DENNIS PUHALLA PhD
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College of Design Architecture Art Planning

COLOR

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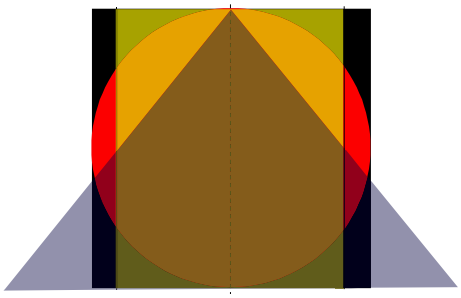
Autumn 2006

Syllabus



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goal

- To become visually sensitive to observed color phenomena

objective

- To free our vision from our subjective prejudices and our blinded sensibilities

philosophy

- Empirical knowledge is central to perception. Perception is the process by which we acquire information about the world around us using our five senses (Burnham, 2004). Sight, sound, touch, smell and taste are ways of representing and thinking about the world. From this epistemological orientation, Immanuel Kant is the foremost figure. From a Kantian philosophical tradition, it is representation that makes the object possible, rather than the object that makes the representation possible. Therefore, experiencing the world is dependent on a conceptual structure providing representational properties of experience. Reasoning connects the world we experience through structure. The rational structure of the mind reflects the rational structure of the world and of things-in-themselves. The human mind is an active originator of experience, rather than just a passive recipient of perception. As Kelly Ross explains, the human mind is a 'blank tablet,' perceptual input must be processed to be recognized or it would just be noise (Ross, 2004).

theoretical perspective

- The struct*ure of the color assembly invokes an image of the object that is constructed by the human brain – cognition – visual perception.*

- *Color exists exclusively as a sensory perception on the part of the viewer (Küppers, H. [1982]. The Basic Law of Color Theory. Woodbury, N.Y., Barron's).*

As between those who say that the external world is colored and those who say that the external world is not colored, the judicious choice is to agree with both. Ever 'so inclusively speaking' the external world is not colored. 'More or less inclusively speaking' the external world is colored (Lakoff, G. and M. Johnson [1999]. *Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought.* New York, Basic Books. p.25).

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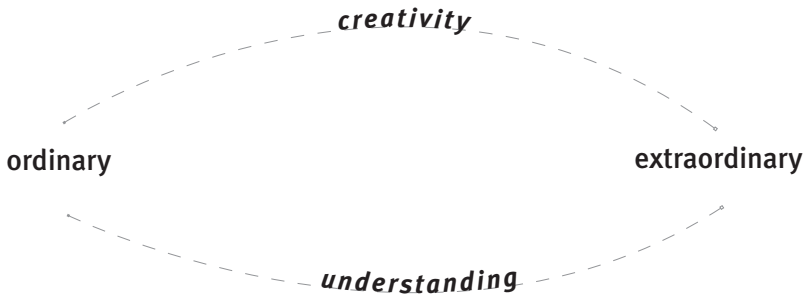
conceptual orientation

Quai que cosa qui e ordinario in la vita que non podeva transformare in lo extraordinario.

There is nothing in life so ordinary that it cannot be made extraordinary.

An Italian Proverb

concept map



design methodology

Grades Based Upon Design Mehtodology Factors:
competency of concept and image

exploration ..... generate multiple ideas
experimentation..... pursuit of one prominent idea
execution..... production of concept and image
evaluation ..... critical assessment of concept and image
elevate and enhance ... attention to detail
... transitions
.... connections
.... convergence
.... terminations

craft – precision, accuracy, cleanliness

work ethic – review work in progress; class participation;
assignments completed on time; attendance;
willingness to pursue idea

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Materials / Supplies / Equipment

foundation design kit

available at the DAAP Store or equivalent items available at Lance's

- Recycled Sketch Pad 14 x 17
- Bristol Vellum 19 x 14
- metal ruler, 18' cork backed
- tracing paper roll, 18 x 20
- #11 knife with safety cap
- blades for #1 knife (100 pk)
- retractable utility knife
- utility blades (5 pack)
- push-pins 3/4" (100pk)
- Brushes: 1" Aqualon wash
- or 1" flat, square tip brush, Grumbacher "Aquarelle"
- or Winsor & Newton #985 or Morilla #202
- #6 Royal Sable Round

paint

- Liquitex Basics Matt Acrylic Paint
- Primary Yellow 75ml.
- Primary Red 75ml.
- Primary blue 75ml.
- Light Green permanent 75ml.
- Cadmium Orange 75ml.
- Dioxazine Purple 75ml.
- Ivory Black 200ml.
- Titanium White 200ml.

