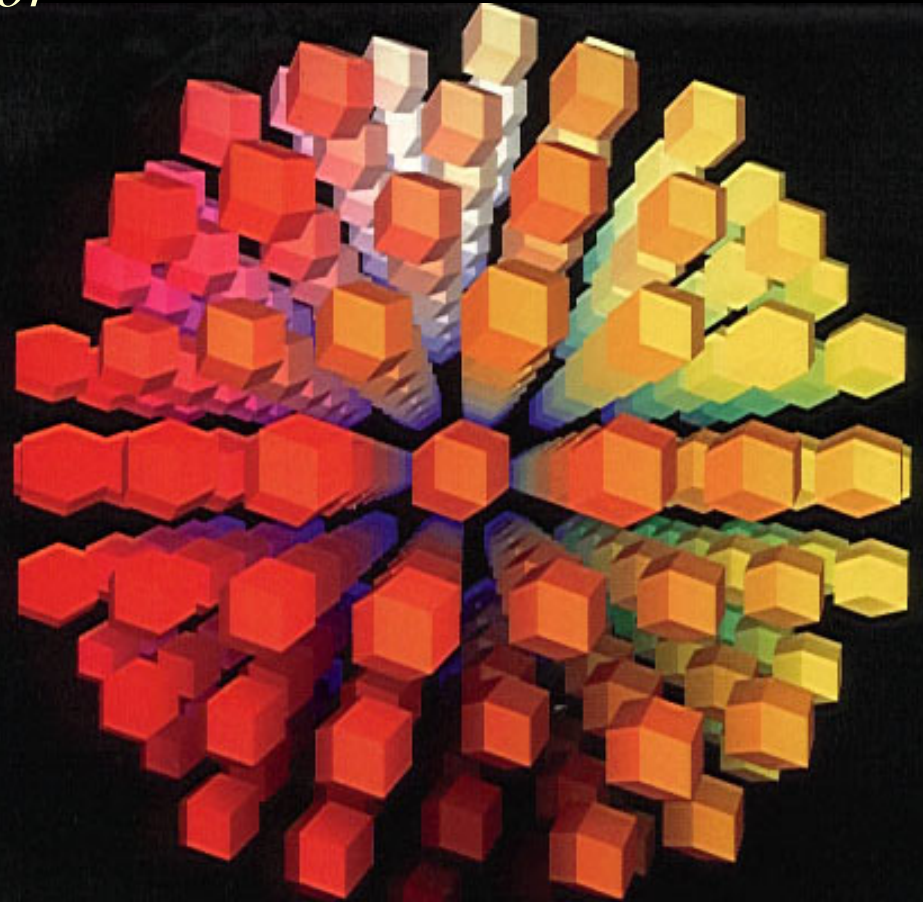
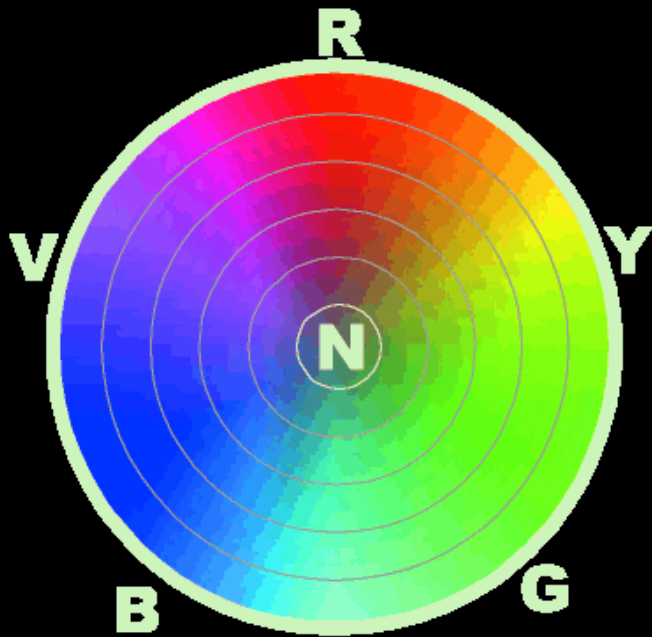


Color Theory

- **3D Color:**
Hue, Value, Chroma
- **Charting** Color Harmony
and Color Structure
*A strategy for looking at color
structure in composition*

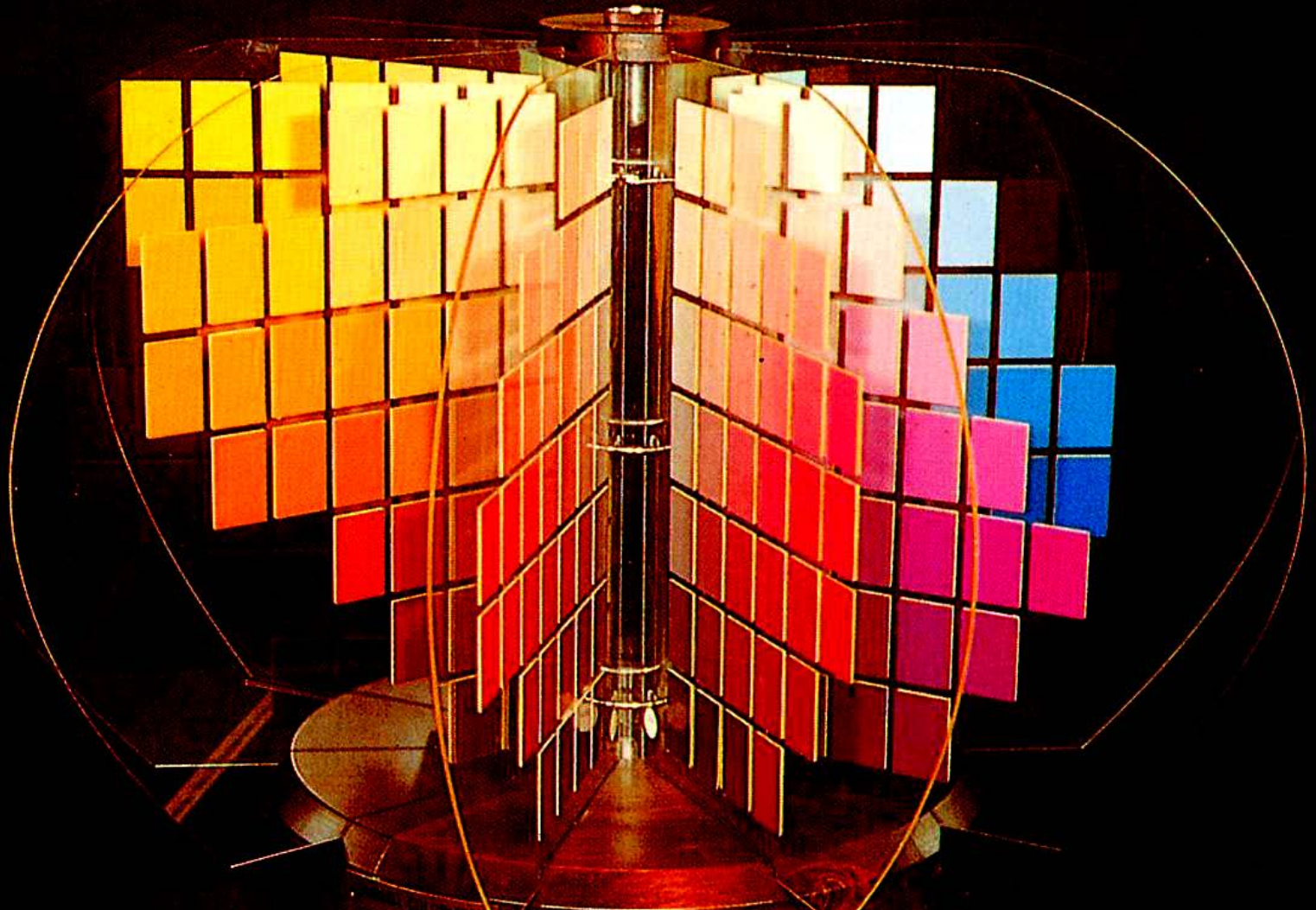


Three dimensions of color

– Just as a point in space can be defined by its position in the three special dimensions (height, width, depth), color also has its own three dimensions. Any single color can be described by its three dimensions.

- **Hue**
- **Chroma**
- **Value**

*Three dimensions of color -
Munsell's color model*



Three dimensions of color

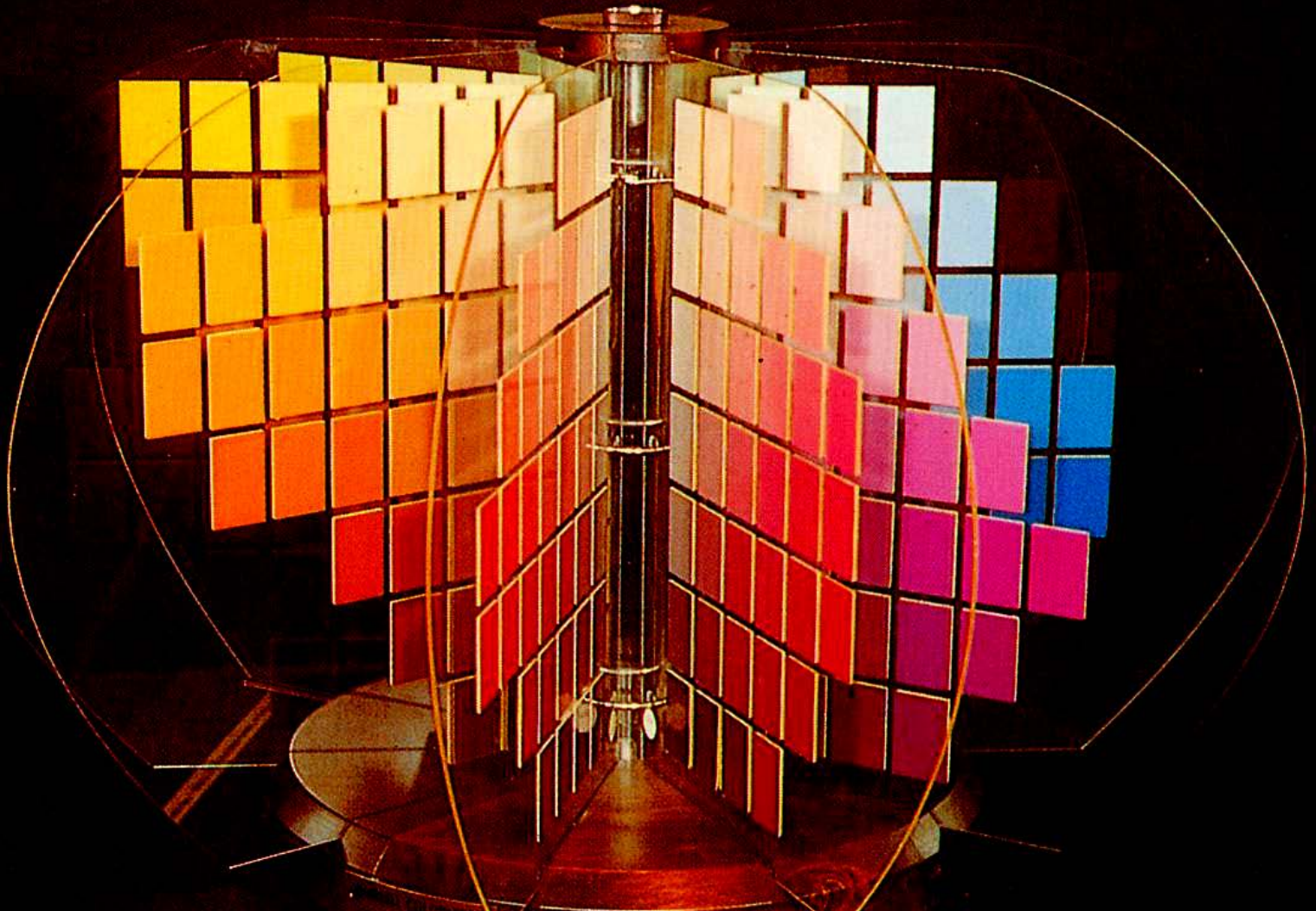
- Hue
 - Commonly called “color” by non-artists and non-designers. This is the nameable color – red versus blue versus yellow.
- Chroma
 - Saturation, Intensity and sometimes “brightness” – though these last two terms are easily confused with “Value”.
Purity of color.
- Value
 - The lightness or darkness of a color – that is, how close to white and how close to black is it?

Three dimensions of color

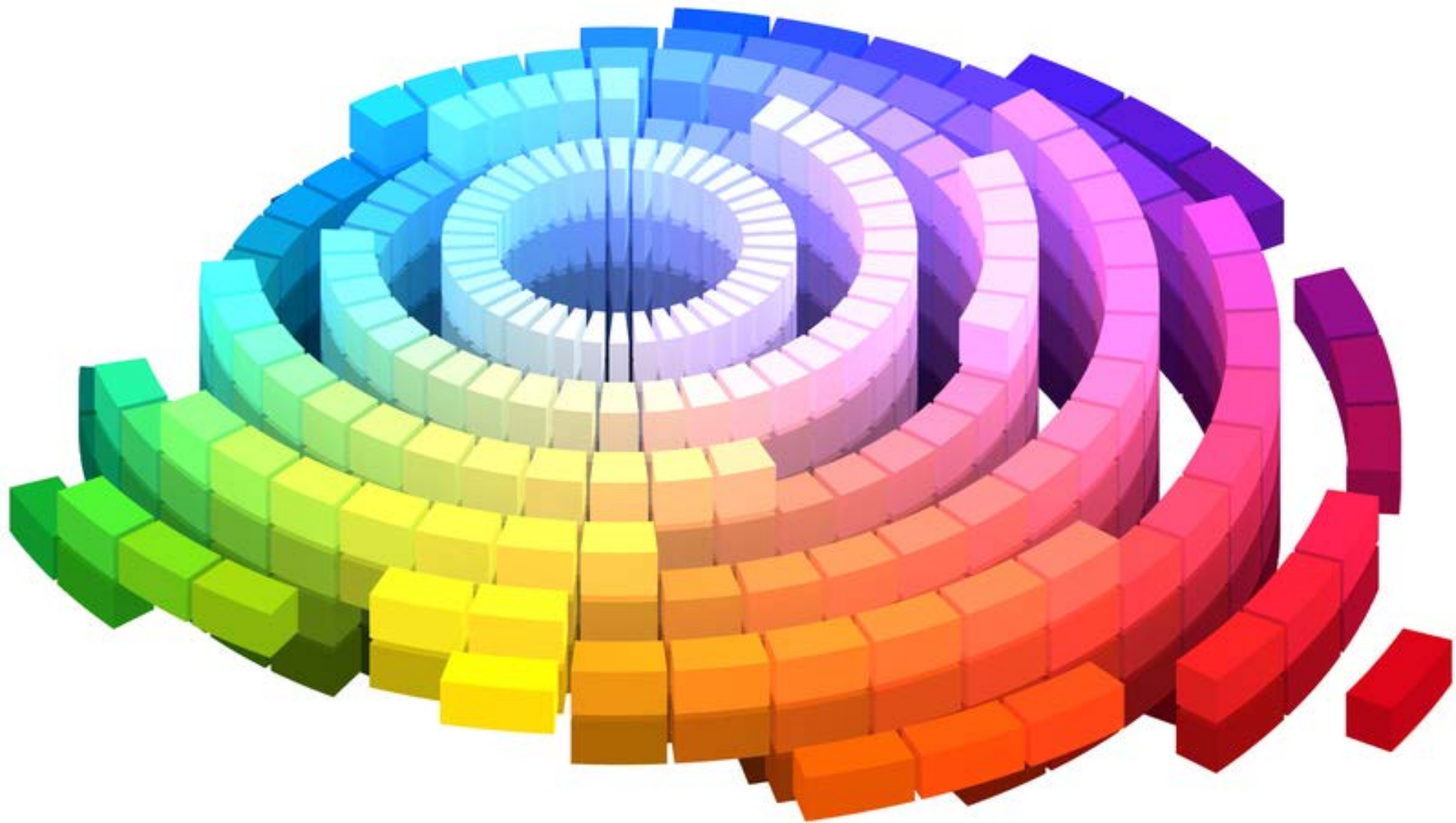
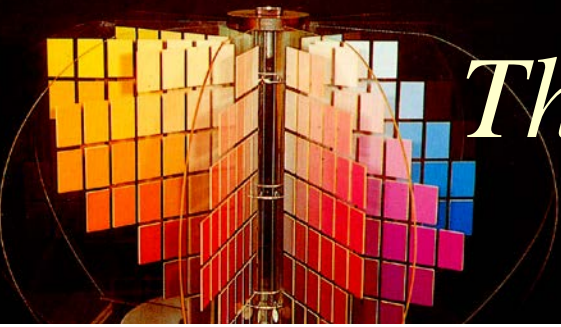
– Just as a point in space can be defined by its position in the three special dimensions (height, width, depth), color also has its own three dimensions. Any single color can be described by its three dimensions.

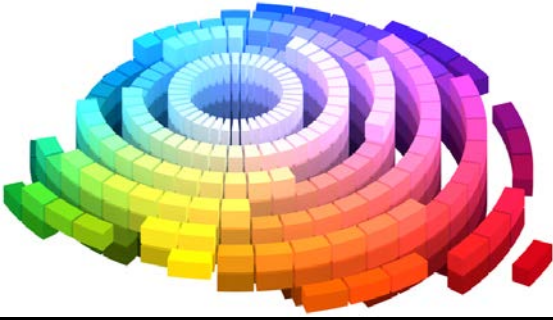
- **Hue**
- **Chroma**
- **Value**

*Three dimensions of color -
Munsell's color model*



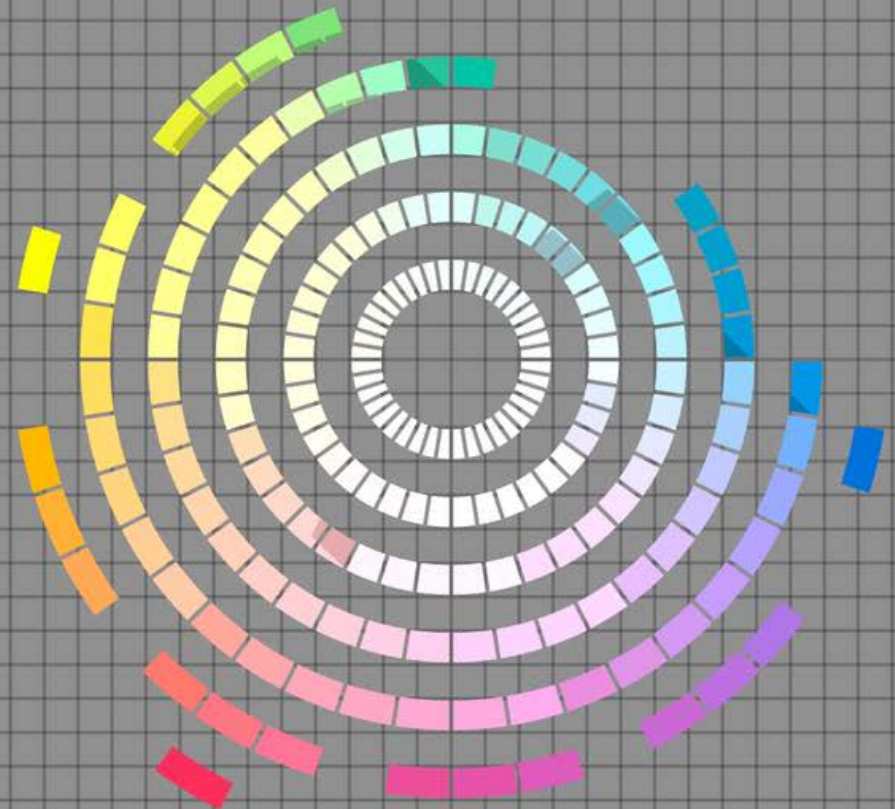
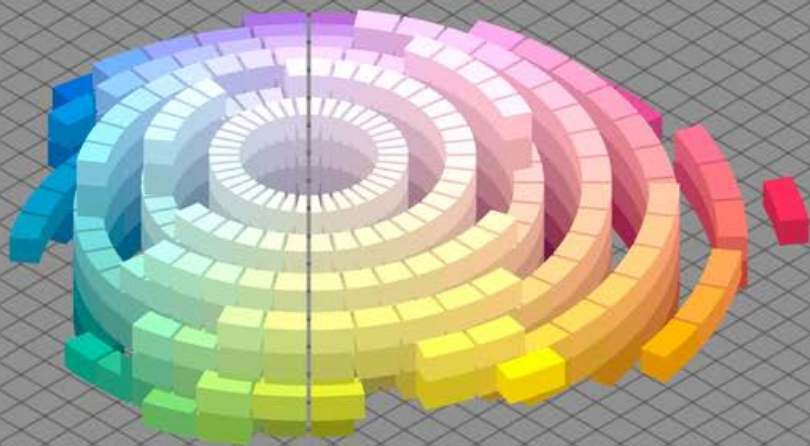
*Three dimensions of color -
Munsell's color model*





Three dimensions of color - Munsell's color model

– Perspective view from top: side view: top view.



