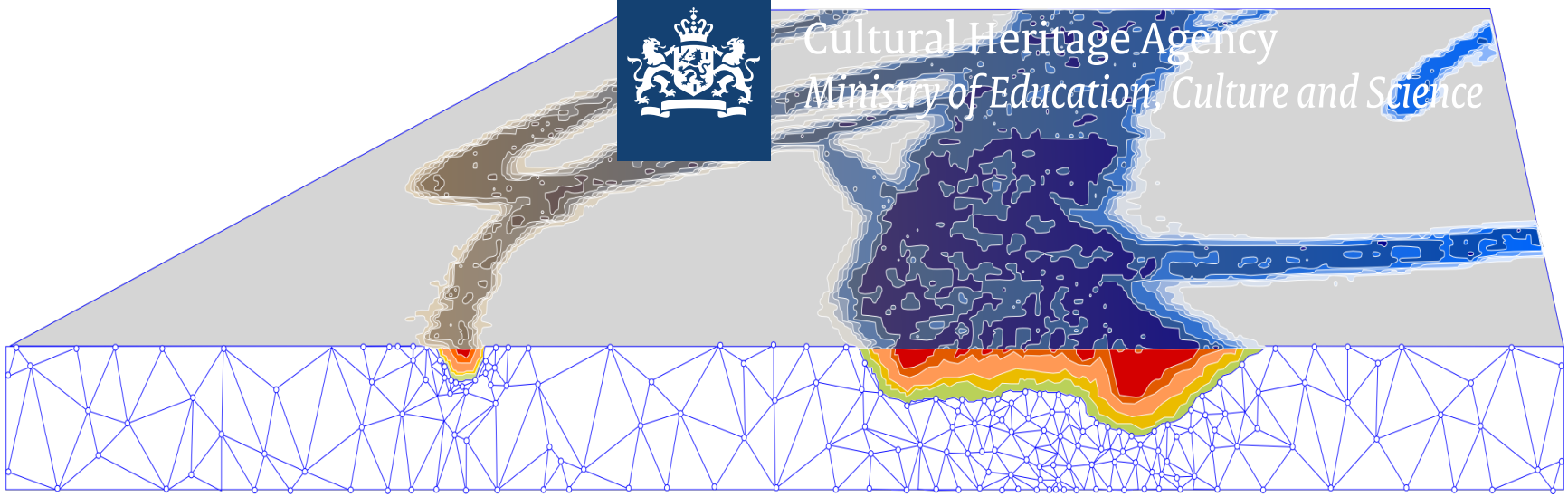

Denken in beeldlagen

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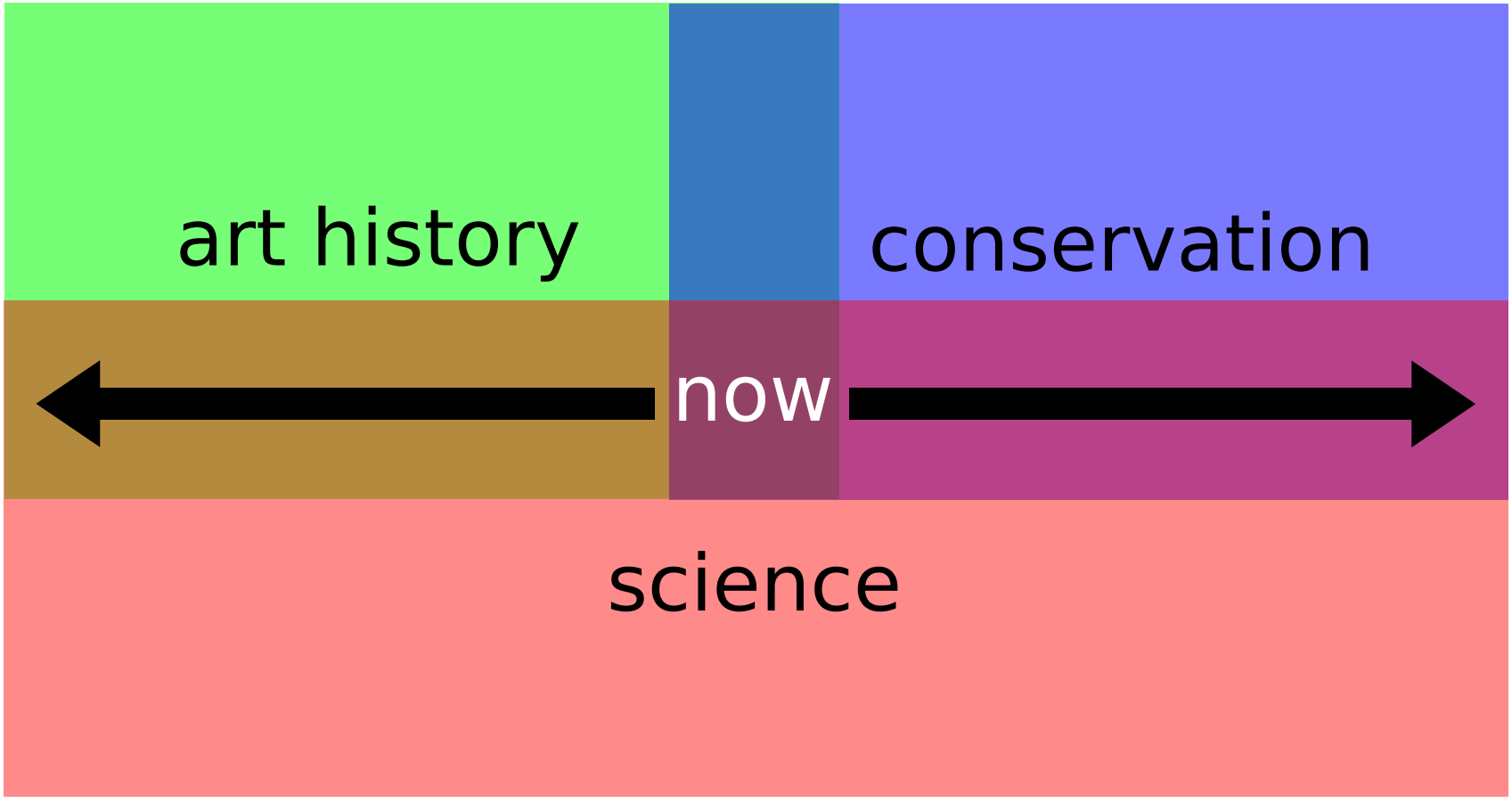
Symposium KMM 2018-09-21