drafting kit package

- *available at the DAAP Store or equivalent items available at Lance's*

lead Instrument Set 4 1/2" bow and 6 1/4" bow compass with extension beam
ruling pen | 6" friction divider | 10" adjustable triangle (or) 2 triangles, 45° and 30°/ 60°
drafting brush | engineers scale | 2mm leads H, B, 2B

additional supplies

- 30" metal T-Square
- Drawing board with metal edge 23 x 31
- grid paper large sheets divisible into 1/4" or 1/8"
- tracing paper 18" x 20" yd roll
- white matte board
- chip board medium weight 30" x 40"
- portfolio, inexpensive 18" x 24"
- heavy matte ink jet paper or Epson equivalent paper
- journal
- tackle box – check locker size
- scissors
- studio tack or permanent mounting adhesive – PMA
- paper towels
- band-aids

computer hardware / software

- computer, laptop (see program specific requirements)
- color printer (Epson or equivalent) preferred *Epson Photo R1800*
- software: Adobe PhotoShop
- Adobe Illustrator

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Syllabus Calendar

month	Monday	Tuesday	Wednesday	Thursday
September	18	19	20 Introduction	21 introduction
	25 studio assign monocromatic	26 studio assign monocromatic	27 discussion value scale . . . white/black	28 discussion value scale . . . white/black
October	2 studio	3 studio	4 studio	5 studio
	9 studio	10 studio	11 studio assign saturation	12 studio assign saturation
	16 discussion monochromatic	17 discussion monochromatic	18 studio	19 studio
	23 studio asign temperature	24 studio assign temperature	25 studio	26 studio
November	30 studio assign simultaneous con- trast + optical mix	31 studio assign simultaneous con- trast + optical mix	1 discussion saturation	2 discussion saturation
	6 assign contrast of extension	7 assign contrast of extension	8 discussion temperature	9 discussion temperature
	13 studio	14 studio	15 studio	16 studio
	20 studio	21 discussion optical mix contrast of extension	22 discussion optical mix contrast of extension	23 Thanksgiving no class
	27 portfolio preparation	28 portfolio preperation	29 portfolio review	30 portfolio review contrast of extension
December	4 exam week	5	6	7

Section 004 ..... Monday and Wednesday..... 12:00–3:00
Section 007 and 010..... Tuesday and Thursday..... 9:00–12:00..... 2:00–5:00

calendar Subject to changes at the Discretion of the Professor

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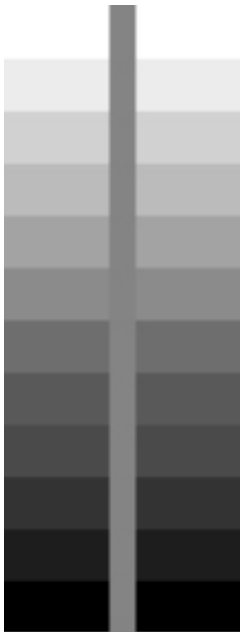
Value Study in White, Gray, and Black (Achromatic)



assignment

Begin this study by making a gray scale from white to black in 12 even progressions/steps. The transition from white to black should be as even a transition contrast as possible.

specifications

- size: 4 1/2" x 12": individual swatches are to be 4 1/2" x 1"
- study is to be mounted, centered on white board 7 1/2" x 15"
- after mounting this study select a middle gray from your study and mount a strip 1/2" wide down the middle of the entire scale

Materials:

- black and white matte acrylic paint
- Strathmore 300 Vellum
- White Matte Board

objectives

- to understand the first dimension of color that is value –
- value is defined as the relative lightness or darkness of a color
- development of sensitivity to subtlety in value contrast
- development of craft skills and knowledge of materials
- mix and select colors according to how they are to be perceived
- awareness of visual sensations of color interaction and hard and soft edge contrast

evaluation criteria

- paint is well mixed and each unit is a consistent color
- paint is consistent
- units are cut cleanly and at right angles
- white border is clean
- gray strip is straight, and no glue or mac-tac is showing
- good overall precision in measurement and gluing
- value change is consistent from chip to chip
- no edge stands out as different in light /dark contrast
- entire transition is constant
- middle gray strip is an approximate middle value

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Techniques: Painting

1 Allow yourself an appropriate amount of time for a work session. Expect to spend 2 – 4 hours for each segment of the project: painting, matching, assembling

2 Materials:
- black and white opaque matte acrylic paint
- paint brushes
- bristol paper
- mixing cups, large water cans
- paper towels
- scissors
- 18 inch metal ruler

3 Draw a grid of lines over several sheets of Bristol paper to make a series of rectangles that are approximately 3 x 5.

4 Squeeze approximately 10% tube of white into mixing cup, add water slowly stirring with the wide 1 inch brush until paint takes on the consistency of melted ice cream /egg nog.