Three dimensions of color

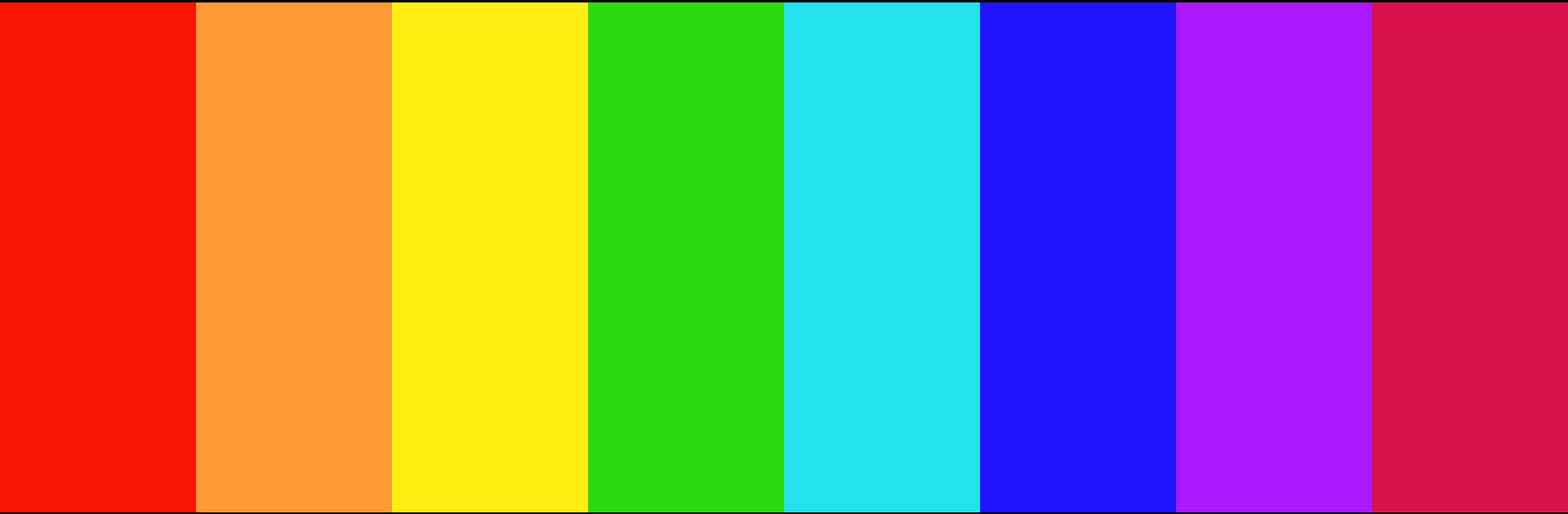
- Hue
 - Commonly called “color” by non-artists and non-designers. This is the nameable color – red versus blue versus yellow.
- Chroma
 - Saturation, Intensity and sometimes “brightness” – though these last two terms are easily confused with “Value”. Purity of color.
- Value
 - The lightness or darkness of a color – that is, how close to white and how close to black is it?

Hue

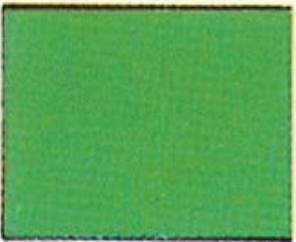
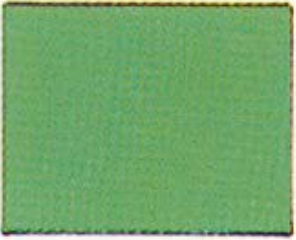
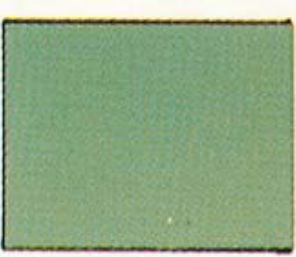
- Commonly called “color” by non-artists and non-designers. This is the nameable color – red versus blue versus yellow.



Hue Variations

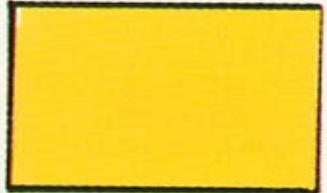
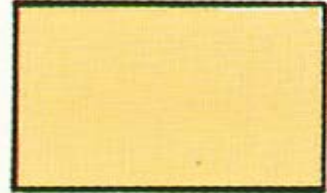
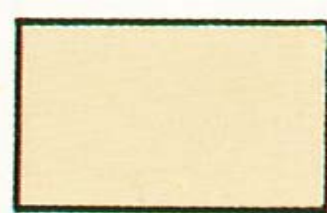


- *The most prominent and consistent **difference** between all of these samples is their HUE.*
- *Chroma is consistently high.*
- *Value, however changes too — yellow is high value, blue is much lower in value.*



Chroma

- Saturation, Intensity and sometimes “brightness” – though these last two terms are easily confused with “Value”.
- The purity of the color.
- The proportion of hue to neutrals.



The slide features two vertical strips of color calibration bars. The left strip contains a sequence of yellow, gold, and brown tones, while the right strip contains a sequence of purple and blue tones. Both strips consist of colored rectangular blocks separated by thin white horizontal lines.

Value

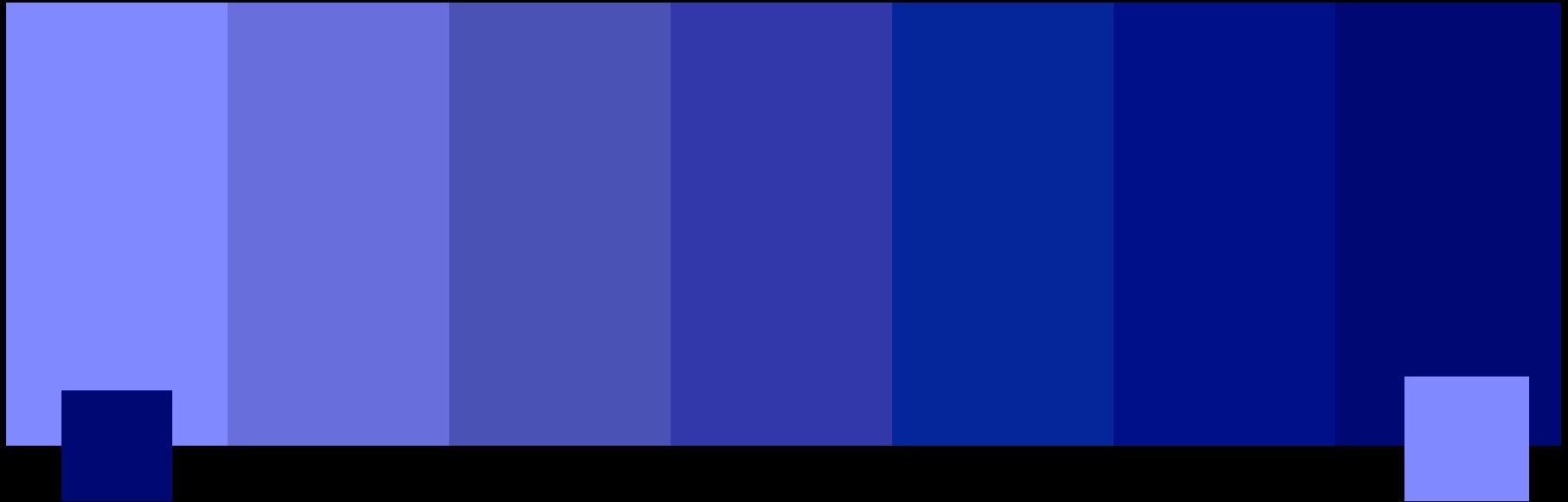
- The lightness or darkness of a color – that is, how close to white and how close to black is it?
- *High Value* – lighter, closer to white.
- *Low Value* – darker, closer to black.

Value Scale

- A value scale is to value what a color wheel is to hue.
- It is a graphic representation of the full range of values from white to black.
-
- Often a value scale will be divided into even steps. For our charting and color planning *we use a 9-value scale*, with black at the bottom – numbered “1” and white at the top, numbered “9”.

	White 9
	HIGH 8 LIGHT
	LIGHT ⁷
	LOW 6 LIGHT
	MEDIUM 5
	HIGH DARK 4
	DARK 3
	LOW DARK 2
	Black 1

Value Variation



- *The most prominent difference among these colors is their value*
- *Hue is constant (though the lower chroma samples may tend more blue).*
- *Chroma is roughly constant*

Constant hue chart 7.5YG

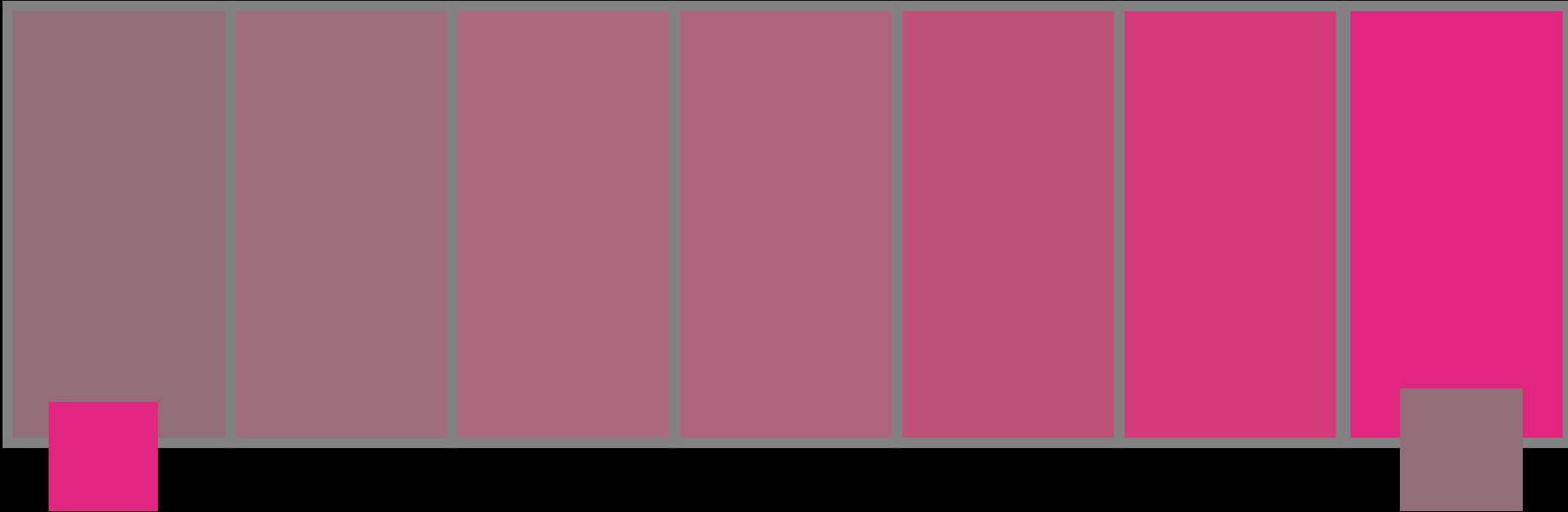
What these colors have in common, is that they all are the same hue.

Chroma varies from left-to-right.

Value varies from top-to-bottom.



Chroma Variations

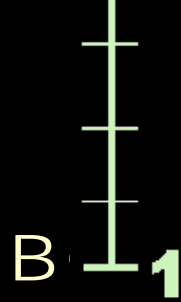


- *The most prominent difference between these colors is their CHROMA.*
- *Hue is constant (though the lower chroma samples may tend more blue).*
- *Value is constant*

Chroma Variations



- *The most prominent difference between these colors is their CHROMA.*
- *Hue is constant.*
- *Value is constant*



Hue		
Chroma		

Color Charting

- The main goal of these charts is to actively study and *see* how other designers have *used* color.
- We want to be more perceptive of the strategies that designers use to create impact and establish moods...
...to guide the viewer's eye and to unify a composition.

Milton Glaser, p. 158



a novel

The Cook
Harry
Kressing

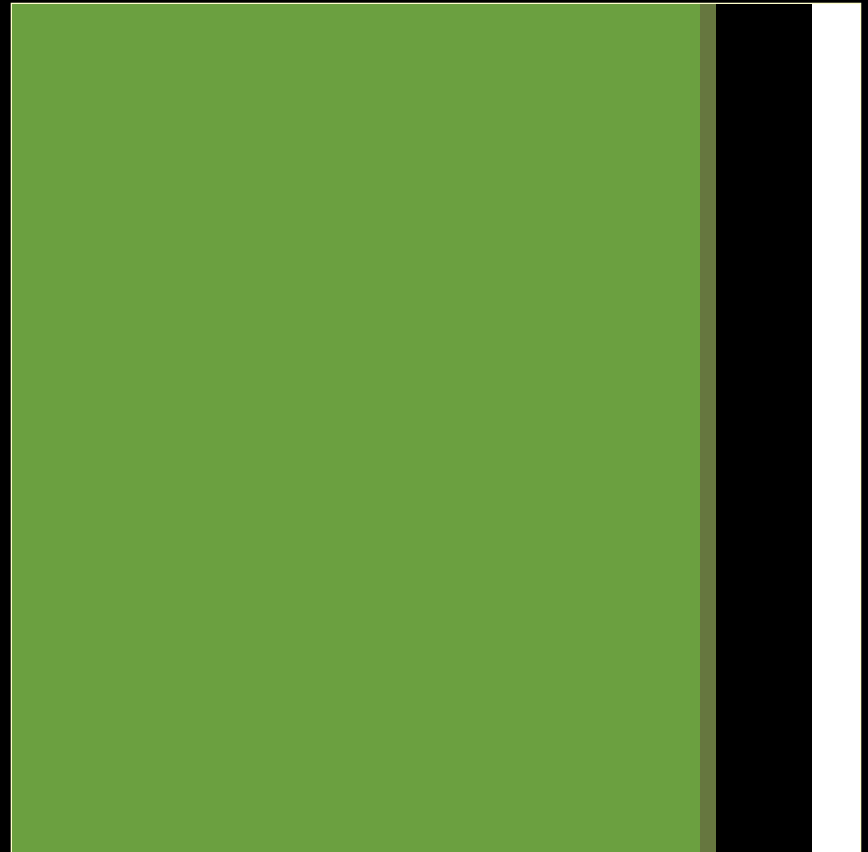
Milton Glaser, p. 158



a novel

The Cook

Harry Kressing



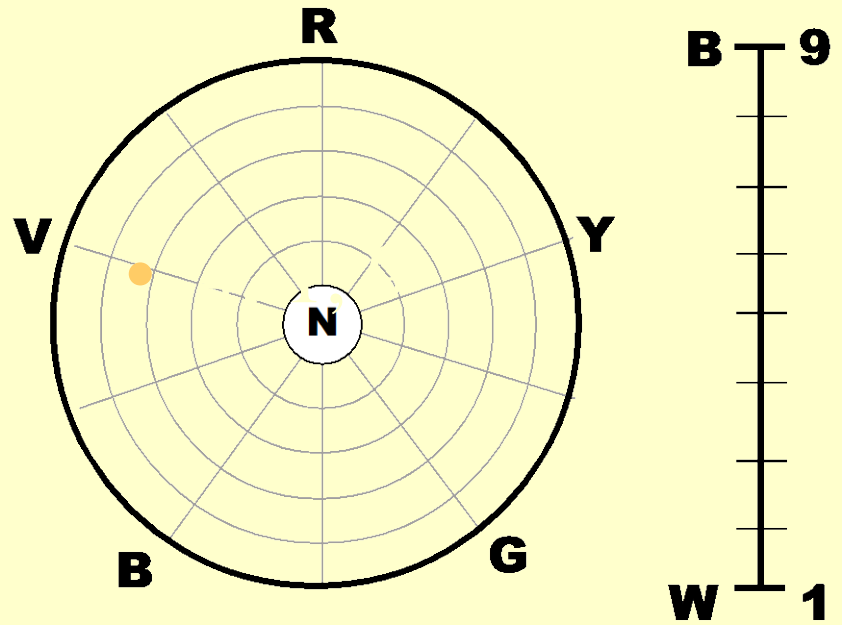
Proportion Study

- *Which* colors are used?
- In what *proportions*?

Milton Glaser, p. 158



a novel
**The Cook
Harry
Kressing**



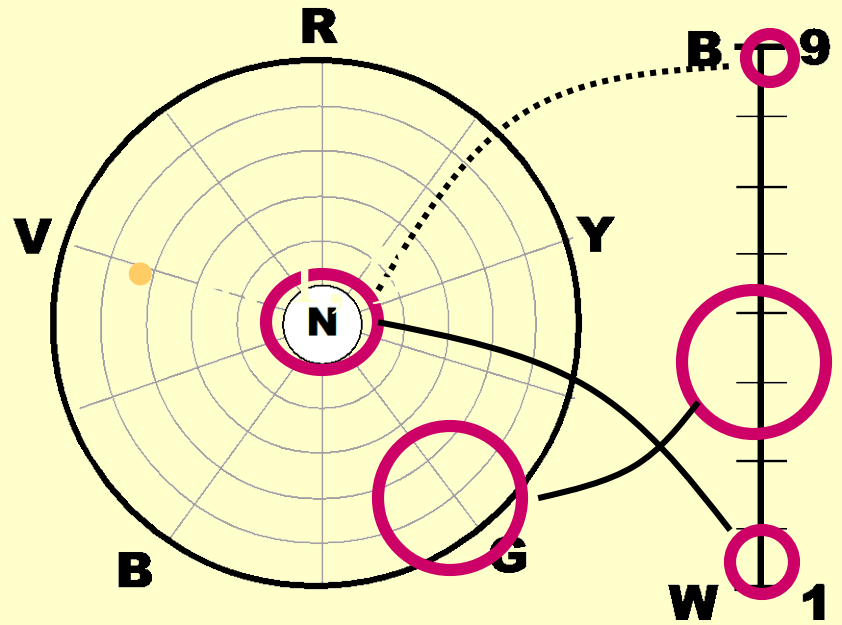
	Limited To	Dominant
Value		
Hue		
Chroma		

Scheme _____

Milton Glaser, p. 158



a novel
The Cook
Harry
Kressing

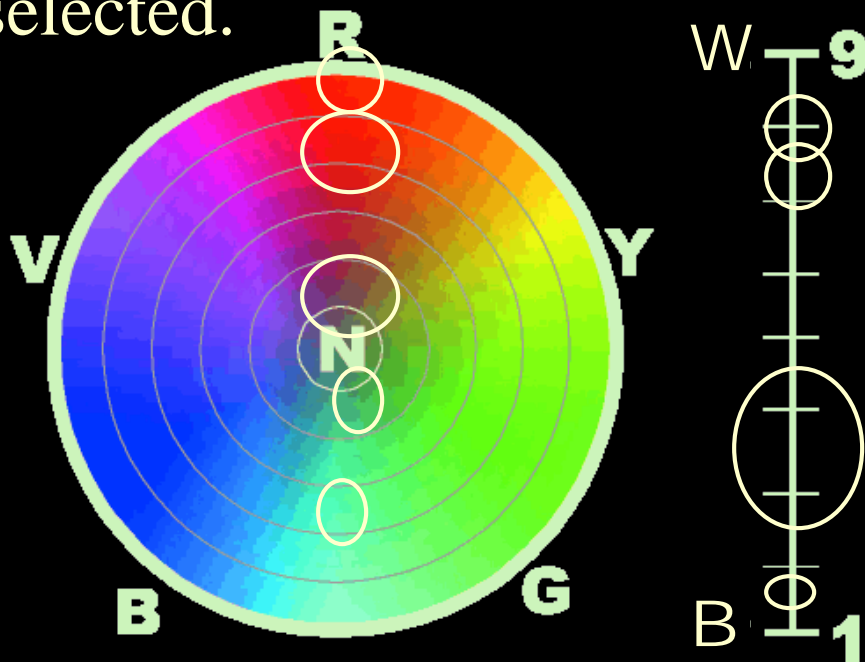


	Limited To	Dominant
Value	4, 1, 9	4
Hue	G, N	G
Chroma	MH, N	MH

Scheme Monochromatic

Color Charting

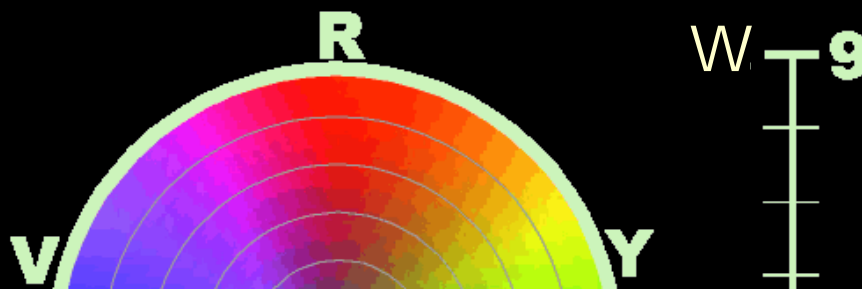
- The charts provide a way of looking at how the colors used are *related to one another* — thus we often better see *why* the colors were selected.



