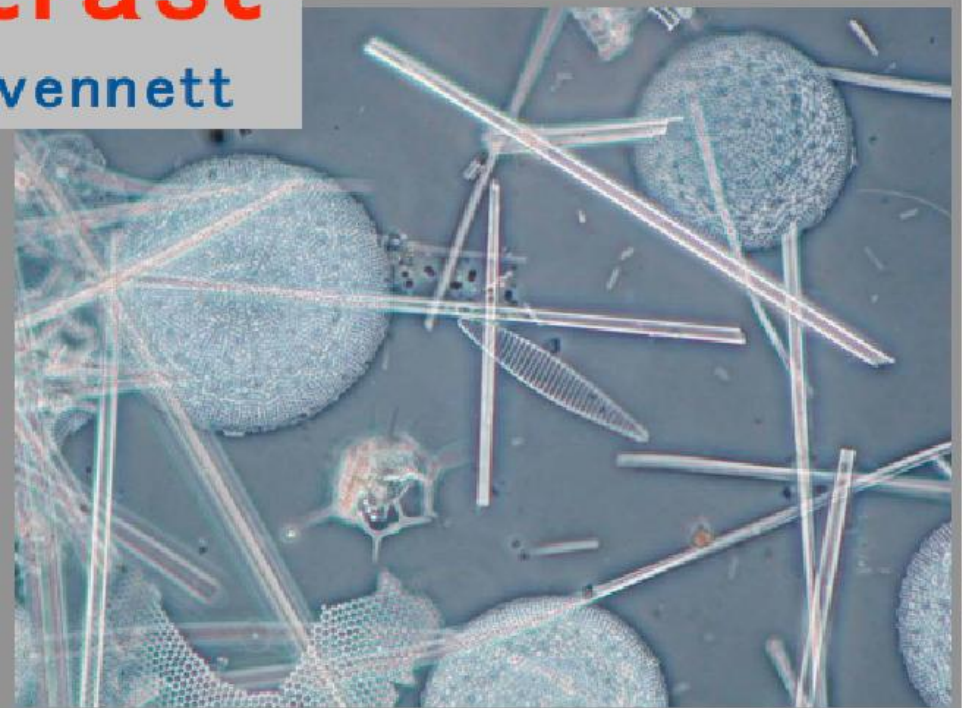
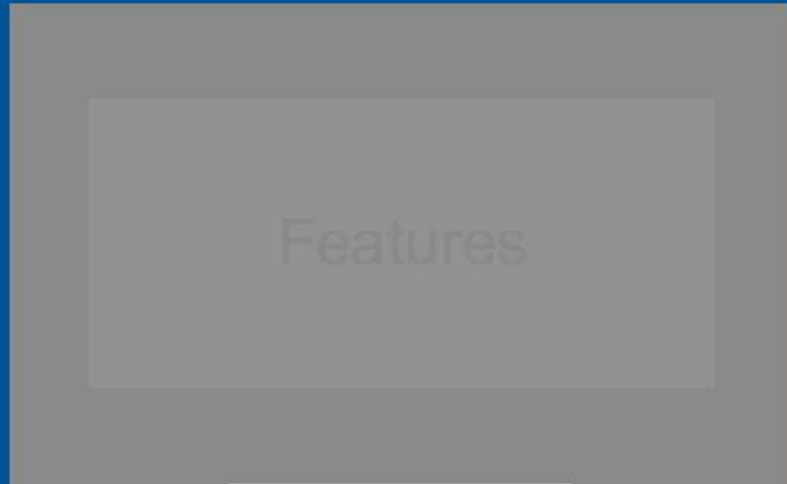