5 Squeeze black into another mixing cup about 5% of the tube. Add water drop by drop, stirring with smaller brush until paint is thinner than the white, but not transparent. Do not add to much water.

6 Using large brush paint 1st white chip using horizontal motion be aware of the following surface qualities:
- paint too thick if – dry brush at edge, ridges in paint, texture in surface, cracks in paint
- paint too thin if – paint puddles, looks transparent, dries mottled in color, paper shows through paint

7 Using small brush, attempt to drop one-half (tiny) drop of the black into the white bowl. Using the large brush stir thoroughly until all marble-like veins disappear, resulting color should still look white, should not look gray. Paint a chip of this color next to the first one.

8 Repeat this step over and over, each time painting another chip which appears just slightly darker than the previous one.

9 When color becomes “middle gray” and it is taking more and more black each time to make the color change it is time reverse the process. If you begin to run out of paint there will be a tendency to want to add more water to extend the paint further. Too much water will thin the paint, make it more transparent, and actually result in a different type of gray once it is dry. Try to resist this temptation.

10 Clean brushes thoroughly before reversing the process.

11 Begin next process by painting a totally black chip and then slowly adding white drops to make gradually lighter and lighter chips until you have chips lighter than the ones you ended with in the first process. Black paint should be thicker than it was in the first process. White paint should maintain same consistency.

Most problems which occur later with color matching can be attributed to the lack of mixing enough values in the 5 – 6 – 7 value range.

Protect surface of dry units – as they have a fragile surface. Don’t lay anything on top of them or they will scratch or stain very easily. Water drops etc.

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Techniques: Comparing Values for the Gray Scale

12 Number each unit sequentially from white to black, beginning with the first white unit as 1.

13 Cut units apart with scissors, keeping them in order. Cut off the top of each unit just enough to remove white area

14 Lay units out in sequence with small amount of each unit showing

15 Make a selection of 12 units (including B/W) which depict a smooth transition in 11 steps between black and white.

16 Evaluate "edge-hardness" on the edge between each of the units, change some of your selections to new units in order to make the transition more consistent between each step between black and white This will take some time and should not be rushed because it is the most important part of the assignment.

17 After the 12 units are selected, paint several strips approximately 1" x 13" which are "middle gray". That is, visually half way between black and white, or the same value as #6, #7, or half way between the two. Putting the project together – Materials required:

- metal ruler
- X-Acto knife, extra pack #11 blades
- white matt
- surface to cut on
- mac tack/studio tack/PMA
- tracing paper
- 1/4" or 1/8" grid paper

18 Using adhesive, glue the final 12 units onto grid paper.

19 Cut white matte board to mount project $7\ ^{1}/_{2}$" x 15"

20 Lightly draw a rectangle centered on the board $4\ ^{1}/_{2}$" x 12"

21 Using metal ruler cut the top edge off of each unit along grid lines. Then measure down one inch and cut bottom edge of each unit.

- measure lines carefully
- make sure to make a vertical cut with knife blade
- conserve as much of each large unit as possible for future use

22 Glue the units together on another piece of grid paper

- butt the edges of the units together and glue down, making sure no white edges show
- L and R sides will still look irregular

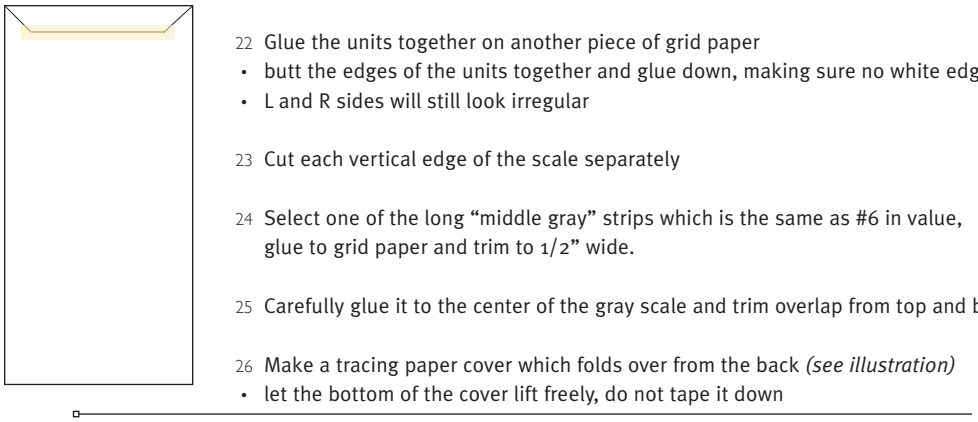
23 Cut each vertical edge of the scale separately

24 Select one of the long "middle gray" strips which is the same as #6 in value, glue to grid paper and trim to 1/2" wide.

