INFRARED PHOTOGRAPHY

A beginner’s thoughts

by

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Why infrared?

Different look
Different shades
High contrast works well

“Bush” edited in Lightroom and Silver Efex Pro

Skies absorb light and comes up black

Leaves reflect light and becomes white

Texture of solid objects such as buildings alters

Portrait photography differs in texture

Atmospheric haze is penetrated: these mountains were barely visible!

Skin tones and clothing take on different textures and shades.

High contrast scenes at midday mean you don’t have to put your camera away!

False colour

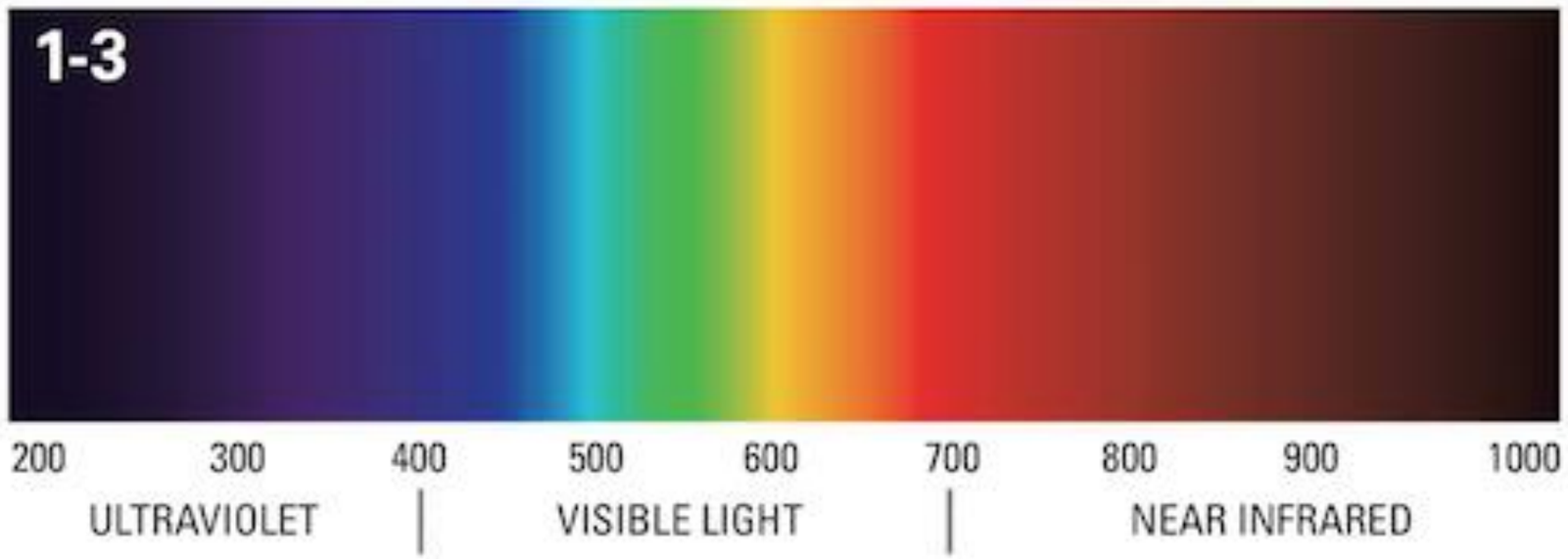
Type of conversion and editing in Photoshop to achieve this. (Haven’t done this myself yet!)

Thanks to Edward Kreis on Flickr for permission to use this image.

