Common Appearance - Introduction, Concept and Overview

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Agenda

1. Introducing Common Appearance

2. Challenges

3. Discussion & Further presentations

1. Introducing common appearance

Reproduction requirements are typically concerned either:

with a pair of stimuli:
⇒ How well a reproduction matches an original when seen side by side

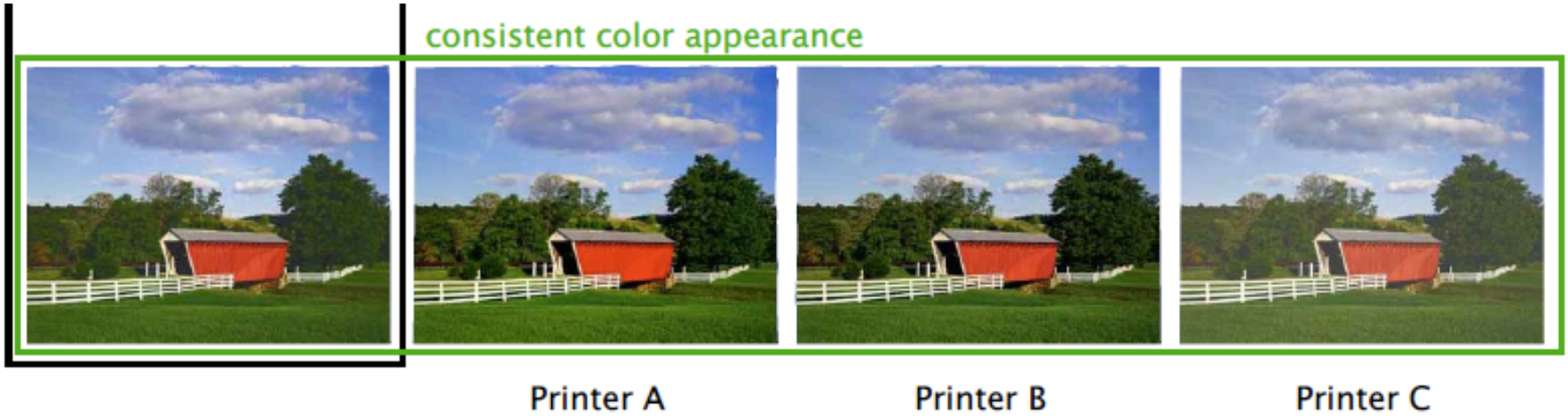
Original

Reproduction

or with a single stimulus:
⇒ how pleasing a given print looks)

1. Introducing common appearance

Common appearance is instead about how multiple instances of the same content appear when reproduced using multiple means and viewed across different conditions.



For these multiple reproductions of the same content to have common colour appearance (including its attributes such as contrast, grey reproduction etc), their individual instances need to appear in a way that is consistent with the expected consequences of the multiple conditions under which they are reproduced.

Source: J. Morovic

1. Introducing common appearance

While each condition will lead to gamuts that differ both in shape and size, which make a strict match impossible, there is nonetheless a difference between instances that share common features of colour rendering versus others where each instance is independently and differently arrived at.

Common colour appearance is a complex attribute of a set of stimuli and while its quantitative definition is not possible at present, the following (somehow competing) attributes are important:

- Maximisation of an individual press' or printer's capabilities
- Conformity with a reference
- Maximisation of visual consistency across all instances

1. Colour reproduction analysis (Concept)

Visual assessment	Colour differences between reference and destination(s)	
	Small differences	Large differences
Side-by-Side (simultaneous)	Established Colour matching	Common Appearance
Isolated (sequential viewing)	Media Relative Colour Reproduction	Common Appearance & Colour naming

