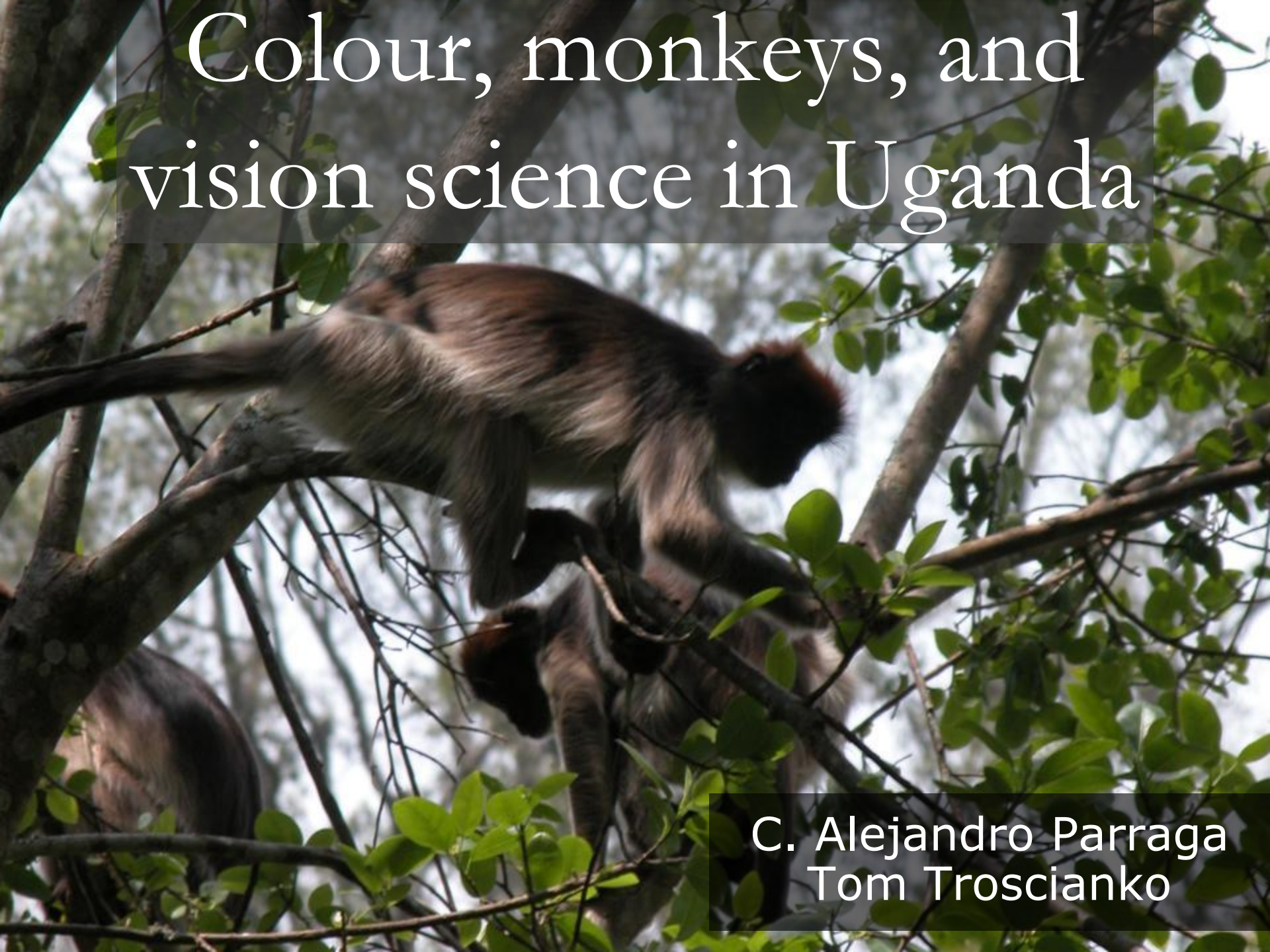
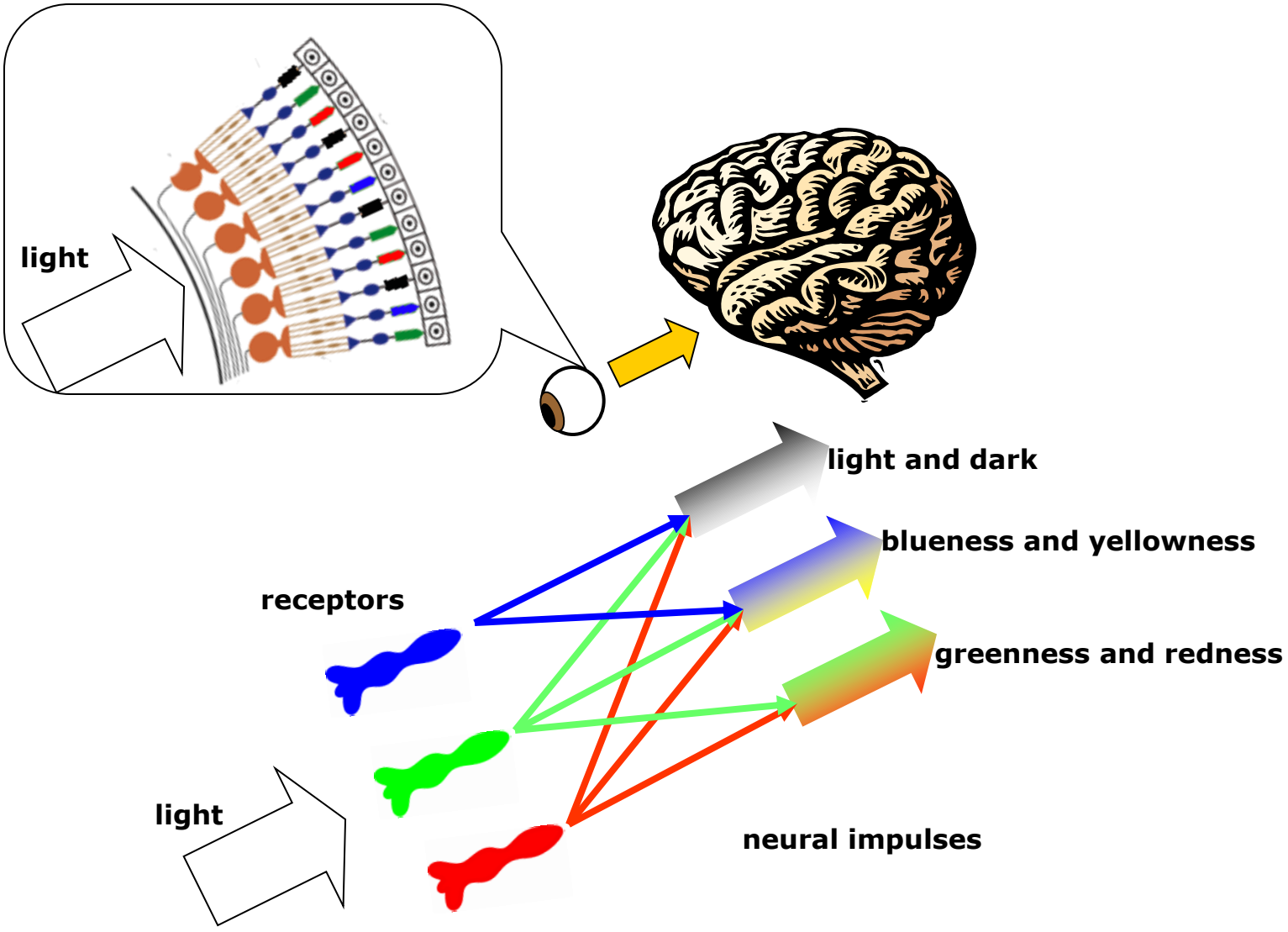
Colour, monkeys, and vision science in Uganda