Contrast

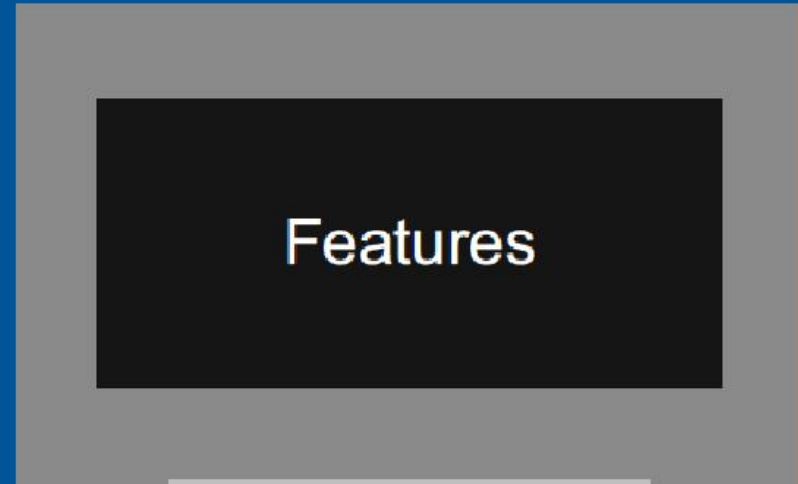
Peter Evennett



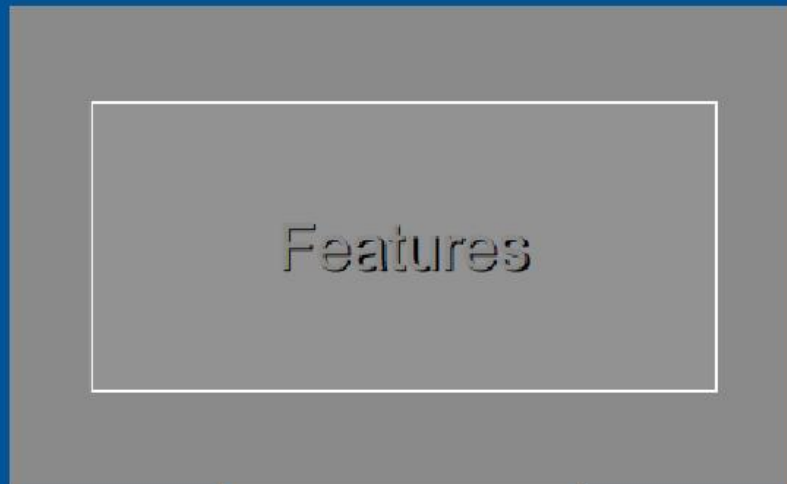
Increasing image contrast



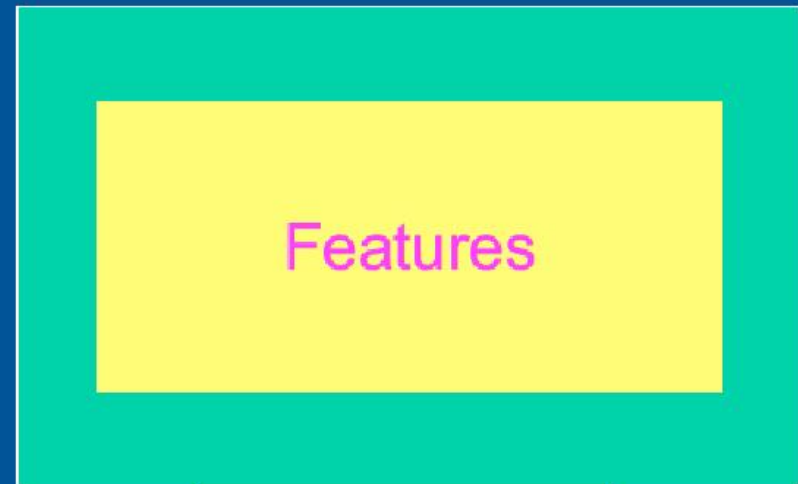
Low contrast



Amplitude contrast



Edge contrast



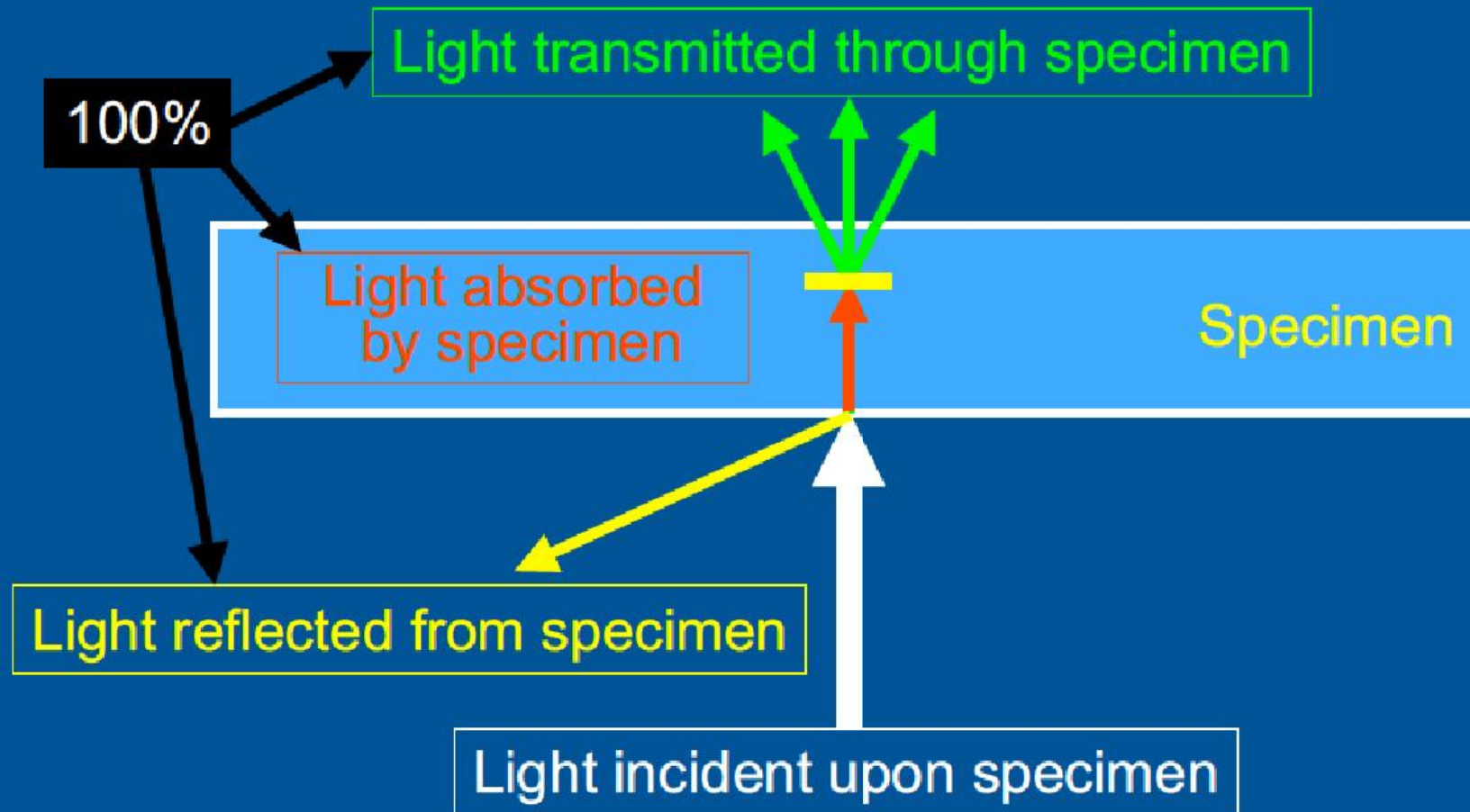
Colour contrast

Contrast may be altered:

- In the **Specimen** by
Staining
- In the **Microscope** by optical techniques
Colour Filters
Dark Field
Phase Contrast
Differential Interference Contrast
- In the **Photographic Image** by
Choice of film
Choice of developer
Choice of printing paper
- In the **Video** or **Digital Image** by
Electronic adjustments
Computer manipulation