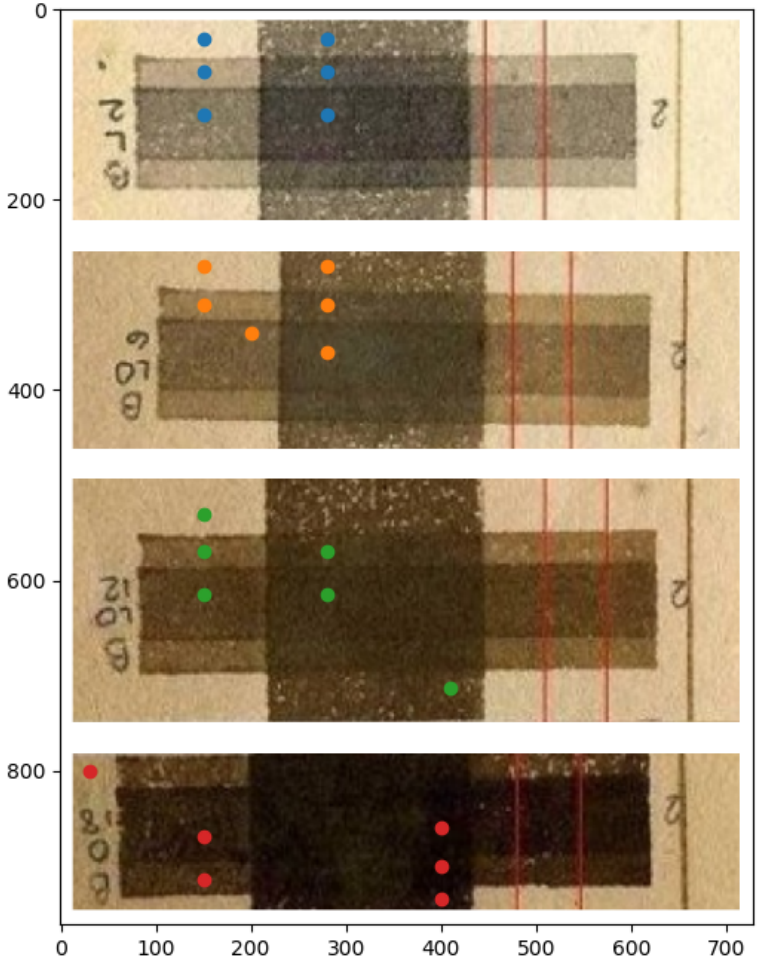


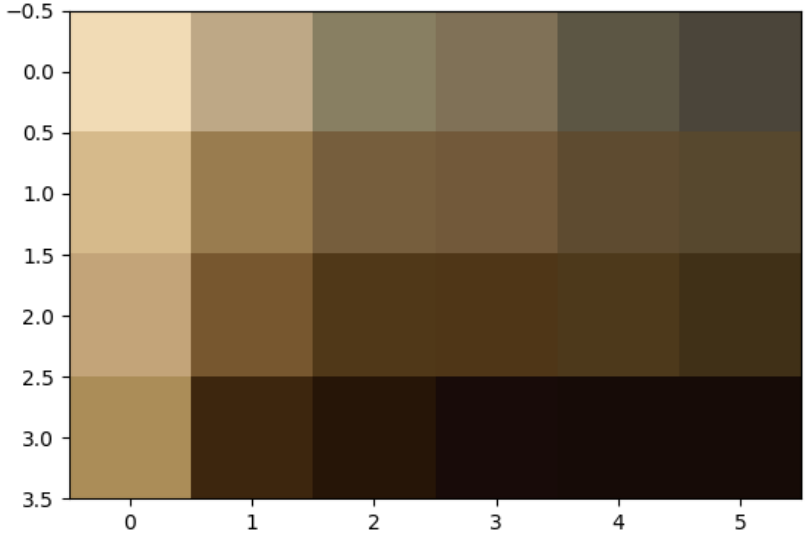
One time line: lux hours = color reconstruction

color reconstruction

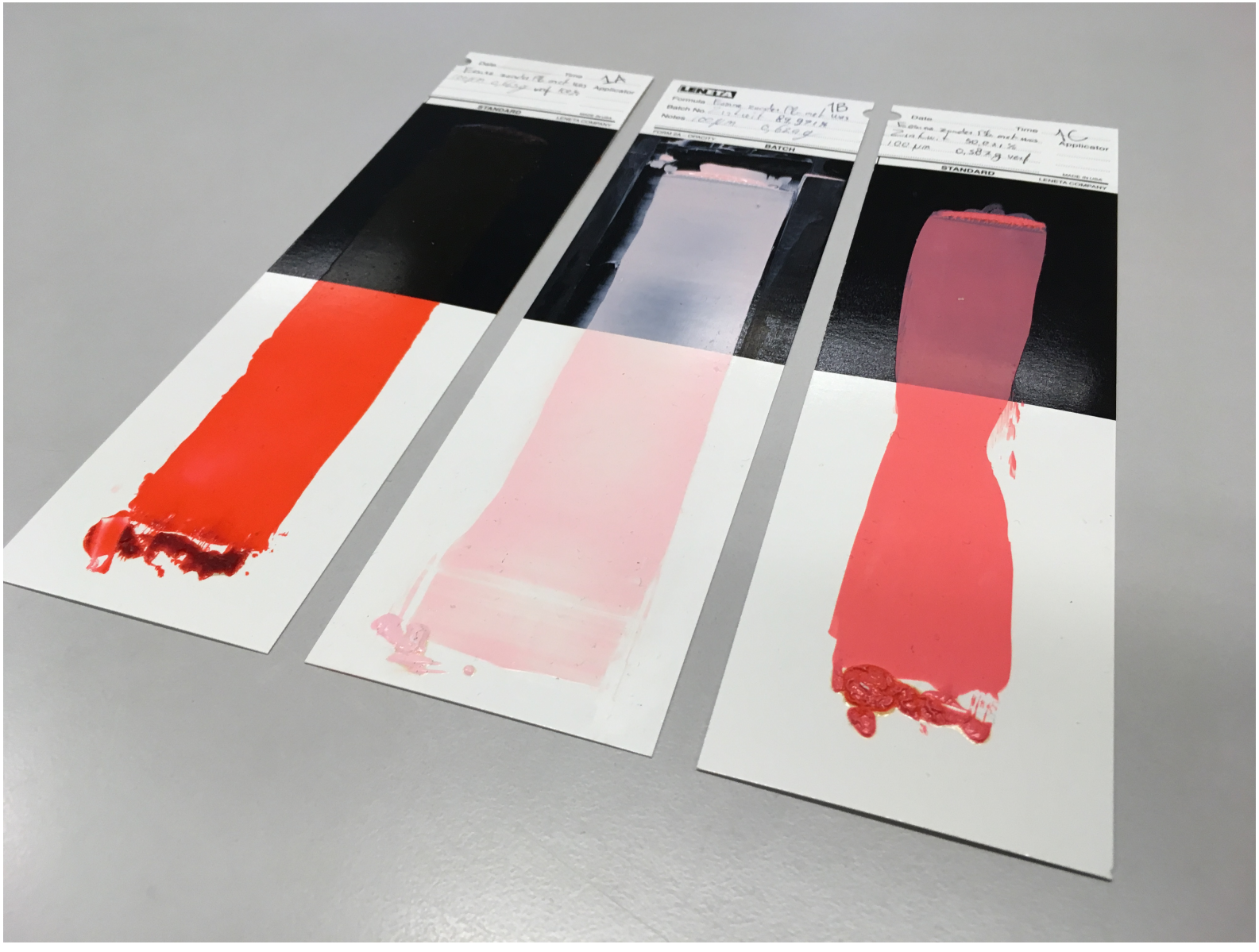
Van Gogh as a colorist?