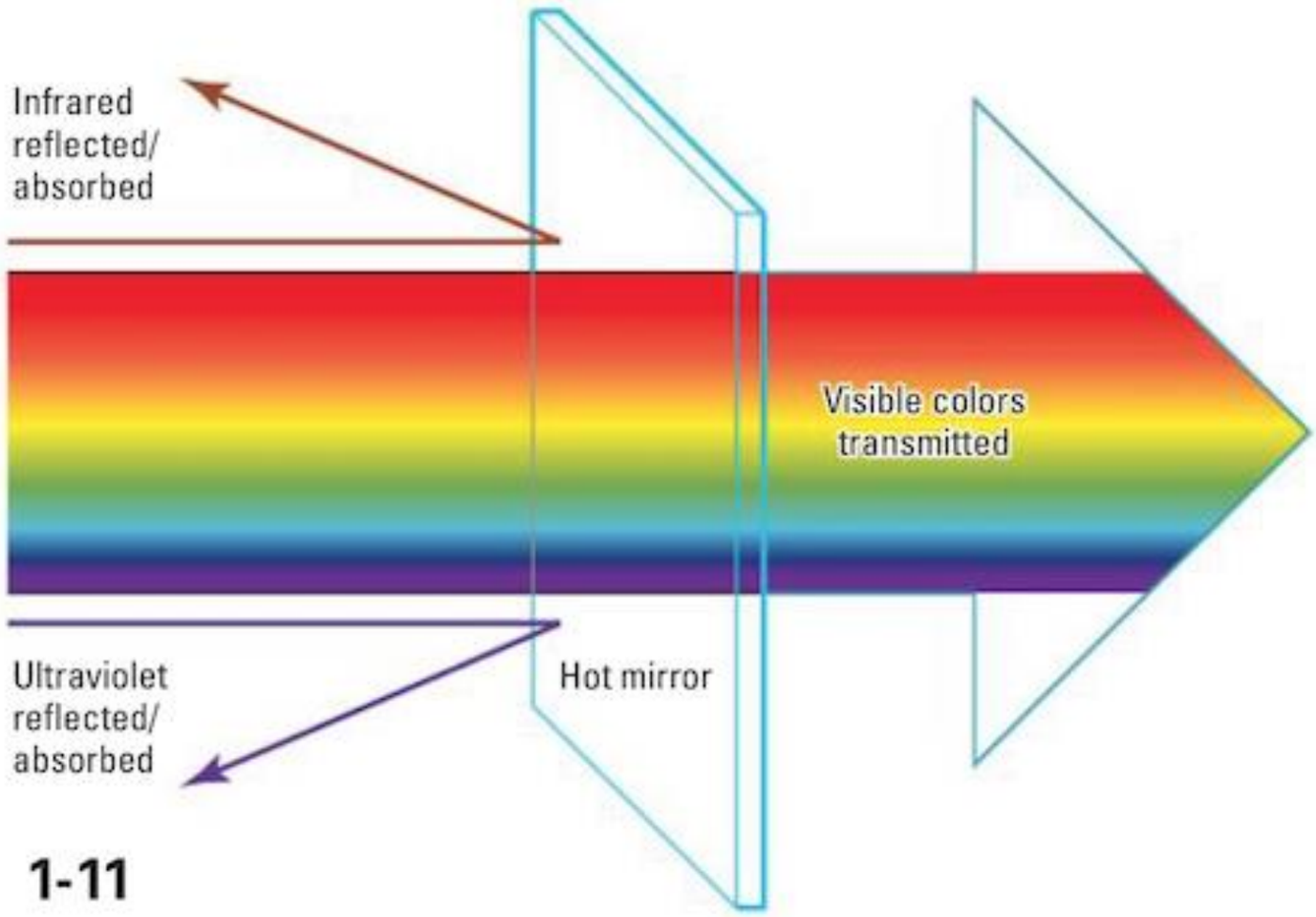
https://www.flickr.com/photos/edwardkkreis/

How does it work?

ABOUT THIS FIGURE *This chart shows the wavelength ranges of UV, visible, and IR light.*