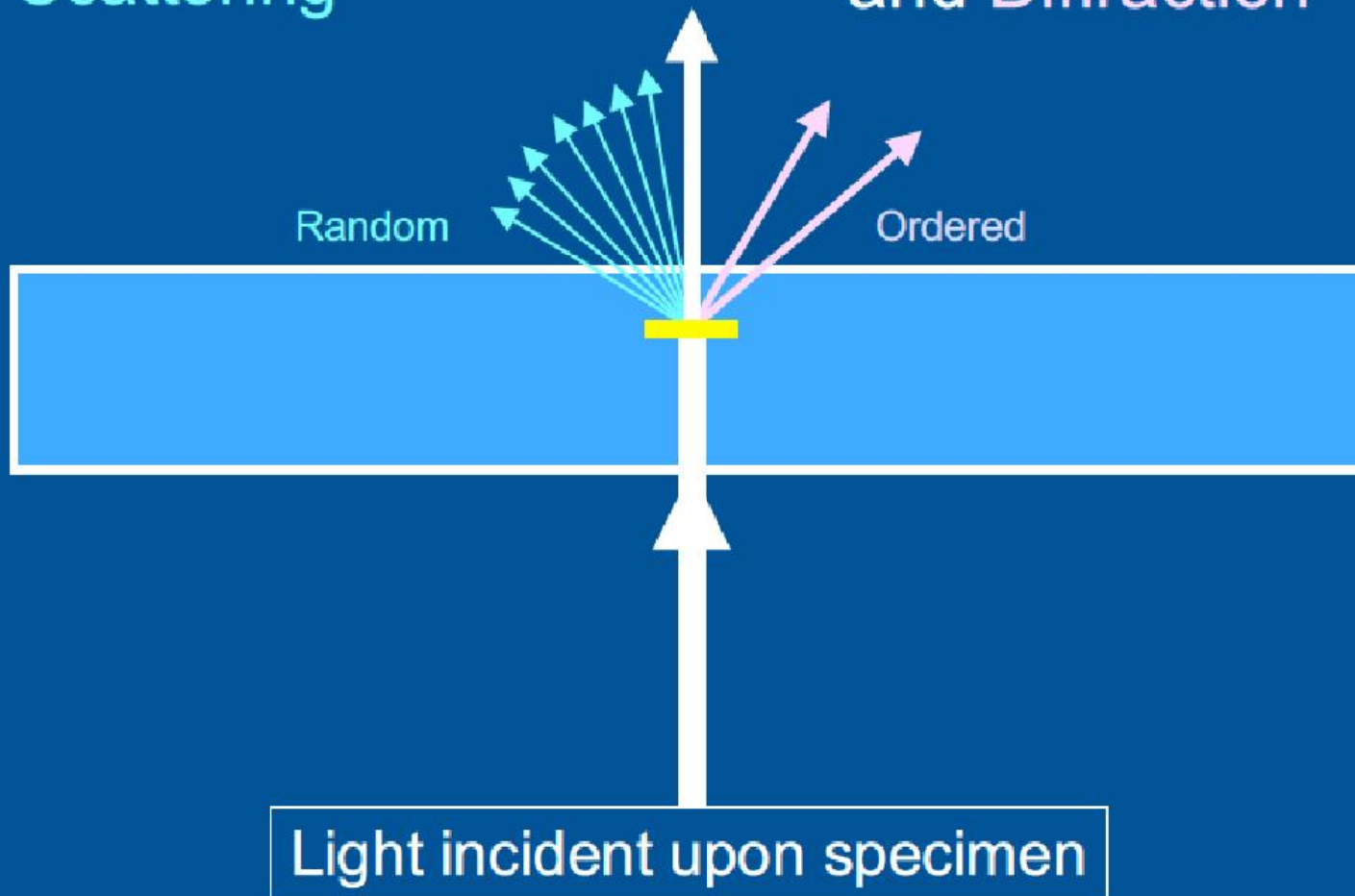
Effects of the specimen on light

- Absorption, Transmission and Reflection



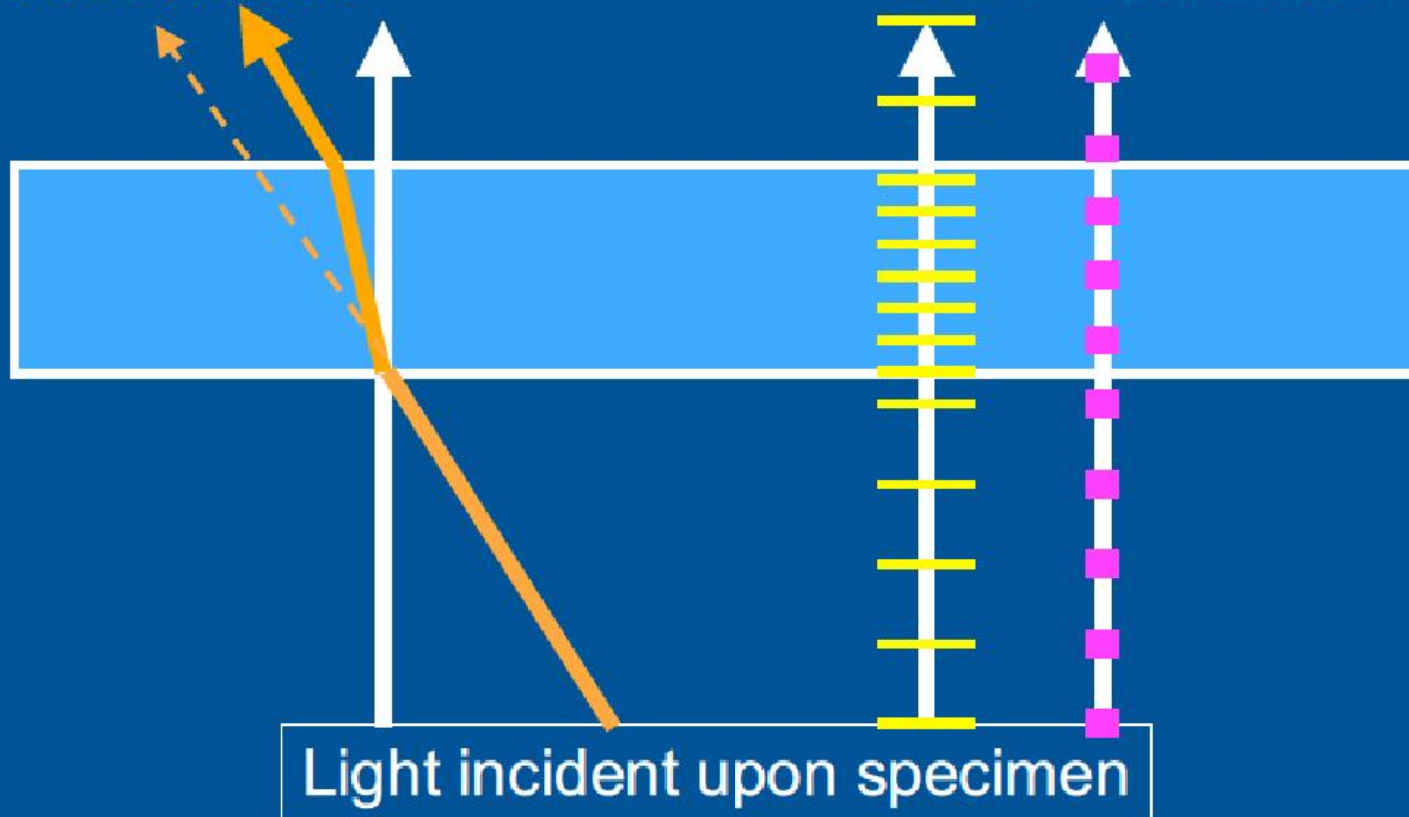
Effects of the specimen on light

- Absorption, Transmission and Reflection
- Scattering and Diffraction



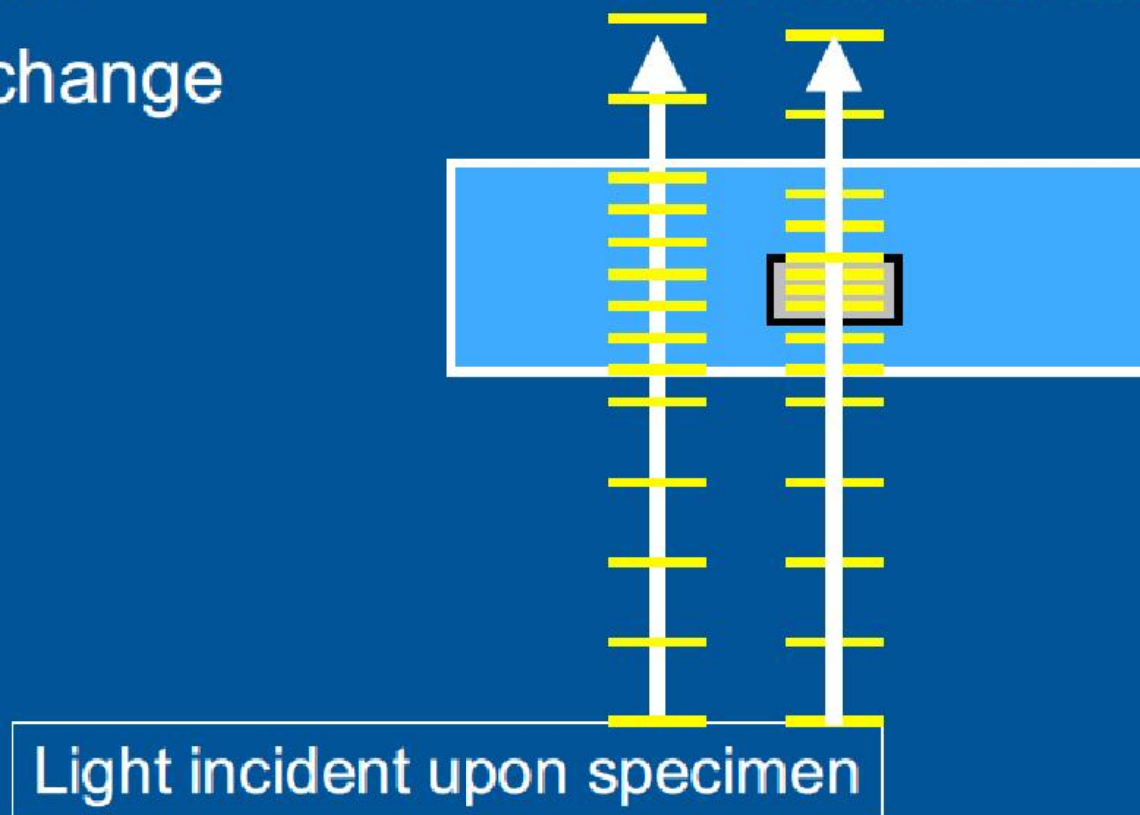
Effects of the specimen on light

- Absorption, Transmission and Reflection
- Scattering and Diffraction
- Refraction and Polarization