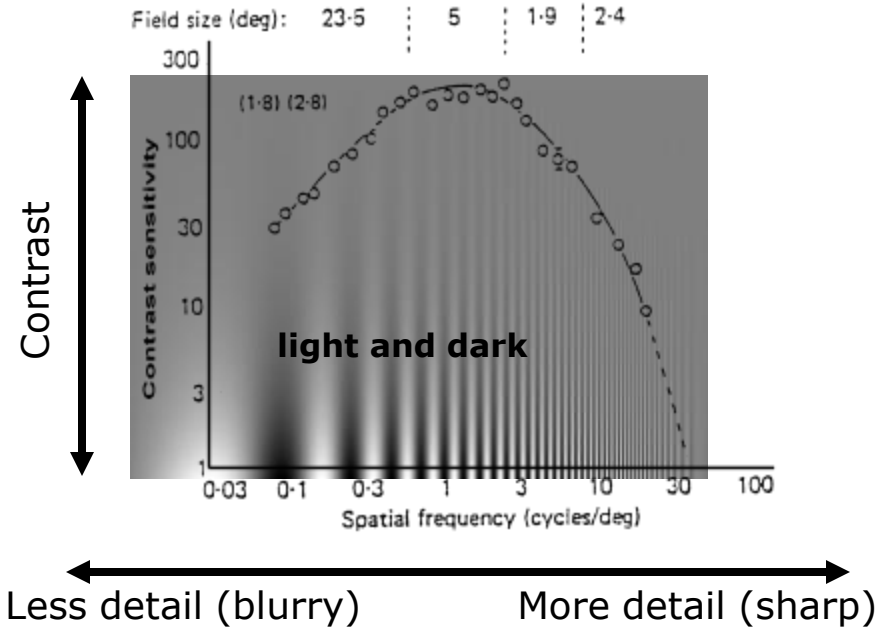


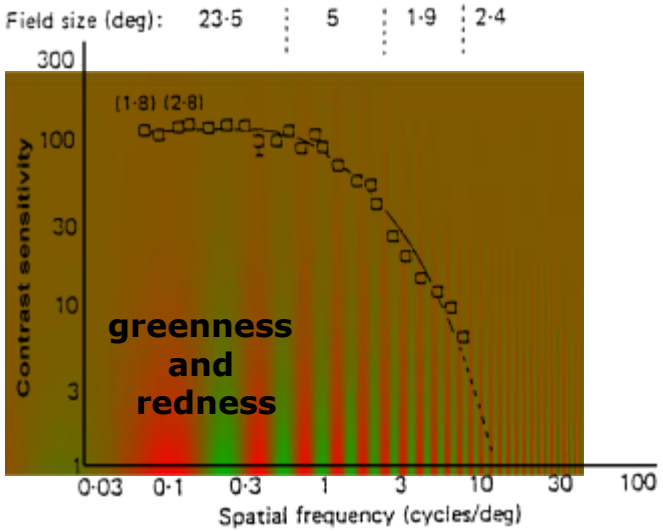
C. Alejandro Parraga
Tom Troscianko

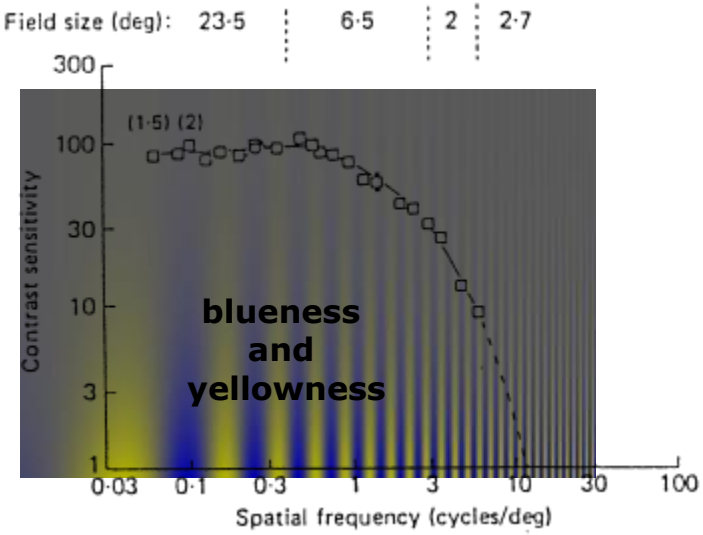
Grey, red-green and blue-yellow



Colour, contrast and detail







Blurry colours and sharp edges

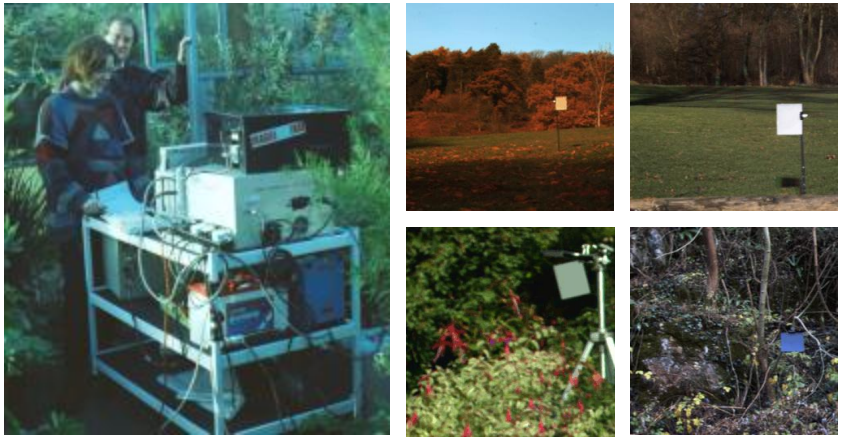
