



Visual Literacy and Information Design

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Black and White Exercise

- When you think about the color "White" what comes to mind?
- When you think about the color "Black" what comes to mind?



White

- **White**, an inherently positive color, is associated with purity, virginity, innocence, light, goodness, heaven, safety, brilliance, illumination, understanding, cleanliness, faith, beginnings, sterility, spirituality, possibility, humility, sincerity, protection, softness, and perfection.
- **The color white** can represent a successful beginning. In heraldry, white depicts faith and purity. As the opposite of black, movies, books, print media, and television typically depict the good guy in white and the bad guy in black.
- The color of snow, **white** is often used to represent coolness and simplicity. White's association with cleanliness and sterility is often seen in hospitals, medical centers, and laboratories to communicate safety. The color white is also associated with low-fat foods and dairy products.
- To the human eye, **white** is a bright and brilliant color that can cause headaches. In cases of extremely bright light, the color white can even be blinding.
- Throughout the western countries white is the traditional color worn by brides, to signify purity, innocence, and virginity. In eastern countries, the color white is the color of mourning and funerals. In certain cultures, white is the color of royalty or of religious figures, as angels are typically depicted as wearing white or having a white glow. A white picket fence surrounds a safe and happy home.
- **The color white** affects the mind and body by aiding in mental clarity, promoting feelings of fresh beginnings and renewal, assisting in cleansing, clearing obstacles and clutter, and encouraging the purification of thoughts and actions.



Black

- **Black** is associated with power, fear, mystery, strength, authority, elegance, formality, death, evil, and aggression, authority, rebellion, and sophistication. Black is required for all other colors to have depth and variation of hue.
- **The black color** is the absence of color. Black is a mysterious color that is typically associated with the unknown or the negative. The color black represents strength, seriousness, power, and authority. Black is a formal, elegant, and prestigious color. Authoritative and powerful, the color black can evoke strong emotions and too much black can be overwhelming.
- In heraldry, **black** is the symbol of grief. The color black can be serious, professional, and conventional, but black can also represent the mysterious, sexy, and sophisticated. Black is a visually slimming color for clothing and like other dark colors, in interior design, black can make a room appear to shrink in size.
- **The color black** affects the mind and body by helping to create an inconspicuous feeling, boosting confidence in appearance, increasing the sense of potential and possibility, or producing feelings of emptiness, gloom, or sadness.
- In western countries **black** is the color of mourning, death, and sadness. Black often represents the emotions and actions of rebellion in teenagers and youth. The color black can represent both the positive and the negative. As the opposite of white, movies, books, print media, and television typically depict the good guy in white and the bad guy in black. In more recent times, the good guy is shown in black to create mystery around the character's identity.

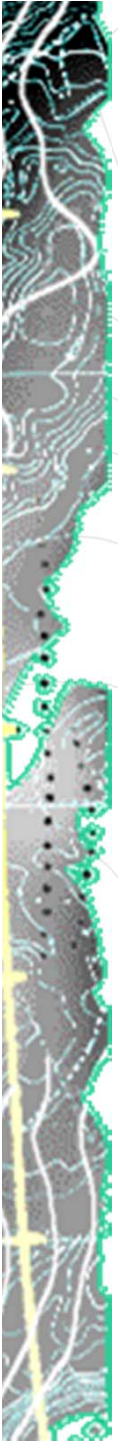


Black

● Other meanings associated with the color black:

- The phrase "*black tie*" refers to a formal event or dress code.
- The saying "*pitch black*" references no light or no visibility.
- The term "*black-hearted*" describes an evil person.
- A "*black belt*" is an expert level in martial arts.
- The expression "*blackwash*" is to bring things out in the open.
- The phrase "*in the black*" refers to having money or profiting and doing well in business.
- A "*black box*" is a piece of equipment or apparatus usually used in airplanes.
- A "*black eye*" is damage to an eye, including bruising and discoloration, or damage to one's reputation.
- A "*black sheep*" is an outcast from a family or from society.
- The expression "*men in black*" refer to government agents.
- A "*blacklist*" is a list of people or organizations to boycott, avoid, or punish.
- The term "*blackguard*" is used to reference a bad guy or a scoundrel.
- The word "*blackmail*" refers to obtaining something by threat.
- The word "*blackout*" means a loss of electricity, loss of visibility, turning out the lights, loss of consciousness, or the act of erasing or deleting something.
- The phrase "*black market*" refers to the illegal trade of goods or money.

Cultural Perspectives



Cultural Perspectives





Visual Literacy & Information Design

- Why learn about Visual Literacy?
 - Our students predisposition
- Information Density and Efficiency
 - Information is increasingly being represented and perceived in visual terms
 - Media
 - Technology
 - Globalization
 - Etc.
- Better Understand and Use Visual Disciplines to Achieve Our Objectives (*Learning, Communication, Business etc.*)
 - Graphic Design, Illustration, Photography Information Design, etc.



Visuals Produced Yearly

● Information Graphics

- Tufte - 900 billion to 2 trillion are published annually worldwide.
- TV and Computers = 1.4 to 3 Trillion

● Visual Age

"Show me Don't Tell Me"

Tim Harrower

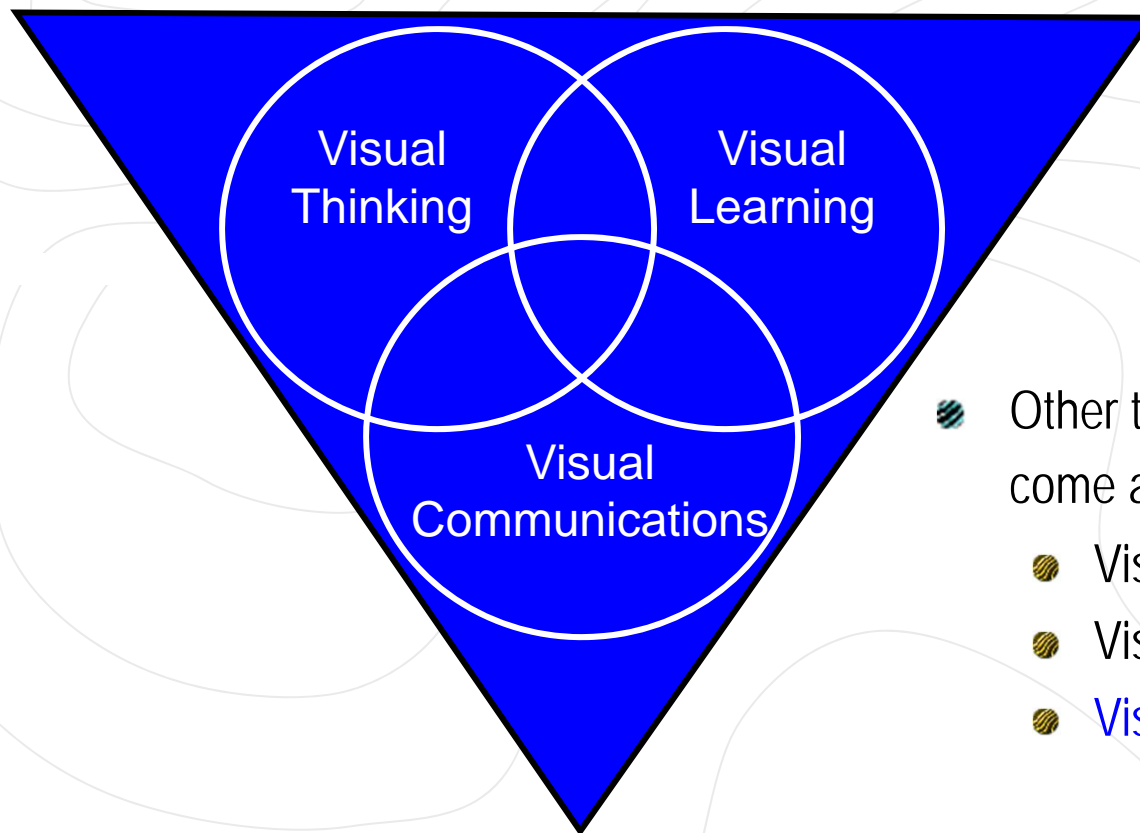
The Newspaper Designer's Handbook

Visual Literacy & Information Design

Visual Literacy - The ability to understand, create and use visual images; to think and learn in terms of images

Self

Others



● Other terms you may come across:

- Visual Thinking
- Visual Language
- Visual Rhetoric

*Visual Literacy:
A Spectrum of Visual Learning
Moor & Dwyer, 1994*



Visual Literacy & Information Design

- **Visual Rhetoric:**

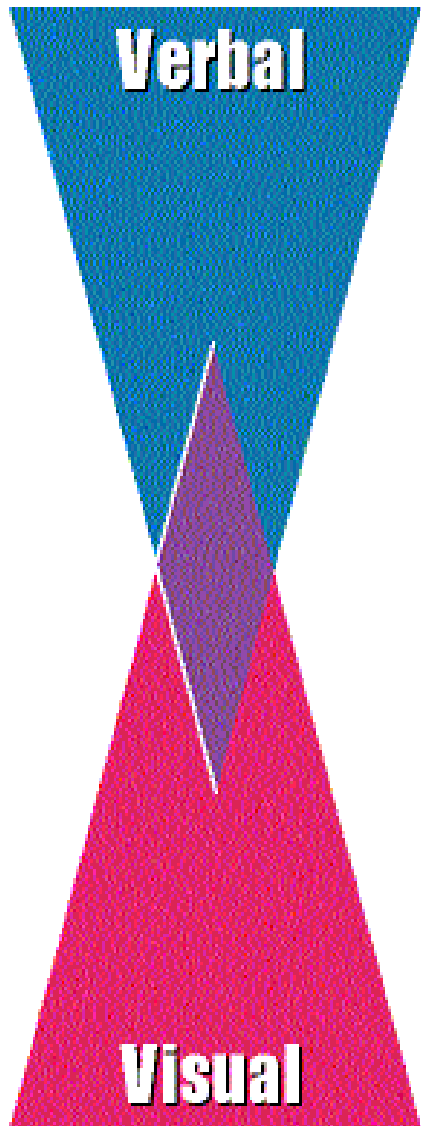
Refers to conveying information through the visual aspect of a document presentation rather than through its verbal aspect.

- Document design
- Use of graphics
- Visual depiction of data

- **“The Perfectly Designed Document”**

- Is Rare
- Rarely a result of a single brilliant moment
- Result of User-Testing
- Series of Drafts and Revisions

Verbal - Visual Continuum



Pure verbal

Emphasized verbal

Verbal with visual cues

Verbal/ visual balance

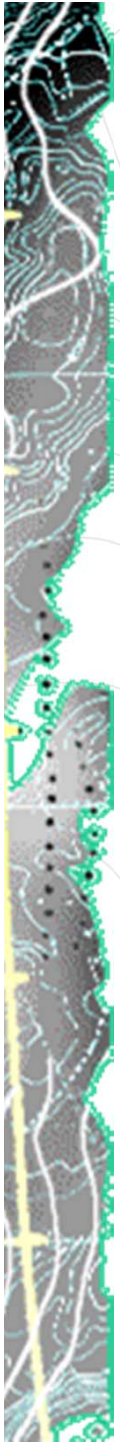
Visual with verbal cues

Emphasized visual

Pure Visual

Wileman's Typology
Adapted from Moore, D.M. & Dwyer, F.M. (1994). Visual Literacy: A
Spectrum of Visual Learning. Englewood Cliffs, NJ: Educational

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Amount of Learning

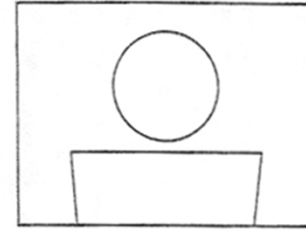
High

Low

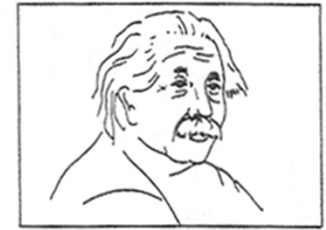
Unrealistic

Moderate

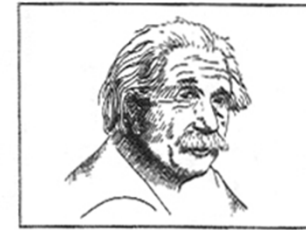
Highly
Realistic



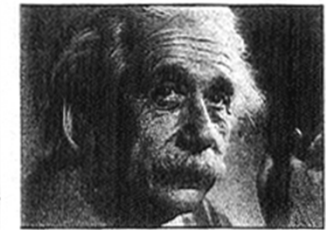
(a)



(b)



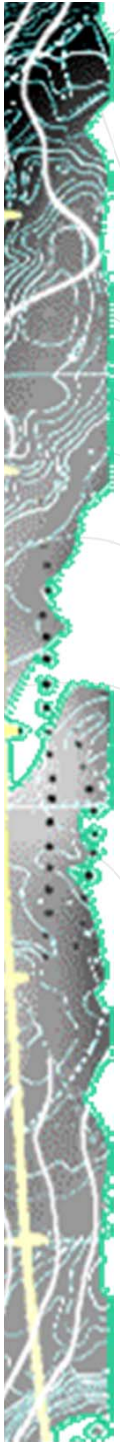
(c)



(d)

Francis M. Dwyer, *Strategies for Improving Visual Learning*,
State College, PA: Learning Services, 1978, p. 33

Visual Literacy & Information Design



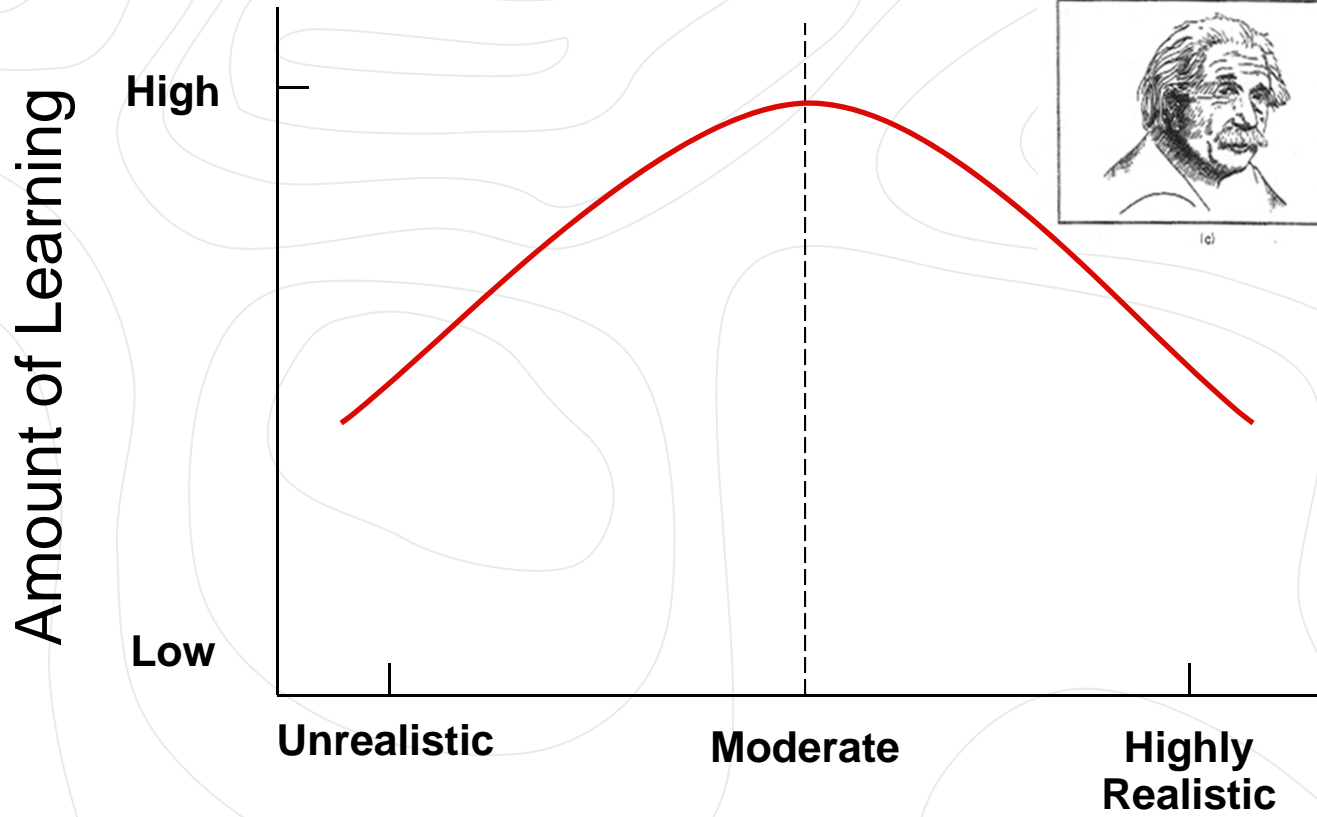
(a)

(b)



(c)

(d)



Francis M. Dwyer, *Strategies for Improving Visual Learning*,
State College, PA: Learning Services, 1978, p. 33