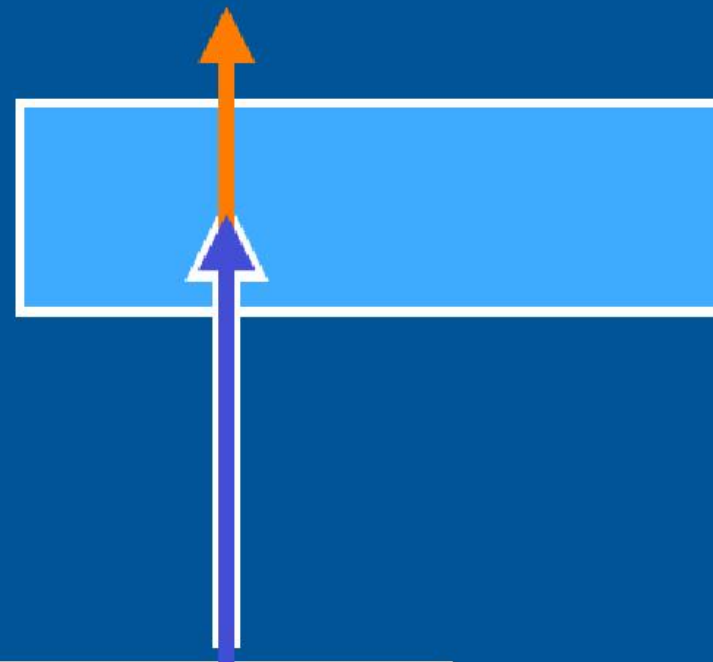
Effects of the specimen on light

- Absorption, Transmission and Reflection
- Scattering and Diffraction
- Refraction and Polarization
- Phase change



Effects of the specimen on light

- Absorption, Transmission and Reflection
- Scattering and Diffraction
- Refraction and Polarization
- Phase change
- Fluorescence



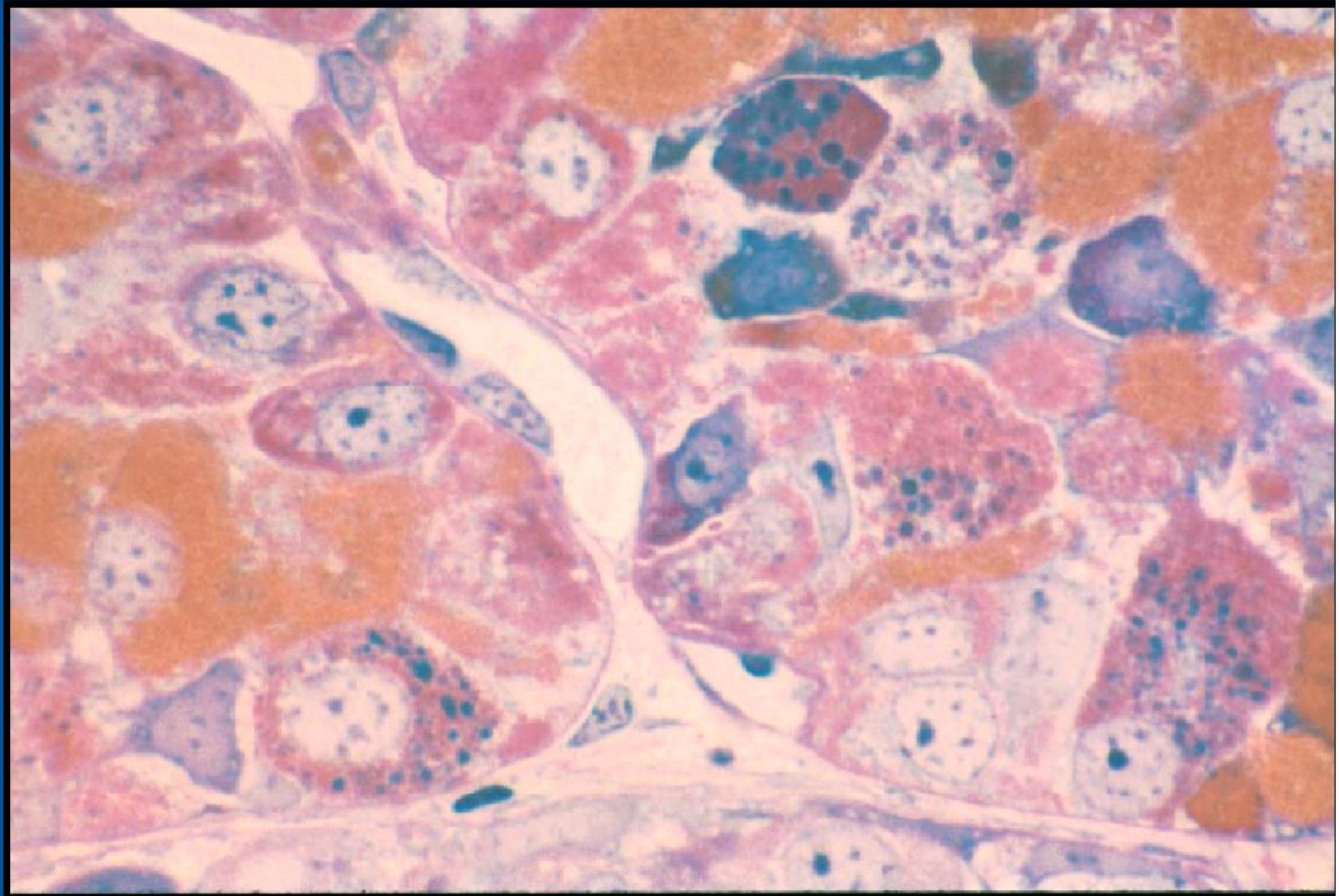
Light incident upon specimen

Effects of the specimen on light

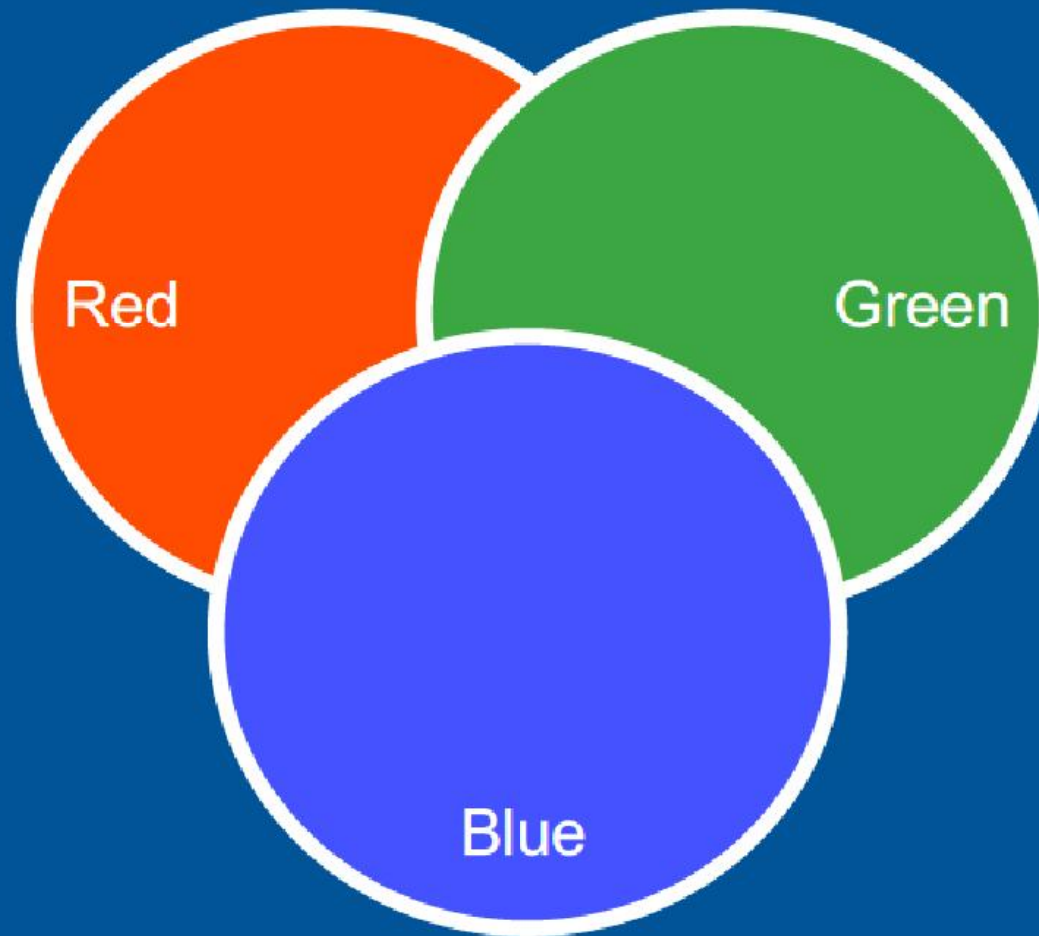
- Absorption, Transmission and Reflection
- Scattering and Diffraction
- Refraction and Polarization
- Phase change
- Fluorescence

