Applying media relative colour reproduction – limits of applicability

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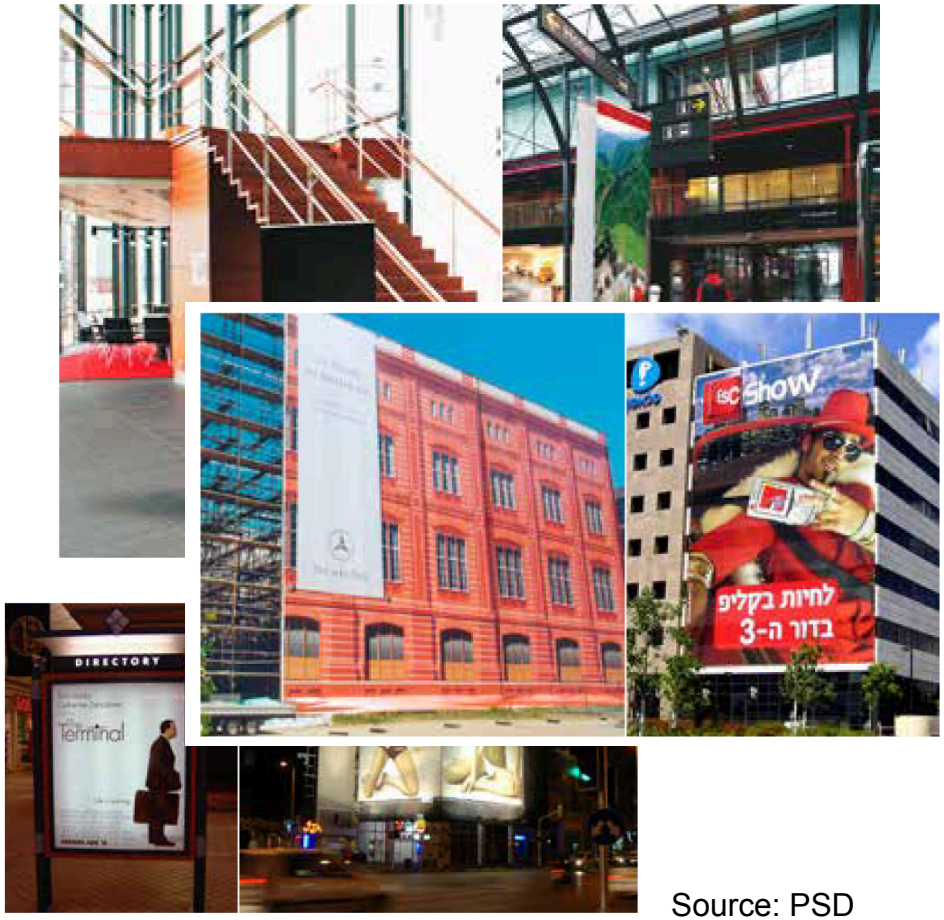
Agenda

1- Side-by-side or media relative ?
2 - How to use media relative reproduction ?
3 - Applying the media relative reproduction
4 - Limits of media relative reproduction
5 - Summa

1. Side-by-Side or media relative ?

... it depends

media relativ (isolated)