Visual Literacy & Information Design

Pre-attentive Processing

● Form

- Line Orientation
- Line Length
- Line Width
- Collinearity
- Size
- Curvature
- Spatial Grouping
- Added Marks
- Numerosity

● Color

- Hue
- Intensity

● Motion

- Flicker
- Direction of Motion

● Spatial Position

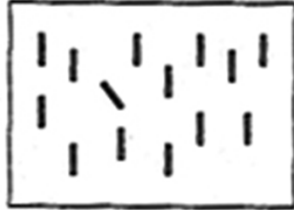
- 2D Position
- Stereoscopic Depth
- Convex/Concave Shape from Shading



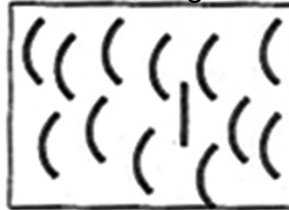
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Visual Attention

Orientation



Curved/Straight



Shape



Shape



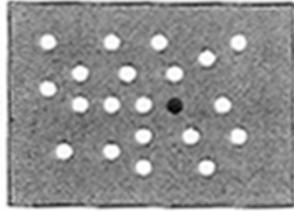
Size



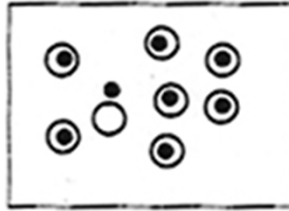
Number



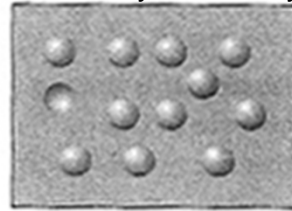
Gray/Value



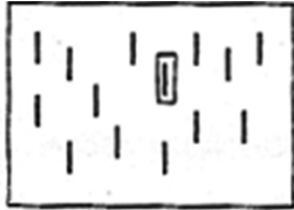
Enclosure



Convexity/Concavity



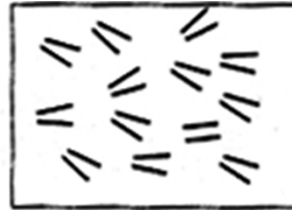
Addition



Juncture



Parallelism



Information Visualization:
Perception for Design,
Colin Ware, 2000



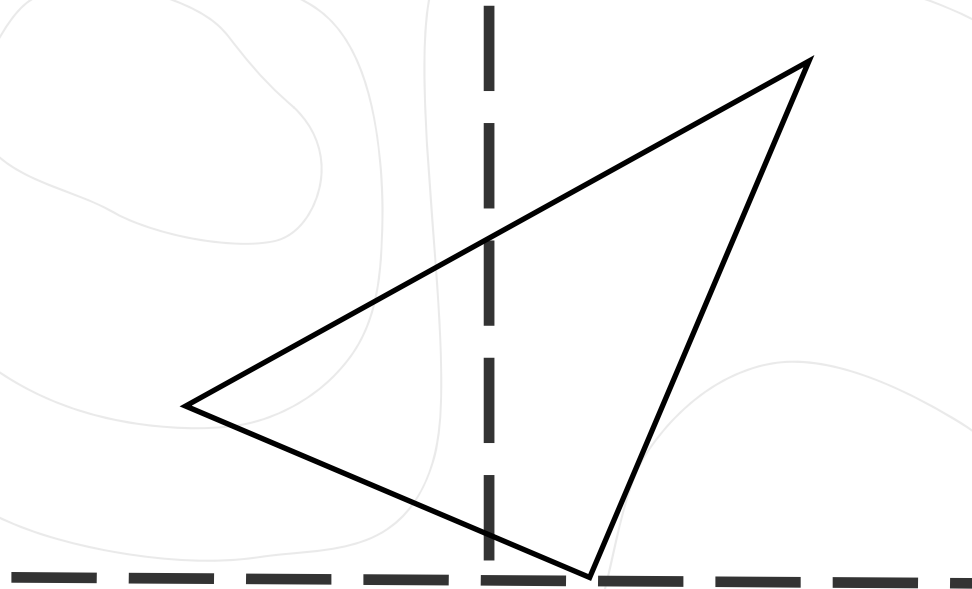
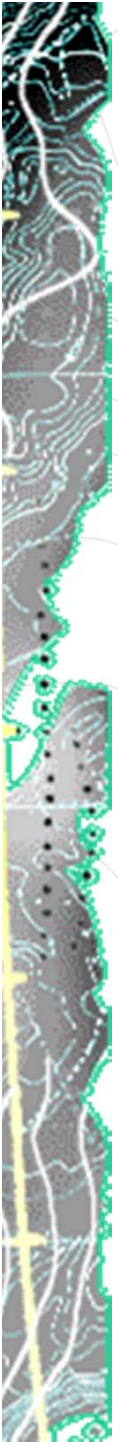
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Balance

- Most important psychological as well as physical influence on human perception
- Equilibrium - is the strongest and firmest visual reference
- Horizontal - Vertical construct is the basic relationship that man has to his environment.

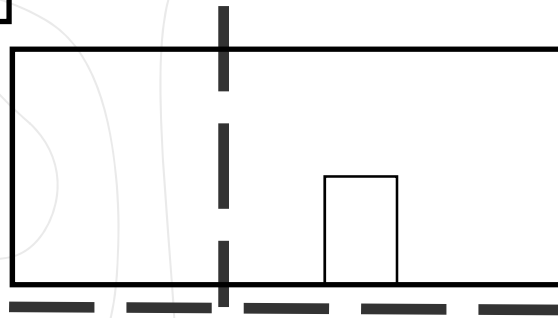
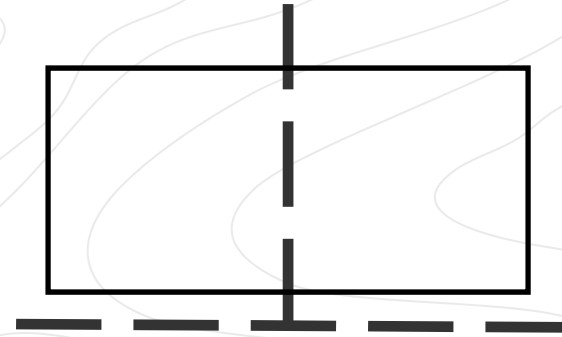
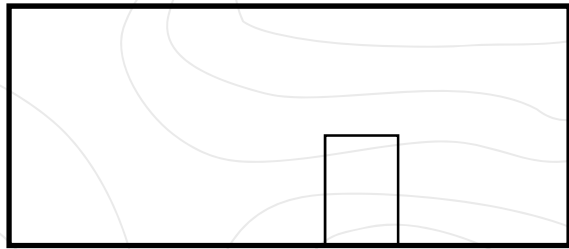
Visual Literacy & Information Design

Balance and Stress



Gestalt Psychology

● Balance



● Stress



Balance



Balance of Elements



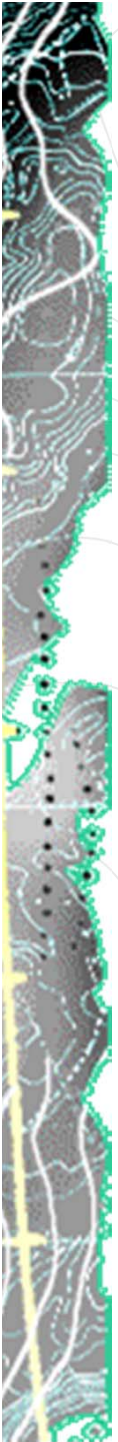
Symmetry



Asymmetry



Asymmetry

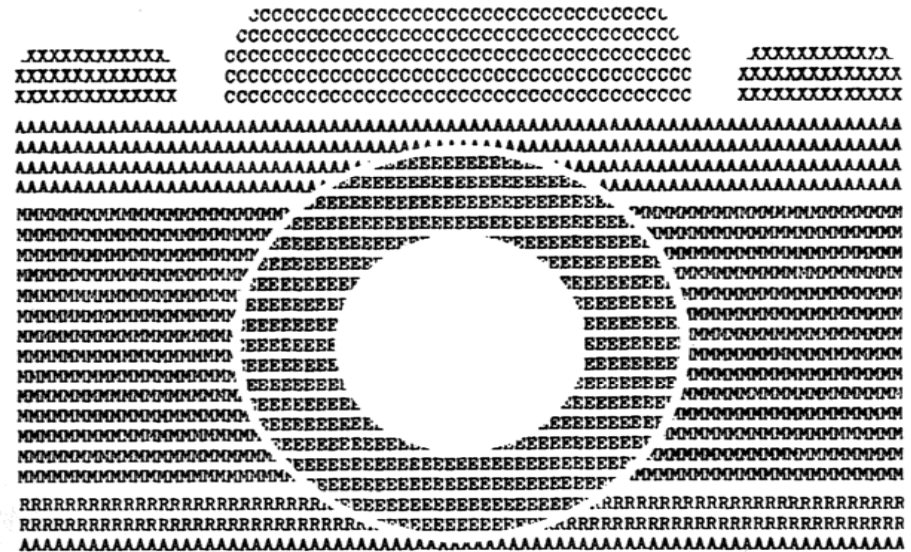


Visual Literacy & Information Design

Gestalt Psychology

- The whole is greater than the sum of its parts

- Research and experimentation in the areas of "Perception"
- Investigating and searching the significance of:
 - Visual Patterns
 - How the human organism sees
 - Organizes visual fields
 - Articulates visual output