What is the color of ink?

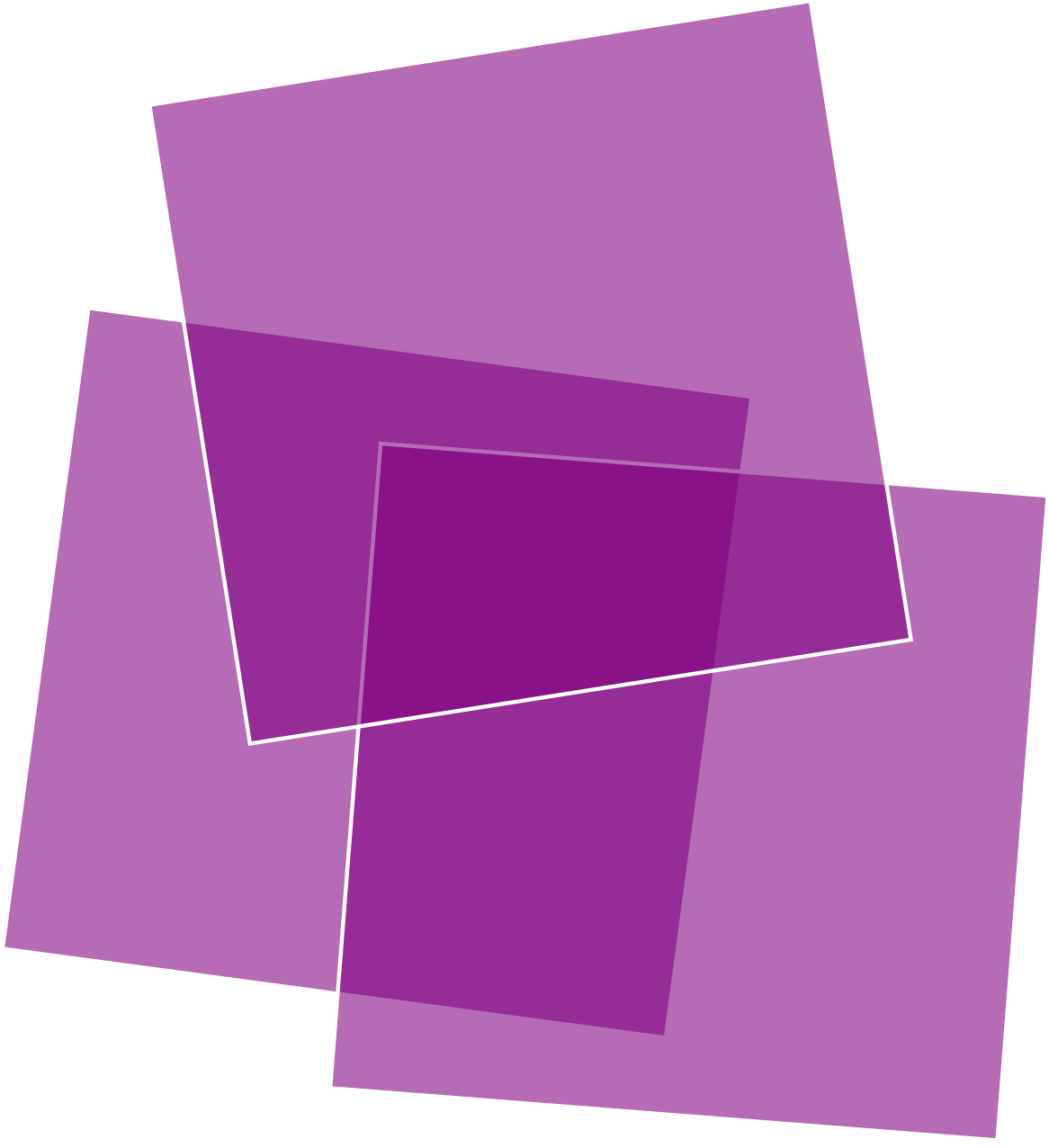




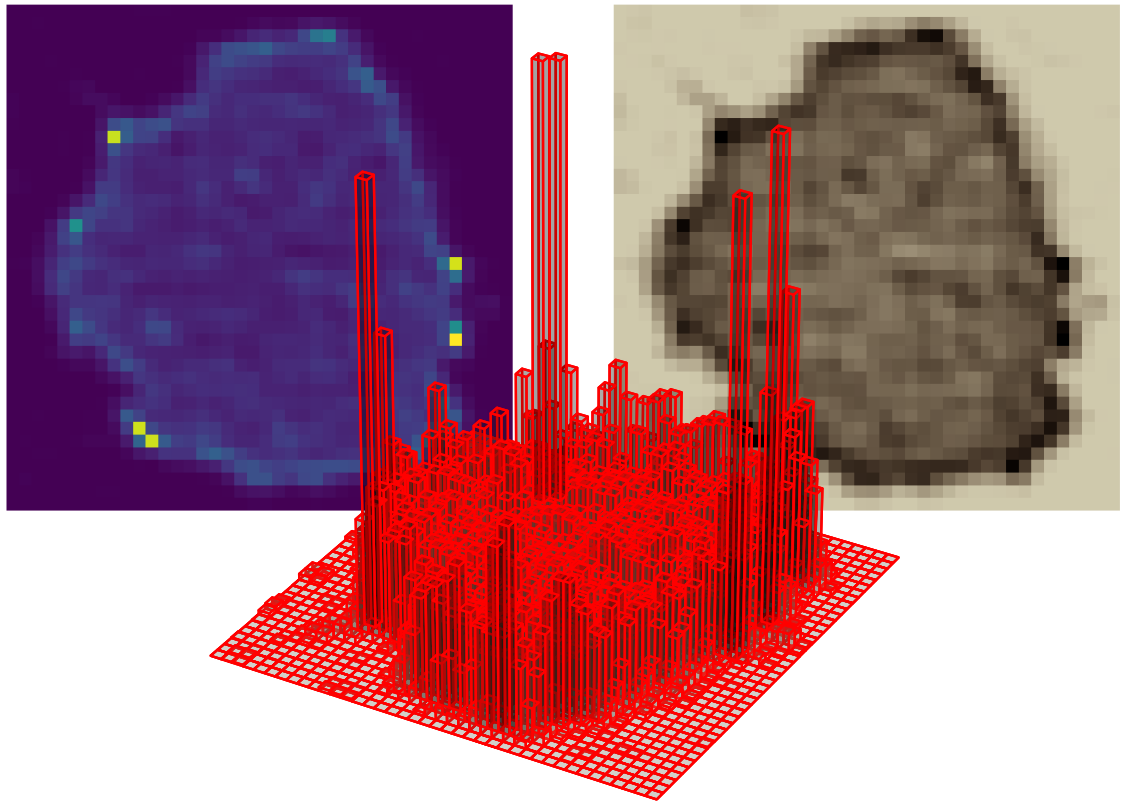
Accelerated aging series of different layers of iron-gall ink on paper



Example of pure transparent eosin paint (left) versus translucent mixtures with white pigments (middle and right)