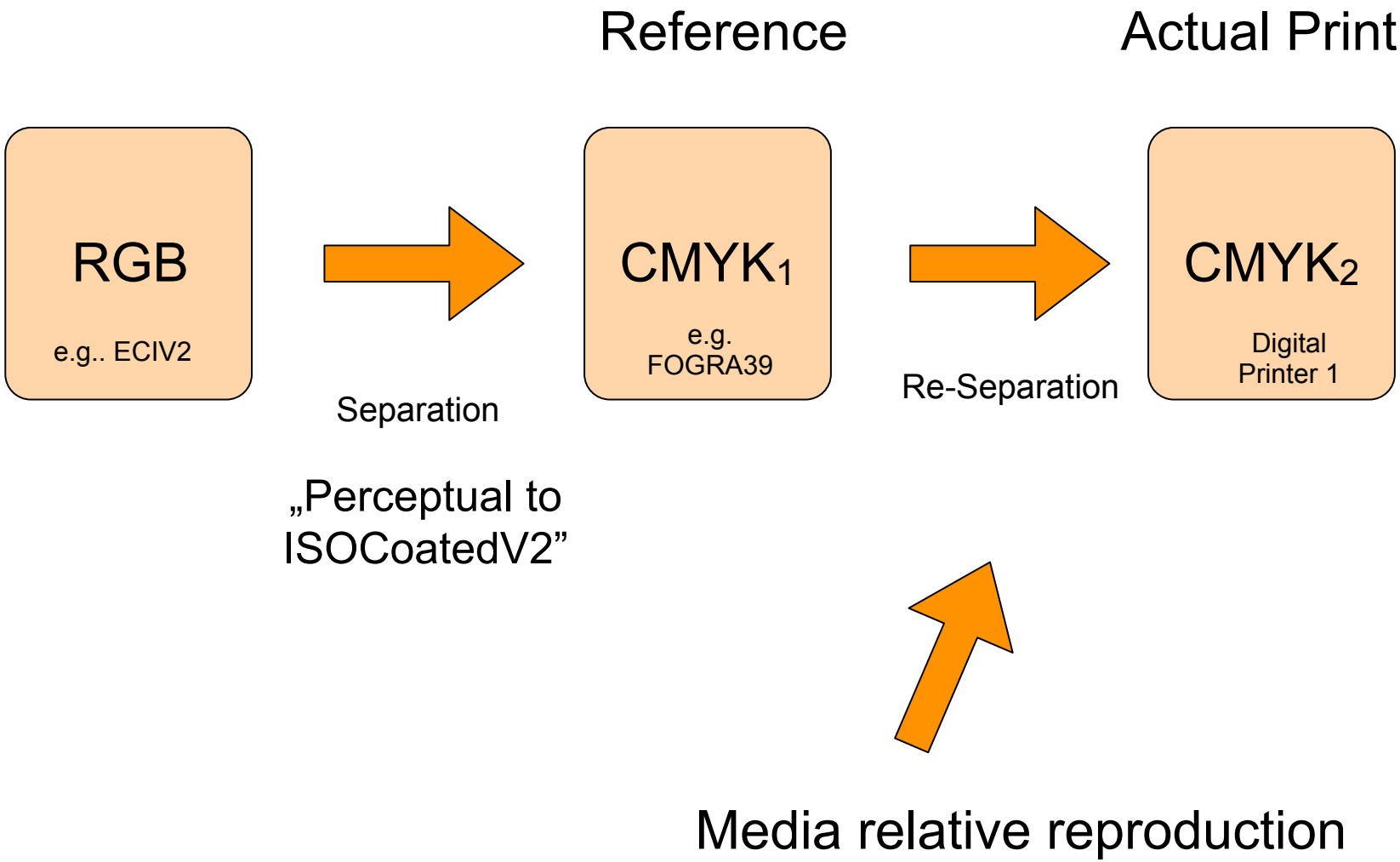


Source: PSD

Side-by-Side

spot colours

2. How to use media relative reproduction ?

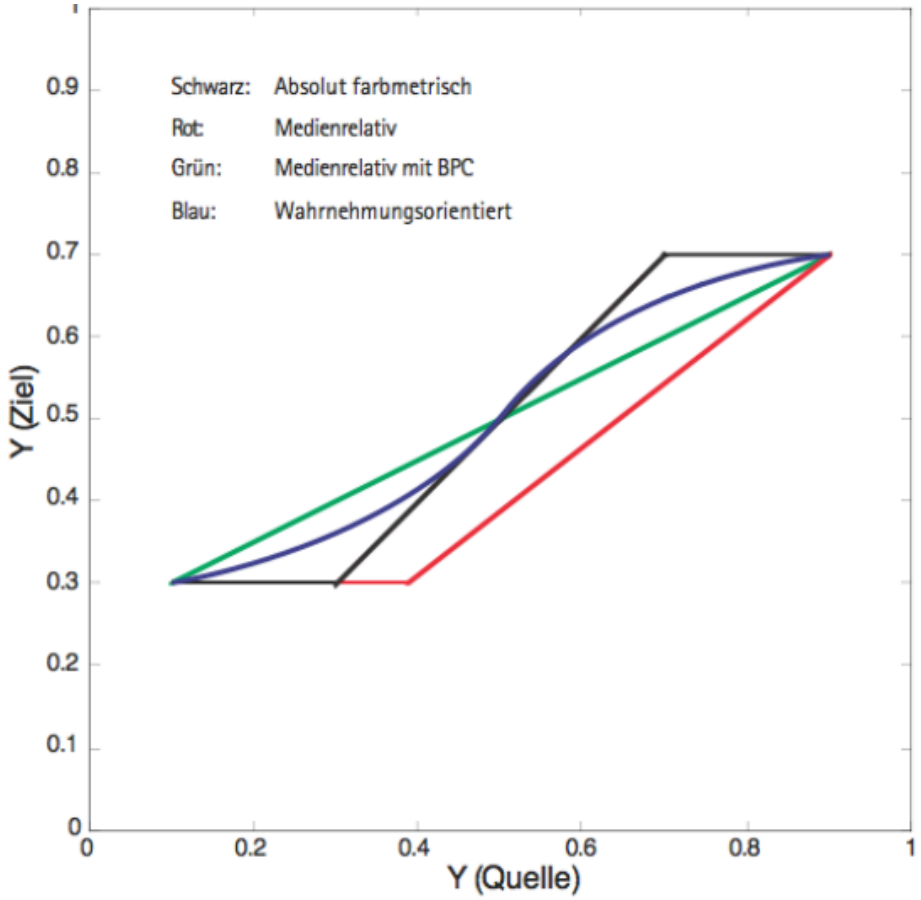


3. Applying the media relative reproduction