25 Carefully glue it to the center of the gray scale and trim overlap from top and bottom

26 Make a tracing paper cover which folds over from the back *(see illustration)*

- let the bottom of the cover lift freely, do not tape it down



back of matte board

27 Put your name on back of project with marker, and in the lower left hand corner in pencil.

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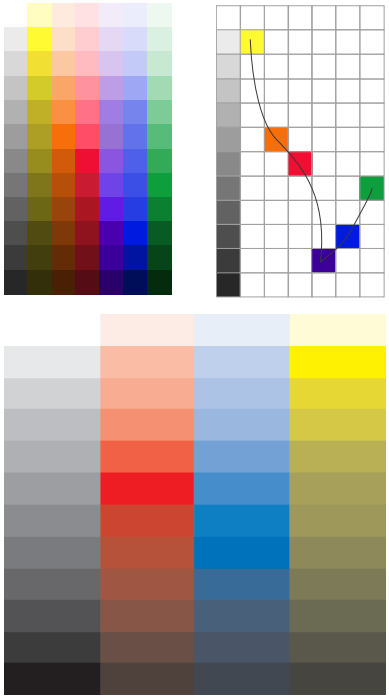
Monochromatic Value Scale

assignment



An exploration of the relationship between the attributes of hue, chroma and value using the primary or secondary colors of the spectrum.

After completing the gray scale, begin a final study of value in relationship to Hue. Using the paint and three (3) colors (primary or secondary harmony), find each pure color's true value on your scale. In other words, place it according to it's lightness or darkness. See Itten's Elements of Color, pp. 42, 43.

- Each scale will begin with a white color tint at the top, progress sequentially to a pure color, then to a shade color of black.
- Each of the pure colors will reside at a level in the value scale, according to it's "value" relative to the B / W value scale.
- Each vertical monochromatic column will border onto the next column
- Attempt to maintain consistent edge hardness across each horizontal row.

specifications

size: individual units to be 1" x 3" total image area 12" x 12 " centered on 15" x 15" white matte board.

Materials:
- Strathmore bristol vellum
- matte acrylic paint
- white matte board

objectives

- to understand the first dimension of color that is value – value is defined as the relative lightness or darkness of a color

evaluation criteria

- paint is well mixed and consistent color
- value change is consistent from unit to unit
- paint layer is consistent
- units are cut with precision
- white border is clean
- all edges are equal in dark to light contrast
- horizontal relationships are equal in value

digital assignment

complete the same study in Adobe Illustrator
unit size = .75 x 2.0 inches
output = Heavy Weight Matte Paper

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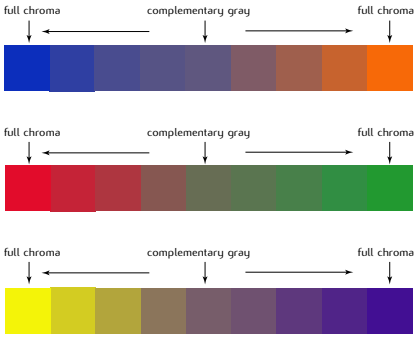
Saturation Study with Complements – Chromatic Saturation Study

assignment



This study deals with the second dimension of color, chroma. It is the quality of color by which we distinguish a strong color from a weak one; the degree of departure of a color sensation from that of white or gray; the intensity of a distinctive hue is a scientific measurement in light (physics) the brightness of a specific hue is a perceived phenomenon (psychology). Chroma also refers to saturation ("color-fullness" or "color-lessness").

Using complementary pairs develop chromatic grays in nine steps. Begin by mixing color complements. This is colors that are directly opposite each other on the color wheel. Some colors will have to be modified as they do not exist as true color complements used right out of the tube. Be sure to exhaust the possibilities and do not stop too soon while you're painting the units.

paint specifications

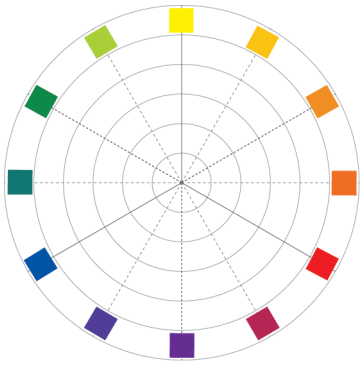
Using color units 1"x 3," develop a series of 3 color studies using color complements only. This is to be done in nine steps with the middle color being the neutral gray. You will have three studies to be mounted on one white matte board 15"x15". Leave 1/2" between each row of pairs. Image area of this study will be 9" x 10."