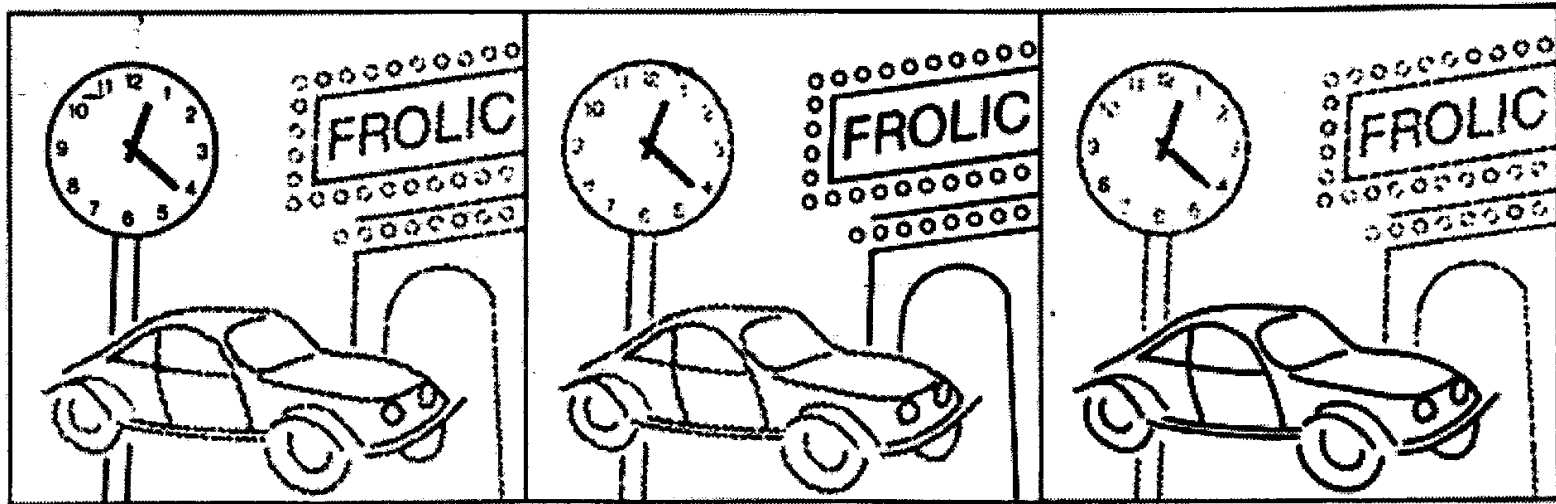


"The eye is blind if the mind is absent."

-Italian proverb

Figure - Ground

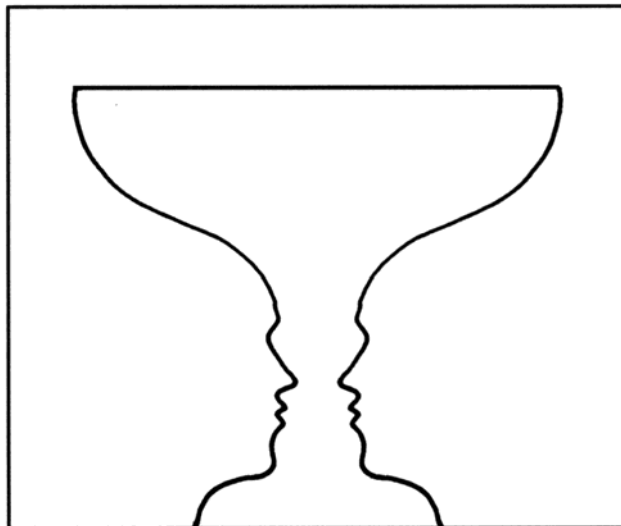
- Figure - Ground is a Selective Process
- Part of the Perception Process