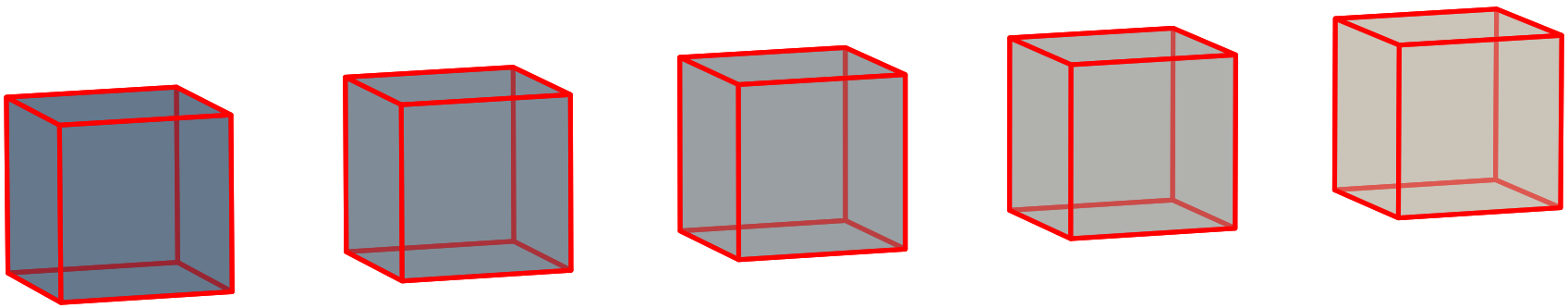
Thinking of layers



3D plot of 'optical thickness' of an ink dot

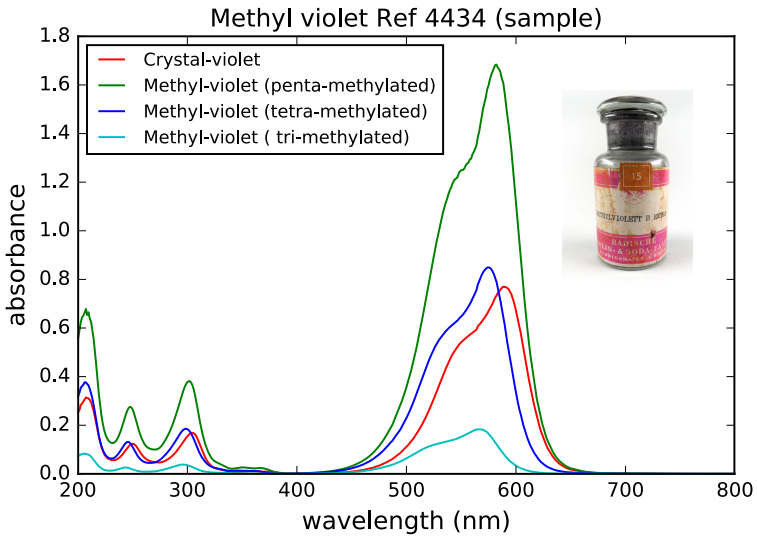
Typical blue-brown shift seen with chrome-logwood inks.
Photo: Cristina Duran, Stadsarchief Amsterdam