The contrast mechanism converts these effects into variations of *brightness* or *colour*
- the only variations that the human eye, photographic film or electronic sensors are able to detect

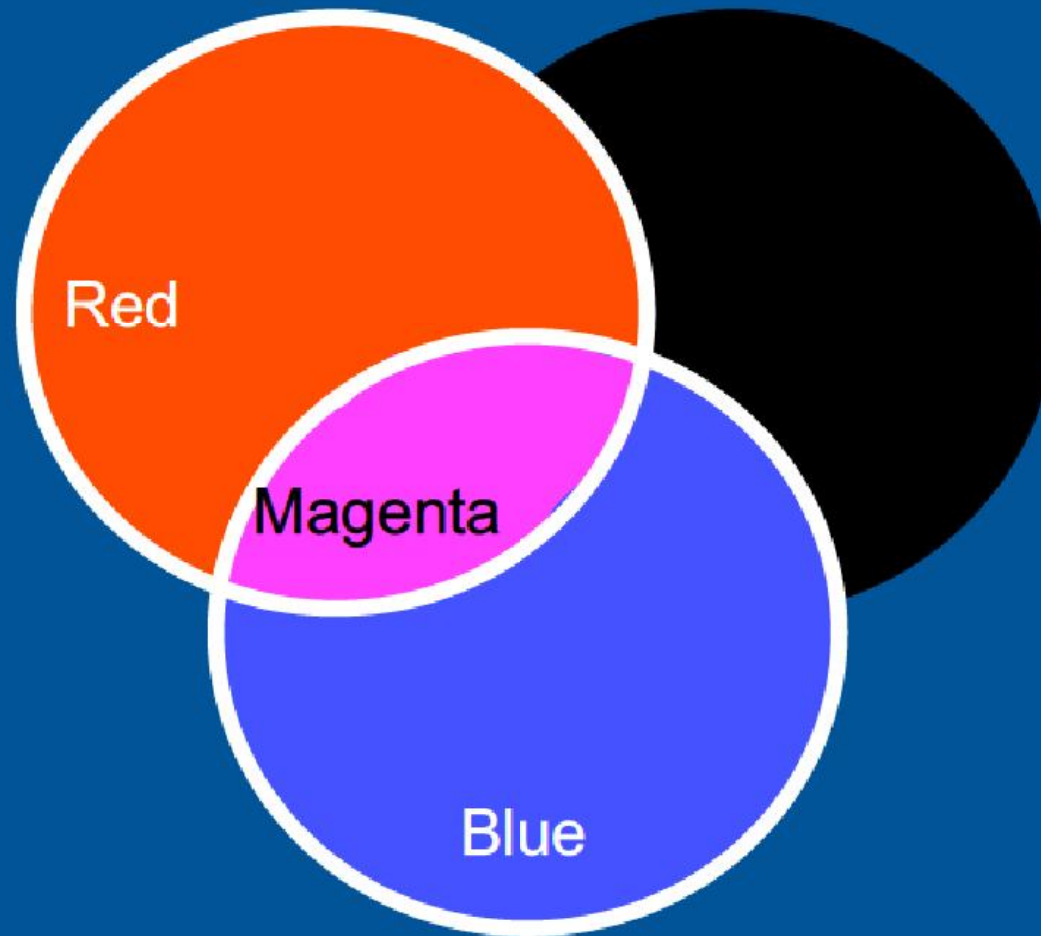
Stained section of *Xenopus* pituitary gland