CLOCK

THEATRE

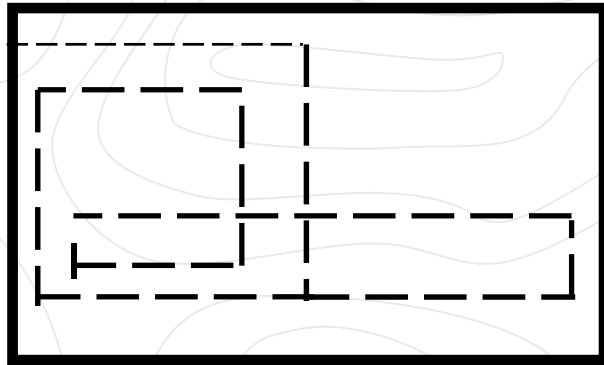
TAXI





Gestalt Psychology

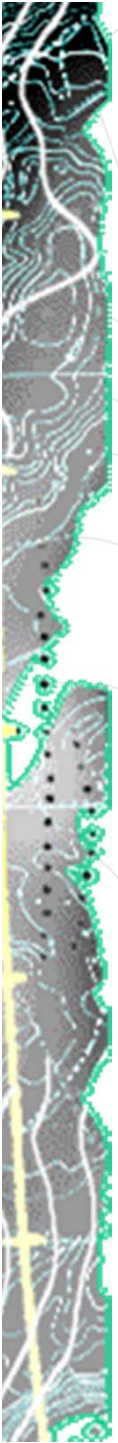
Scanning a Visual Field



Preference for the Lower Left



Scanning and Preference





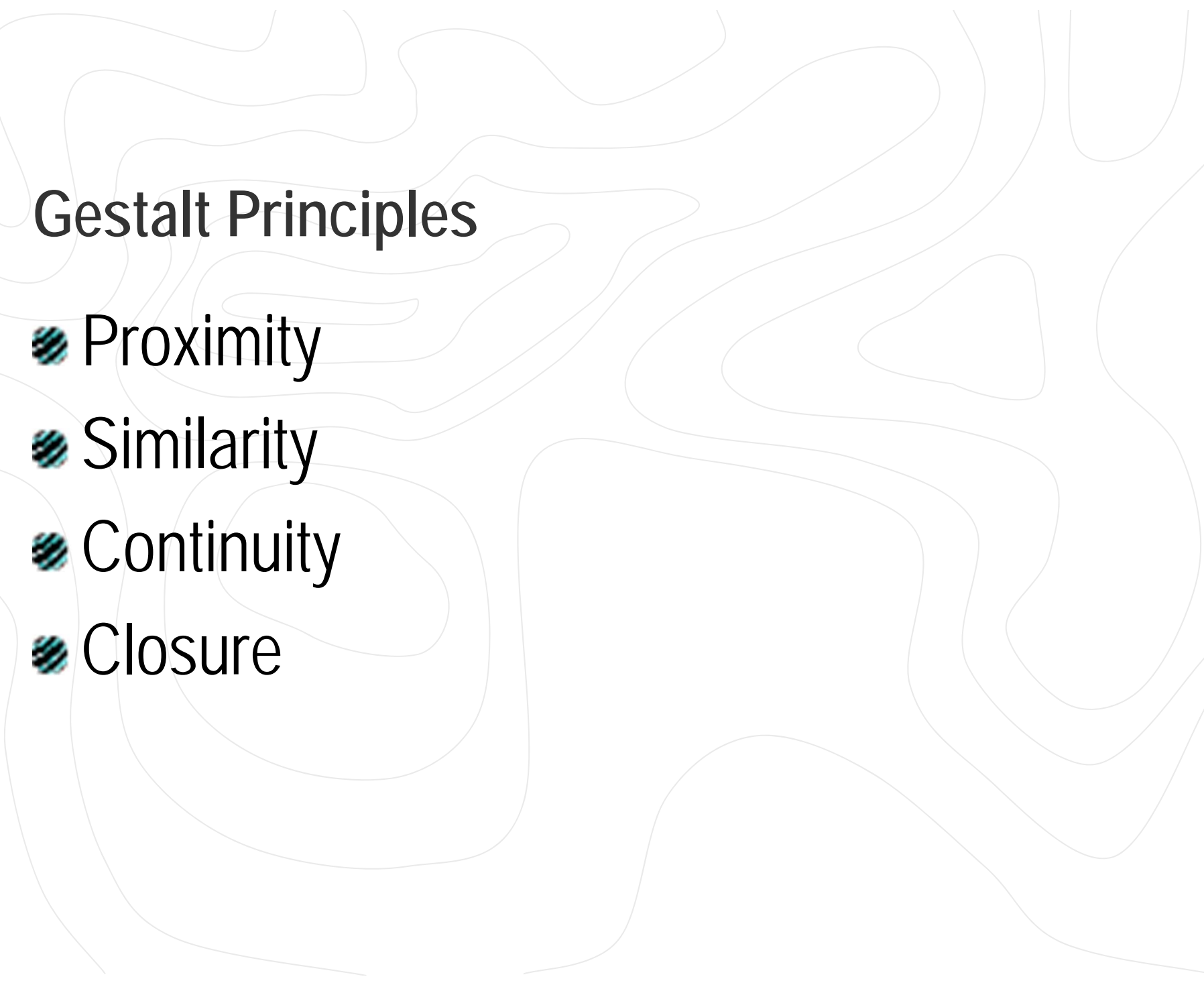
Gestalt Principles

● Proximity

● Similarity

● Continuity

● Closure





Proximity

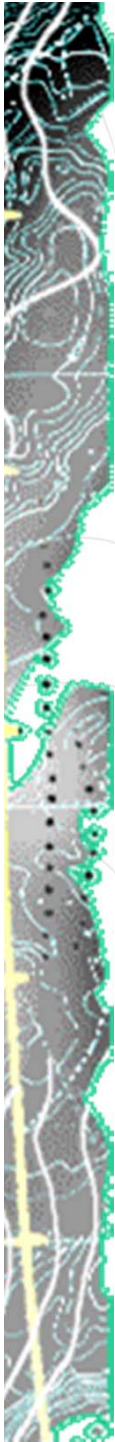
- The closer two or more visual elements are, the greater the probability that they will be seen as a group or pattern

This is a about the text below.

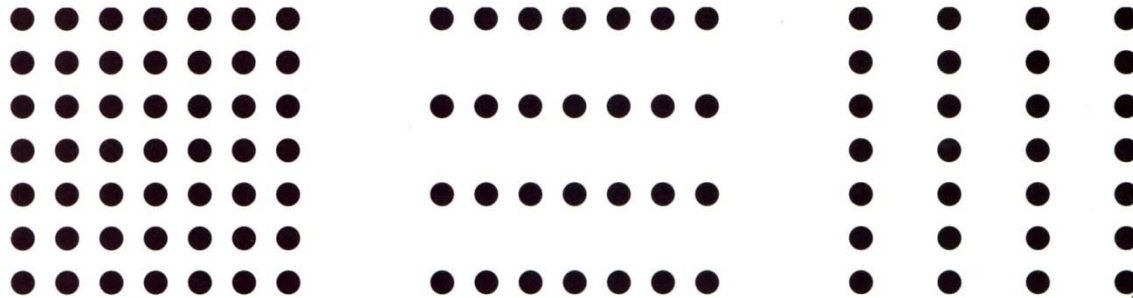
kashkjhakhdsaiuhfihakjhfdhfkjshkahdhkahkflhfhdhfhakdhlkahdhadkjhakhdskl
ahdhkahdhlkhdhlfkahdlakhdshfhldhlahdlhajhdhfdlkhdskajhfdlkhfkal

This is a about the text below.

kashkjhakhdsaiuhfihakjhfdhfkjshkahdhkahkflhfhdhfhakdhlkahdhadkjhakhdskl
ahdhkahdhlkhdhlfkahdlakhdshfhldhlahdlhajhdhfdlkhdskajhfdlkhfkal

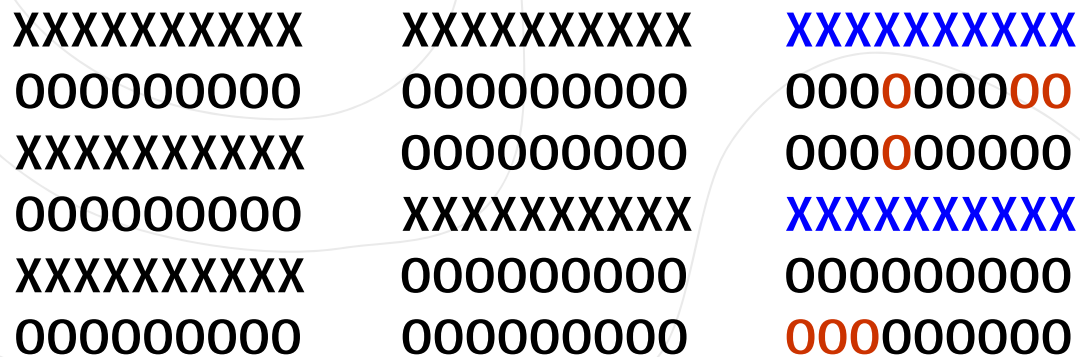


Proximity



Similarity

- Visual elements that are similar in shape, size, color, etc. tend to be seen as related.