	Limited To	Dominant
Value		
Hue		
Chroma		

Color Charting -- What is it?

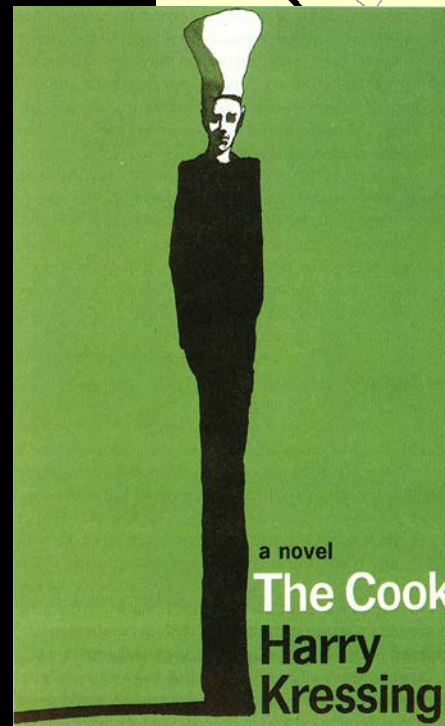
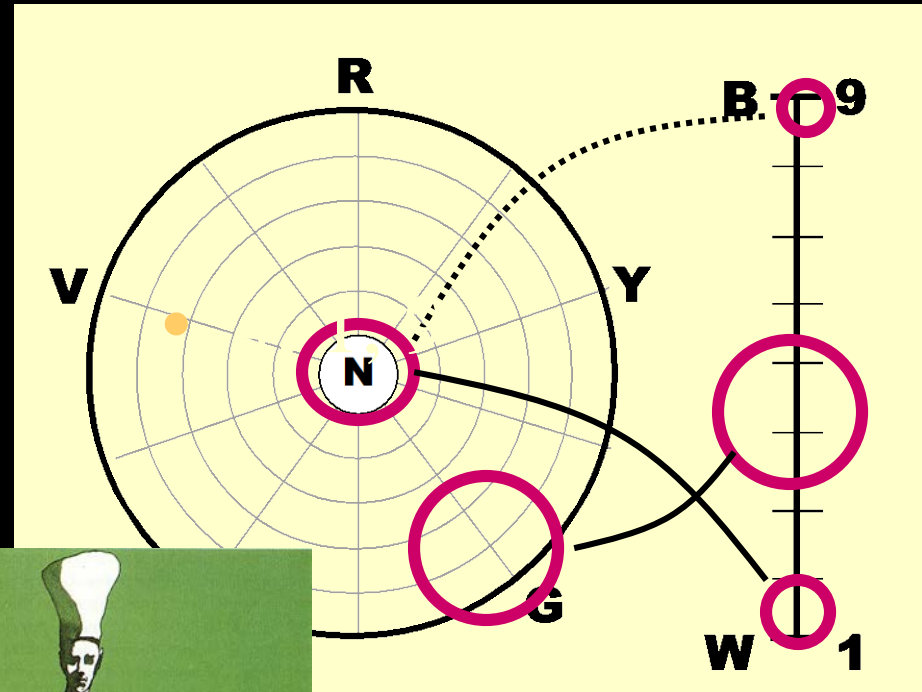
- Color charts provide a way to analyze a color scheme in terms of color relationships. This system of notation quickly represents the prevalent colors and how they are related to one another.
- The general color strategy can be discerned easily once the charts are familiar.
- The chart records information about all three dimensions of color – hue, value, and chroma.



	Limited To	Dominant

Color Harmony Charting

- Color Wheel - identify Hue and Chroma
- Value Staff - values used
- *Size of circles* indicates proportion

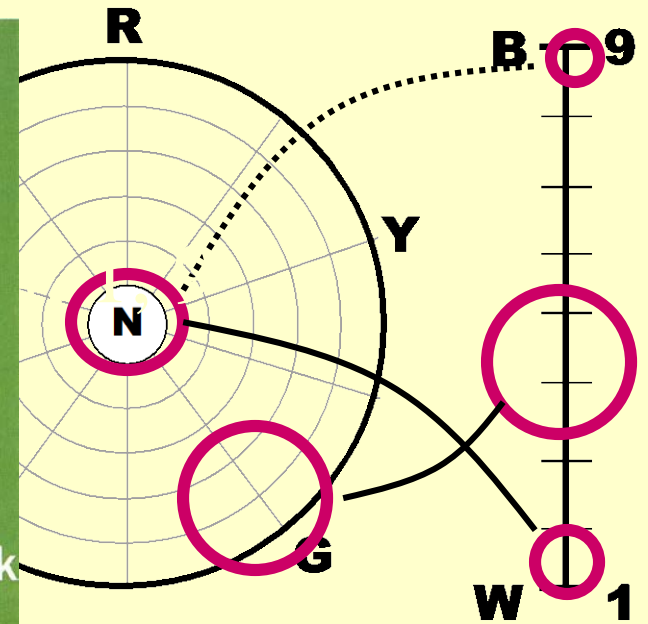
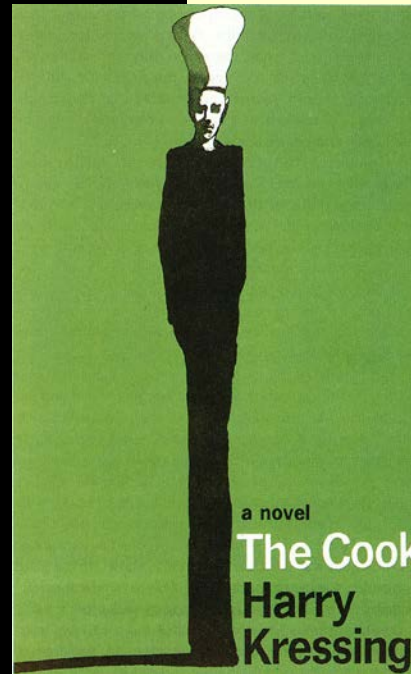


	Limited To	Dominant
e	4, 1, 9	4
e	G, N	G
a	MH, N	MH

e Monochromatic

Color Harmony Charting

- Chart major colors only (10 max)
- Lines connect H/C with V
- Limitations: note colors *used*
- Dominant: note the *dominating* H, C, & V

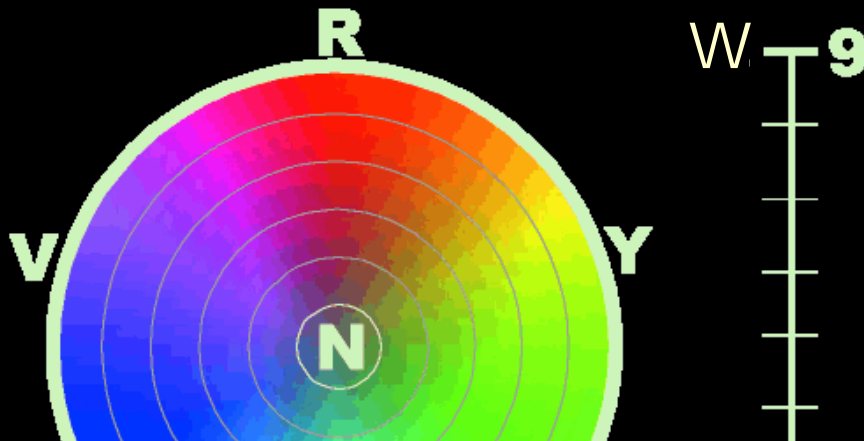


	Limited To	Dominant
Value	4, 1, 9	4
Hue	G, N	G
Chroma	MH, N	MH

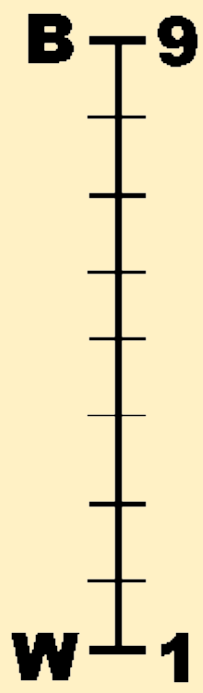
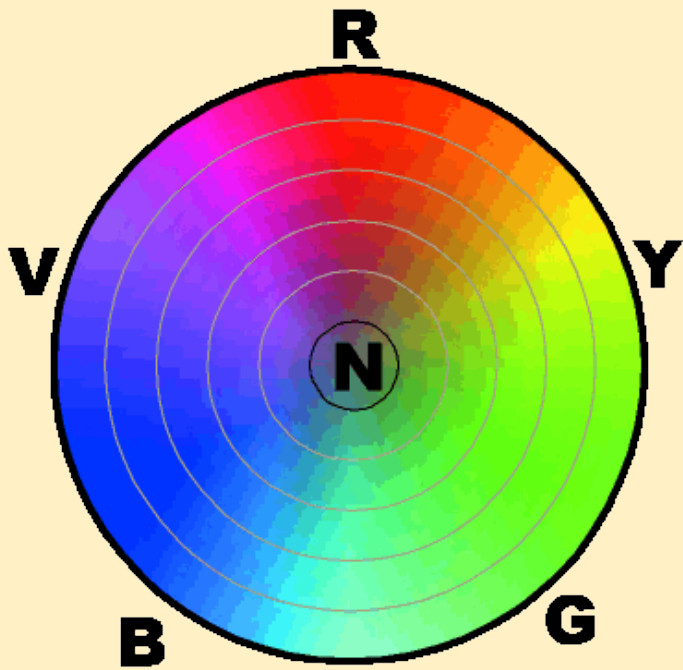
Scheme Monochromatic

Color Charting

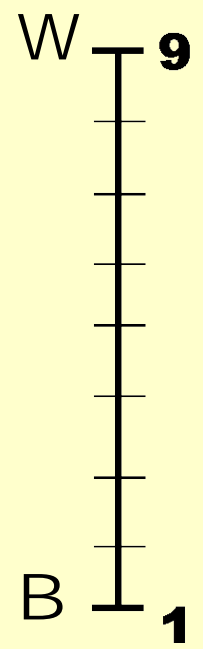
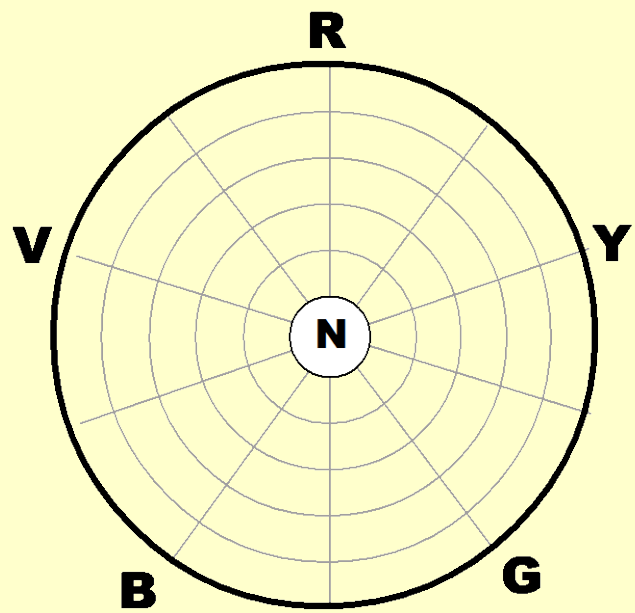
- The main portion of the chart is a color wheel – so it is already quite familiar.
- The second portion is a value scale.
- The third section is a table that lists the color traits that are present, and those that dominate the color harmony.



	Limited To	Dominant
Value		
Hue		

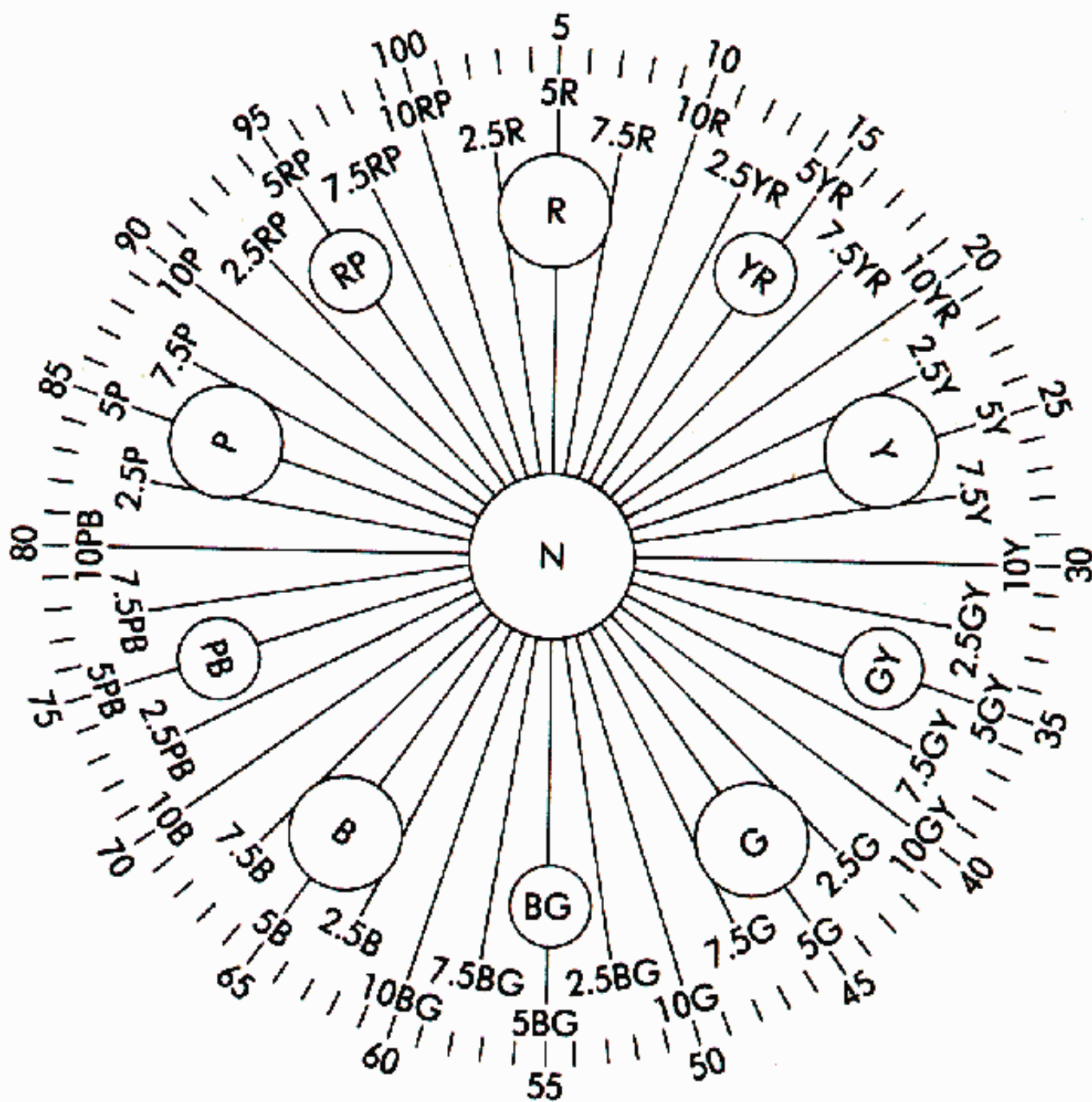


	Limited To	Dominant
Value		
Hue		
Chroma		



	Limited To	Dominant
Value		
Hue		
Chroma		

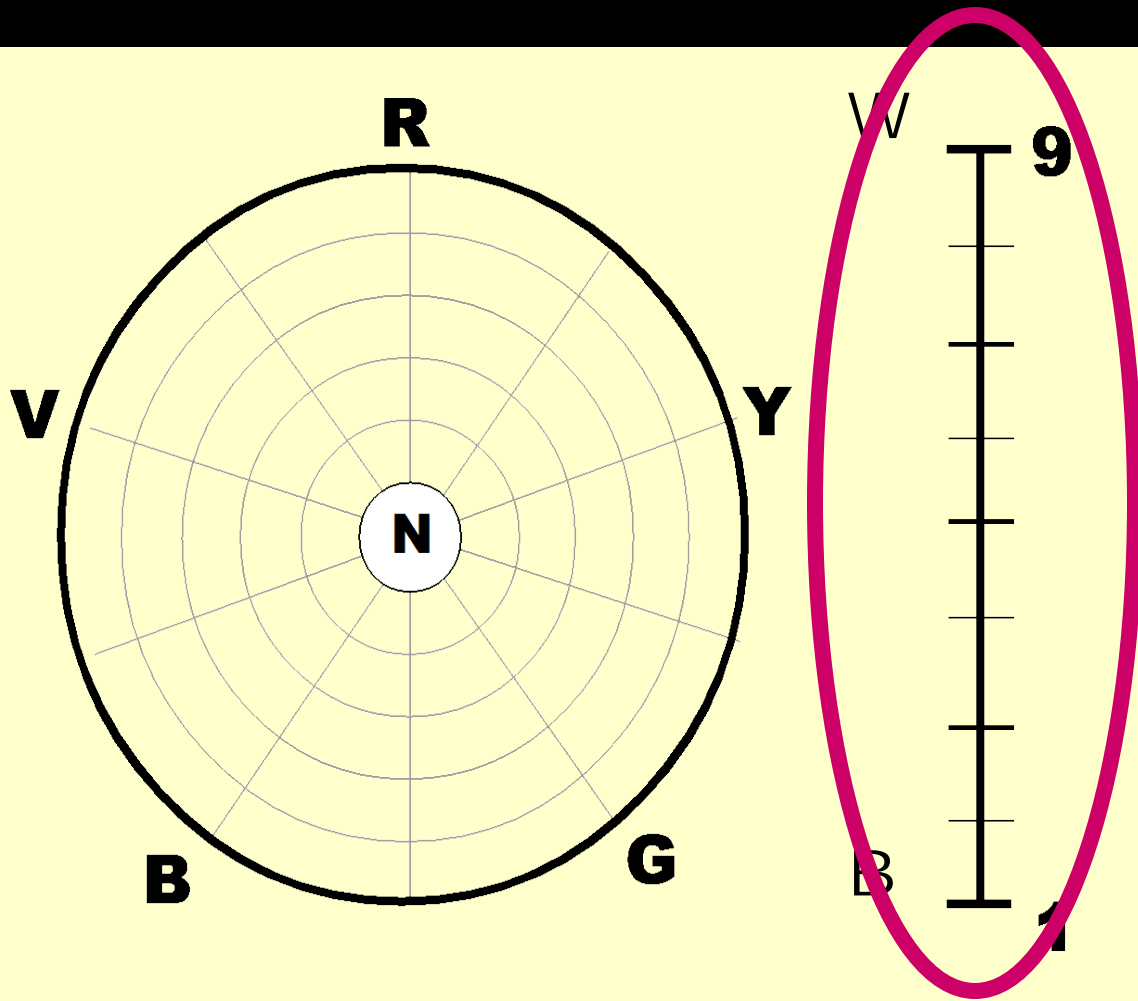
Scheme _____



Munsell color wheel

Based on 10
major
hues.

Note 1 & 2
letter hue
abbrevs.