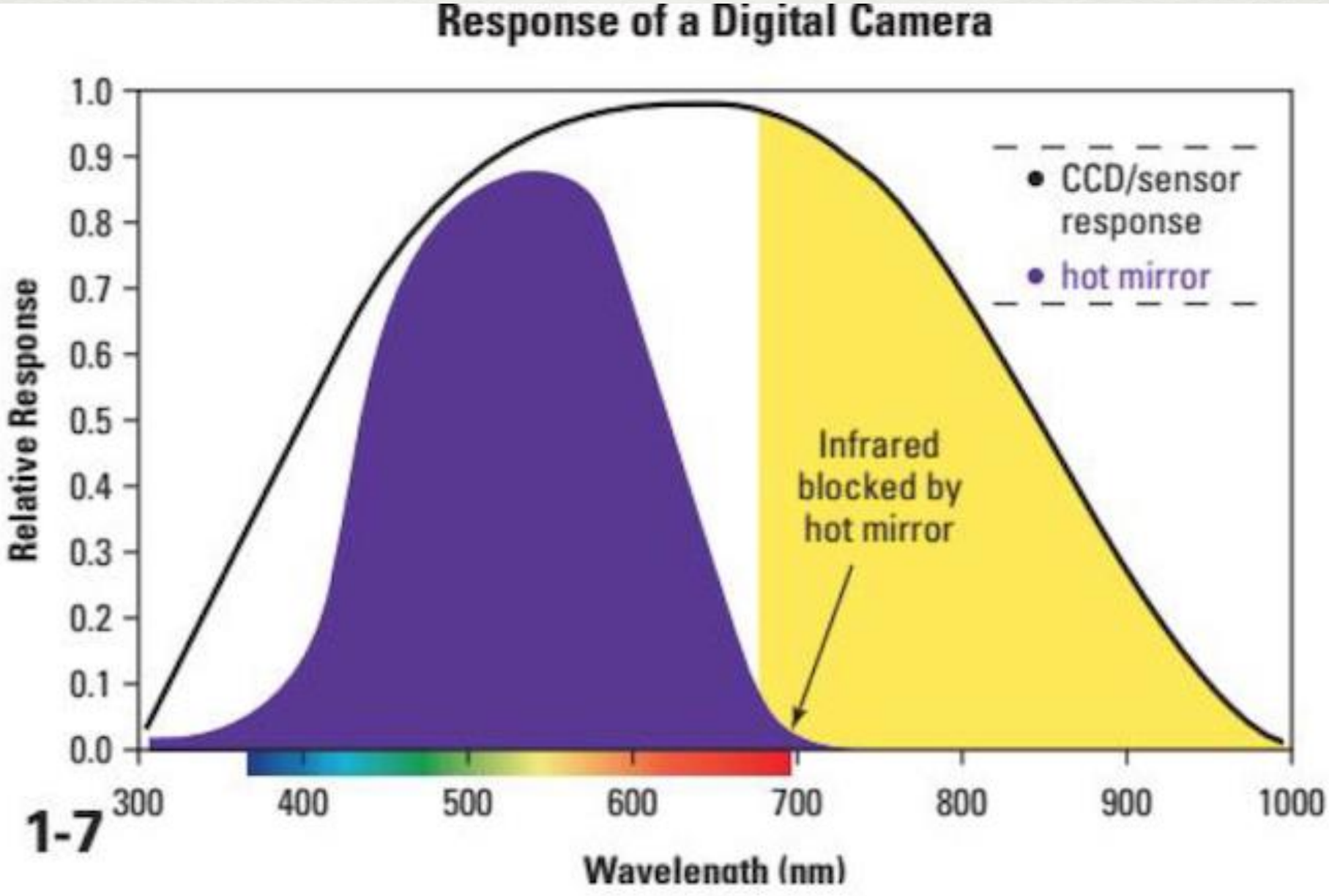


- Uses 700-900nm spectrum



1-11

ABOUT THIS FIGURE *The function of the hot mirror in a digital camera is to prevent UV light and IR light from reaching the camera sensor as shown. In the IR conversion process, it's replaced with an IR pass filter, which blocks most visible light.*



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ABOUT THIS FIGURE *This chart shows the response of a digital camera to UV light, visible light, and IR light.*

What do you need?