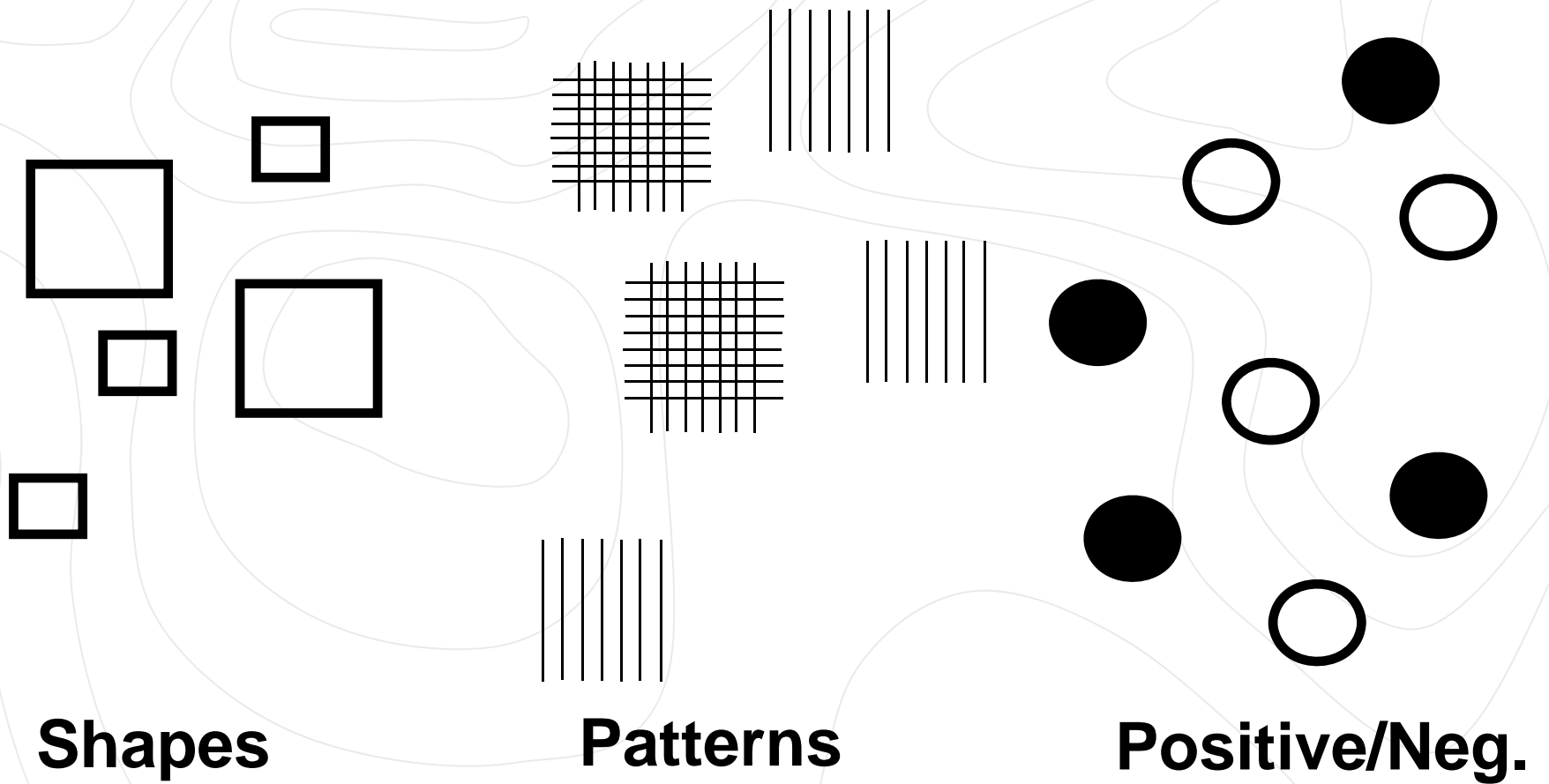


Proximity



Gestalt Grouping

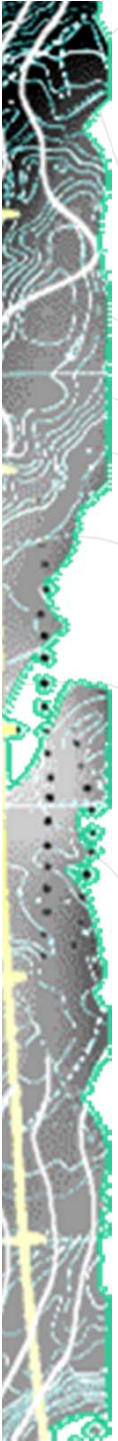
● Grouping & Similarity



Similarity

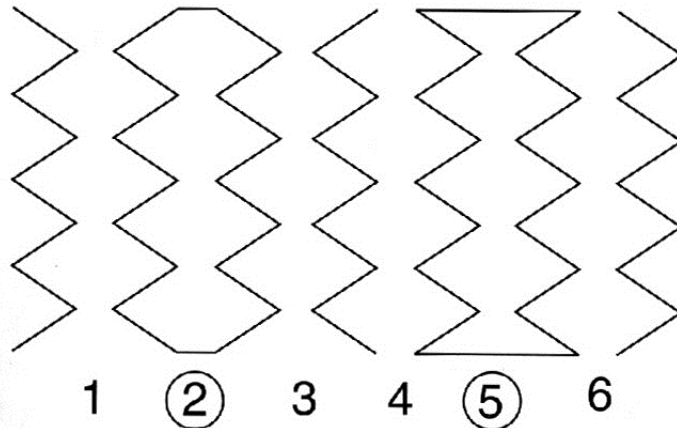
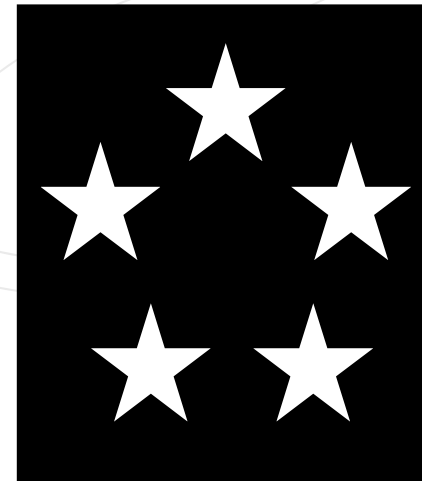
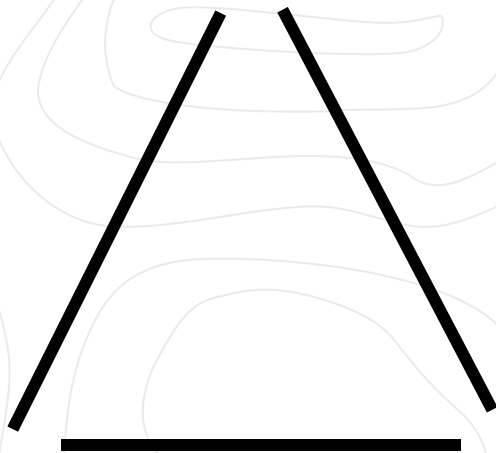


Similarity

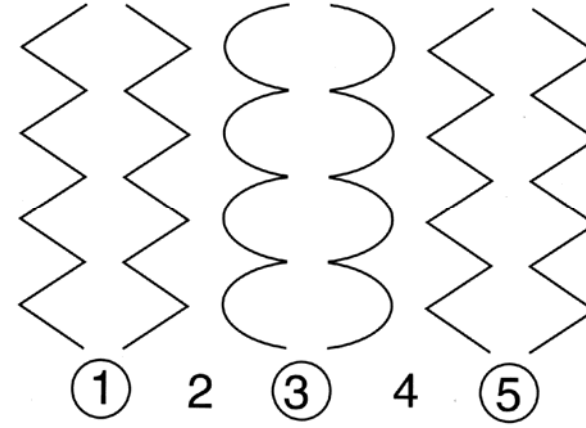


Closure

- Nearly complete familiar lines and shapes are more readily seen as complete (closed) than incomplete lines and shapes