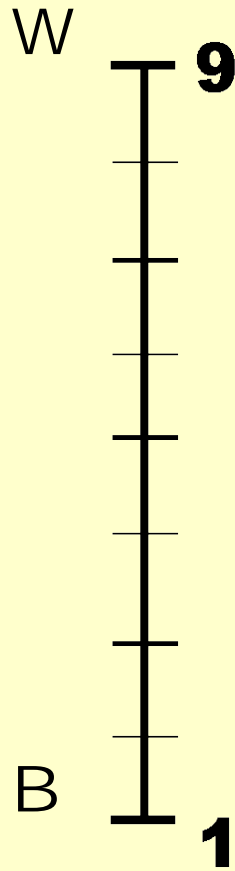
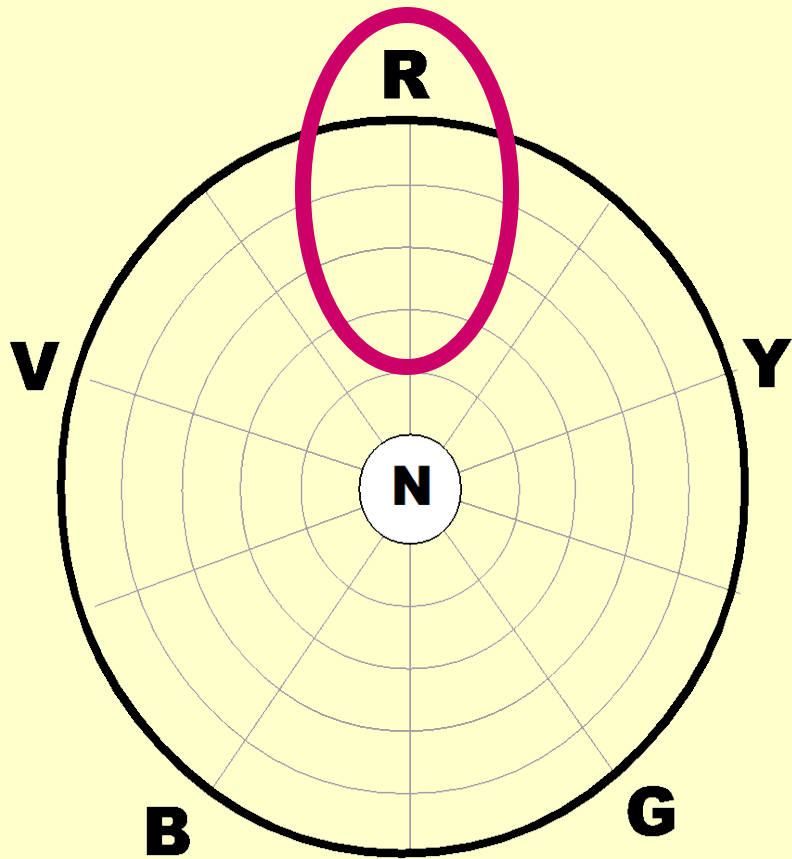
	Limited To	Dominant
Value		
Hue		
Chroma		

Scheme _____

Value Scale

What values are used? (circle each region used)

How prominent is each value? (size of circle)



	Limited To	Dominant
Value		
Hue		
Chroma		

Scheme _____

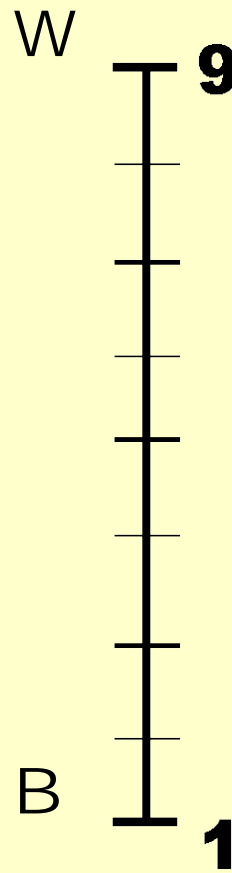
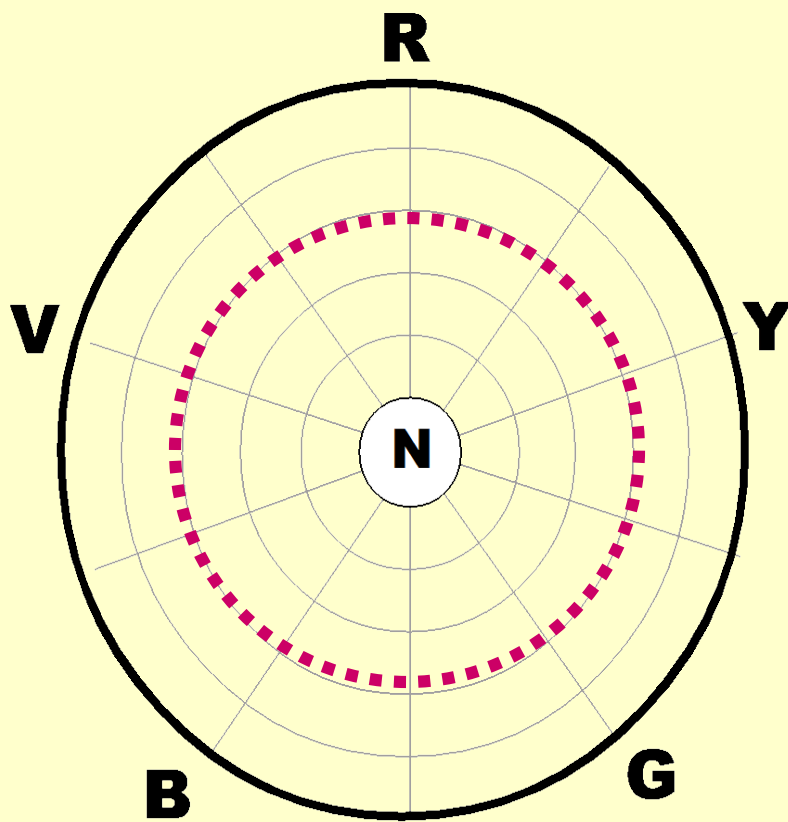
Color wheel

Neutral at center

High Chroma at outer edge

What HUEs are present?

What CHROMAs are used?



	Limited To	Dominant
Value		
Hue		
Chroma		

Scheme _____

Color wheel

Neutral at center

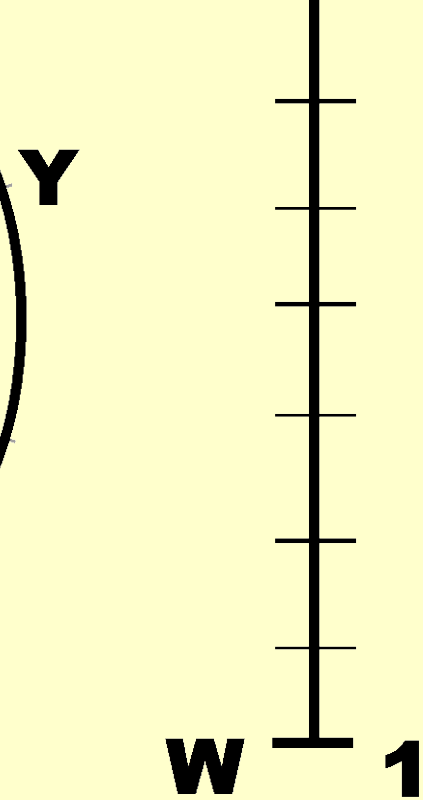
High Chroma at outer edge

What CHROMAs are used?

	Limited To	Dominant
Value		
Hue		
Chroma		

Scheme _____

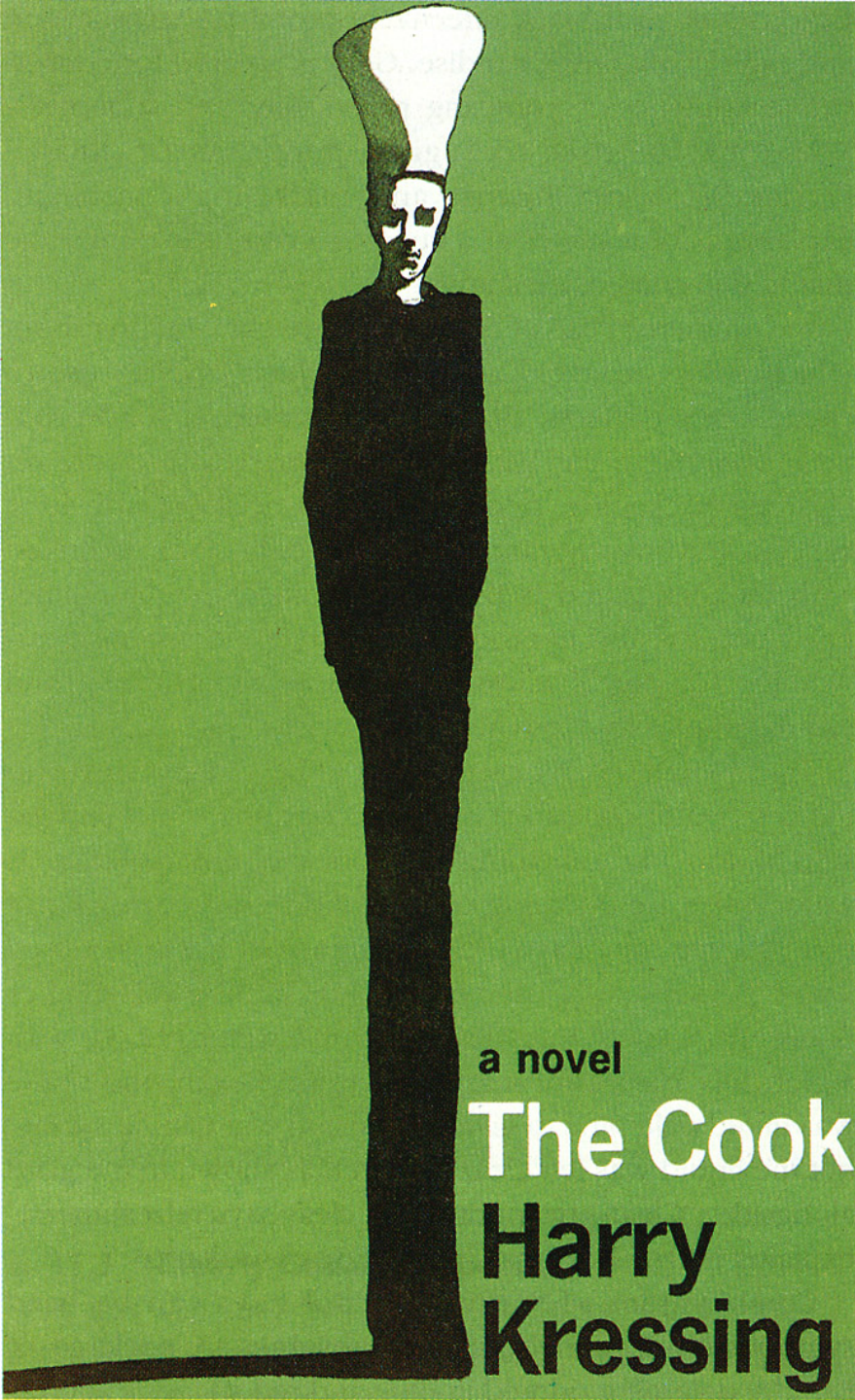
- **Limitations:**
typically a design uses only a "limited palette" of colors. Here we analyze the color traits used in the design.
- **Dominants:**
Typically a design will have colors that provide the foundation for all the other colors -- a dominant.



	Limited To	Dominant
Value		
Hue		
Chroma		

Scheme _____

- **Scheme:**
As we become familiar with more color schemes, we will name the scheme, or color structure, used to organize and select the colors used.
- Monochromatic, Complementary, Analogous, Triadic, Split-complement, Neutral, Color Saturation, etc.



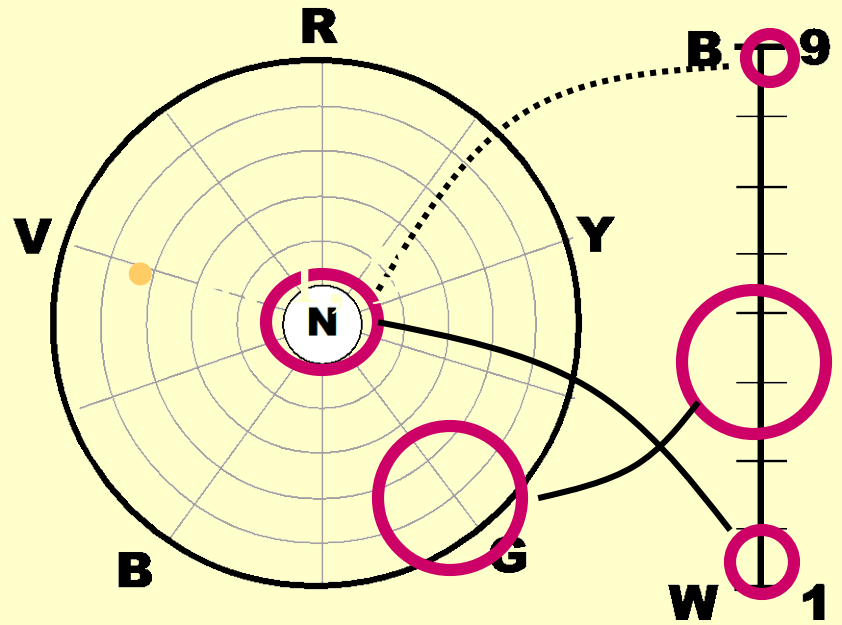
Milton Glaser, p. 158

- What hues are used here?
- What values are used?
- What chromas are used?

Milton Glaser, p. 158



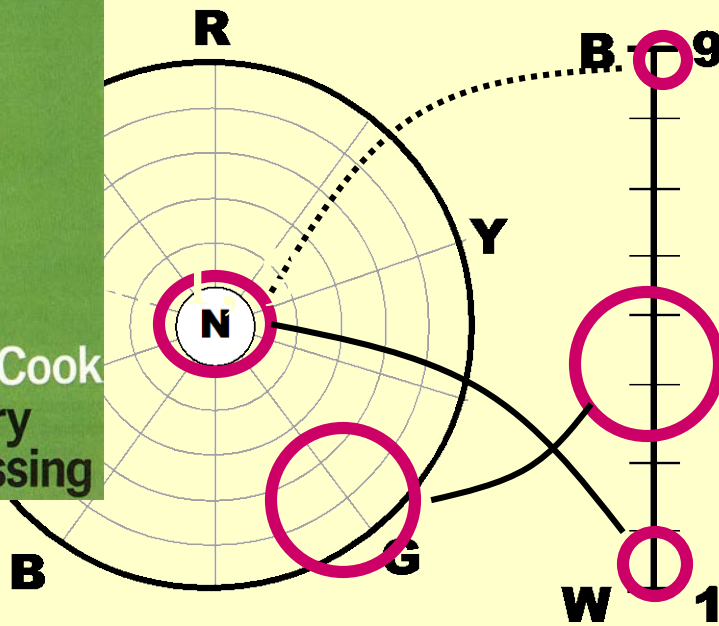
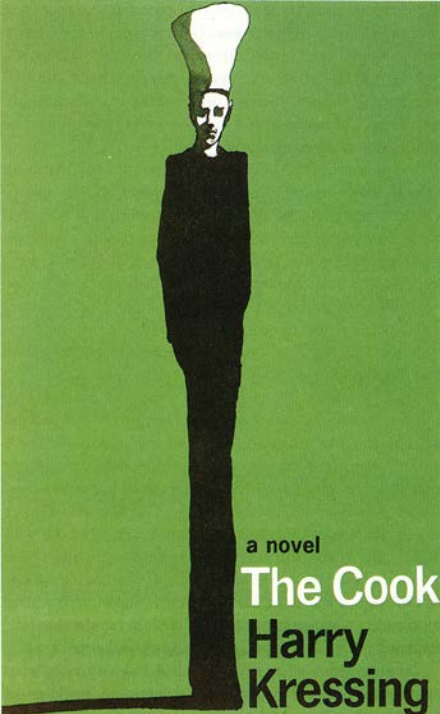
a novel
The Cook
Harry
Kressing



	Limited To	Dominant
Value	4, 1, 9	4
Hue	G, N	G
Chroma	MH, N	MH

Scheme Monochromatic

Milton Glaser, p. 158



	Limited To	Dominant
Value	4, 1, 9	4
Hue	G, N	G
Chroma	MH, N	MH

Scheme Monochromatic

Value: use numbers - 1-9 according to your value scale.

Hue: use initials for hues around the color wheel.

(R, RO, O, YO, Y, YG, G, BG, B, BV, V, RV)

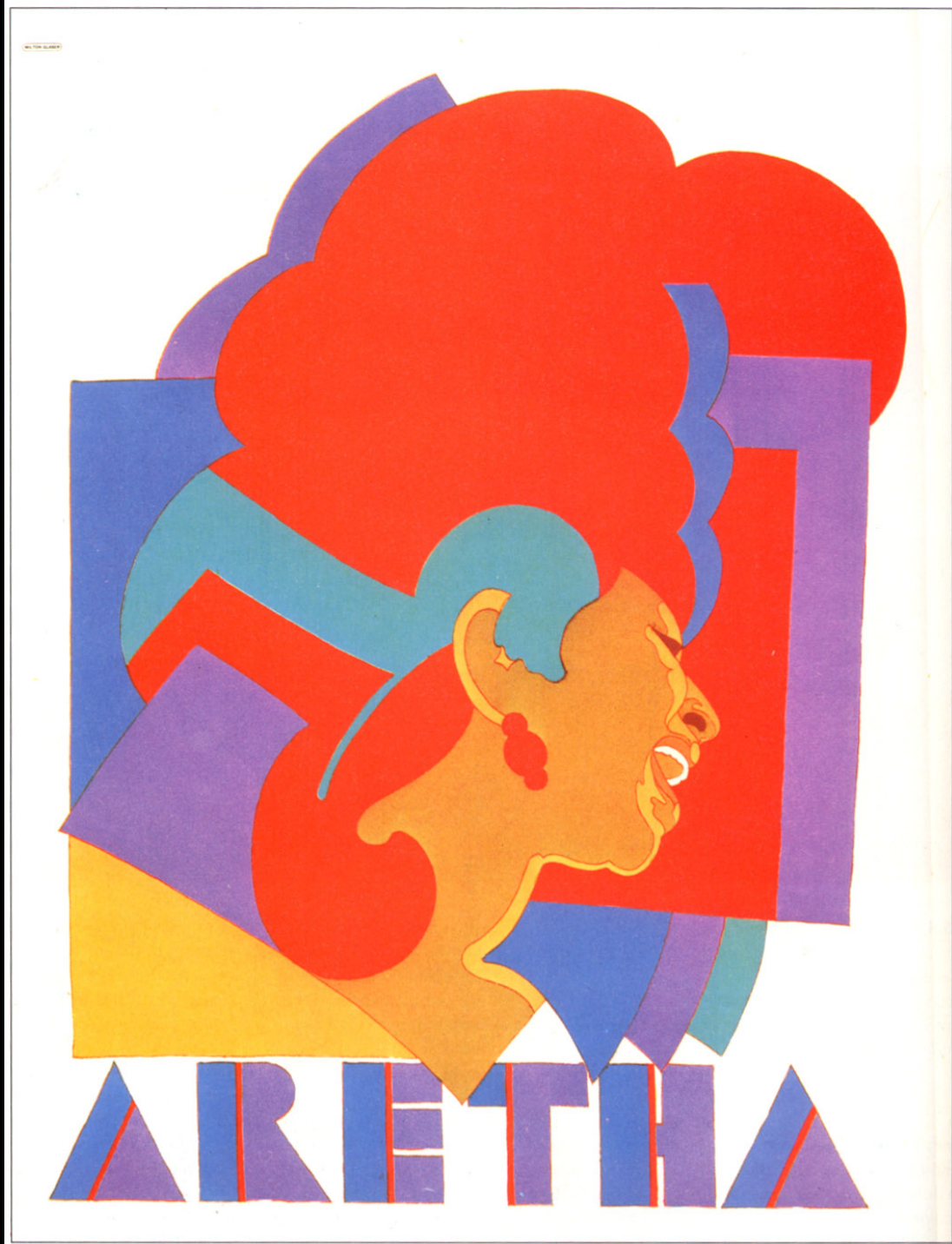
N = Neutral

Chroma: H= High, MH = Middle High, M=Middle, ML= Middle Low, L = Low, N = Neutral.