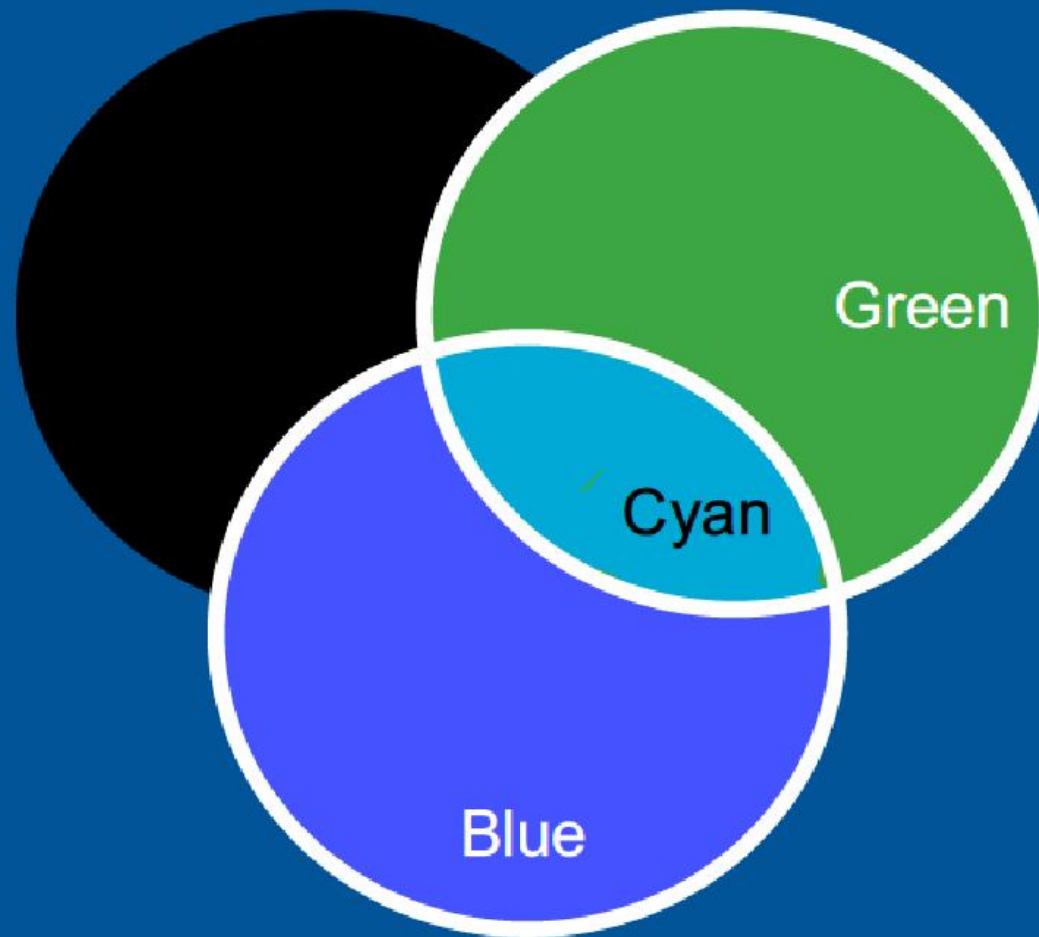
Three Primary Colours



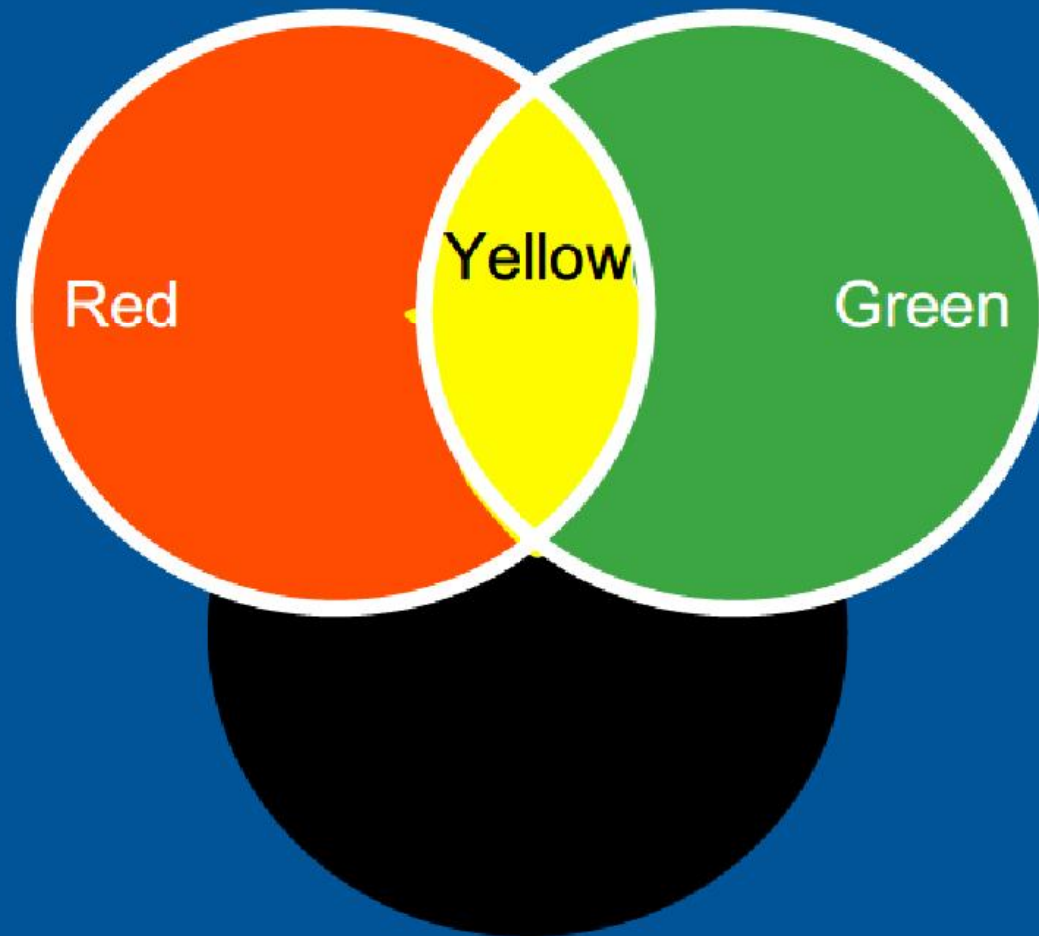
Mixing coloured lights - Secondary Colours



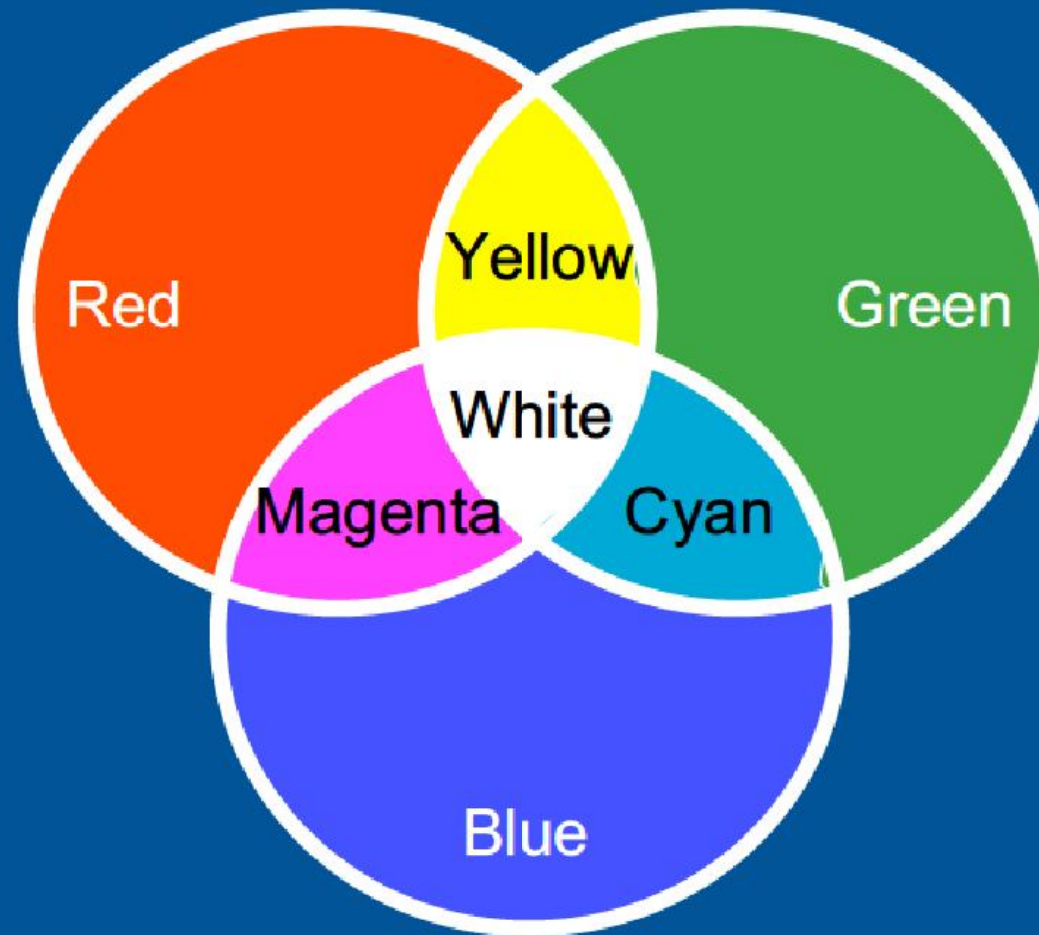
Mixing coloured lights - Secondary Colours



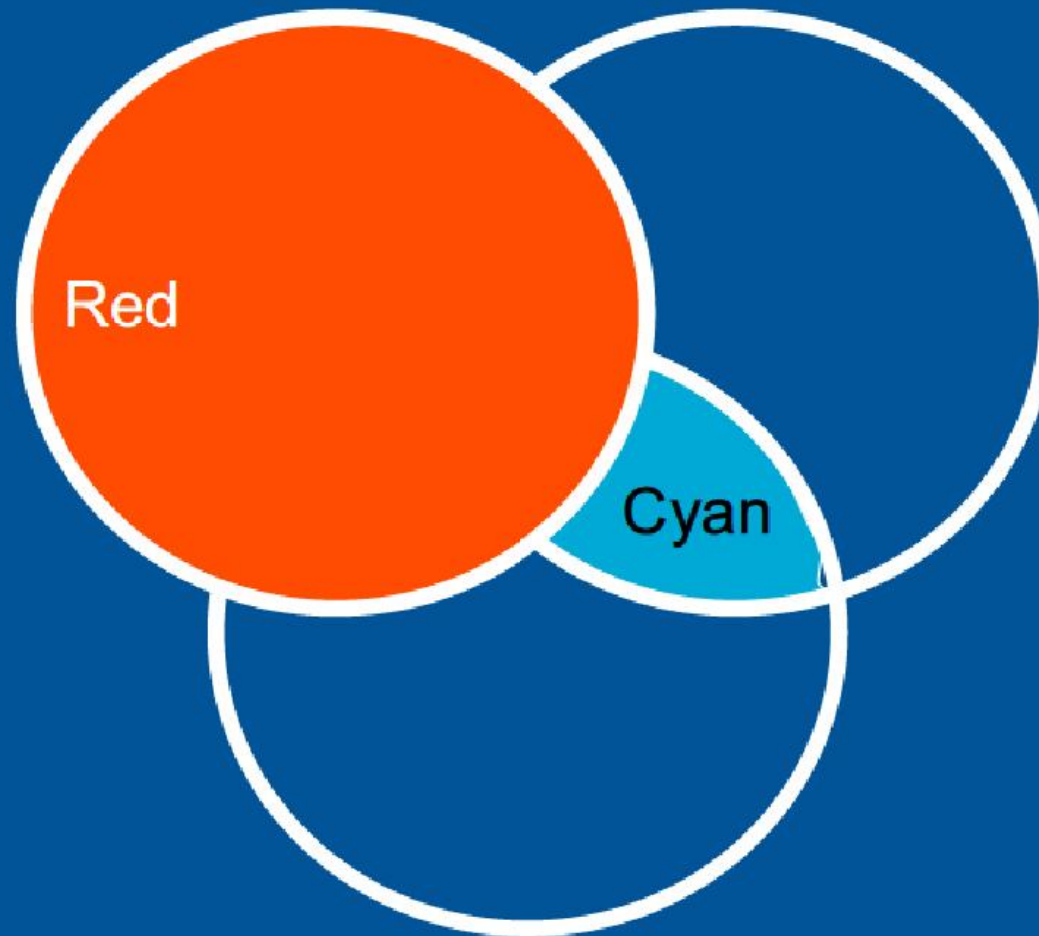
Mixing coloured lights - Secondary Colours