objectives

- to understand the difference between the term achromatic (black and white) and chromatic gray
- ability to discriminate between the color attributes of intensity,
- saturation, value, and temperature in the assessment of the saturation of a color
- understanding complementary colors and the complimentary effect
- understanding the attributes of analogous color harmonies
- awareness of how to modify colors
- understanding of color harmonies
- to be able to identify true color complements and develop the ability to modify colors correctly.

evaluation criteria

- paint is well mixed and each unit is a consistent color
- units are cut cleanly with a constant edge on all sides
- white border is clean and free from glue and finger prints
- good overall precision in measurement and gluing
- the chosen hues are fully saturated
- the units within each scale are evenly graduated in saturation and value



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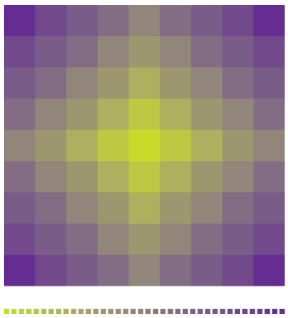
Saturation Study with Complements – Chromatic Saturation Study



assignment

Using complementary pairs develop chromatic grays in nine steps. Begin by mixing color complements. This is colors that are directly opposite each other on the color wheel. In order to create evenly graduated contrasting colors, make a blend from the fully saturated colors in 36 steps using Adobe Illustrator. In Illustrator, find complements that will in fact produce gray.

digital specifications

- Color units will be .888 inches square. Each series is to be done in nine steps with one complement in each corner and the other complement at the center. The steps in between are blends of the two. One studiy mounted on 15x15 white matte board. Image area of this study will be 7.992 inches square. Print study on heavy weight matte paper.

objectives

- to understand the difference between the term achromatic (black and white) and chromatic gray
- ability to discriminate between the color attributes of intensity, saturation, value, and temperature in the assessment of the saturation of a color
- understanding complementary colors and the complimentary effect
- understanding the attributes of analogous color harmonies
- awareness of how to modify colors
- understanding of color harmonies
- to be able to identify true color complements and develop the ability to modify colors correctly.

evaluation criteria

- units are drafted cleanly with a constant edge on all sides
- white border is clean and free from glue and finger prints
- good overall precision in measurement and gluing
- the chosen hues are fully saturated
- the units within each scale are evenly graduated
- in saturation and value

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Saturation Study with Gray – Achromatic Saturation Study

assignment

This study deals with the second dimension of color, chroma. It is the quality of color by which we distinguish a strong color from a weak one; the degree of departure of a color sensation from that of white or gray; the intensity of a distinctive hue is a scientific measurement in light (physics) the brightness of a specific hue is a perceived phenomenon (psychology). Chroma also refers to saturation ("color-fullness" or "color-lessness").

Develop a series from the pure hue to the 50% in 9 equal steps, altering the value and saturation of the color. Using the same 50% gray and three different full chroma hues, develop three separate studies, placing them from top to bottom in the following order:

1. The hue is lighter in value than the 50% gray.
2. The hue is the same in value as the 50% gray. (value is not altered)
3. The hue is darker in value than the 50% gray.

digital image specifications

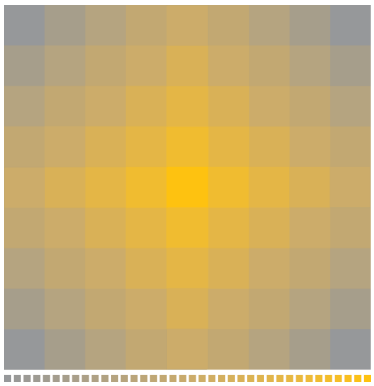
- Color units will be .888 inches square. Each series is to be done in nine steps with a the same 50% gray on each corner and a pure color at the center. The steps in between are blends of the two. Three studies mounted on 15x15 white matte board. Image area of this study will be 7.992 inches square. Print study on heavy weight matte paper.

