The Grand Canyon of Color: How to Talk About Color Across the Creative / Technical Divide

Maggie Maggio
Smashing Color

John Seymour
John the Math Guy
Can you do some printing for me?
Sure. Just send me the files!
And so it started.
Maggie’s initial design

Anna’s Ballet Recital
May 1st, 2019
Pavlova Dance Studio
John’s proof
Anna’s Ballet Recital
May 1st, 2019
Pavlova Dance Studio
Maggie goes to visit John
Anna’s Ballet Recital
May 1st, 2019
Pavlova Dance Studio
Anna’s Ballet Recital
May 1st, 2019
Pavlova Dance Studio
John goes to visit Maggie
You need to calibrate your monitor!
Calibrating your monitor
You need to set your output profile!
Not all magenta’s are created equal
Producing artwork on press

Anna's Ballet Recital
May 1st, 2019
Pavlova Dance Studio

CMYK values → ????
ICC Profile – the Rosetta Stone

Hieroglyphic

Demotic

Ancient Greek
ICC Profile – the main tool

Converting from one description of color... into another.
ICC Profile – the main tool

Generally, one description is device dependent... and the other is device independent.
Dependent? Independent?

- Device dependent
  - CMYK
  - RGB
  - CMYKOGV
- Ambiguous

- Device independent
  - $L^*a^*b^*$
  - sRGB
  - Adobe RGB
  - XYZ
- Standardized
ICC Profile to communicate intent

User specifies a profile

SWOP, CGATS TR002, Fogra 54, ISO 15339 CRPC 2 …

So that a given CMYK value…

... is interpreted as a given L*a*b* value.
Select a destination space
Assigning a profile communicates intended color

<table>
<thead>
<tr>
<th>C</th>
<th>M</th>
<th>Y</th>
<th>K</th>
<th>L*</th>
<th>a*</th>
<th>b*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>95</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>86</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>20</td>
<td>77</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>30</td>
<td>68</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>40</td>
<td>59</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>50</td>
<td>50</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>60</td>
<td>41</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>70</td>
<td>40</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Will this work?

**SWOP, communication profile**

<table>
<thead>
<tr>
<th>C</th>
<th>M</th>
<th>Y</th>
<th>K</th>
<th>L*</th>
<th>a*</th>
<th>b*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>95</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>77</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>30</td>
<td>68</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>40</td>
<td>59</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>50</td>
<td>50</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>60</td>
<td>41</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>70</td>
<td>32</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Communication profiles

- Based on hypothetical press
- Running hypothetical inks
- On hypothetical stock
- With a hypothetical pressman

- If I try to match my press to SWOP, it can work
What do we need to do?

- Make sure our monitors match
- Define the paper type
- Pick a profile that makes sense

- (I print according to the profile – onus on me)
Build bridge across Grand Canyon
Thank you for your attention!

Maggie Maggio  
Smashing Color  
maggiemaggio@gmail.com

John Seymour  
John the Math Guy  
john@johnthemathguy.com