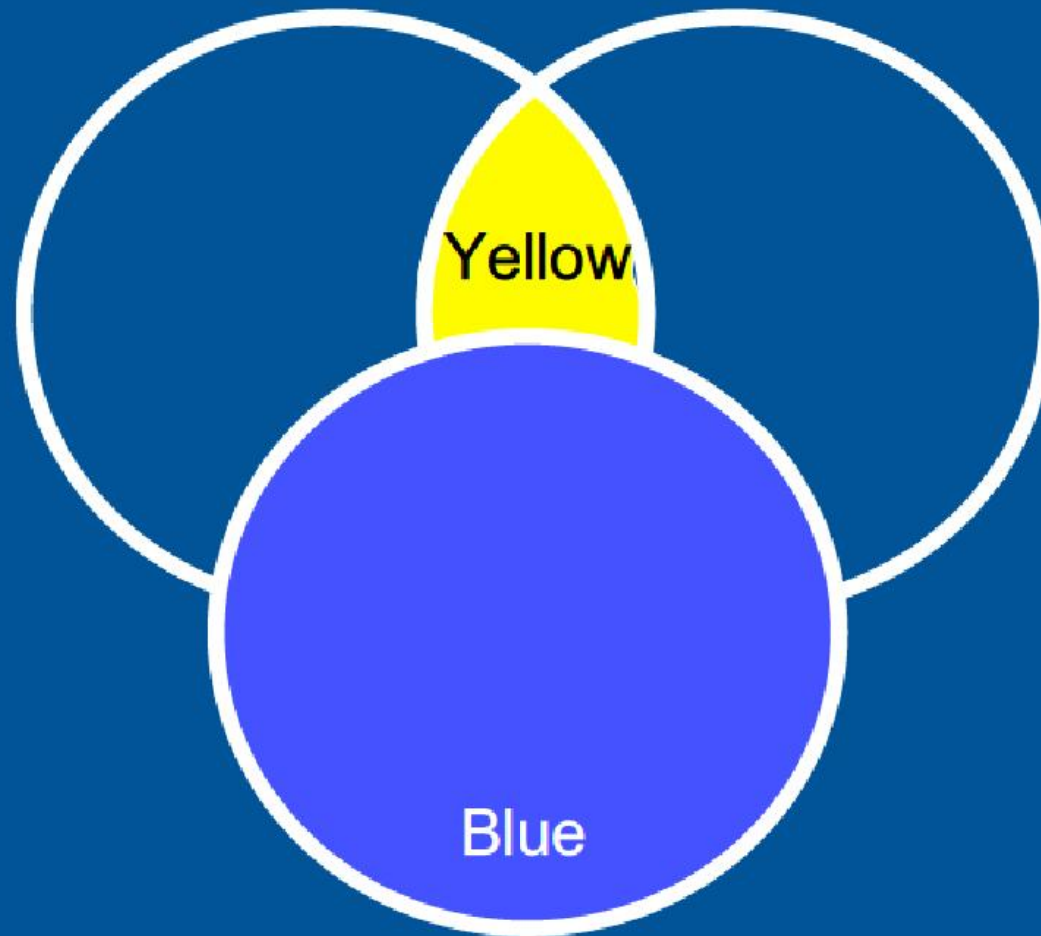
Mixing coloured lights - Secondary Colours and white