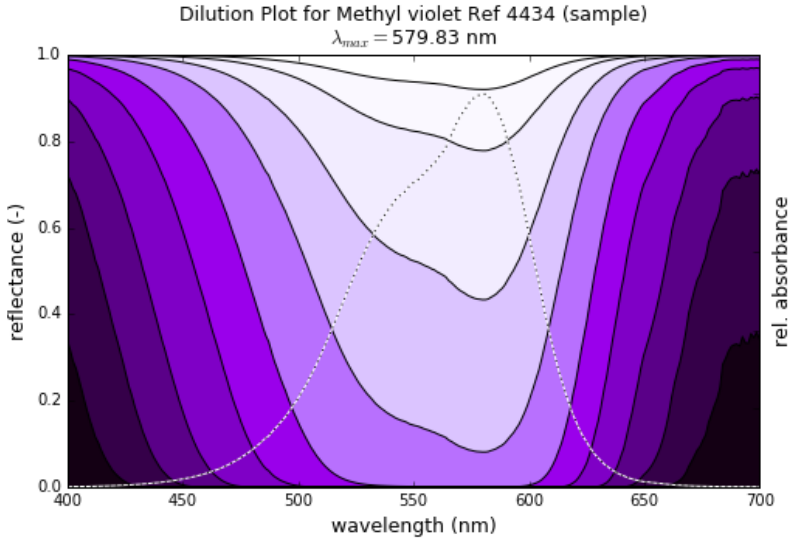
chrome-logwood



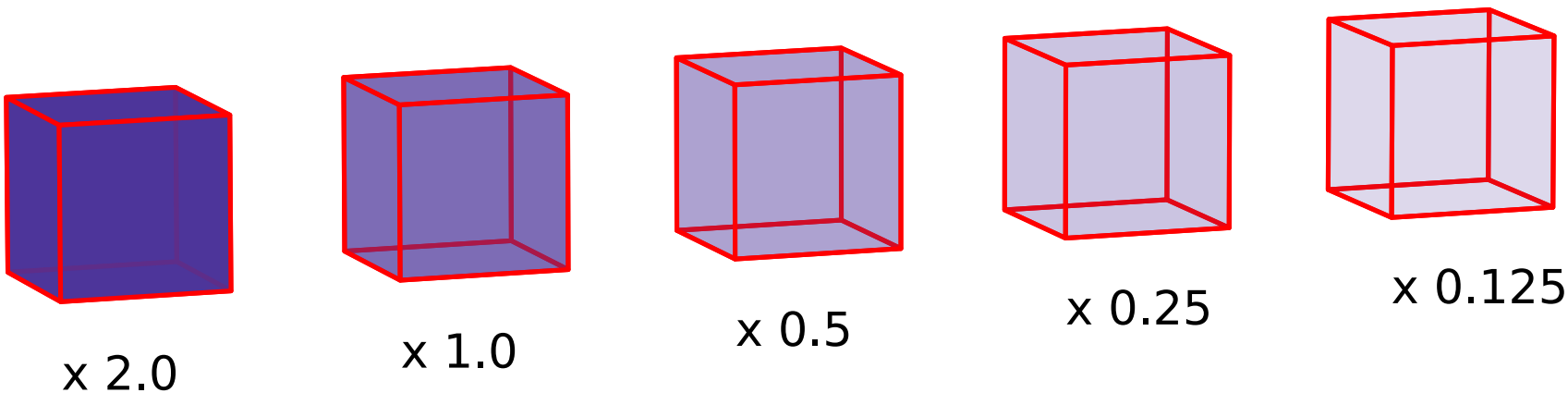
Blue-brown shift of chrome-logwood