© 1970

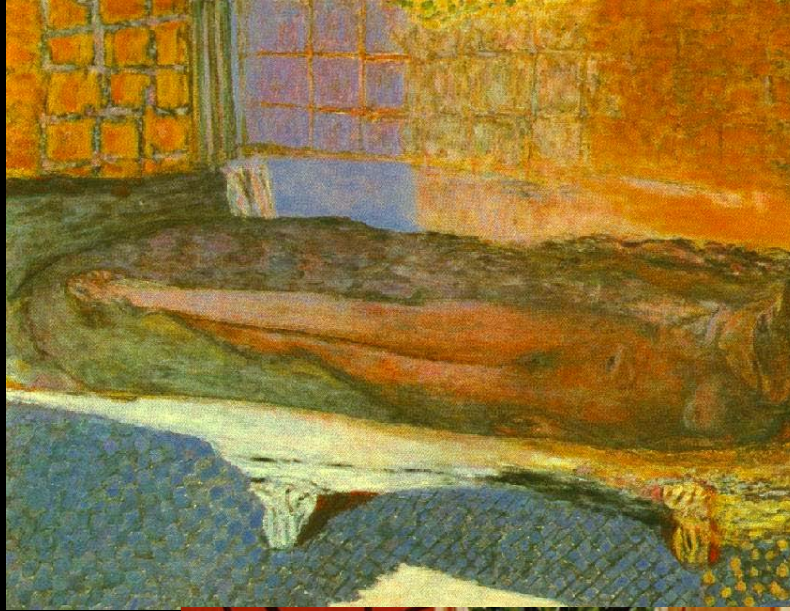


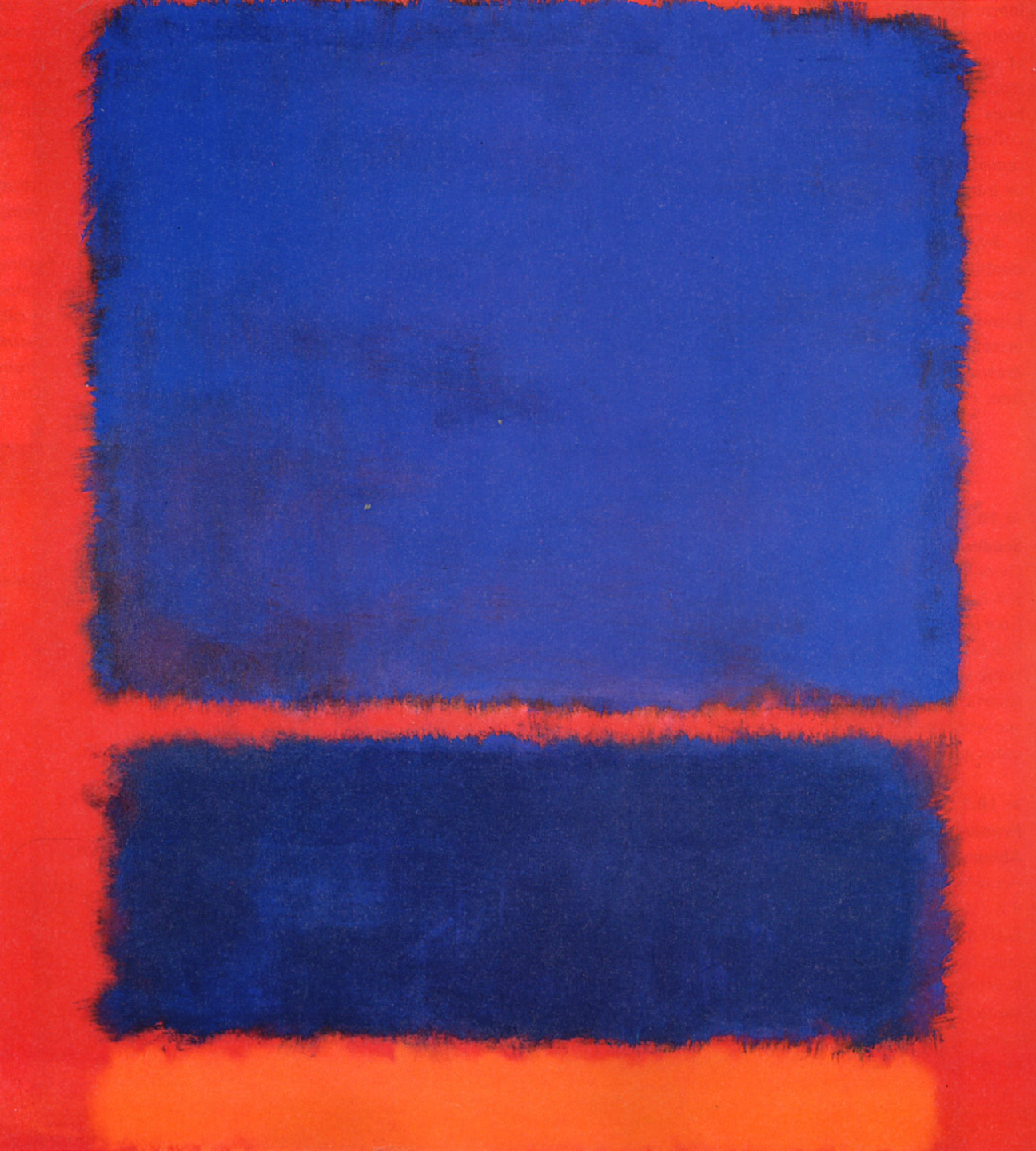
ARETHA



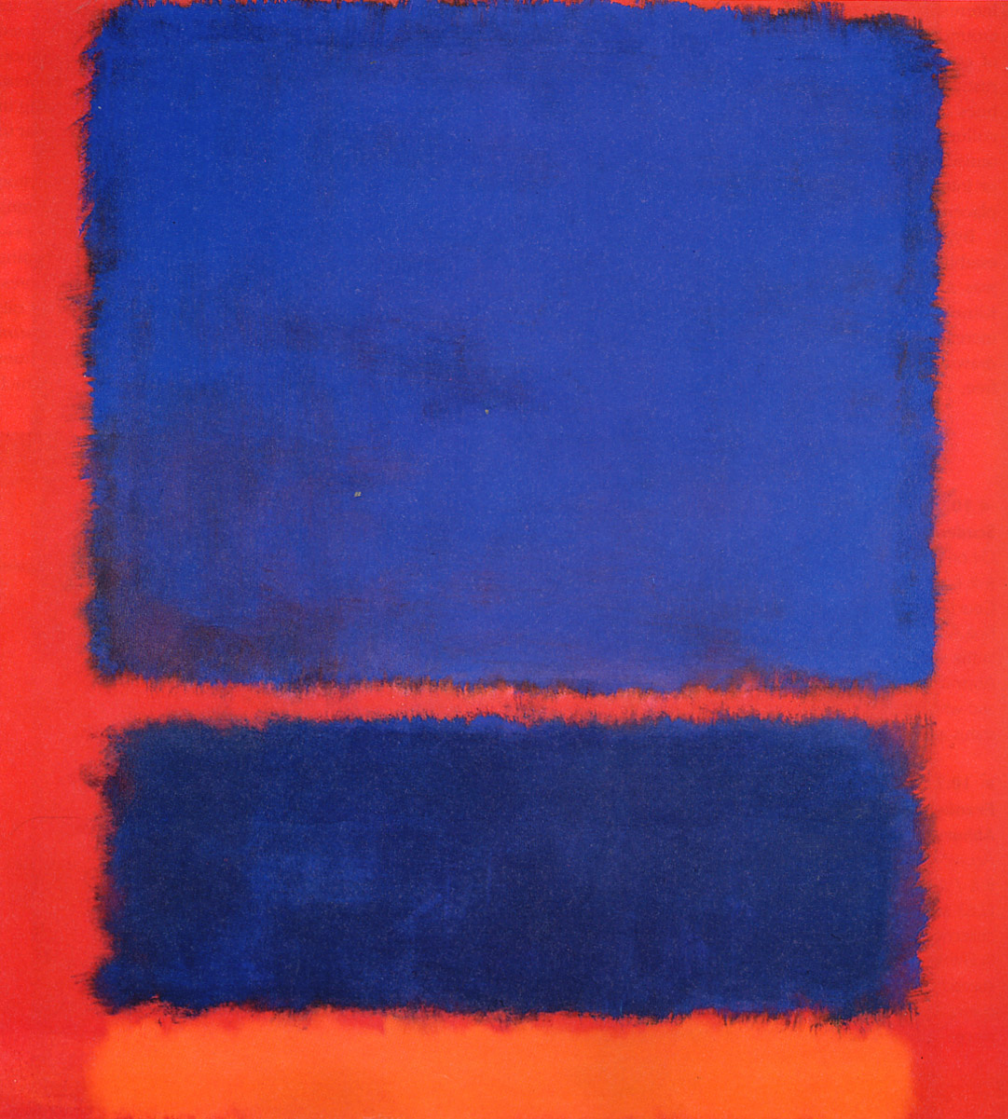
Charting Set 1 For Next Class:

- Chart:
Fig. 10.23
(p. 165; Rothko)
- Fig. 9.13
(p. 131; Matisse)
- Fig. 11.5
(p. 178; Glaser)
- Fig. 9.23
(p. 138; Vuillard)
- Fig. 10.19
(p. 161; Bonnard)
- Read: Ch 3, 24-38

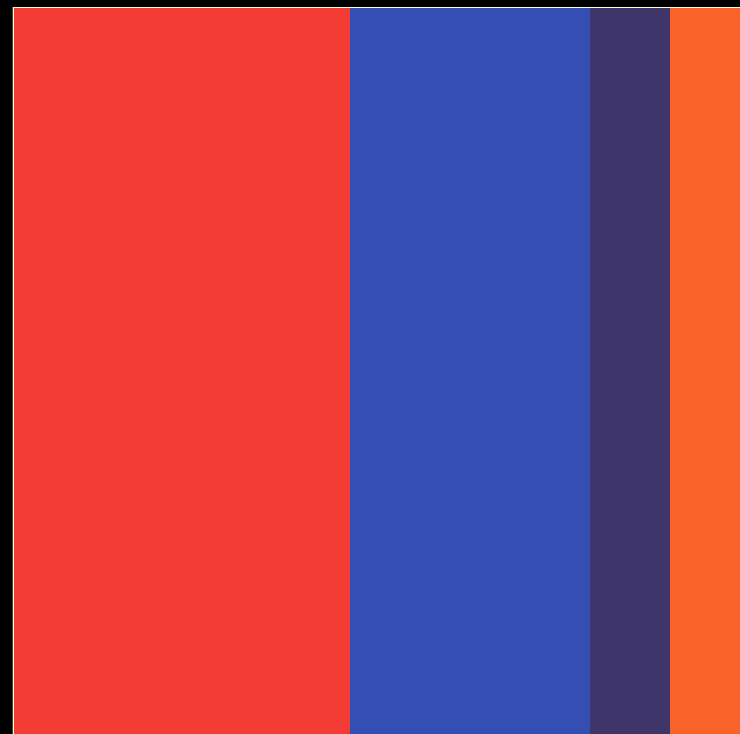




Mark Rothko
p. 154, f10.21
*Blue, Orange,
Red.*



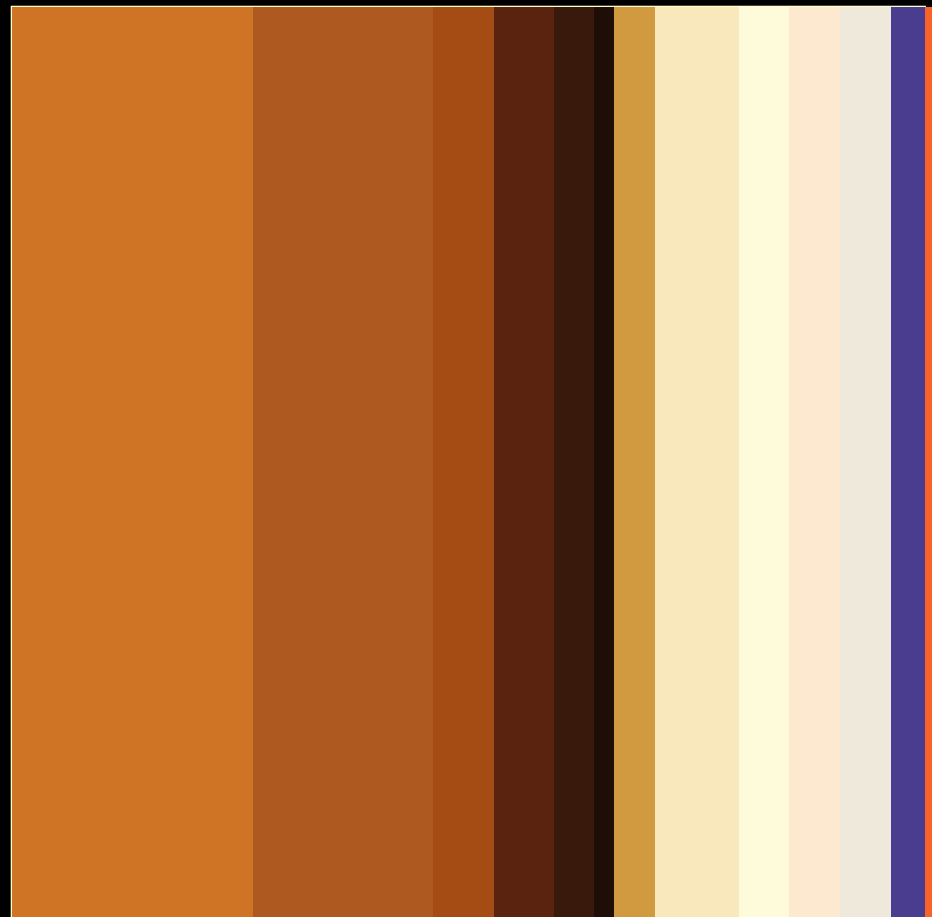
*Mark Rothko p.
148*





Edouard Vuillard
Breakfast
f 9.25 p. 139

Edouard Vuillard
Breakfast
f 9.25 p. 139



Edouard Vuillard
Breakfast
f 9.25 p. 139



- 1) identify the colors present (the palette)
- 2) simplify palette to about 9 colors or fewer (group very similar colors and/or eliminate minor colors. However, be sure to keep significant accent colors, even if proportions are small. (e.g. BV and RO here.)



Fig. 9.13/p. 131

Henri Matisse (French, Fauvist)

Red Interior, Still -life on a Blue Table.

Oil, 1947

The fauves (“wild beasts”) were an expressionist alternative to the the analytic Cubist movement that began at roughly the same time, around 1905 or so.

They were called fauves because of their arbitrary use of intense color — colors selected with no necessary connection to nature. That is, non-realist color.

Matisse was one of the leaders and continued to explore expressive, emotional, playful color compositions throughout the first half of the 20th century.

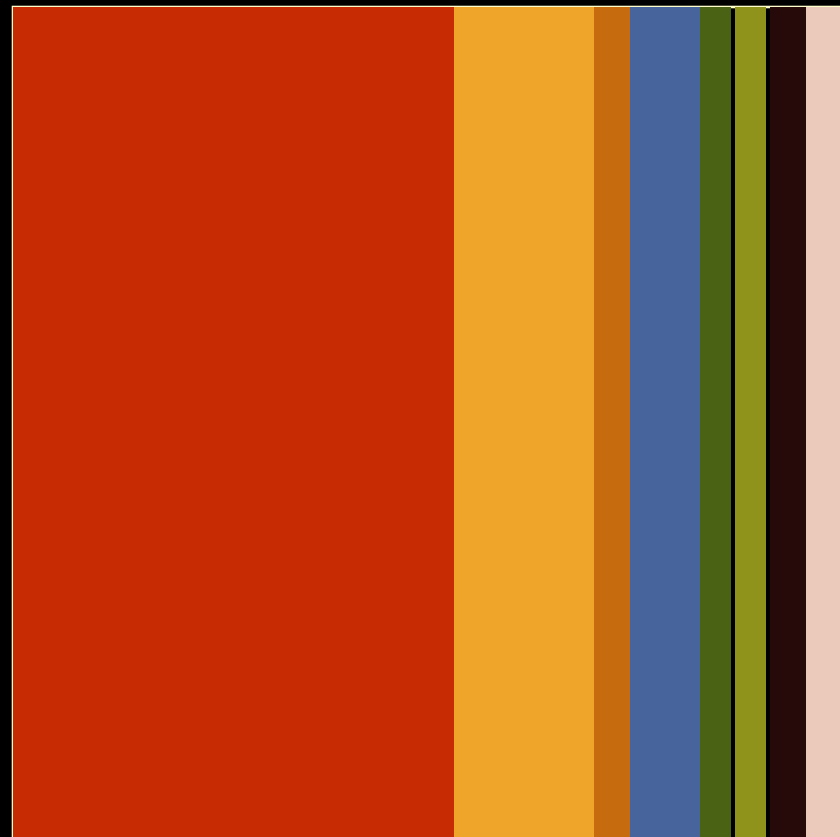


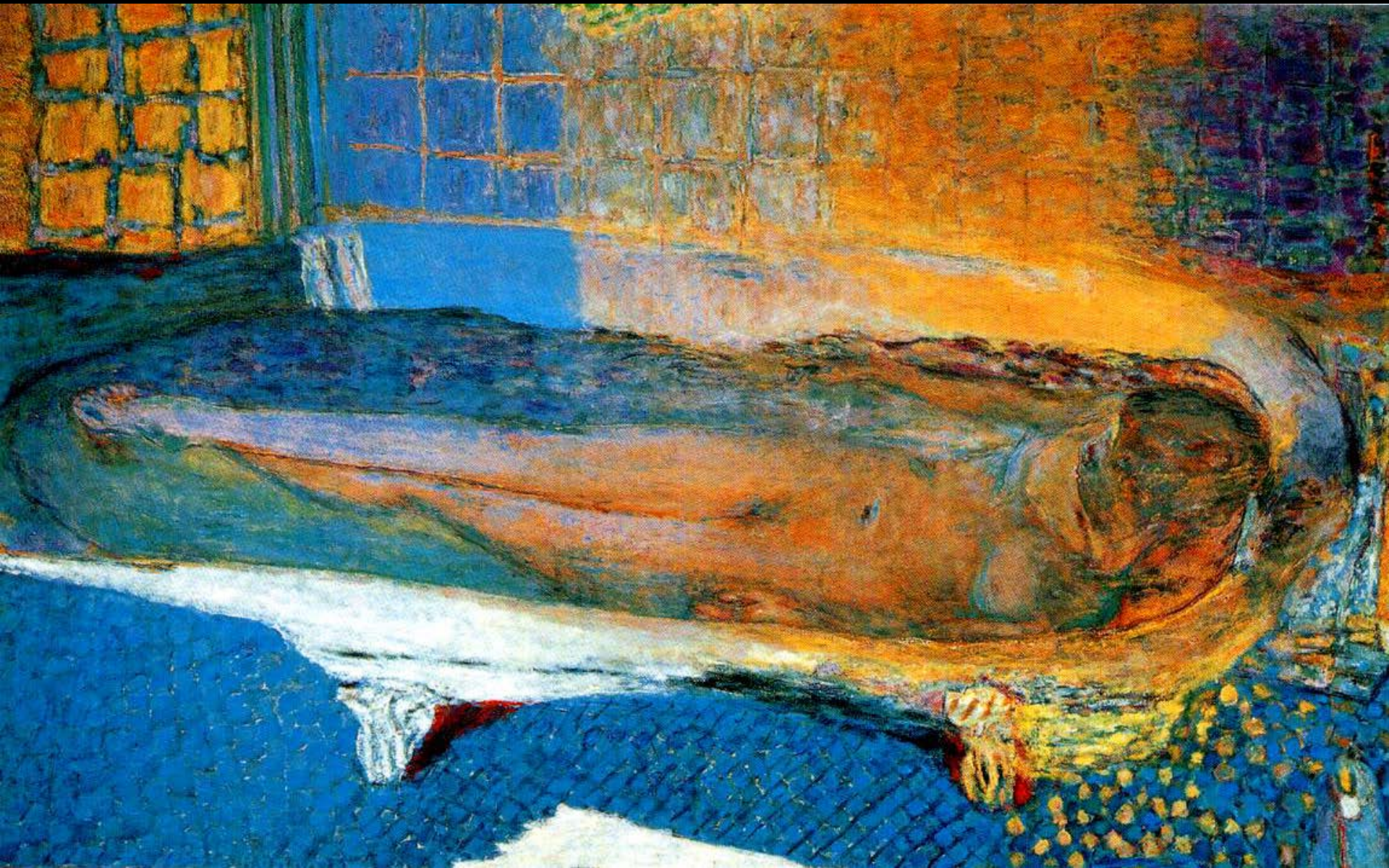
Fig. 9.13/p. 131

Henri Matisse (French, Fauvist)

Red Interior, Still -life on a Blue Table.

Oil, 1947







Pierre Bonnard

*Nude in a
Bathtub*

1937

(post-)
Impressionist

Bonnard learned how to see color from Impressionists such as Monet. In a sense, Bonnard is Monet on steroids — color steroids. Color is fragmented and forms are diffuse, as in many of Monet's paintings.

But Bonnard amplifies chroma and builds areas of color — color massing that create a more dynamic composition.

When charting Bonnard, identify ~8 major colors...not all of them.