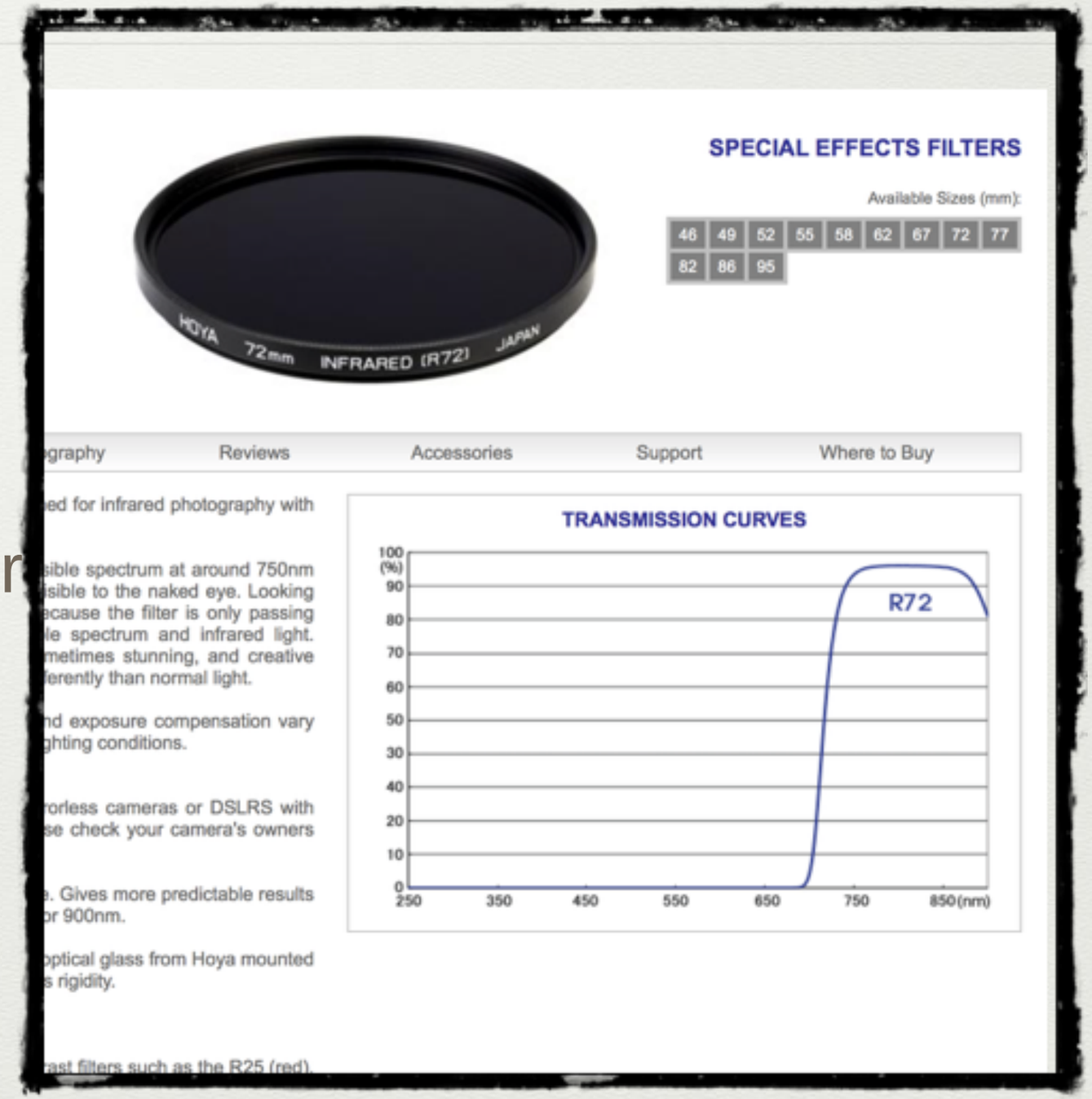
- Converted camera - preferably shoots RAW images.
- Point and shoot, DSLR
- Film camera can also be used

Pros and cons of dedicated camera

- Ready to use, just switch on and shoot
- Can use handheld
- Can immediately preview photo
- Need Live View for focusing with zoom lens
- Costs more than a filter: $300-500 depending on the camera to modify sensor
- Can only use the camera for IR, not anything else

Screw-in filter on lens

- Hoya R72 Infrared filter for DSLR or film SLR



Pros and cons of filters

- Much less expensive: IR screw in filter $50-100
- Can use the camera for both IR and normal photography
- Very long exposure times as all visible light blacked out
- Can’t see image through viewfinder or back screen
- IR focus different to visible light
- Time consuming
- Must use a tripod

Getting more technical…

- Not all digital cameras can be converted so need to check before considering eg use TV remote
- Check lens specifications for ‘hotspot issues’
- Very little grain, glow or noise in a digital camera, can be added in PS or SilverEfex Pro etc
- Full frame vs Crop sensor - same principles apply

Focusing

- Infrared has different focal point from visible light cameras
- Older manual focusing lenses had an infrared focusing scale in red for IR shots
- Infrared focus shift is constant in fixed focal length lens
- Zoom lenses on digital camera require LiveView focusing