Victorian picture colourists knew that they could get away with murder

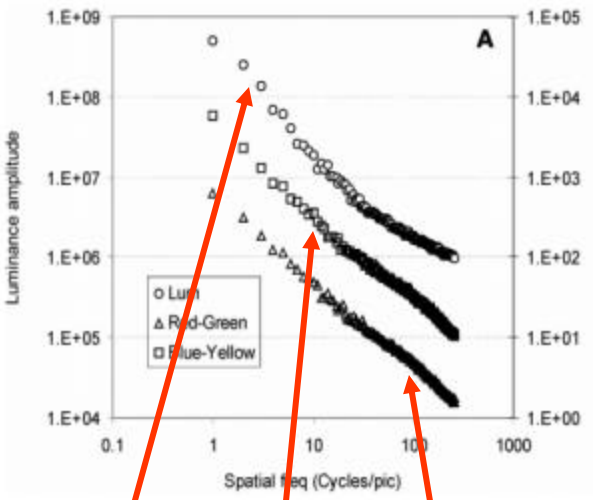
Original B&W picture

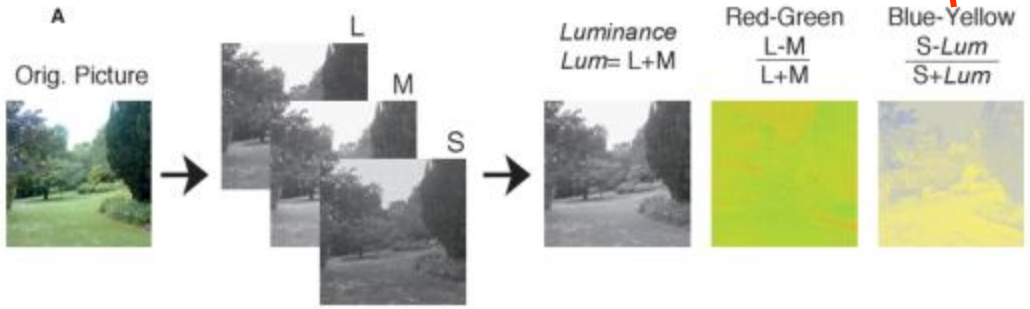
Hand coloured picture

What about the world out there?

Spatiochromatic properties of natural scenes







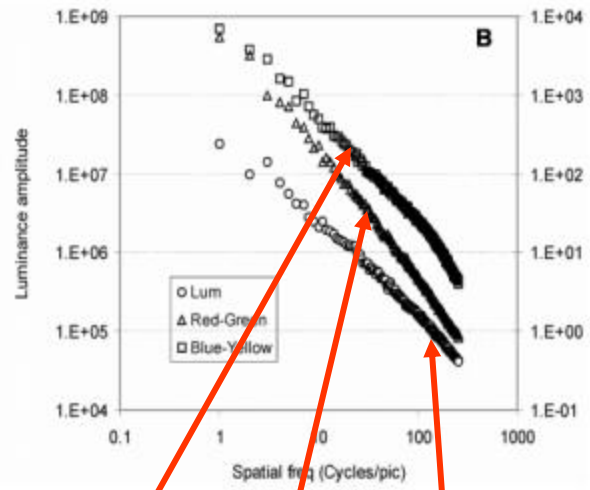
Are we analyzing the right images?