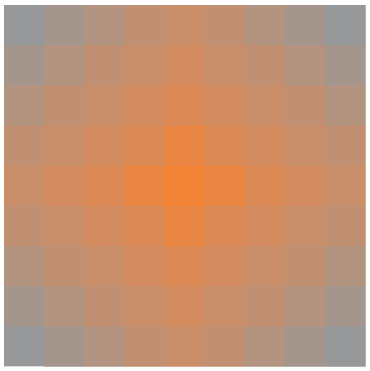
objectives

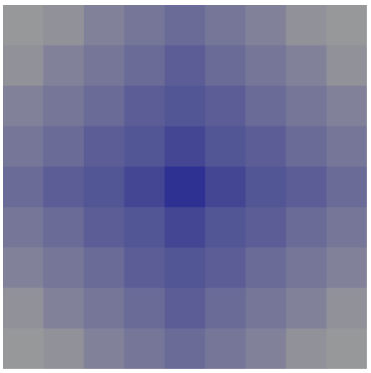
- to understand how to alter value of color without changing its saturation
- ability to discriminate between the color attributes of brightness (intensity), saturation and value, in the assessment of a color relationships.

evaluation criteria

- units are evenly graduated in saturation and value contrast
- units are cut cleanly with a constant edge on all sides
- white border is clean and free from glue and finger prints
- good overall precision in measurement and gluing
- the chosen hues are fully saturated
- the chosen hue of one color is the same value as gray #3
- the chosen hue of one color is a lighter value than gray #3
- the chosen hue of one color is a darker value than gray #3







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Hue/Saturation/Value/Temperature Modification Study

assignment

An exploration of the relationships between the attributes of value, saturation, and temperature–hue.

Select a four colors (two warm and two cool) that are absolutely or relatively different in color temperature. Search for an extraordinary color combination. The four colors must be the same in value and similar in saturation. Place the warm and cool colors in opposite corners.

Modify the colors by blending either vertically or horizontally.

specifications

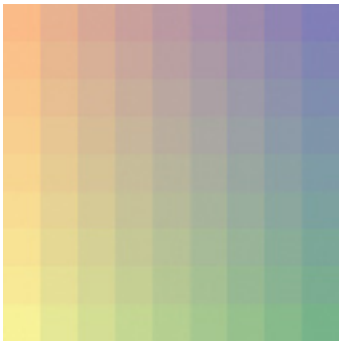
- 15" x 15" white matte board
- The Hue/Value/Saturation/Temperature Study will be approxi-
- mately 8 3/8 x 8 3/8
- Each square within the matrix is .888 x .888
  The matrix is to be centered on the white matte board.

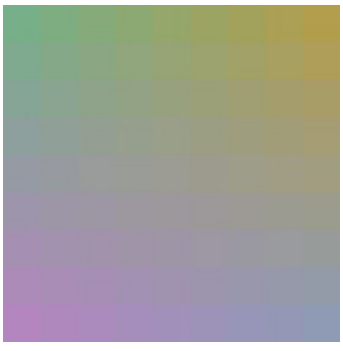
objectives

- introduction to aspects of warm/cool contrast
- introduction to aspects of value in relation to saturation
- discussion of color notation systems and theories
- color mixing in digital media
- development of sensitivity to subtlety in differences of value, chroma, and saturation
- development of knowledge of digital applications for development of color
- development of knowledge of digital techniques for selection and fill of specified areas
- mix and select colors according to how they can be perceived relative to their environment
- awareness of visual sensations of color interaction

evaluation criteria

- parent colors contrast in temperature
- controlling the hue, value, saturation, temperature changes
- blends are consistent in contrast from unit to unit
- no edge or cluster of units stand out as different





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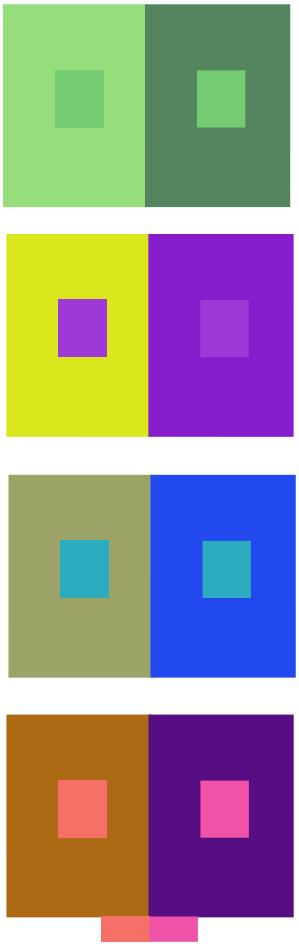
Application of Color Theory – Simultaneous Contrast



assignment

Each hue simultaneously generates its complement. The result is a visual phenomenon in which the biological characteristics of the human eye instinctively produces the complementary color as a visual after-image. This phenomenon is sometimes referred to as the "negative after-image."

Visual exercise: focus attention on 1 field of color for approximately 30 seconds; shift visual focus to a white field.