Hotspots

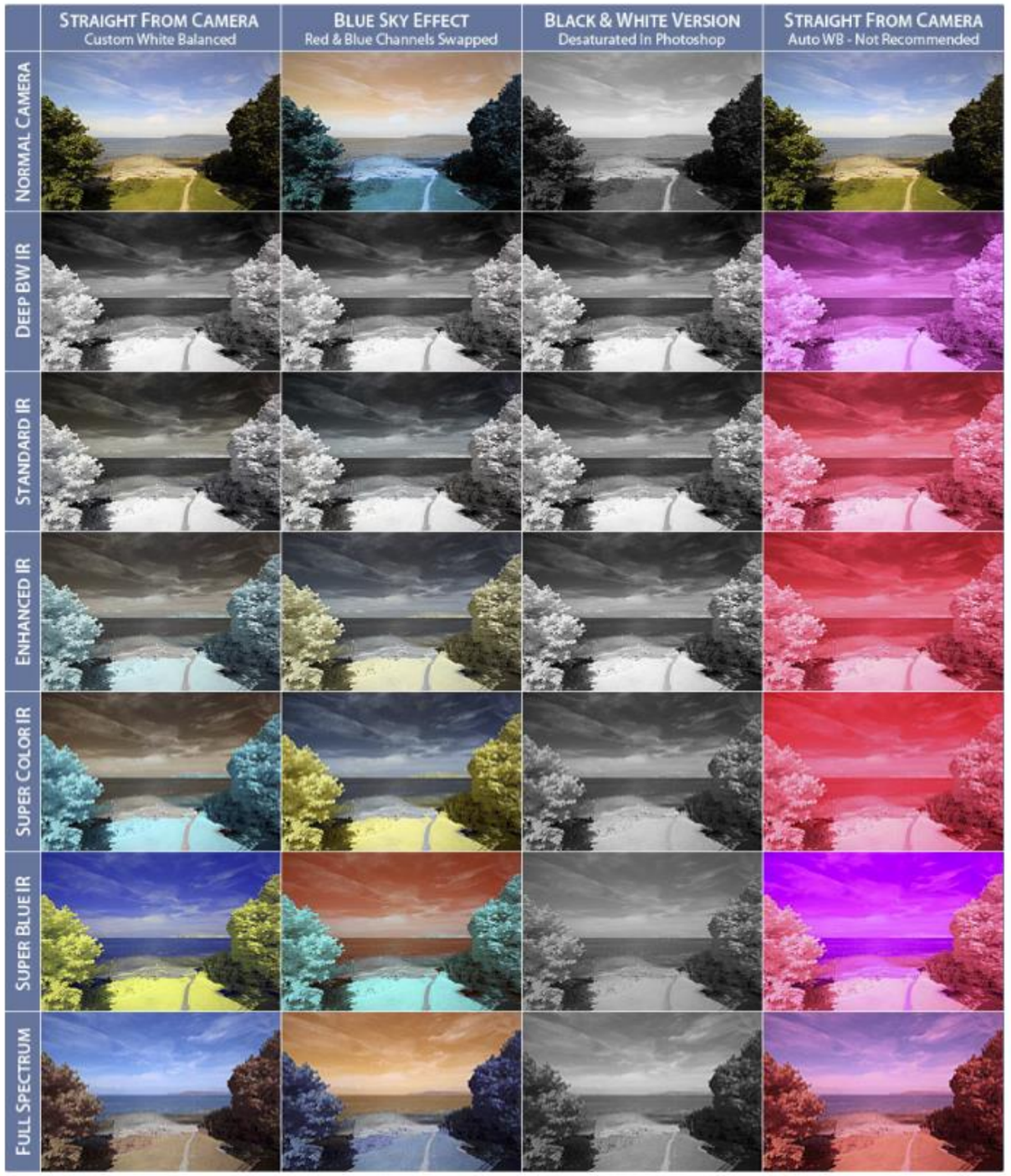
- Shooting into sun
- Some lenses worse than others
- Worse at small aperture
- See hotspot lens database on LifePixel
- Possible to make this artistic!

Types of IR conversion

- Deep BW Infrared Filter: equivalent to 830nm
- Standard IR Filter: 720nm, has small amount of colour in it so can get blue into sky in PS
- Enhanced Colour IR Filter: 665nm, has more colour in sky and foliage
- Super Colour IR Filter: 590nm, most visible red light also passes filter
- Super Blue IR Filter: Allows UV with external UV only filter, as can an external IR filter allow IR only photos
- Full spectrum UV/Visible/IR Filter

Our Filter Options:

Each horizontal row of images is from a different filter. Refer to the Row/Column text for a description.
Clicking a row will expand additional information.