Nearly complete fading of methyl-violet. Master thesis Judith





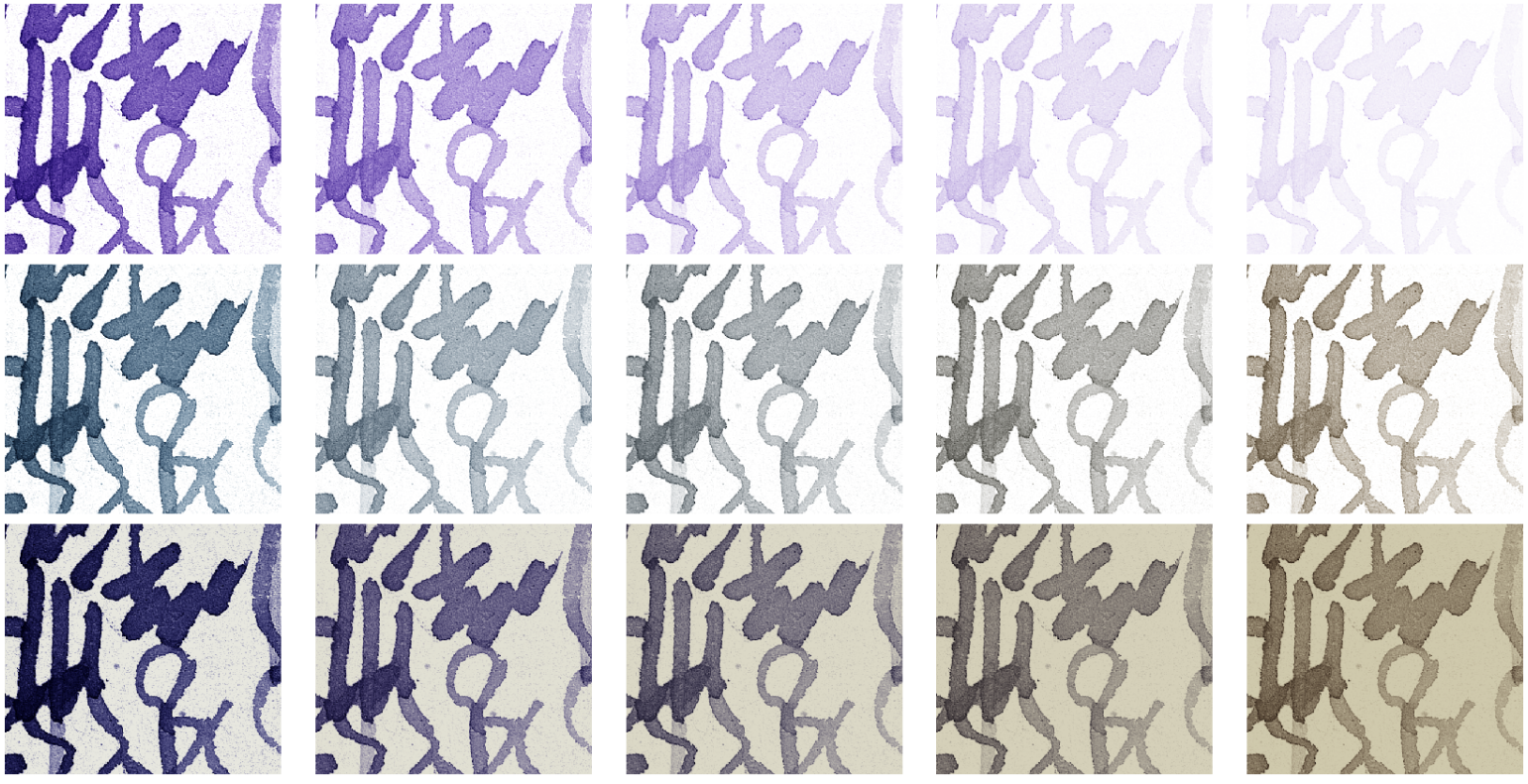
Spectral data from UPLC-PDA can be used to calculate precise c