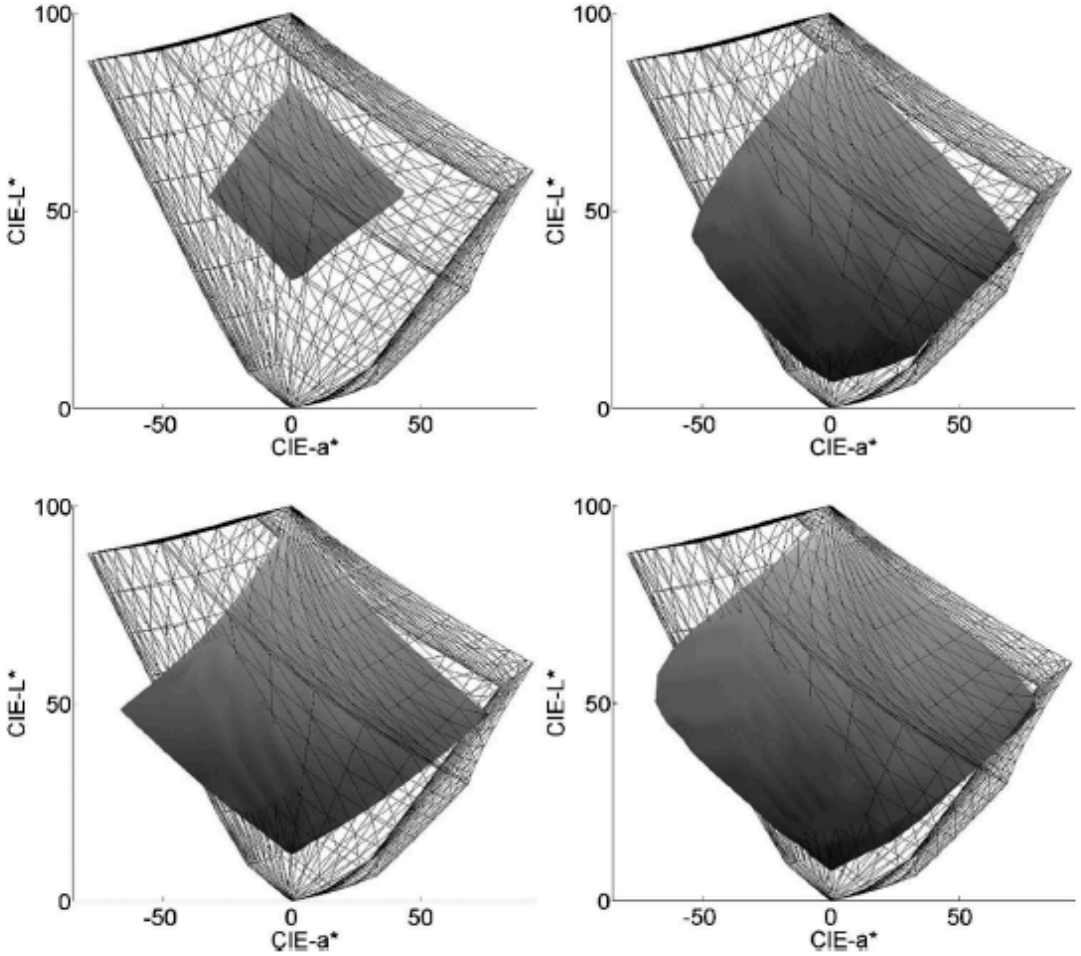
2. Challenges

Overcoming different gamut characteristics ⇒ Gamut Mapping ambiguities

Wireframe:
sRGB

Solid:
Newspaper

Solid:
FOGRA39

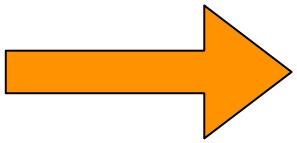


Solid:
Inkjet on
Photopaper I

Solid:
Inkjet on
Photopaper II

3. Outlook & Discussions

- Very little research done
- Proprietary approaches/solutions active "behind the scenes"
- Colour reproduction methods that covers aspects of common appearance (e.g. G7)
- Framework required (open questions):
  - How to test performance/algorithms
  - Limits of applicability
  - Tolerance schemas ⇒ objective assessment (gradual rating)
- Fogra starts a 2 year research project as of Oct. 2013: Topics
  - colour disharmony
  - colour harmony (palettes)
  - colour naming
  - categorial judgement experiments



Lets discuss it now!
Presentation by
Paul Sherfield