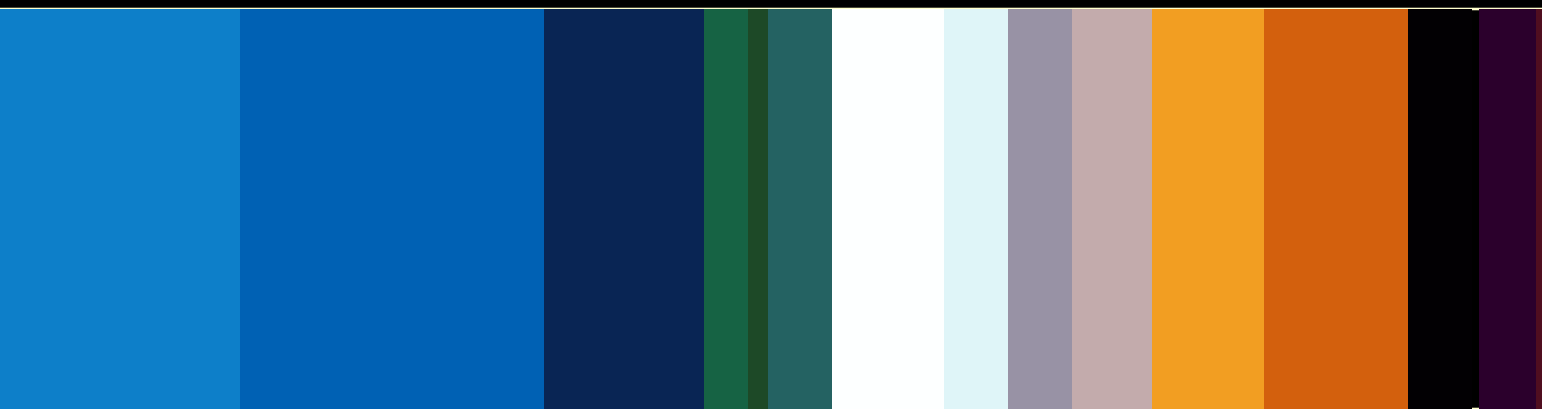


Pierre Bonnard

*Nude in a
Bathtub*

1937

(post-)
Impressionist



For next Class: chart color and describe mood/connotations.

10.27 / p. 171 Wolf Kahn, *Lilac and Green*

10.10 / p. 155 Jan van Eyck, *Arnolfini Marriage*

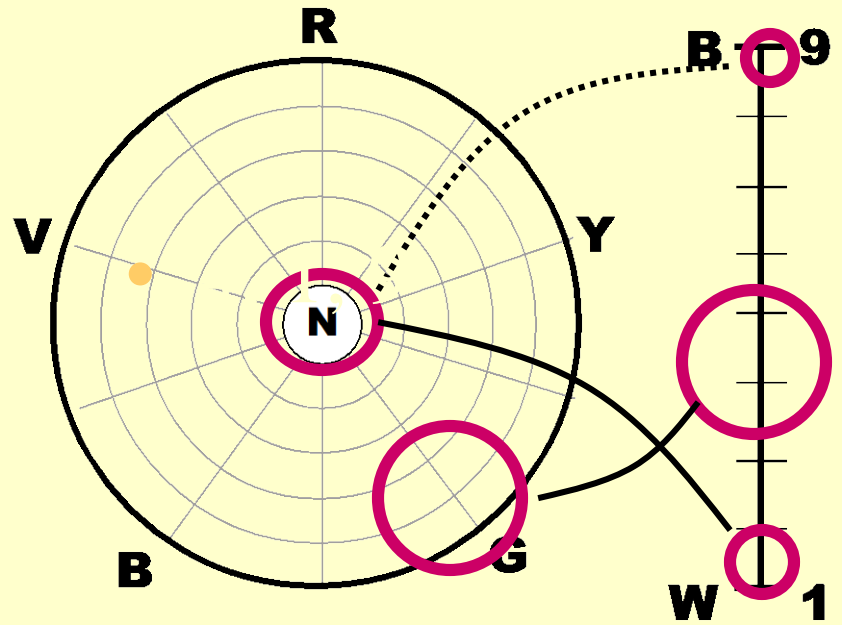
9.8 / p. 128 Rufino Tamay, (living room)

- a) Chart each design
- b) Describe the mood, attitude, character or connotations of the design. Describe how color use might be contributing to that mood.

Milton Glaser, p. 158



a novel
The Cook
Harry
Kressing



	Limited To	Dominant
Value		
Hue		
Chroma		

Scheme _____

Value – Core of the Harmony

- Value relationships are the core of visual design.
- In general, a designer needs to pay attention to value distributions and dominances before giving attention to hue and chroma decisions.
- It is a good strategy to *begin a color harmony by establishing a clearly dominant value* – this acts as a foundation for the entire harmony.
- Many artists can be characterized by their dominating reliance on value. (Tonalists)

Charting a Color Scheme – Dominant Value

- Assess and record the values
- **Look for the dominant – or *most common value*.** This may be a single, flat area of value, or it may be several very *similar* values throughout the design.
- Place a fairly large circle on the value scale at whatever value dominates the design.
- The size of the circle suggest how prominent that value is.

Charting – Subordinate Values

- **Assess subordinate values – those that are less common.**
- For each distinct value or group of similar values, draw a circle on the value staff at the position representing that value.
- The size of the circle should be roughly proportional to the first, large “dominant value” circle. That is, if the value you’re charting covers about half of the area covered by the dominant value, the new circle should be about 1/2 the size of the first circle.
- Continue until all of the major values are charted.

	Limited To	Dominant
Value		
Hue		
Chroma		

Scheme _____

“*Limited To*”

- Every color harmony involves a “limited palette.”
- This simply means that the designer intentionally *uses a small selection of colors*, rather than all of the colors that a designer could specify or apply.
- The table *restates* the information on the color wheel and value staff. There is nothing new here, we are only emphasizing a different aspect of the color structure.
- There is a row for each dimension of color.

	Limited To	Dominant
Value		
Hue		
Chroma		

Scheme _____

“Limited To”

- Hue row: *list all of the hues used in the color scheme.*
(R – red, RO-Red Orange, RV – Red Violet, V, BV, B, BG, G, YG, Y, YR (or O), RO...)
- Value row: *list the number of each of the values used in the scheme. 1 – Black... 9 – White, etc.*
- Chroma row: *list the chromas used (H = high, MH = middle high, M = Middle, ML = Middle Low, L = Low, N = Neutral).*

	Limited To	Dominant
Value		
Hue		
Chroma		

Scheme _____

“Dominant”

- Every dimension of the color scheme needs a foundation – we call this *the dominant*.
- A color scheme can have dominant *value*, a dominant *hue*, and a dominant *chroma*.
- The other values, hues and chromas provide contrast, and variety – they are subordinates and accents.

Dominant

Each cell in the “dominant” column should have **just one item** in it.

In the dominant hue cell, you list the hue that dominates.

In the dominant value cell, list the **number** of the dominant value(s) (it may be a group of 2 or 3 clustered values),

- In the dominant chroma cell, list the **H, MH, M, ML, L, or N** for the dominant chroma in the design.
- In general, the dominant is that which is most prevalent – there is *more* of it than anything else.

	Limited To	Dominant
Value		
Hue		
Chroma		

Scheme _____

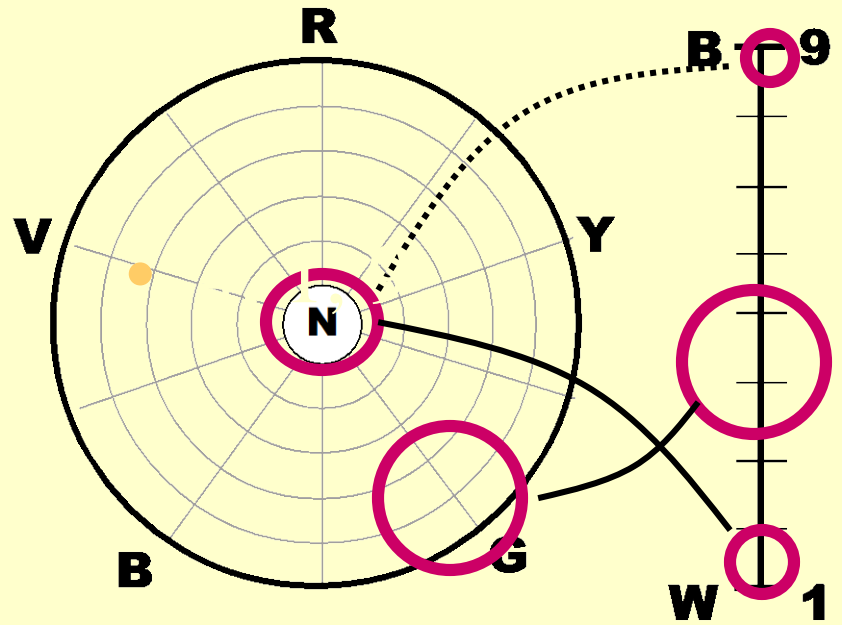
Dominant

- On your color wheel and value staff, the **dominants should be evident by the size and positions of circles.**
- You can add a dashed line to highlight the axis of the dominant hue and the dominant value.
- The dominant chroma requires looking for the circle of the color wheel that is most crowded – that is, the level of chroma that has the most circles on it.
- A dashed circle can highlight the dominant chroma level.

Milton Glaser, p. 158



a novel
**The Cook
Harry
Kressing**



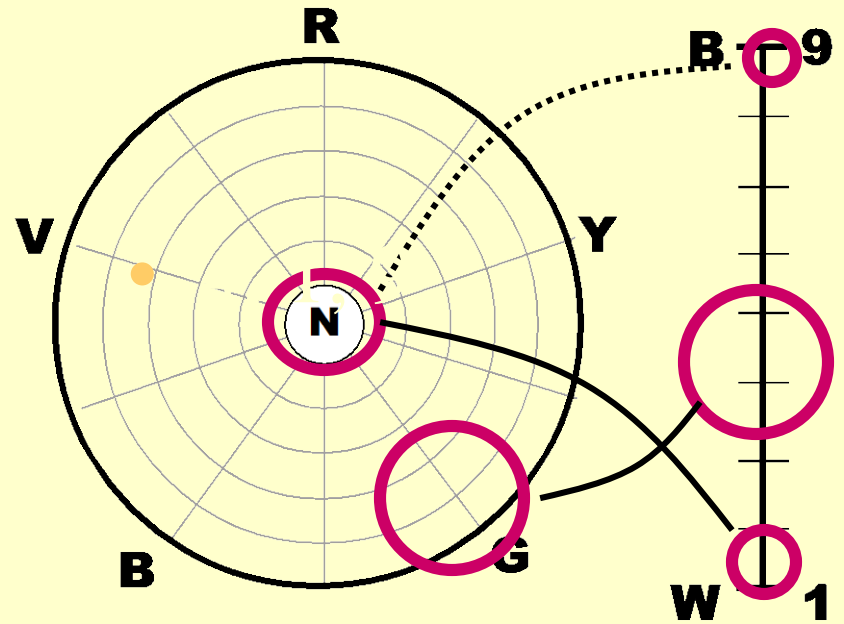
	Limited To	Dominant
Value		
Hue		
Chroma		

Scheme _____

Milton Glaser, p. 158



a novel
The Cook
Harry
Kressing

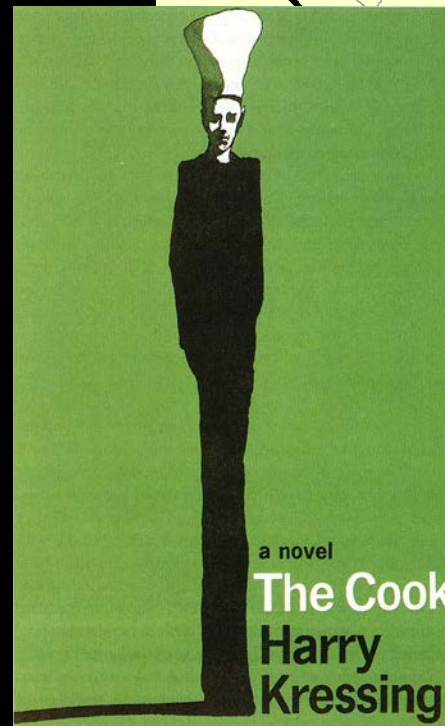
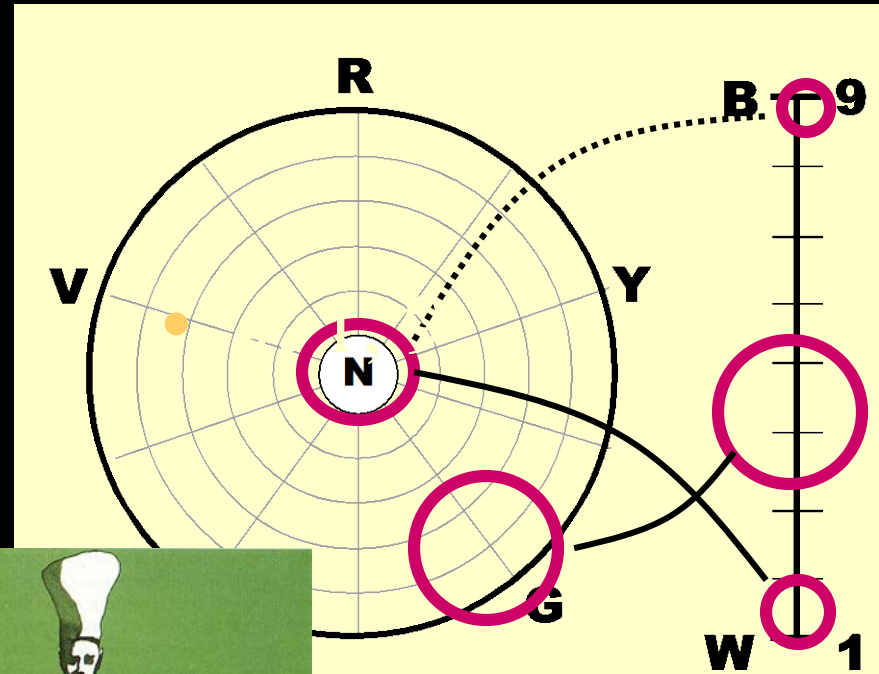


	Limited To	Dominant
Value	4, 1, 9	4
Hue	G, N	G
Chroma	MH, N	MH

Scheme Monochromatic

Color Harmony Charting

- Color Wheel - identify Hue and Chroma
- Value Staff - values used
- *Size of circles* indicates proportion



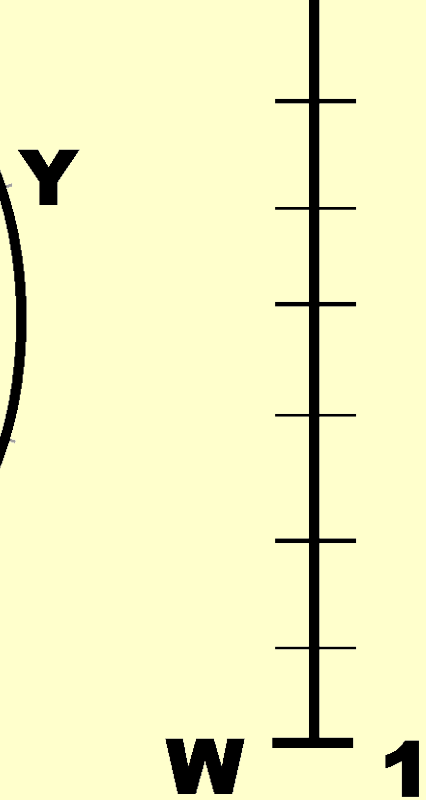
	Limited To	Dominant
e	4, 1, 9	4
e	G, N	G
a	MH, N	MH

e Monochromatic

	Limited To	Dominant
Value		
Hue		
Chroma		

Scheme _____

- **Limitations:**
typically a design uses only a “limited palette” of colors. Here we analyze the color traits used in the design.
- **Dominants:**
Typically a design will have colors that provide the foundation for all the other colors -- a dominant.



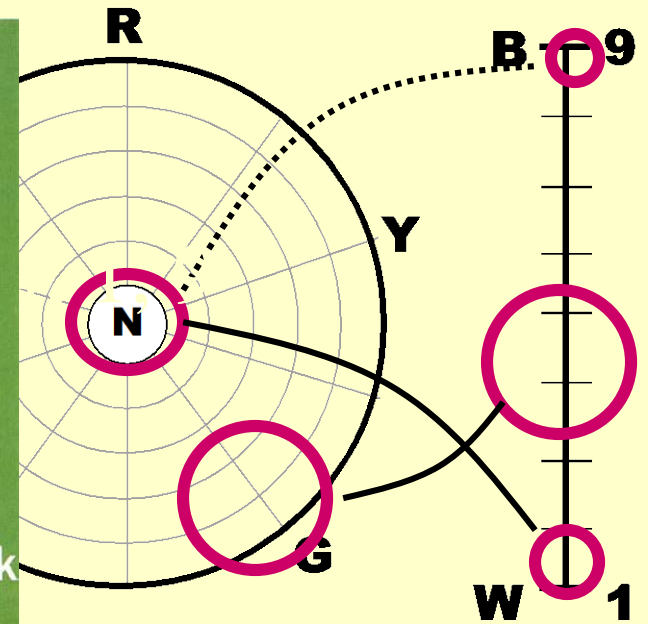
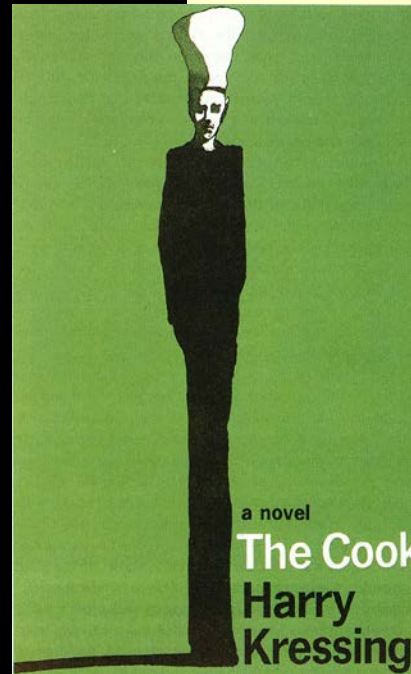
	Limited To	Dominant
Value		
Hue		
Chroma		

Scheme _____

- **Scheme:**
As we become familiar with more color schemes, we will name the scheme, or color structure, used to organize and select the colors used.
- Monochromatic, Complementary, Analogous, Triadic, Split-complement, Neutral, Color Saturation, etc.