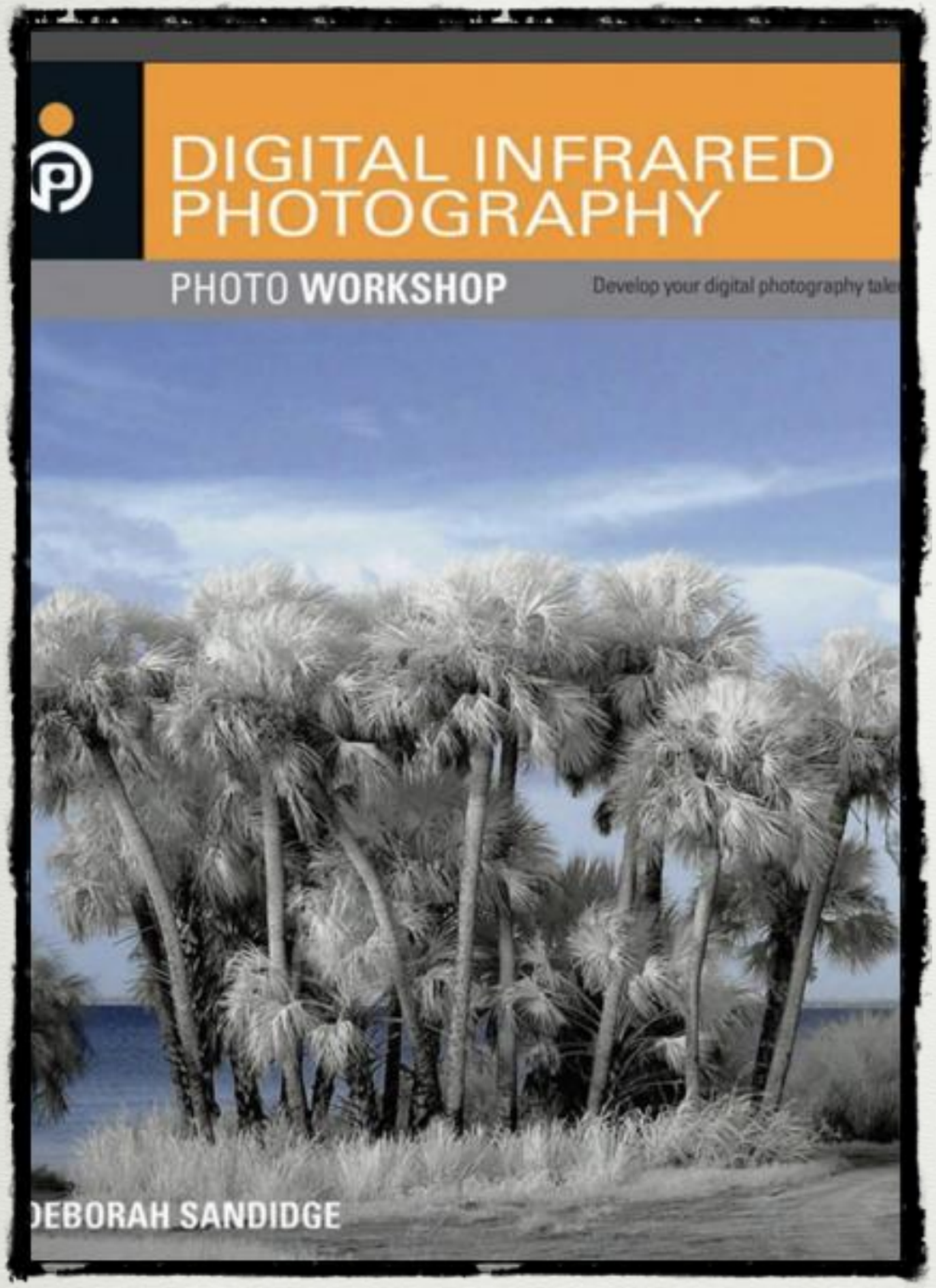


White balance

- Images initially appear red in auto WB
- Use RAW!
- PS and LR do not have enough latitude for adjustment of WB
    - can convert to B&W and juggle sliders
    - process in SilverEfex Pro or similar
- Nikon Capture NX2 and Canon Photo Professional raw conversion software can handle this