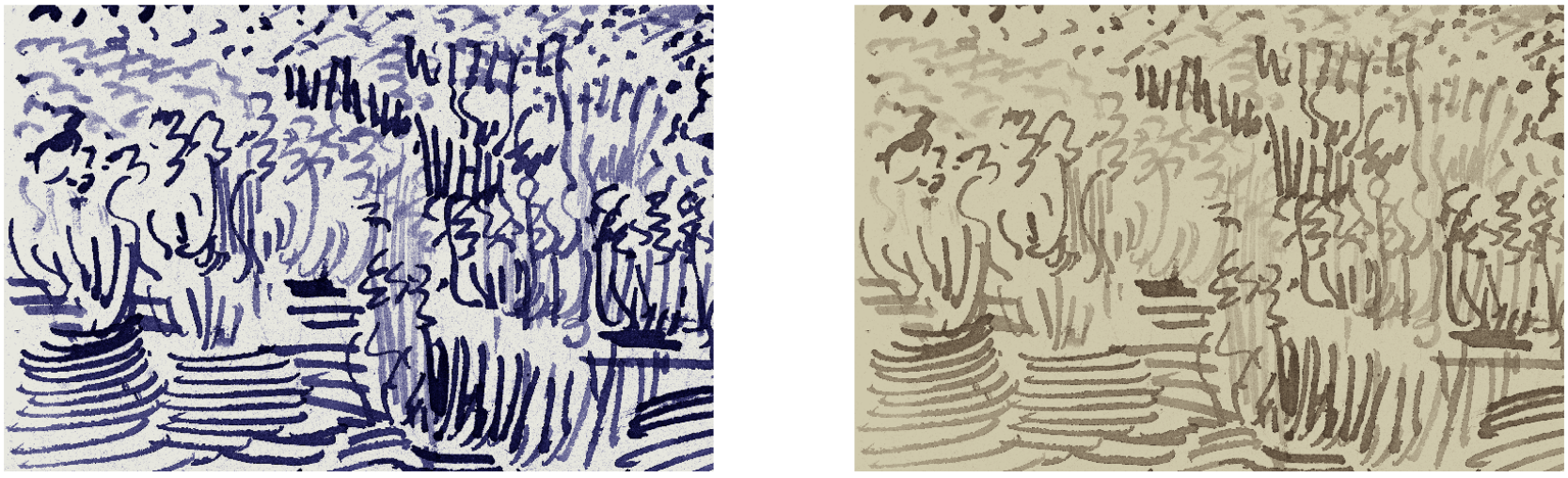
Fading of methyl-violet

```
    return ideal_od_ink

def rotate(od_ink, target_rgb, amp):

    shape = od_ink.shape
    #print(shape)

    od_ink = od_ink.reshape([-1, 3]) # flatten

    #lengths = np.sqrt(np.apply_along_axis(np.sum, 1, od_ink**2)) # somehow slow

    lengths = np.sqrt((od_ink*od_ink).sum(axis=1)) # much faster
    #lengths = lengths.res


    target_od_hue = od_hue(target_rgb)
    target_od_hue = target_od_hue.reshape([1, 3])

    rotated_od_ink = amp * lengths[:, None] * target_od_hue
    rotated_od_ink = rotated_od_ink.reshape(shape)

    return rotated_od_ink
```

Simply rotate in od-space!



Fading of methyl-violet (up) and blue-brown shift of chrome-logwood (middle) combined with yellowing paper background (below)



Color reconstruction of F1493r Landscape with hut (detail)

With thanks to the ReViGo 'coal tar team'

CV

Frank Ligterink is onderzoeker bij het Rijkserfgoedlaboratorium van de Rijksdienst voor het Cultureel Erfgoed in Amsterdam. Zijn onderzoek omvat een breed spectrum aan interdisciplinaire onderzoeksthema's, gericht op het samenbrengen van natuurkunde, conservering en kunstgeschiedenis. Zijn huidige promotieonderzoek is gericht op de ontwikkeling van open source visualisatie software voor interdisciplinair, wetenschappelijk onderzoek naar de vervaardiging en veroudering van de historische tekeningen van Rembrandt en Van Gogh.