Analytical comparison of one color figure to 3 different color grounds. Develop a color interaction sequence in which a single color is visually modified in the following manner:

1 Value – Visually change one color figure to appear lighter and darker in value than the field of color.

2 Saturation – Visually change one color figure to appear saturated and less saturated in the field of color.

3 Temperature – Visually change one color figure to appear warmer and cooler in the field of color.

4 Subtraction – Select 2 different figure colors and visually give them the appearance of "sameness" using 2 different color fields.

specifications

- presentation for the completed project will be heavy weight matte
- mounted on white matte board 7 1/2" x 7 1/2"
- each color field to measure 2 1/4" x 3"
- each color figure to measure 3/4" x 1"
- figure and field: digital assignment

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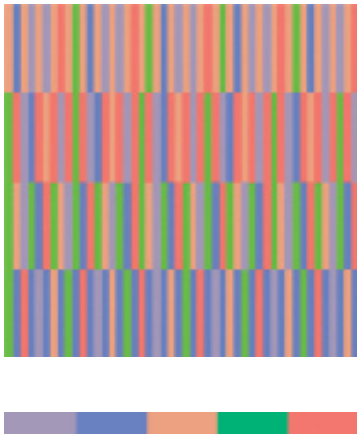
Perceived Color Mixing – Optical Color Mix

assignment



This is a study to analyze the effects of one color upon another due to relative positioning and proportion. This study is concerned with the principles and concepts presented by Josef Albers in Interaction of Color.

Select 5 colors from the information learned from the exercises above and the other previous studies done this quarter. At least one pair must have edges which vanish (that is, different in hue, but similar in saturation and value.) The other three must contrast in some way, but all should have some aspect of similarity (hue, saturation, value, temperature, etc.)

Investigate the organization of the colors and push for the maximum amount of optical color change possible. Problems arise in ordering and sequencing. There are many ways to go about organizing this sequencing of color. Determine the sequence and repetition of color. Consider the rhythm set up by the color sequence.

specifications

- each of the 5 colors must be used in appropriate
- amounts to evoke an optical color change.
- each of the strips must contain all 5 colors
- each color unit will be 1/8" x 1/2"
- each band or strip will be 2.5" x 10" and the total image area will
- be made up of four of these bands for a final image area of 10" x
- 10" mount on 15" x 15" white matte board
- a separate 1/2"x 10" strip will be presented to show a unit
- of each of the 5 original colors. Each of the 5 color strips will be
- 1/2" x 2" and centered on the bottom edge of the 15"x 15" white
- matte board.
- All units must be parallel
- no one color may be positioned next to itself.

Materials:
- heavy matte ink jet paper
- studio tack or PMA adhesive
- white matte board

objectives

- make each band have a different color presence
- make each color change from one band to the next
- create an overall surface continuity to the color bands

evaluation criteria

Color:
- each horizontal band depicts a distinct color presence
- the four bands share an overall unity
- there should not be a repeat of any color mixture on two bands

Craft:
- consistent size and placement of color intervals
- precision in measurement, color placement and presentation

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Application of Color Theory – Contrast of Extension

Exploration of the comparative color realtionships of proportional surface area within a color harmony.


proportional distribution


original scan

Stage One – Collect leaves of varying shapes and sizes. Begin this series by analyzing the leaf or leaves and begin to look for color paper that will enhance the color of that leaf or leaves. Magazine photos and a variety of other types of paper are encouraged. The color used should enhance the leaf. These should be looked at as studies in both shape and color, enhancing the quality of the leaf. Do not camouflage the leaf with meaningless color and shapes.


value constant

Stage Two – After completing several studies select one - *this study does not need to be mounted.*


hue constant

Stage Three – Digitize the compostion and develop five digital images as follows:

1 Produce a digital image as an accurate representation of the original composition.
2 Develop a proportional distribution of 5 to 7 colors in vertical sequence.
3 Manipulate the value of the colors to be similar (lightness/darkness).
4 Maintain contrast through hue (color family/temperature) and chroma (brightness/saturation).
5 Manipulate the hue of the colors to be similar in hue family.
6 Maintain contrast through value and chroma.
7 Manipulate the chroma of the colors to be similar.
8 Maintain contrast through value and hue.
9 Conventional Harmony Composition. Justify your rationale for the color decisions based upon objective criteria found within a conventional harmony.


saturation constant

The final presentation will include 7 images. Each study must represent a color harmony based upon the manipulation of hue, value, and chroma. Shapes used should enhance the leaf through contrast and similarity. Size or image area will be determined by the shape and size of leaf itself, but must be rectangular in form (one may demand a square image area and another may require a rectangular shape). Center image on a 7 1/2" x 7 1/2" paper. The boarder may be white, gray or black. The presentation for the completed project will be photo quality gloss mounted on white matte board 7 1/2" x 7 1/2."