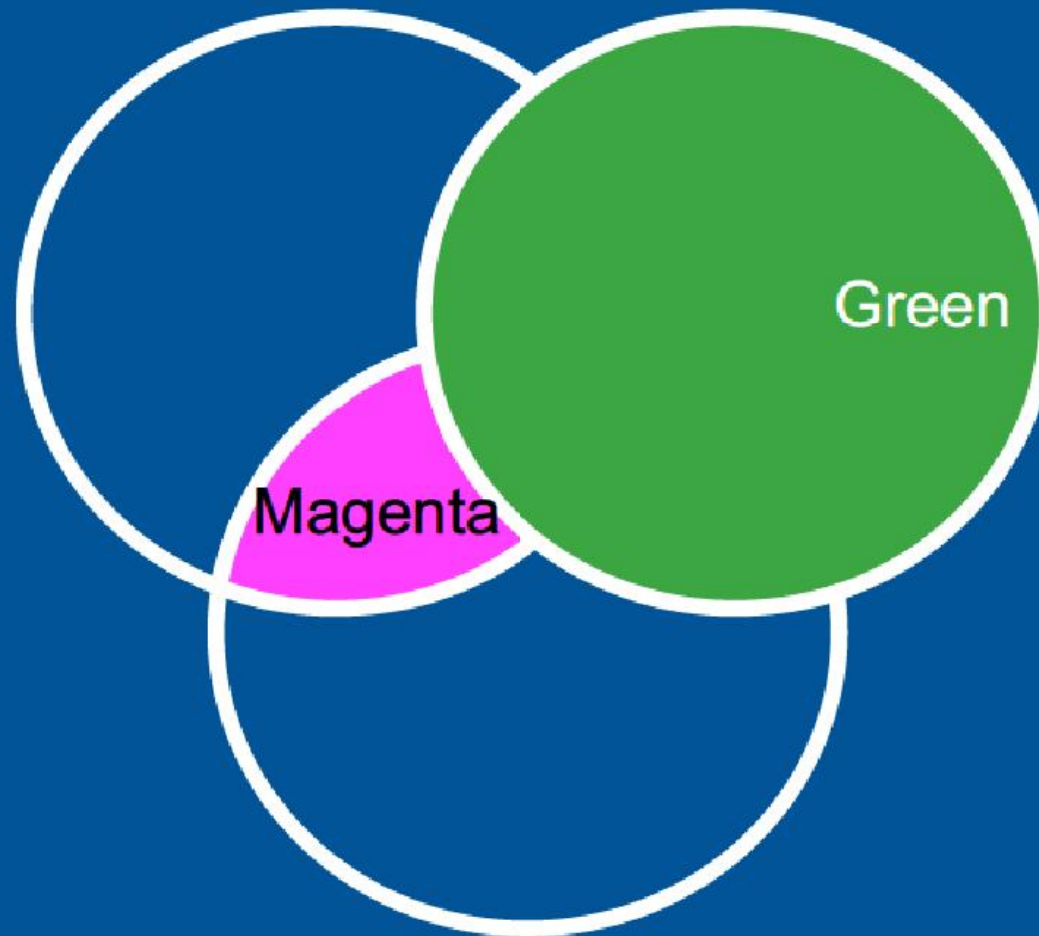
Complementary colours

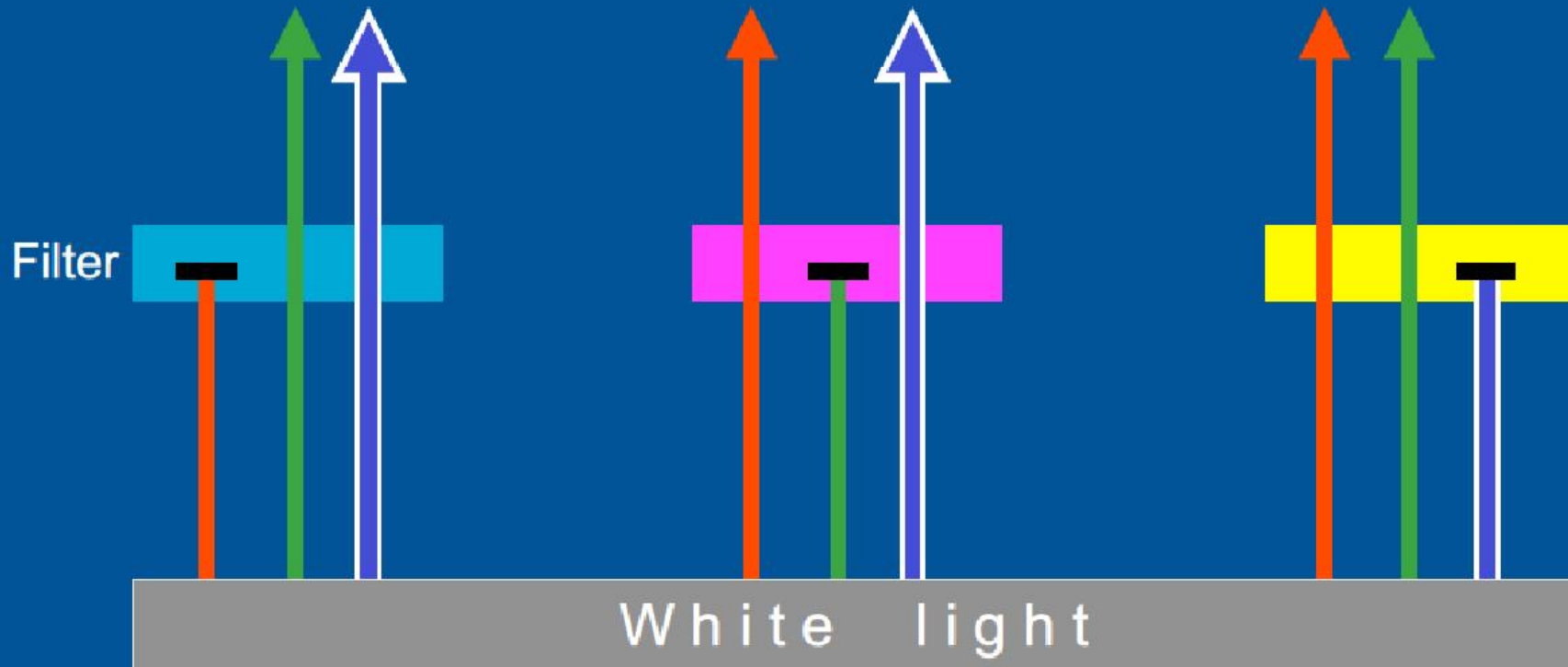
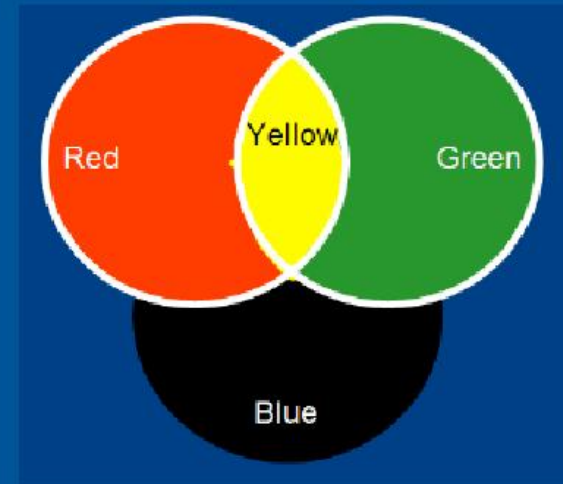
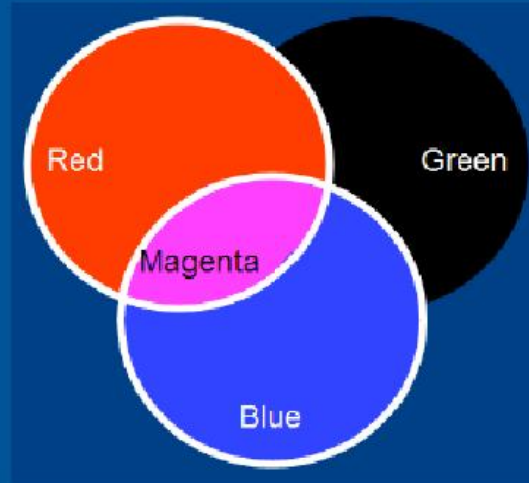
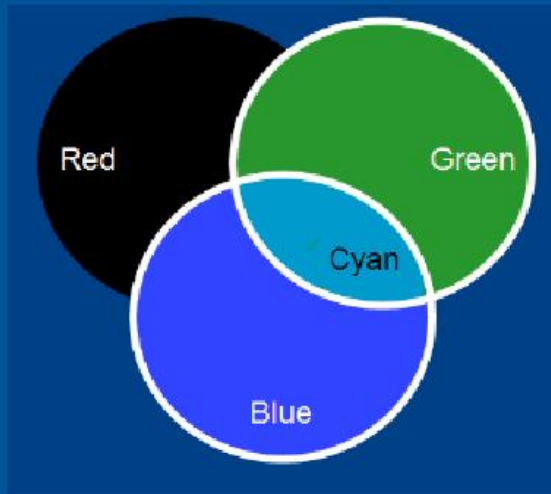


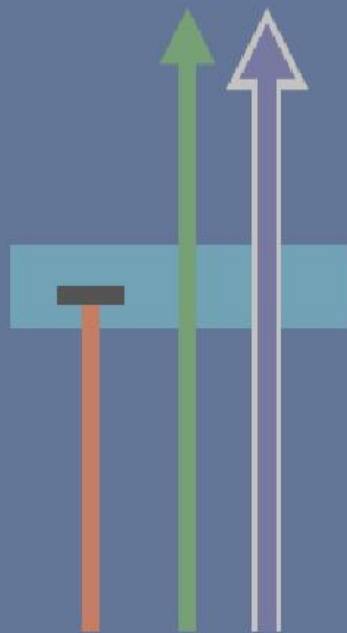
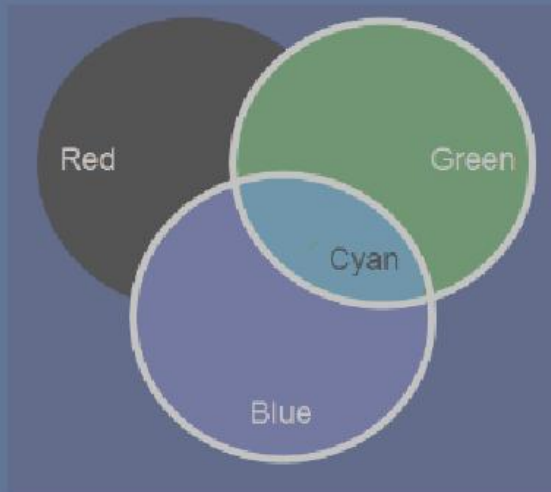
Complementary colours



Complementary colours







Magenta Filter



Green Light