Resources

- Flickr: various infrared groups:
  - www.flickr.com/groups/infraredphotography/
- Camera Clinic in Melbourne: cameraclinic.com.au
- LifePixel: excellent resource
  - https://www.lifepixel.com
  - https://www.lifepixel.com/galleries/infrared-photography-gallery/edward-kreis-infrared-gallery
- Issuu and RBDigitial via Goldfields Library digital collection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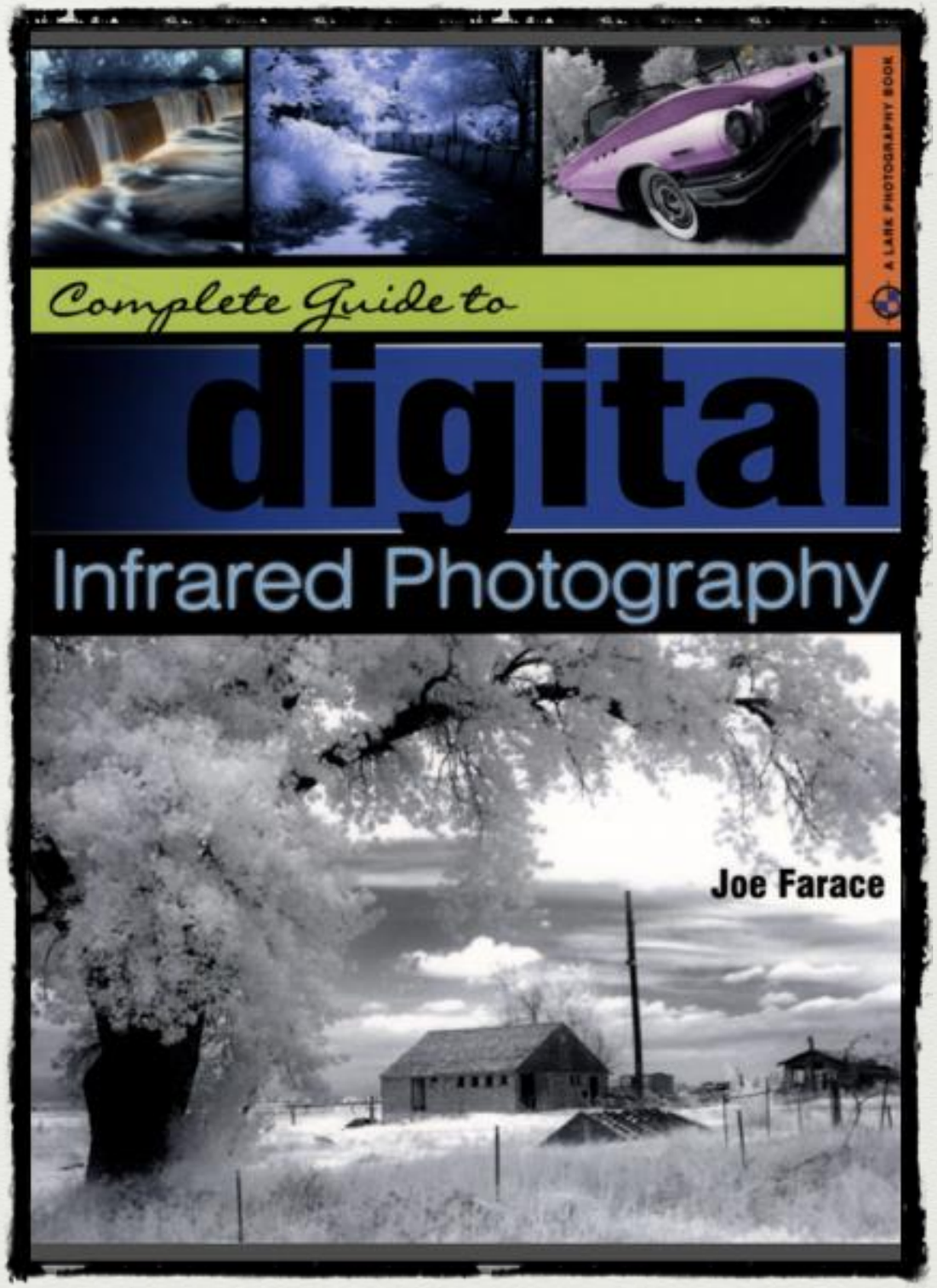
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Complete Guide to
digital
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Joe Farace