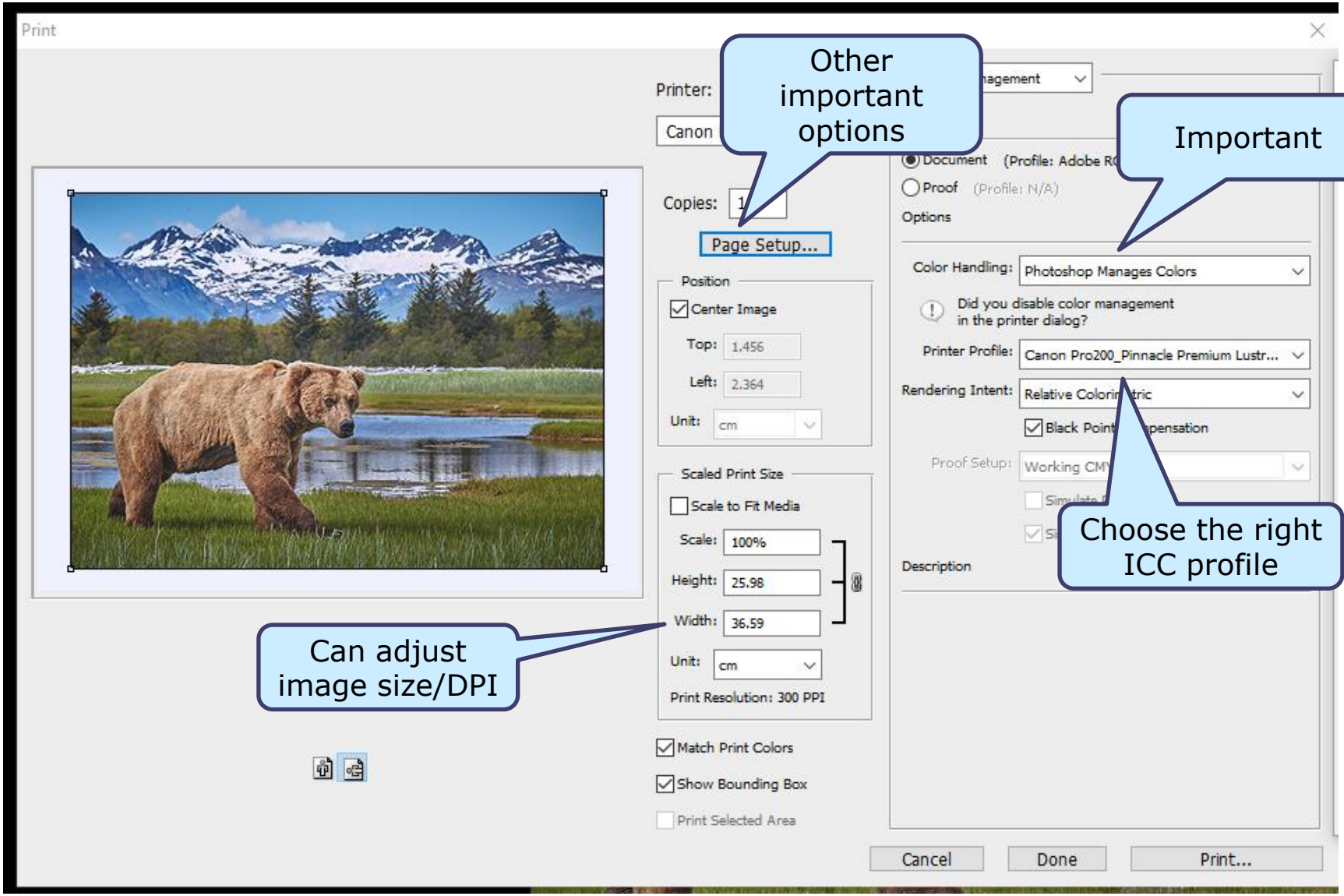




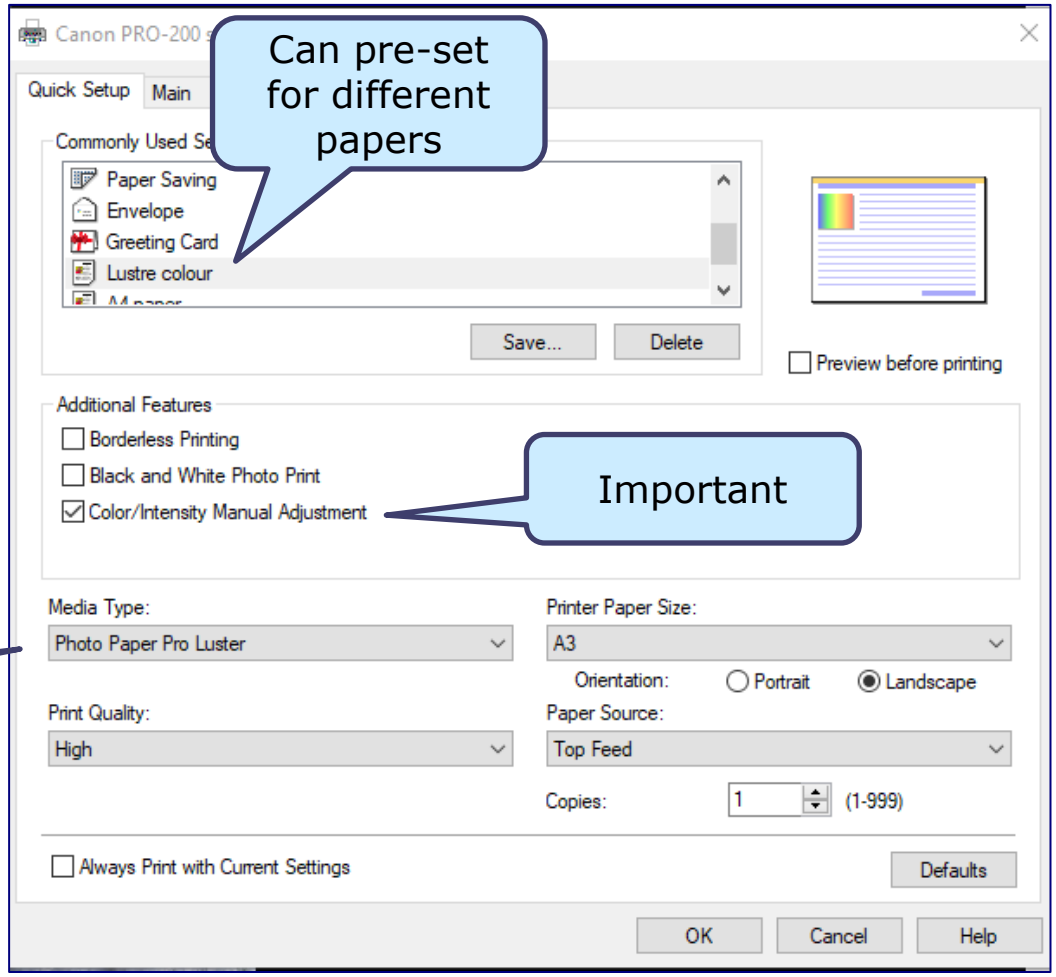
PRINTING WITH PHOTOSHOP

Set up will vary between software and software version and printer that are used

- File/Print
- Select printer type
- Select printer settings
  - Set paper type, quality and size
- In other options/colour management make sure that “PS manages colour” is chosen and also in printer settings switch off colour management
- Best to test all settings first on small 6x4 prints until sure that everything is OK
- Before pressing print always double check that settings have not changed


Print
Printer:
Canon
Copies:
Page Setup...
Position
Center Image
Top: 1.456
Left: 2.364
Unit: cm
Scaled Print Size
Scale to Fit Media
Scale: 100%
Height: 25.98
Width: 36.59
Unit: cm
Print Resolution: 300 PPI
Match Print Colors
Show Bounding Box
Print Selected Area
Document (Profile: Adobe R
Proof (Profile: N/A)
Options
Color Handling: Photoshop Manages Colors
Did you disable color management in the printer dialog?
Printer Profile: Canon Pro200_Pinnacle Premium Lustr...
Rendering Intent: Relative Colorimetric
Black Point Compensation
Proof Setup: Working CMY
Description
Cancel
Done
Print...
Other important options
Important
Choose the right ICC profile
Can adjust image size/DPI