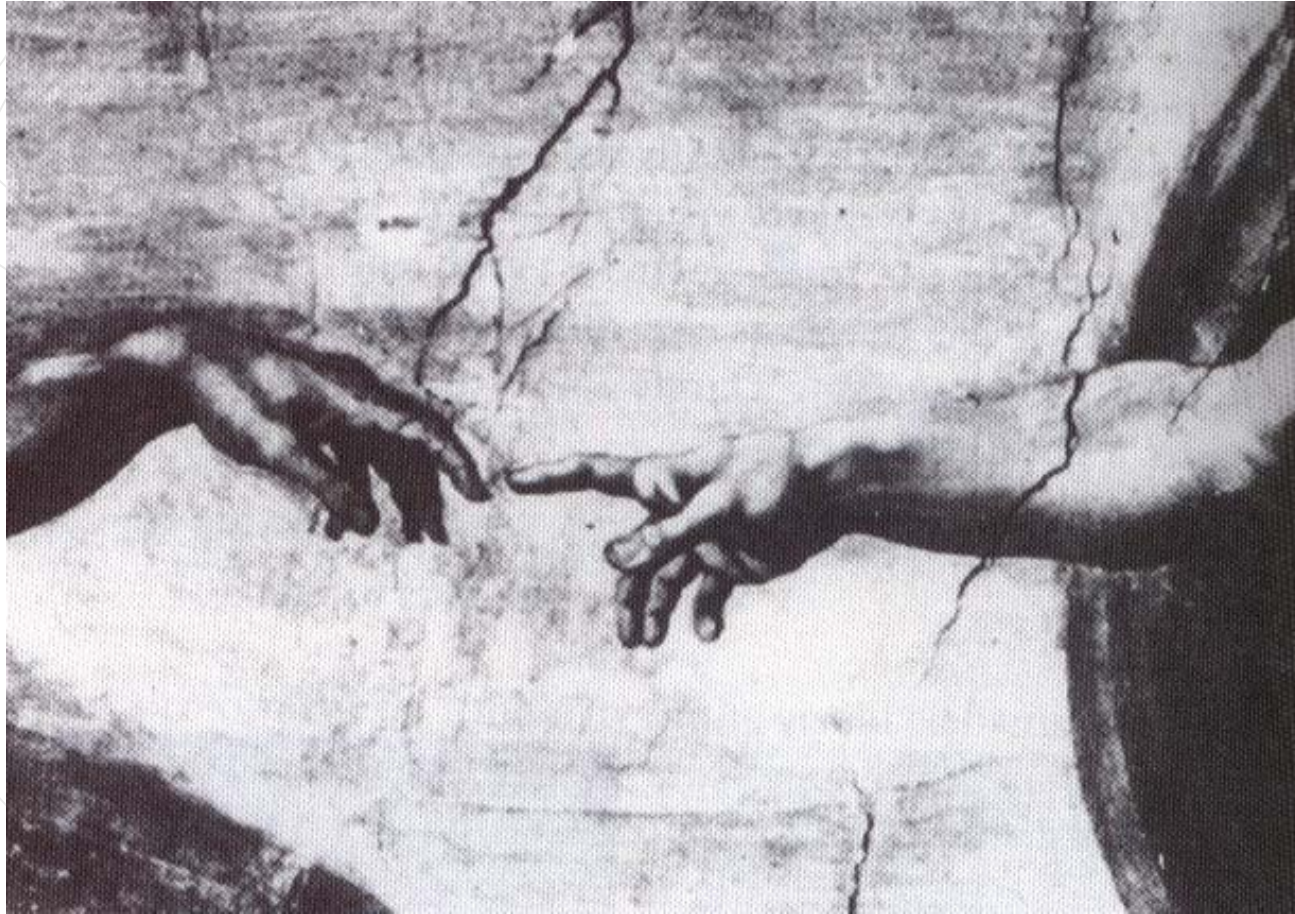


Closure Facilitates Grouping

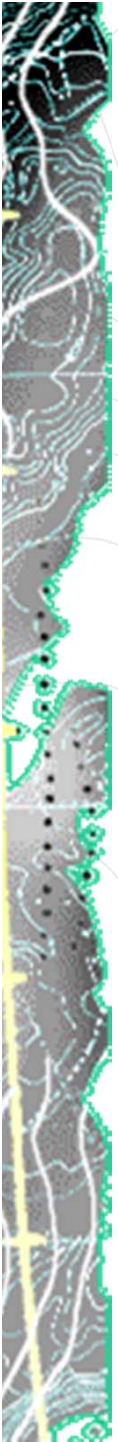


Symmetry Facilitates Grouping

Closure

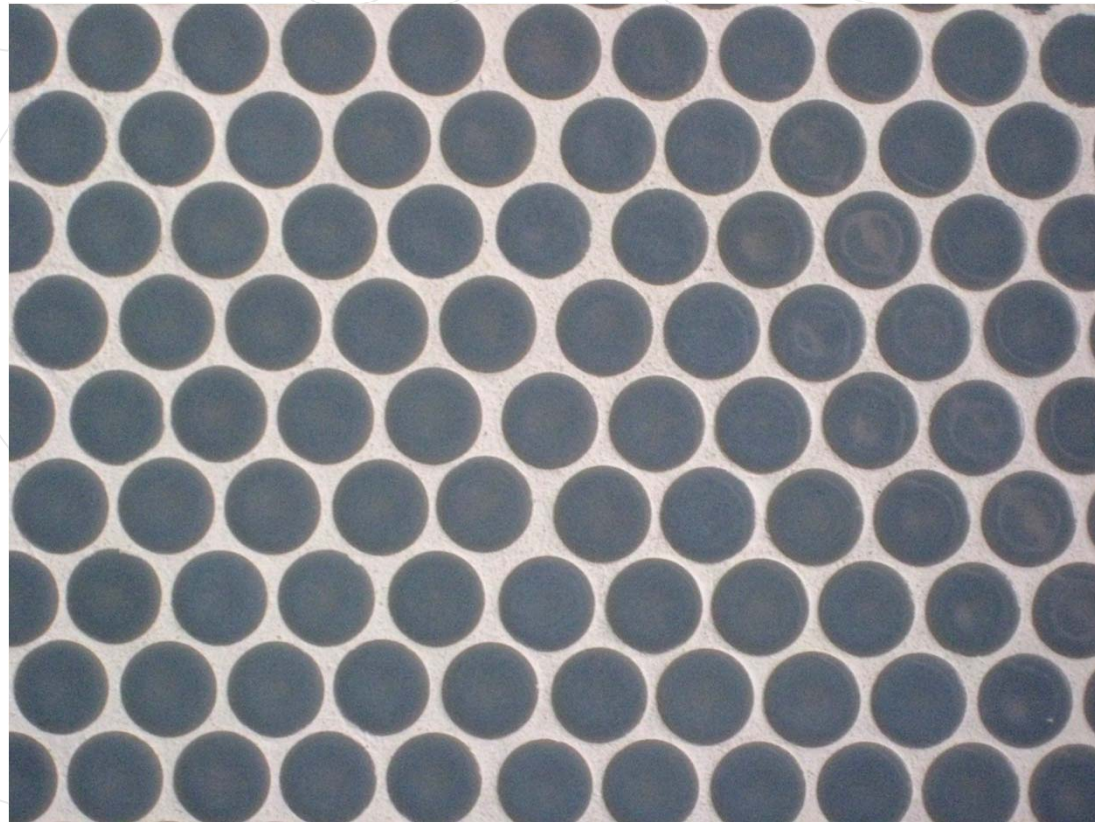
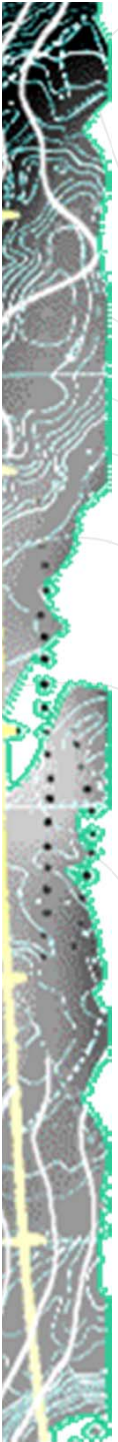


*Creation of Adam
Michelangelo*

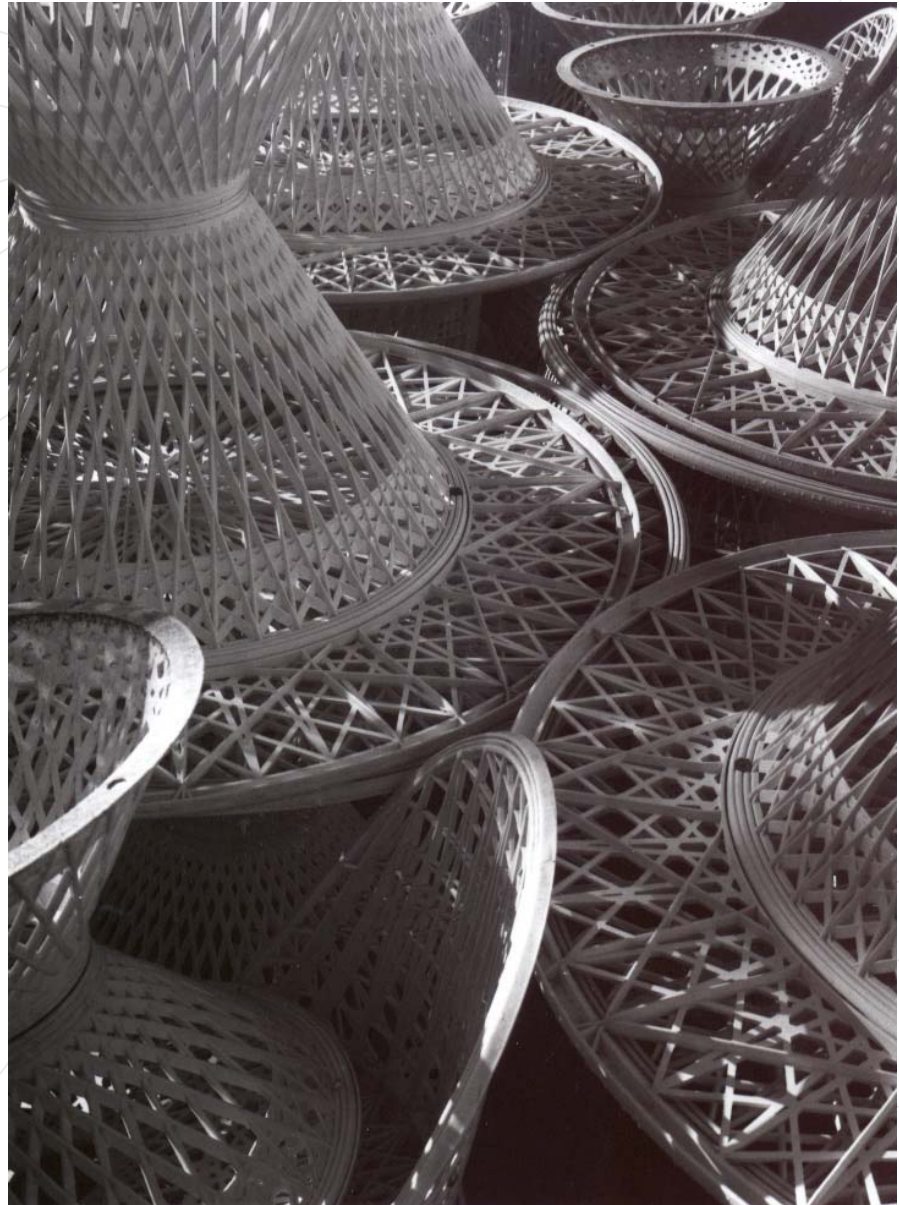


Continuity

- Visual elements that require the fewest number of interruptions will be grouped to form continuous straight or curved lines.