¬It is the same way ICC stores the colour data in ICC profiles
⇒ ICC media relative colorimetry

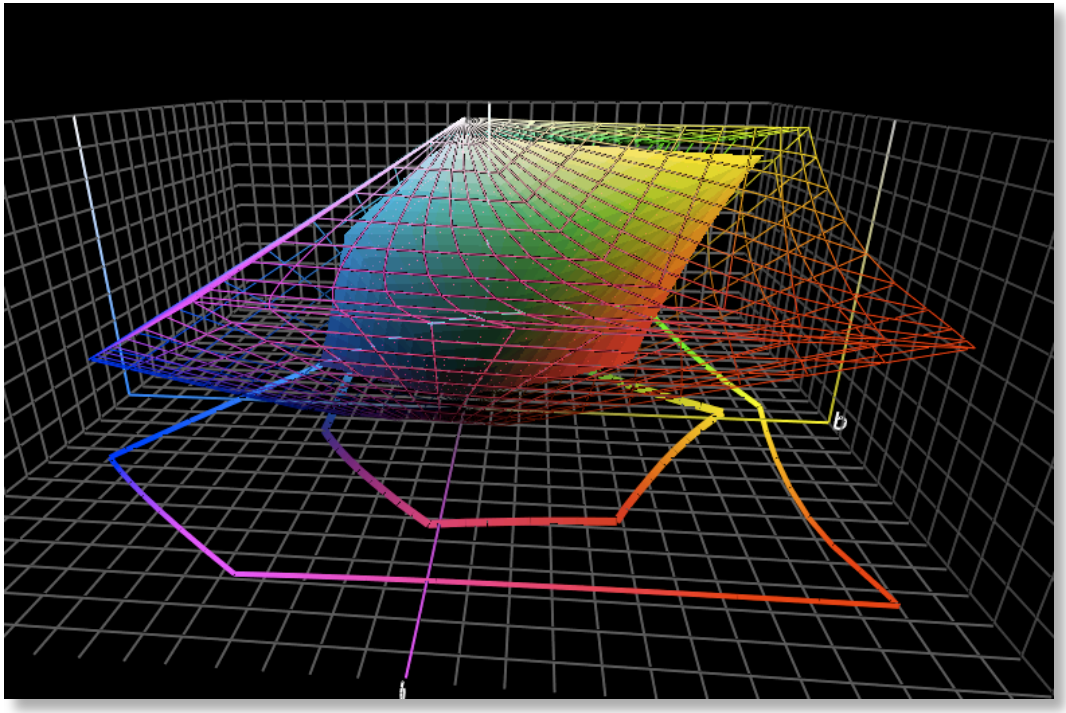
¬Black point compensation (bpc) is not part of XYZ-scaling
¬Gamut similarity check takes differences in black point into consideration