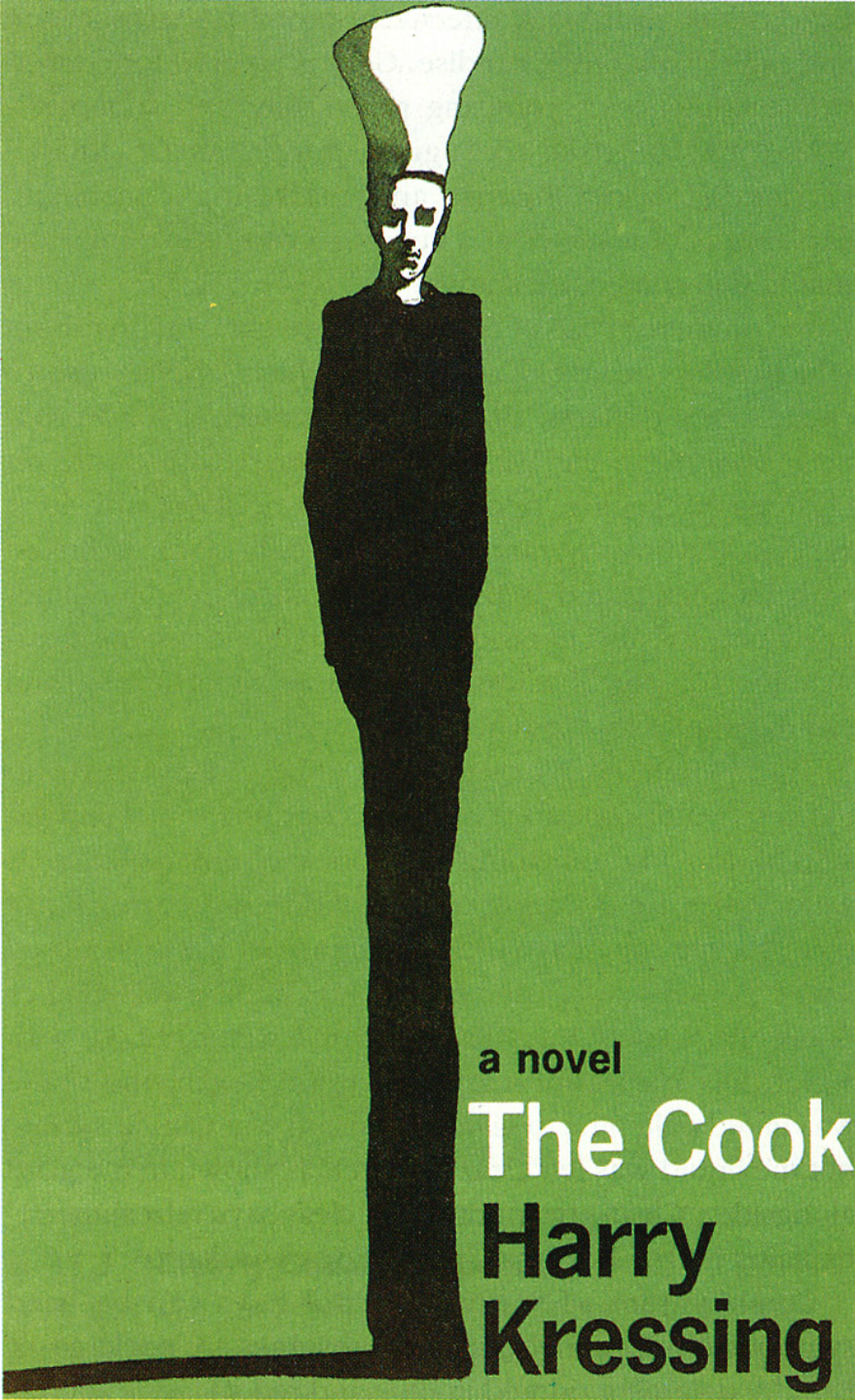
Color Harmony Charting

- Chart major colors only (10 max)
- Lines connect H/C with V
- Limitations: note colors *used*
- Dominant: note the *dominating* H, C, & V



	Limited To	Dominant
Value	4, 1, 9	4
Hue	G, N	G
Chroma	MH, N	MH

Scheme Monochromatic



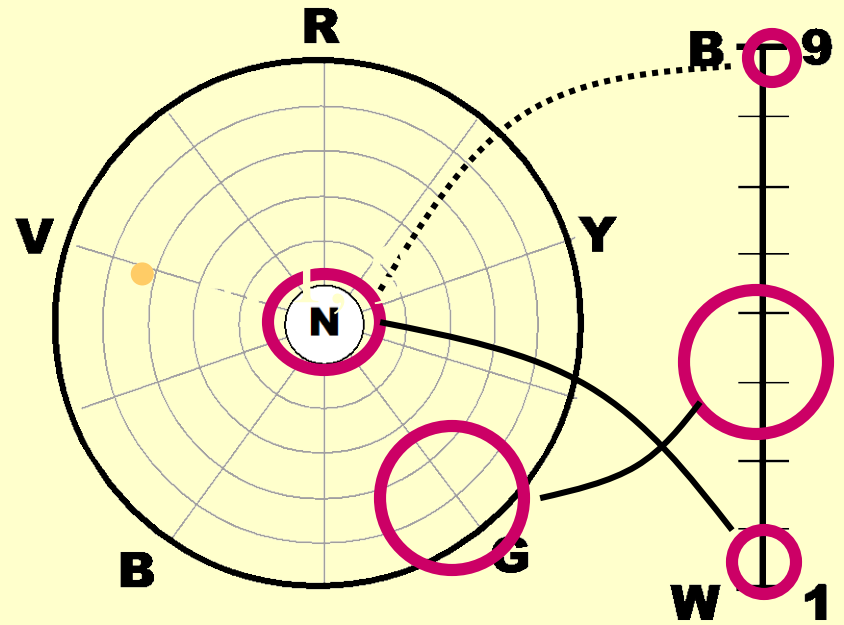
Milton Glaser, p. 158

- **Limited Palette**
- What hues are used here?
- What values are used?
- What chromas are used?

Milton Glaser, p. 158



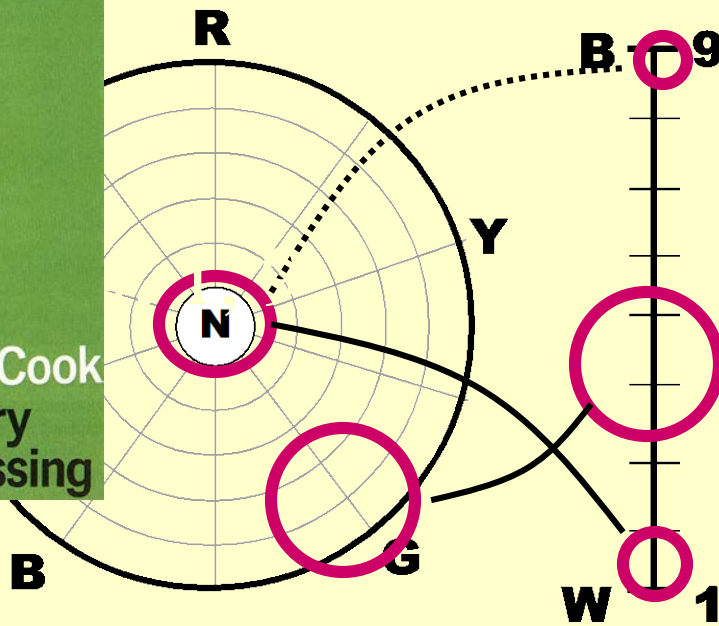
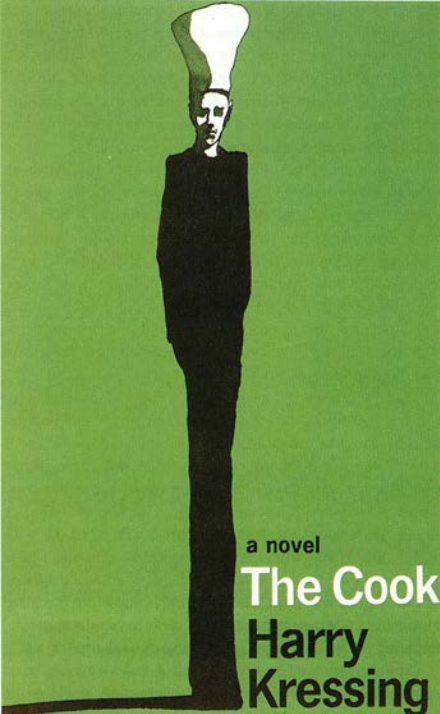
a novel
**The Cook
Harry
Kressing**



	Limited To	Dominant
Value	4, 1, 9	4
Hue	G, N	G
Chroma	MH, N	MH

Scheme Monochromatic

Milton Glaser, p. 158



	Limited To	Dominant
Value	4, 1, 9	4
Hue	G, N	G
Chroma	MH, N	MH

Scheme Monochromatic

Value: use numbers - 1-9 according to your value scale.

Hue: use initials for hues around the color wheel.

(R, RO, O, YO, Y, YG, G, BG, B, BV, V, RV)

N = Neutral

Chroma: H= High, MH = Middle High, M=Middle, ML= Middle Low, L = Low, N = Neutral.



Franz Kline *Scudera*
p. 152 *F10.19*



J.M.W. Turner
p. 120



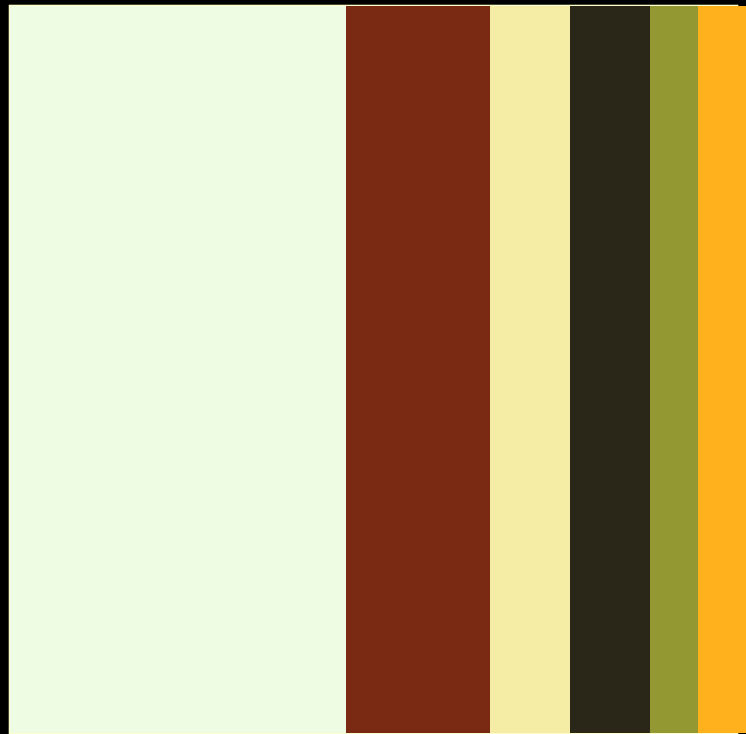
Asilomar poster
fig. 11.5 p. 165



ASILOMAR

T W E N T Y · E I G H T

S E P T E M B E R 2 2 - 2 4 · 1 9 7 8



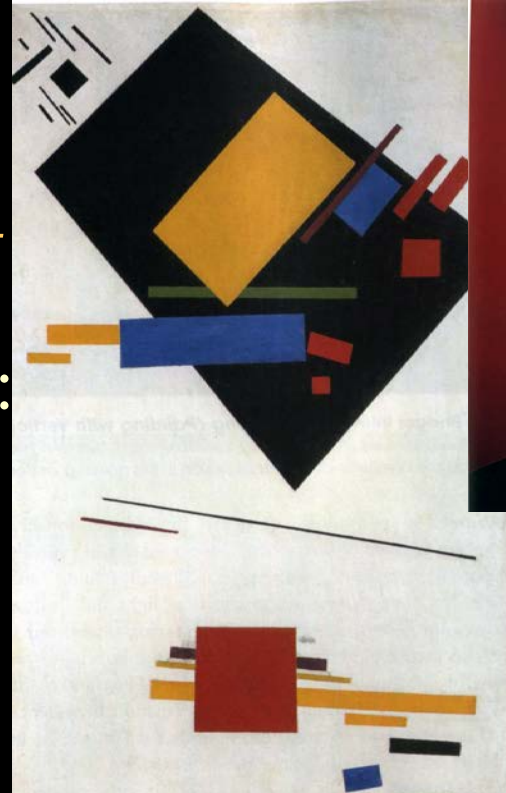
ASILOMAR

T W E N T Y · E I G H T

S E P T E M B E R 2 2 - 2 4 · 1 9 7 8


For Next Class: 2nd Charting Set

- Complete a color chart for:
- Fig. 9.3 (p. 123)
Vinothérapie Spa
- Fig. 5.8 (p. 56) Malevich
- Fig. 11.3 (p. 174) Infiniti
Ad



Transforms every drop of fuel into pure intensity.

The next-generation VQ VVE1 engine in the all-new G Coupe is the most advanced engine ever produced by Infiniti. It features a rather ingenious valve control system designed to unleash its class-leading 330 horsepower immediately. While using less fuel and producing fewer emissions, so you'll experience nothing but intense performance, no matter where your foot rests on the pedal. Learn more at infiniti.com.



The all-new 330-hp G Coupe. Intensity captured. INFINITI

Fig. 9.3 (p. 123)
Vinothérapie Spa



Fig. 9.3 (p. 123)
Vinothérapie Spa

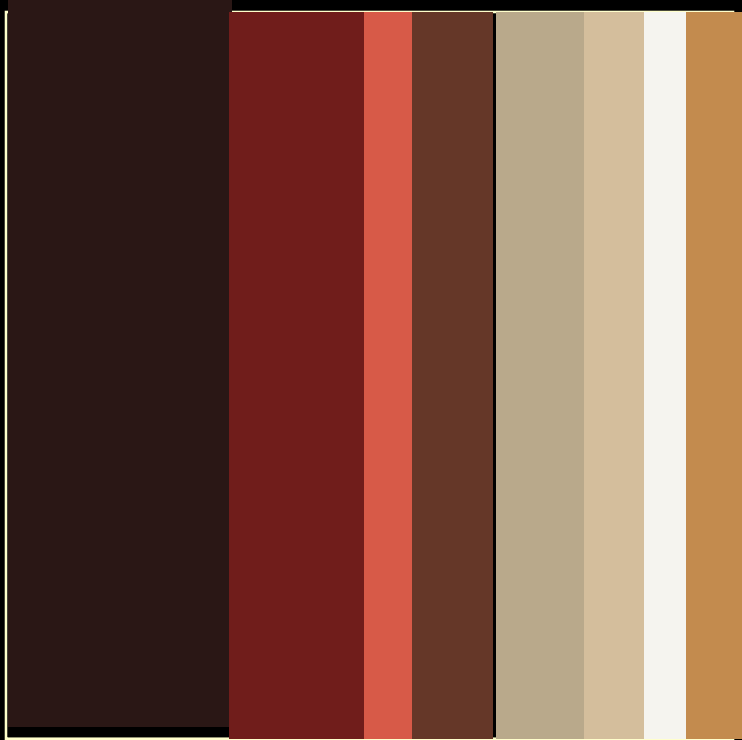


Fig. 5.8 (p. 56)
Malevich

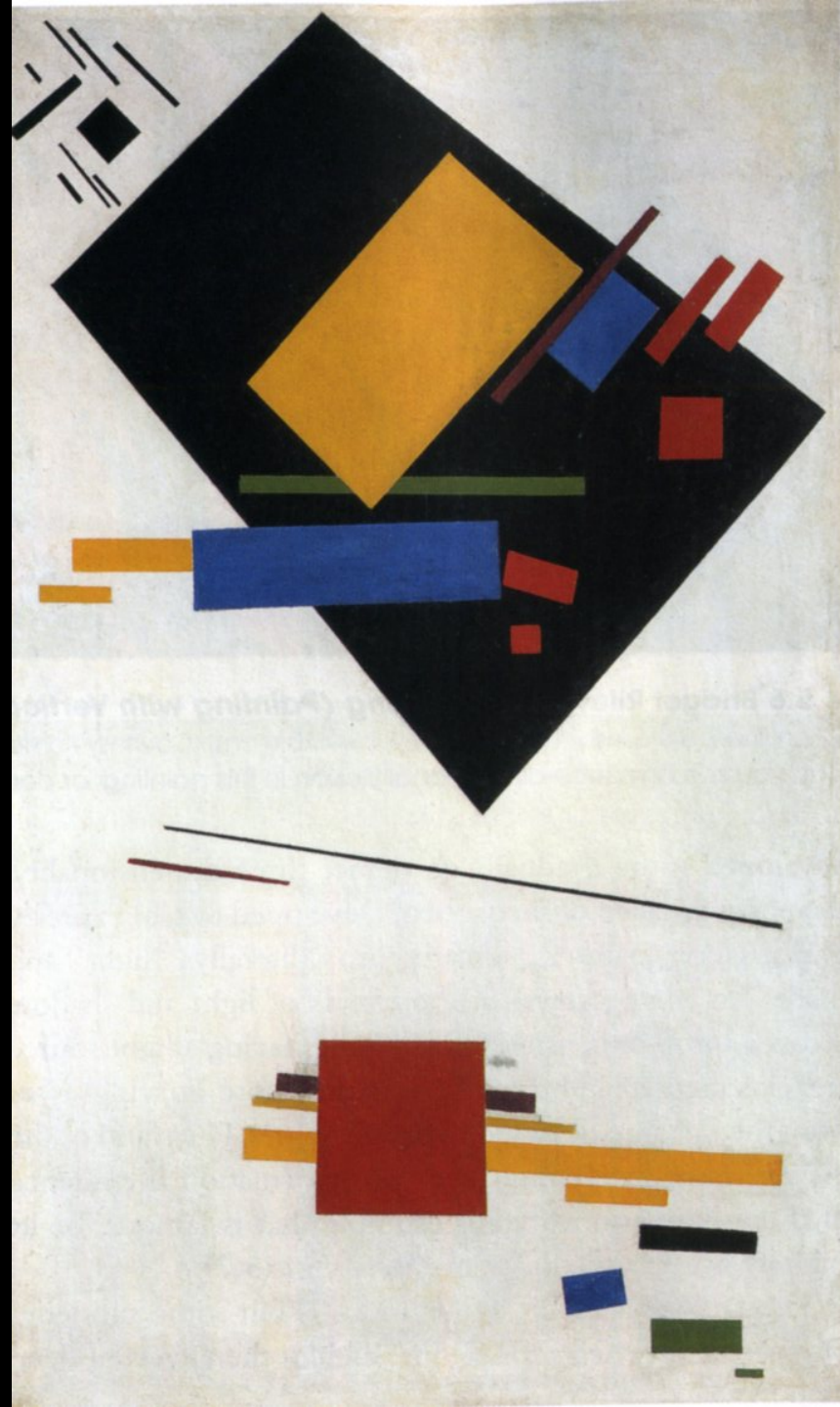


Fig. 5.8 (p. 56)
Malevich

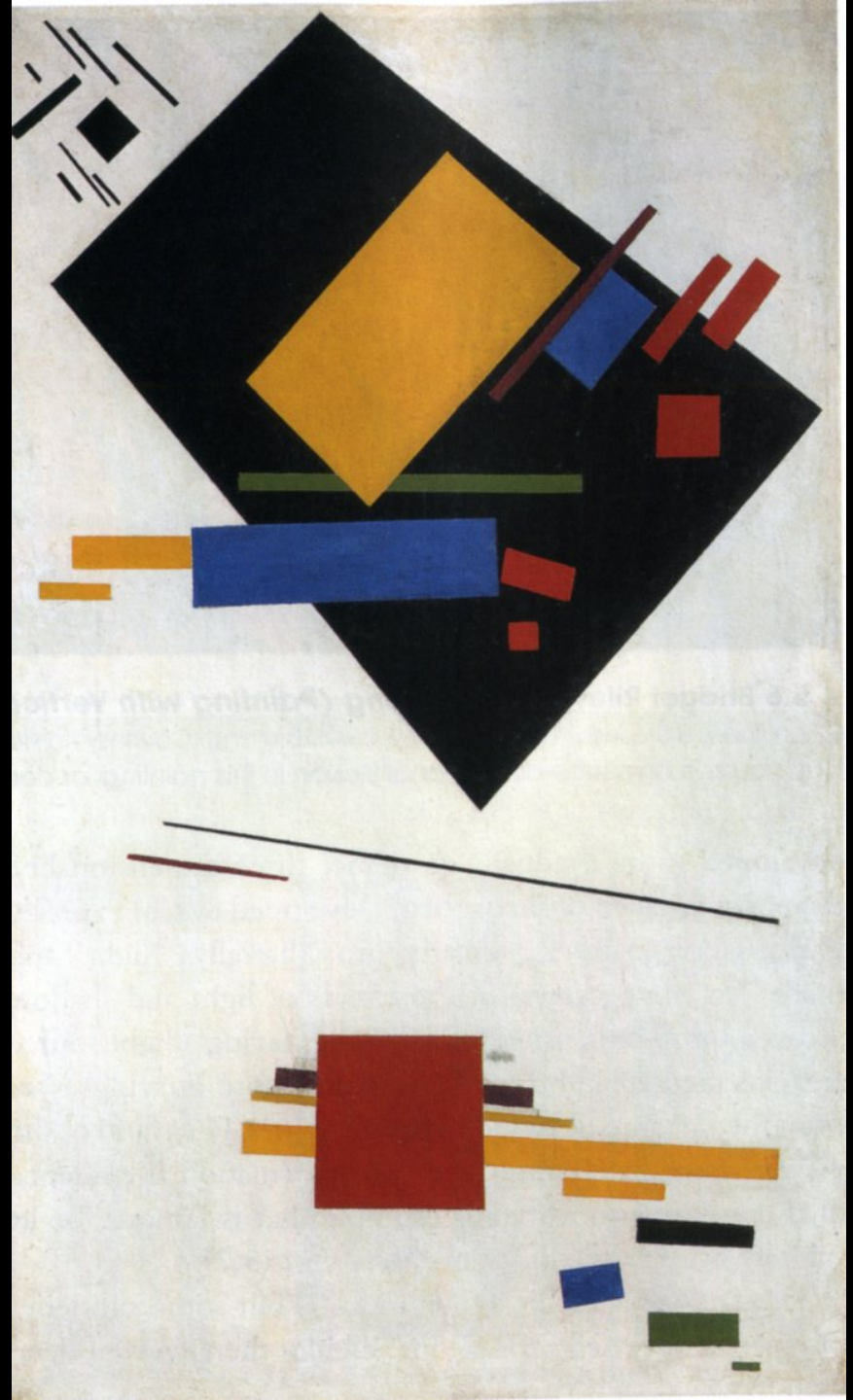


Fig. 11.3 (p. 174)

Infiniti Ad

Transforms every drop of fuel into pure intensity.

The next-generation VQ VVEL engine in the all-new G Coupe is the most advanced engine ever produced by Infiniti. It features a rather ingenious valve control system designed to unleash its class-leading 330 horsepower immediately.

While using less fuel and producing fewer emissions. So you'll experience nothing but intense performance, no matter where your foot rests on the pedal. Learn more at Infiniti.com.



The all-new 330-hp G Coupe. Intensity captured. INFINITI.

©2007 Infiniti. All rights reserved. Infiniti is a registered trademark of Nissan North America, Inc. All other trademarks are the property of their respective owners.

Ellinger – Color Structure & Design

- On reserve for this course in the library.
- See chapters 5 & 6 for intro to charting topics.

