

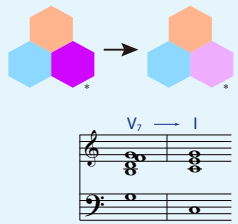
Harmony and dissonance in continuous color changes

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Our interests have been in dynamic color arrangements

Our conventional research –
Improvement of color harmony by “resolution”

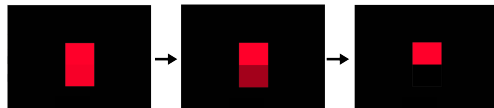


Color movement from dissonance to harmony yields more satisfaction than harmony itself in some color arrangements

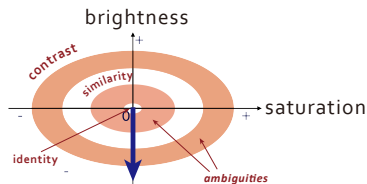
Similar to harmony resolution in music

← Our papers (2022) →
[in Japanese (thanks to DeepL in advance)
abstract in English]

Harmony and dissonance in continuous color changes



The brightness of the lower panel is continuously getting lower



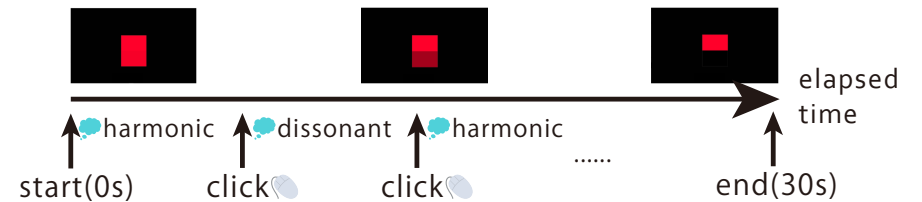
According to Moon and Spencer's classical color harmony theory, the above color change will yield:

harmony -> *dissonance* -> harmony -> *dissonance* -> harmony
(identity) (ambiguity) (similarity) (ambiguity) (contrast)

Is it true in continuous color changes?

Experiments

The respondents are requested to watch the color panels and click the mouse button when the harmony and dissonance turn over. It is recorded when the button is clicked.



H=350 152 192 48

 (S, B = 100, 100)

One respondent participates in the experiments using two of the four colors.

of respondents: 12
(5 males / 7 females, students around 20 years old)

Results

	red	green	blue	yellow
brightness ↓	1.57	2.00	1.67	2.00
brightness ↑	1.71	1.29	1.66	2.33
saturation ↓	2.29	1.43	0.83	1.66
saturation ↑	1.43	1.00	1.17	1.00

Average # of turnovers between harmony and dissonance

Turnovers are obviously fewer than expected by classical color harmony theory

	red	green	blue	yellow
brightness ↓	38.4	31.3	45.7	42.2
brightness ↑	39.4	41.9	37.0	46.5
saturation ↓	19.6	20.9	16.5	31.3
saturation ↑	24.7	25.9	34.8	20.7

Average ratio (%) of period where the respondents feels dissonant

Some differences are found between ↑ and ↓, but not significant