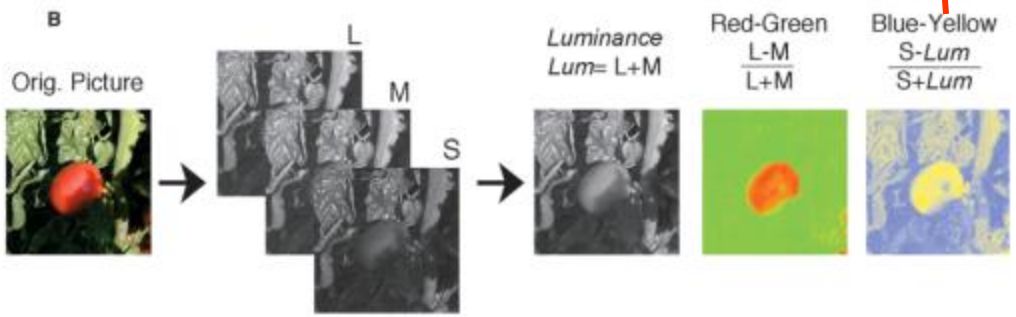
"Human dichromats have especial difficulty in detecting coloured fruit against dappled foliage that varies randomly in luminosity; it is suggested that yellow and orange tropical fruits have co-evolved with the trichromatic colour vision of Old World monkeys".

"Tho' she kneel'd in that place where they grew..." The uses and origins of primate color vision. By J.D. Mollon. J. Exp. Biol. 146, 21-38 (1989)

New technology, new approach

Spatiochromatic properties of fruit and yellowish leaves



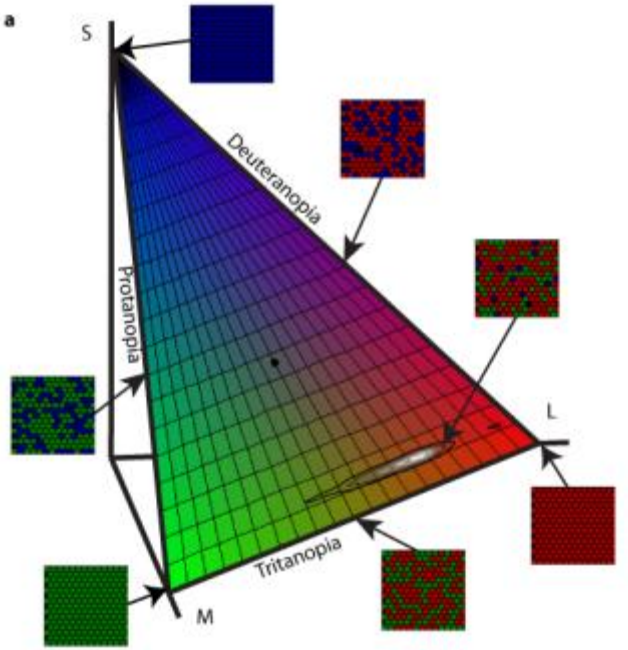


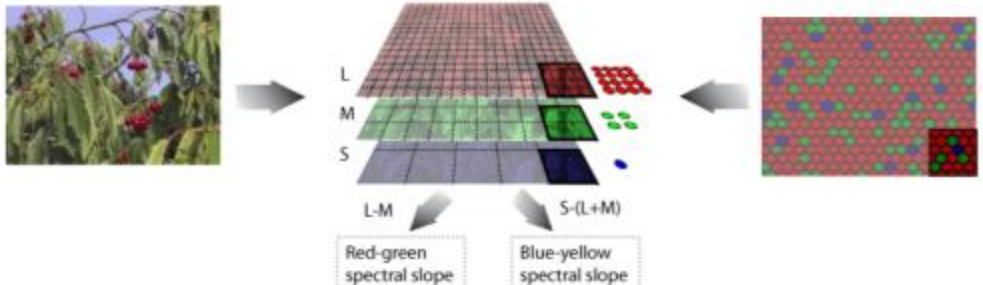
Kibale Forest National Park, Uganda

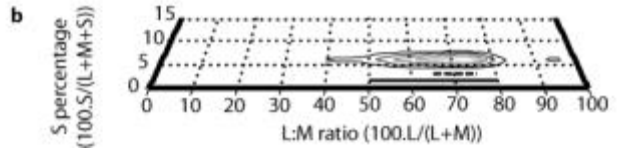
- Are we looking at the right colours?

Even newer approach

Retinal cone density / distribution simulations







Thanks!