Local Color vs. Atmospheric Color



- Architects, Interior Designers and stage designers, especially, must distinguish between the colors that are specified, and the colors that the viewer sees.
- **Light, shadow, and surfaces characteristics alter color dramatically**, generally expanding the range of color in the design.
- When charting from an existing design, **chart what you see** – that is, look for the highlights, shadows, reflections and so forth. See what colors are created by the forms, shadows, surfaces and illumination...

Local Color vs. Atmospheric Color

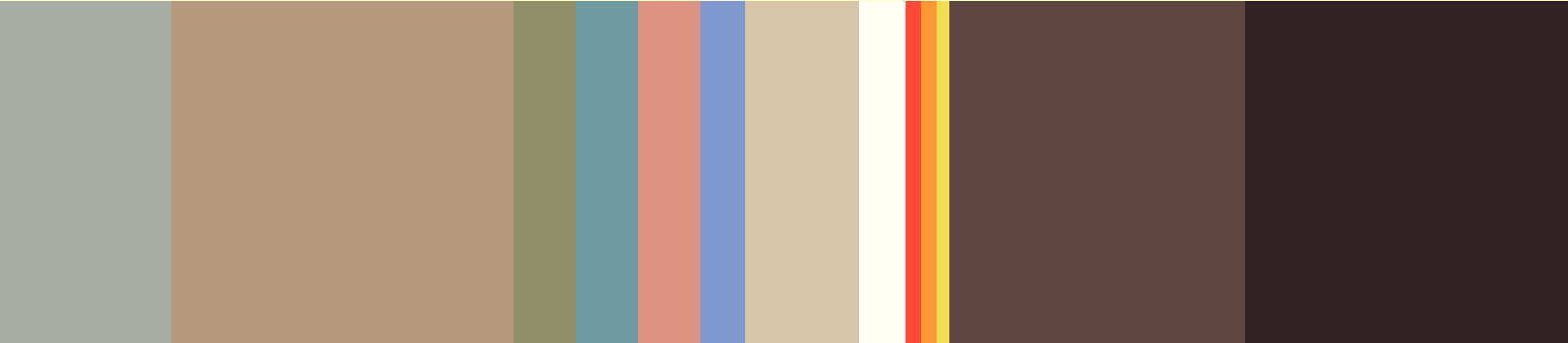


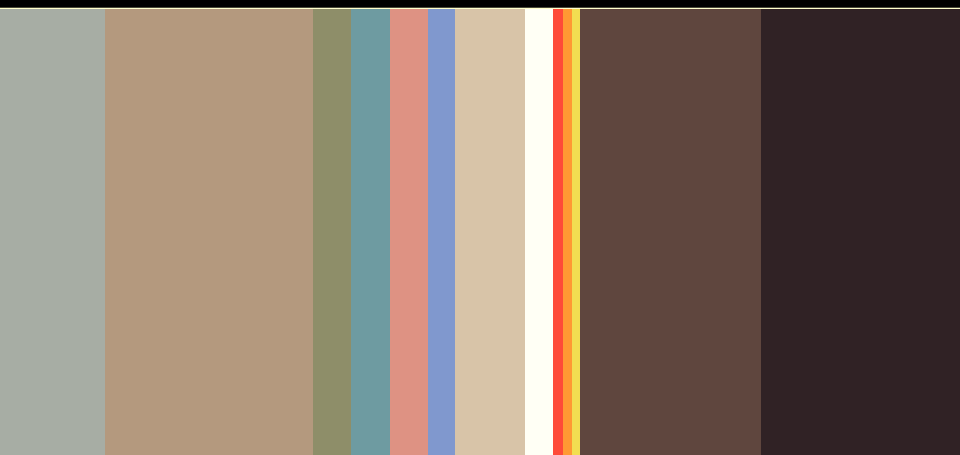
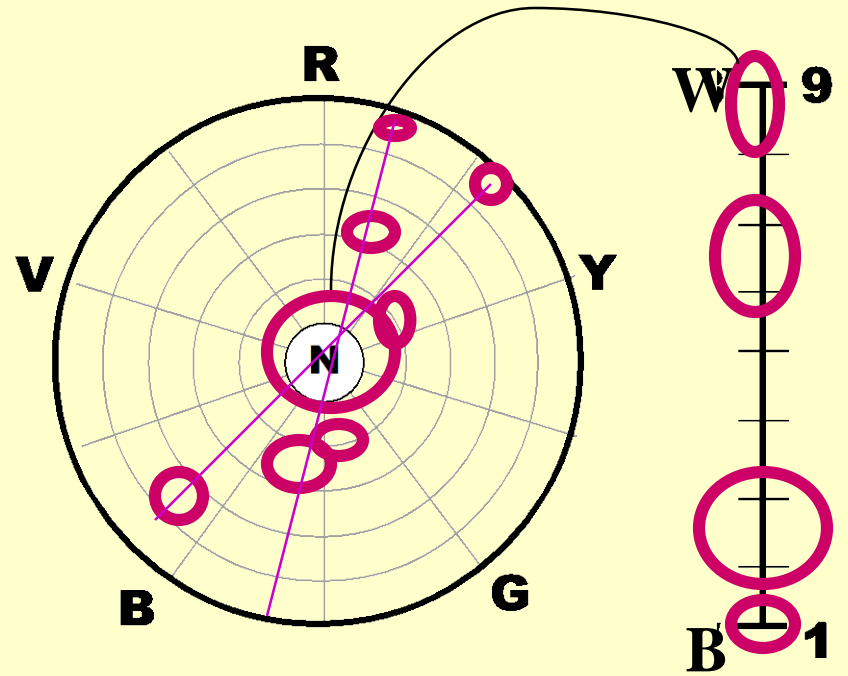
- ...Then proceed to assess the local colors – the colors of the surfaces, materials and paints used in the setting.
- Mark local colors in different colored pen/pencil so that local and atmospheric colors are distinguished.
- Usually there will be fewer local colors than atmospheric colors.





*Ortega -
House &
Pool p.
36*



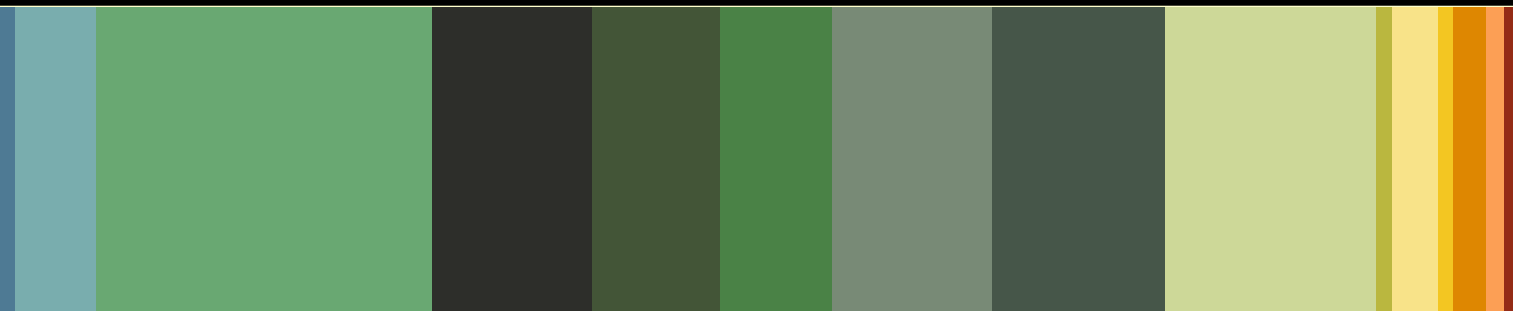


	Limited To	Dominant
Value	1,2,3, 6,8,9	2-3
Hue	R, BG, BV, Y, N	N
Chroma	N, L, ML, MH	N

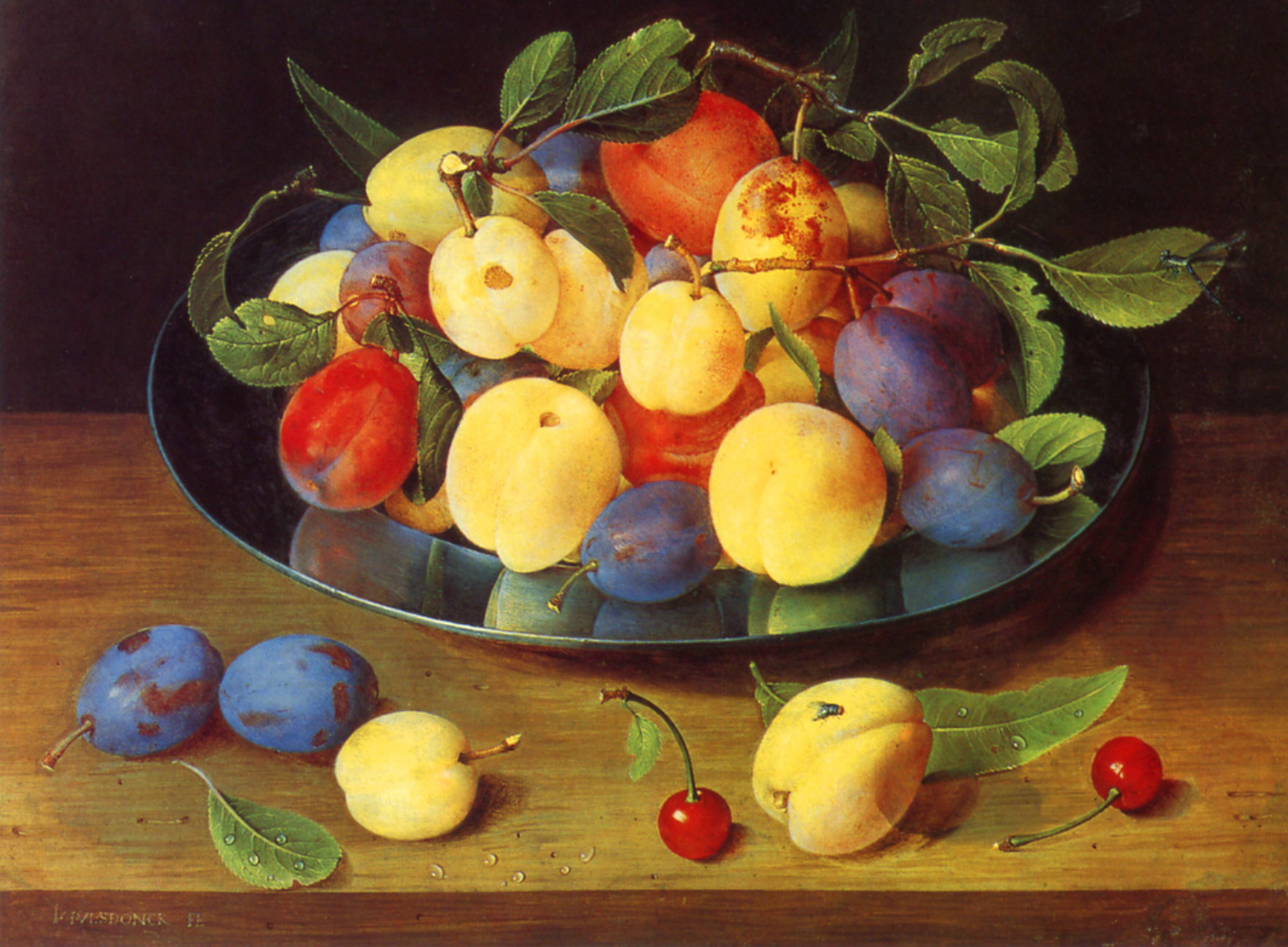
Scheme (Dbl Split Complement+)



Charles
Emile Heil
Lotus
F 9.7, p. 127

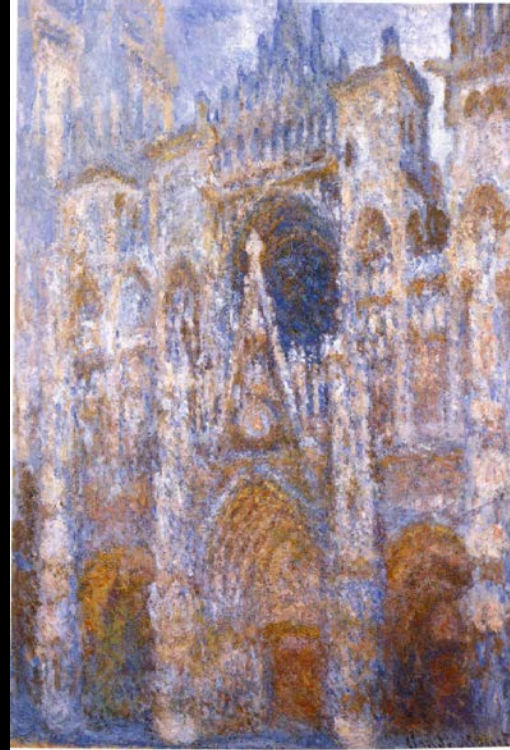


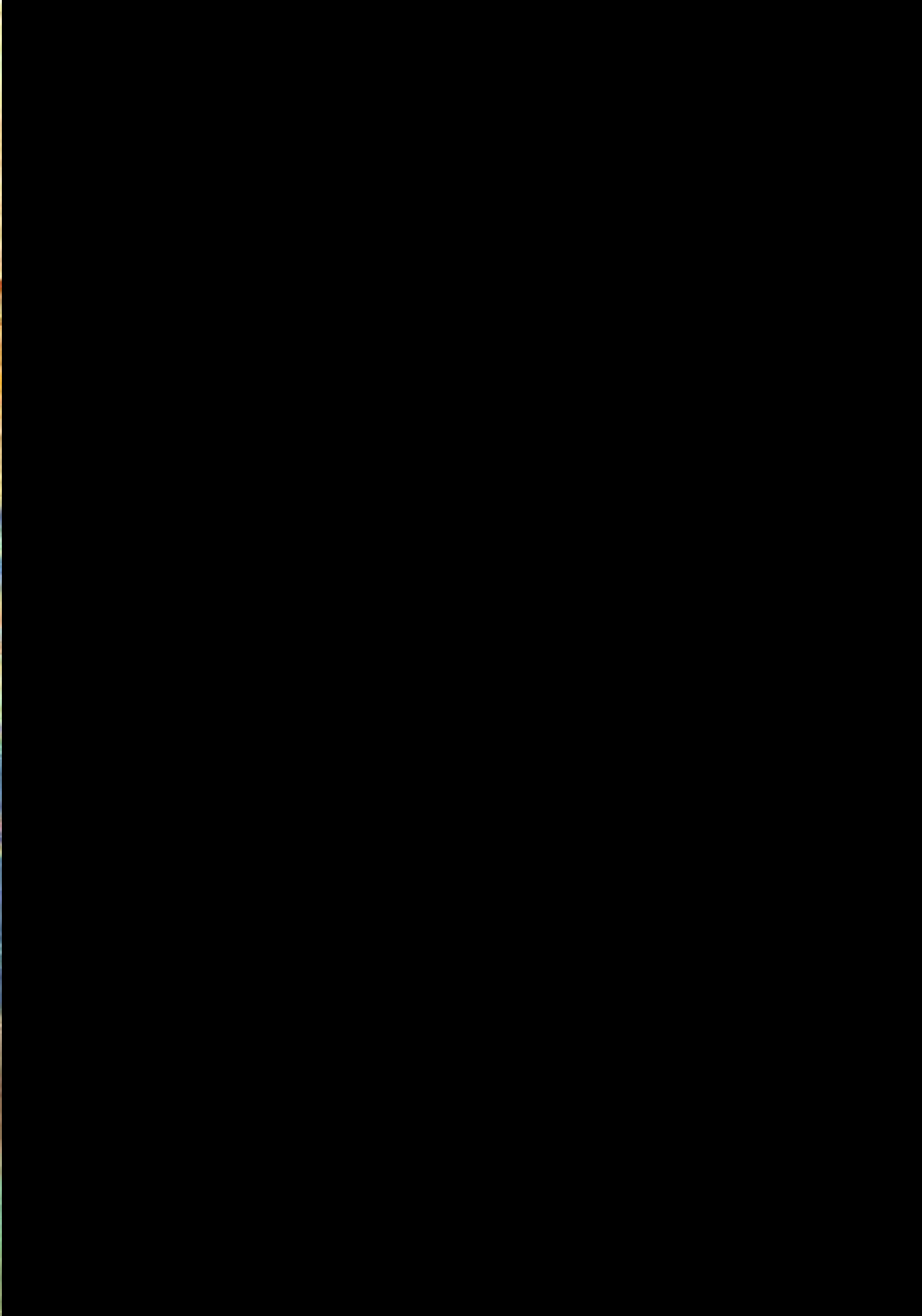
*Fig. 5.10 (p.
58) van
Hulsdonck*



For Next Class: (last) Charting Set III

- Complete a color chart including limitations and dominances for:
- Fig. 3.18 (p. 35) Monet
- Fig. 3.19 (p. 35) Monet
-
- Fig. 5.7 (p. 55) Leonardo
- Fig. 11.11 (p. 11.11) kitchen ad



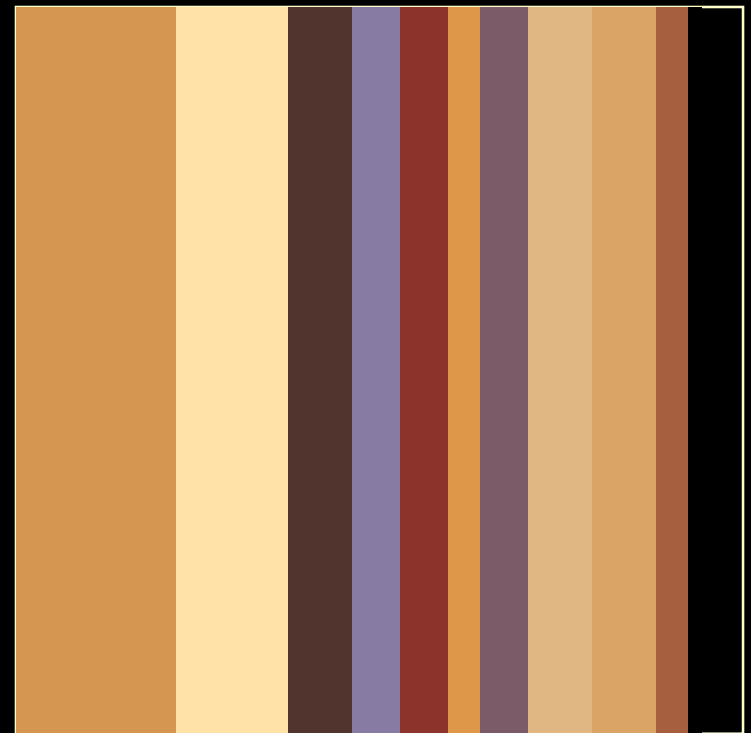




Monet p. 31

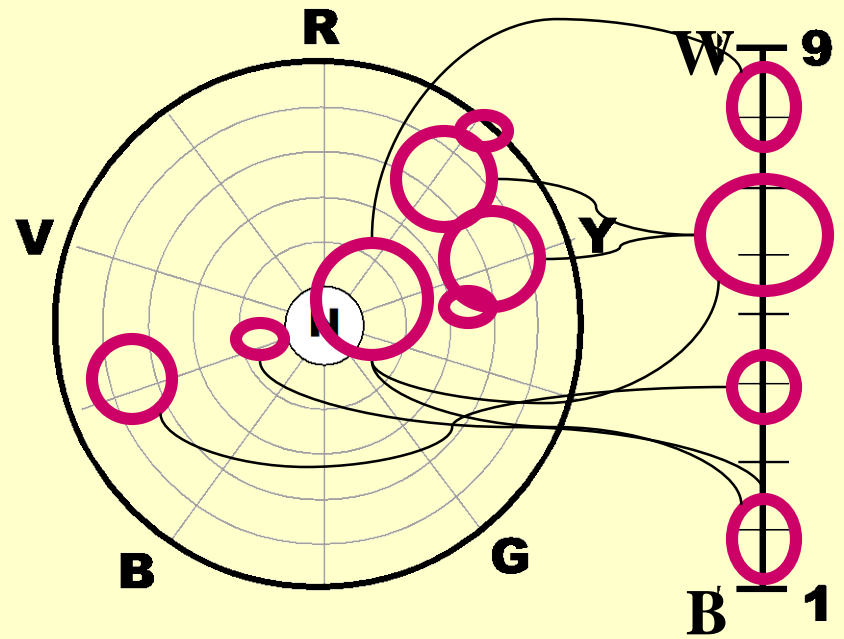


Monet p. 31





Monet p. 31



	Limited To	Dominant
Value	8, 6, 7, 2	6
Hue	Y, YO, BP	YO
Chroma	MH, M, ML	M

Scheme Split Complement