PAGE SET UP



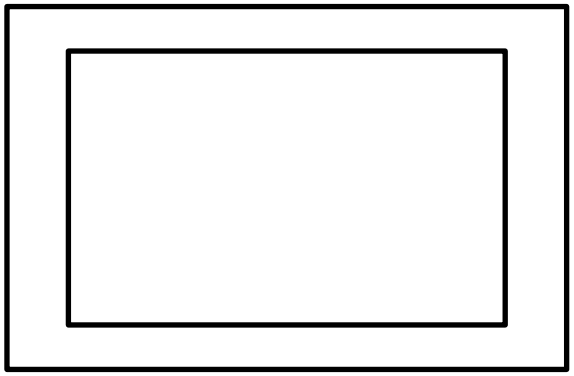
Can pre-set for different papers

Important

Right paper for profile

MOUNTING

- Mounting prints depends on your taste
  - Cut-out frame (make or buy)
  - Mount directly on board
  - Borders?
- What colour? Most judges tend to prefer white or dark grey/black. But your choice!
- Think about position of image in frame - central or offset? Small or large border?
- You can either:
  - Have just the image within the frame
  - Allow gap between image and frame possibly with line around



QUESTIONS AND DISCUSSION

AV Appendix
Additional information on AV production

BASIC APPOACH

- Work out a rough outline for your AV e.g.
  - What theme
  - How many and which slides
  - Slide/show durations
  - Can also insert video clips
- Load images/video into AV programme in correct sequence - adjust as necessary
- Decide on transitions and other effects
- Add intro and ending slides plus text where necessary
- Add music matched to slides and transitions
- Once slide show finished leave a for a few days and then review to check
  - Transitions
  - Music sync
  - Does the story work overall

PREPARING IMAGES

- Best to use lowish resolution jpeg since reduces file size and thus AV processing time
- Think about final output aspect ratio
  - Ideally pixel resolution should match screen size of TV/monitor/projector
  - Most programmes allow you to save images in different aspect ratios
  - Most TVs now at least HD (1920x1080 pixels) or 4k (4096 pixels wide)
  - High quality photo projector (1600x 1200 pixels) or sometimes higher
  - Higher pixels will work but AV file size higher
- Can sometimes help to have coloured keyline around images

IMPORTING AND ORDERING IMAGES

- Simply drag and drop from file palette
- Can insert all slides in folder in one go
- Can move slides by drag and drop or right click
- Can also add blank slides for captions etc
- Can add video clips
- Once slides in timeline at any time can:
  - Change default time of slides or transitions
  - Check length of show and number of slides/music tracks
  - Play show so far to check
  - Review/modify slides/transitions*
  - Etc

* Don’t overdo fancy transitions- can be boggling

SLIDE OPTIONS

- A wide range of options for individual slides
  - Slide
    - Styles
    - Slide settings
    - Slide background
  - Layers
    - Layer settings
    - Video settings
    - Editing
  - Effects- Pan/zoom/rotate
  - Captions
  - Slide transitions*
  - Sounds

***CARE: use slide effects with restraint**

USE OF LAYERS

- Layers allows you to create your own special effects
- Similar principle to Photoshop but can separately control effects for each layer within slide
- Order of layers can be rearranged
- Can colourise (monochrome) slides for extra effect
- Can copy and paste multiple layer slides to help effects
- Your imagination can create whatever effect you want but use with care

A FEW AV TIPS

- Often best to start with a blank side before intro – allows adjustment time for audience
- Right click on text colour/font/slide outline colour etc allows you to copy effect onto other slides or whole show
- Normally use cross fade between slides but sometimes cut better
  - For panning start with static slide and then cut to the pan slide
  - For text reveal in stages - use same slide with text unclicked and cut between slides
- For voice-over on specific slides can suppress background music to varying degrees
- Can cross fade between mono and colour version of same slide to add creative effect

ADDING AUDIO

- Music or other audio adds greatly to the show
- Can use music from any digital source. Also can often find (or buy) sound effects/news clips on line
- Needs some practice to achieve good alignment with slide transitions
- Can easily edit track to align with images:
  - Change start/finish point of track
  - Move track to better align with images
  - Fade in and out
  - Make louder or softer
- Can run sound clips over music

SAVING OUTPUT

- Once complete save show in folder
- Then can output watchable version in different formats/quality e.g. for projector, TV, laptop, You tube etc
- Best probably standard MP4 file in highest quality compatible with media used