- to bring together all the color concepts studied this quarter.
- each of these studies is a focus on the varying color harmonies.
- to develop a statement about color related to other forms: the leaf.


split complements

- Color: each study must be a restrained presentation of color theory principles / the leaf maintains identity in the composition / other shapes and colors do not overwhelm or camouflage the leaf / shapes do not take on a literal connotation, rationale for color choice

- Craft: precision in measurement, color interpretation and presentation

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Terminology

Aa

- alternating - to change from one to another repeatedly
- ambiguous - having more than one interpretation
- asymmetry - designating an unequal spatial arrangement
- axis / image area axis - the primary visual angle or direction in a composition, movement of the eye within the image area
- axis / geometric - the primary mathematical division of the image area

Bb

- balance / visual - the arrangement of parts in a grouping that creates perceived equilibrium
- balance / physical - the arrangement of parts in a grouping that creates equality in weight, force, quantity, etc.

Cc

- closure - the tendency of the eye to "complete" elements into a simply structured whole, implied by inference, non-literal representation of shape, the tendency of a viewer to close or visually complete a form or figure from which some visual information has been deleted
- composition - the arrangement of disparate elements into a visual 'whole'
- concave - hollowed or rounded inward like the inside of a bowl
- concept - an idea, thought, theory, or notion conceived in the
- mind.
- continuity - a relationship between visual elements which directs the viewer's eyes to move through the composition and to per-
- ceive the association
- contour - the outline or outermost edge that defines a shape
- contrast - the degree of difference between dissimilar elements in a composition, a condition achieved by the placement of one or
- more elements in opposition to each other
- convex - curved or rounded outward like the exterior of a sphere
- curve / regular - circle, the trajectory of a curve that changes direction at a constant rate around the center of an axis of rotation
- curve / semi-regular - ellipse, the trajectory of a curve whose radius increases or decreases at a constant rate around the center of an axis
- curve / variable - a trajectory that combines regular and increasing curves.

Dd

- direction - the visual sense of movement resulting from the
- orientation, position and arrangement of shapes within a format
- dynamic - a clear sense of energy and movement through the composition

Ff

- focal point - area of a composition which commands greatest visual attention, dominant visual force within the image area (subordinate focal points exist also)
- format - image area, parameters of the compositional surface area

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Terminology

Hh

- harmony - a combination of parts into a proportionate or orderly whole, visual agreement of color, size, shape, etc., congruent arrangement of parts

- hierarchy - any system of persons or things (colors) ranked one above another. Linguistics. the system of levels according to which a language is organized, as phonemic, morphemic, syntactic, or semantic.

Ii

- implied - refers to closure, the tendency of the eye to "complete" elements into a simply structured whole, implied by inference, non-literal representation of shape
- increasing - a systematic enlargement or addition in size, or quantity
- intermittent - occurring or appearing in an interrupted sequence
- intersecting - to pass through or across
- interval - time between, space between

Ll

- legibility - capable of being read or deciphered
- line - path of a moving point, having only one dimension

Pp

- parallel - extending in the same direction
- perceive - realize, become aware through the senses
- perpendicular - being at right angles (90º) to a given line or plane
- plane - a flat surface which wholly contains a straight line and/or curved line joining two points lying on it, a self contained flat shape
- point - dot, something having position in space, but no size or shape
- polygon / regular - geometric planes with equal sides and equal angles, (square, pentagon, equilateral triangle, octagon, hexagon, etc.)
- polygon / semi-regular - geometric planes with contrasting sides and angles, (Isosceles triangle, rectangle, parallelogram, trapezoid)
- positive/negative space - positive refers to an element which occupies space, negative refers to the space surrounding the
- positive element
(generally the black part = positive / white part = negative)
- proximity - the distance between elements., elements that are nearer to each other in a composition will be seen as belonging together
- proportion - the comparison surface areas within the total form

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Terminology

Rr

- ratio - the quantitative relationship of elements compared in terms of a common feature
- random - lack of visual relationships or systematic arrangement in the composition

Ss

- sequence - a numerical/mathematical ordering series, succession, continuous
- spatial layering - the implication of layers, suggesting depth upon a two-dimensional surface
- subordinate - visually dependent, less obvious
- system - a set or arrangement of things so related to form an organic whole

Vv

- variable - a lack of apparent visual relationships or systematic arrangement.