$$X_{rel} = \left(\frac{X_{D50}}{X_n} \right) \cdot X_{absolut}$$



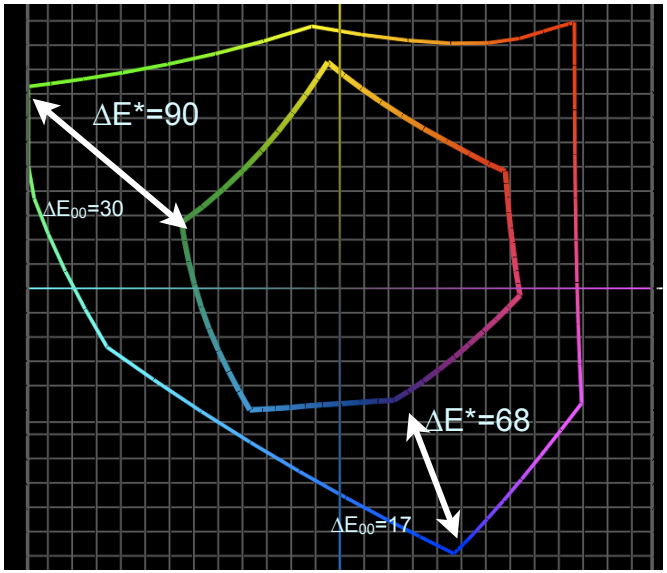
4. Limits of media relative reproduction

wireframe: ECI V2; true colours : FOGRA39



⇒

CIEa*b*-plane



Huge gamut differences:

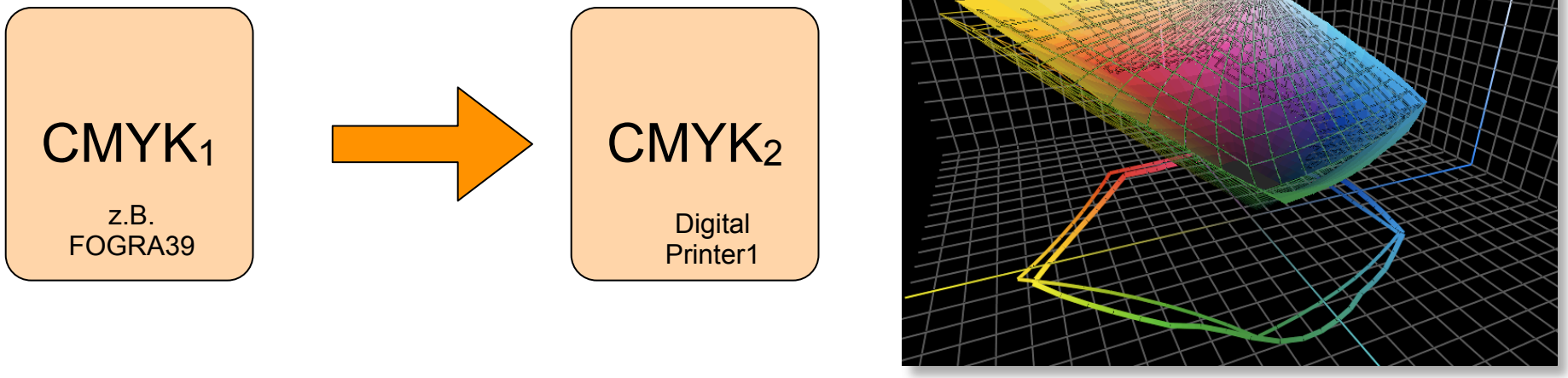
- Common appearance
- Matter of taste, propose, image.....

4 Limits of media relative reproduction

Reference

Actual Print

Re-Separation



- Reference gamut (Exchange Space) must be similar to the actual printing condition to a certain level....

Fogra PSD Print Check:

- Checking white Point & dark patches for similarity
- Depending on the differences the print will be pre-categorised
- The media relative evaluation builds on top of this similarity check

5. Summa

- ICC media relative colorimetry is used for storage of colour data and now for evaluating the reproduction of colour data

Further points of research:

- how to take care of black point compensation
- how to extend the gamut similarity beyond checking white and blackpoint

→ **Fogra research project:**

35.005 Evaluation of media relative colour reproduction for digital print applications