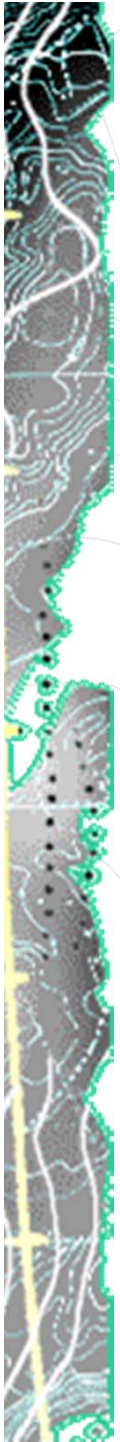
Continuity



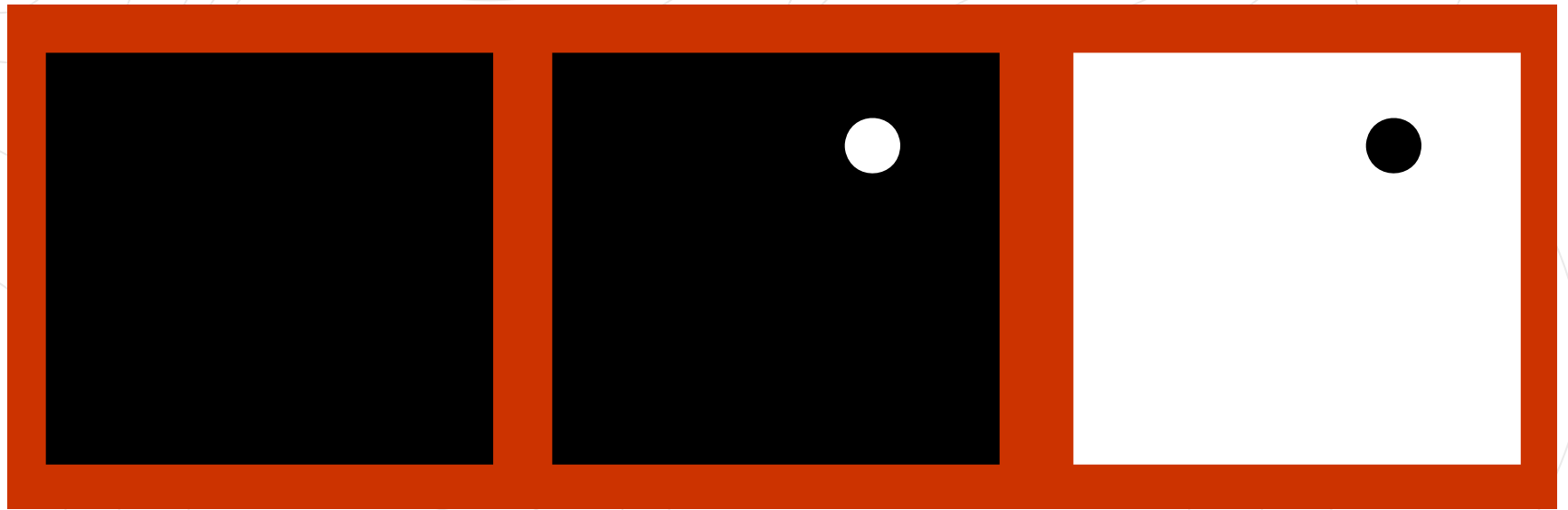
Continuity



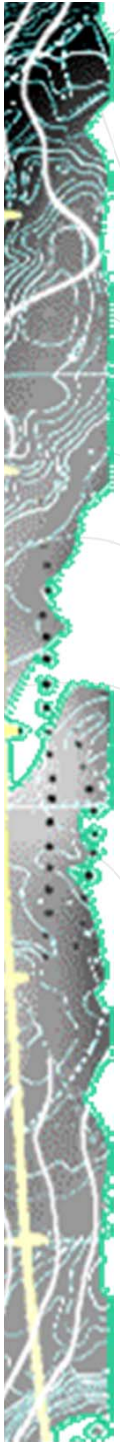
Continuity



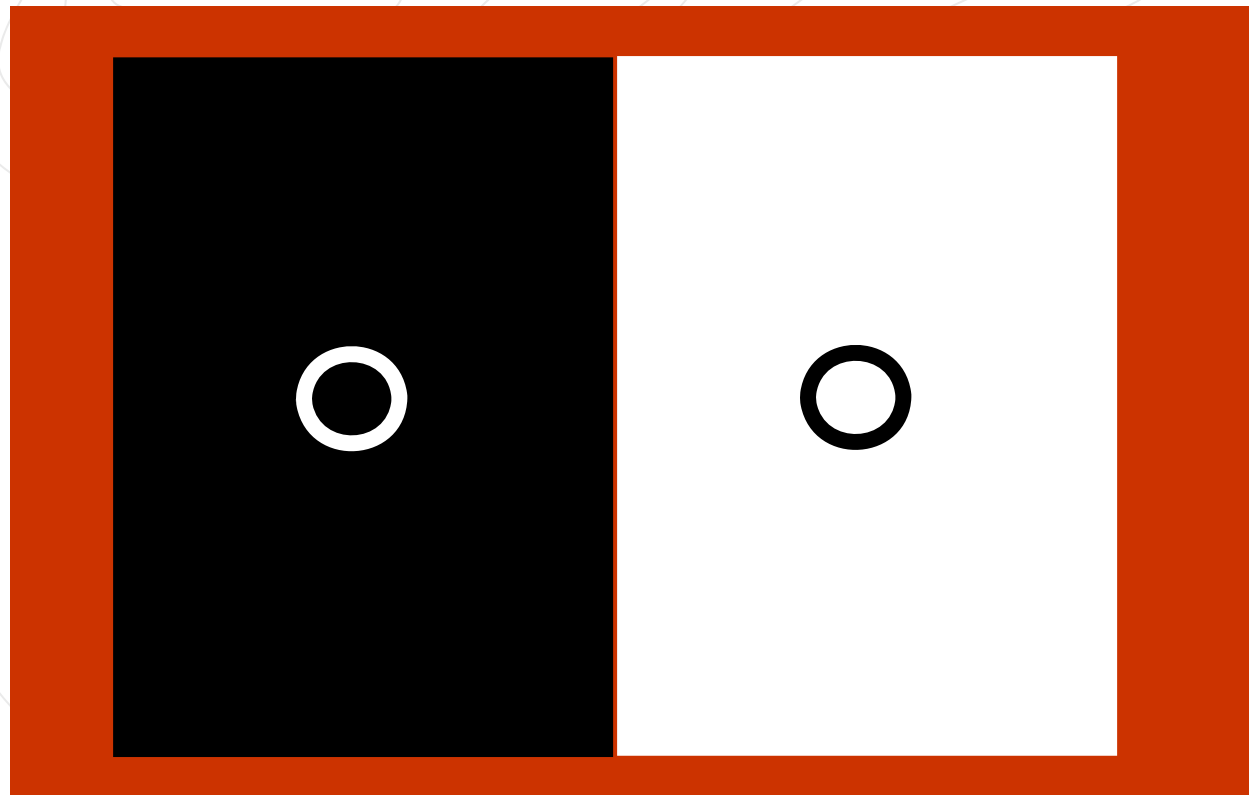
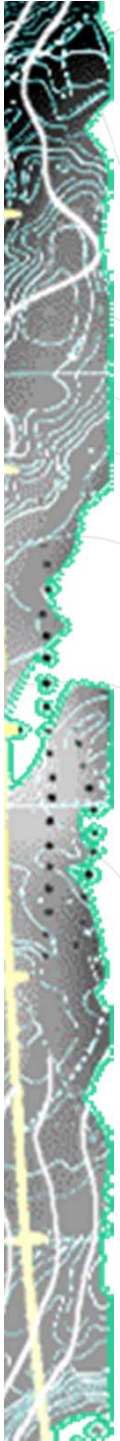
Positive - Negative



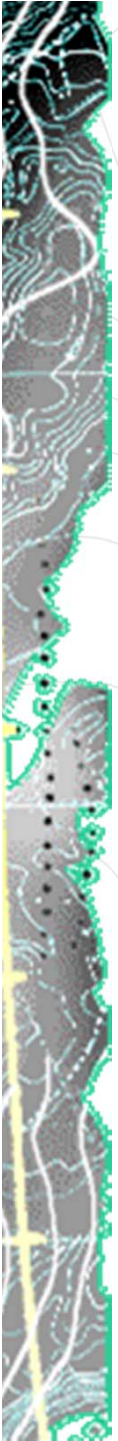
Positive = Dominant Field **Negative = Passive Field**



Object Relationship



**Dark Element/Light Background
Contract**



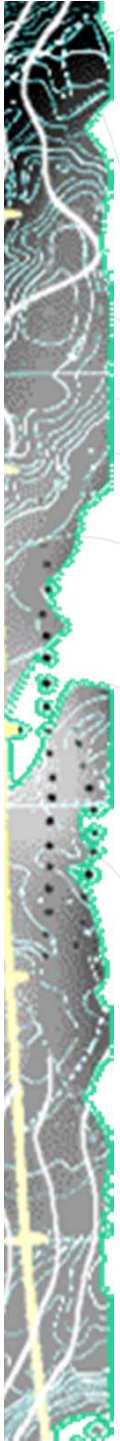
Use of Graphic Design

- Control Eye Movement
- Define
- Focus
- Direct
- Compare
- Map
- Depth
- Dimension
- Size
- Group
- Organize
- Correlate
- Detail
- Evoke Emotions
- Etc.

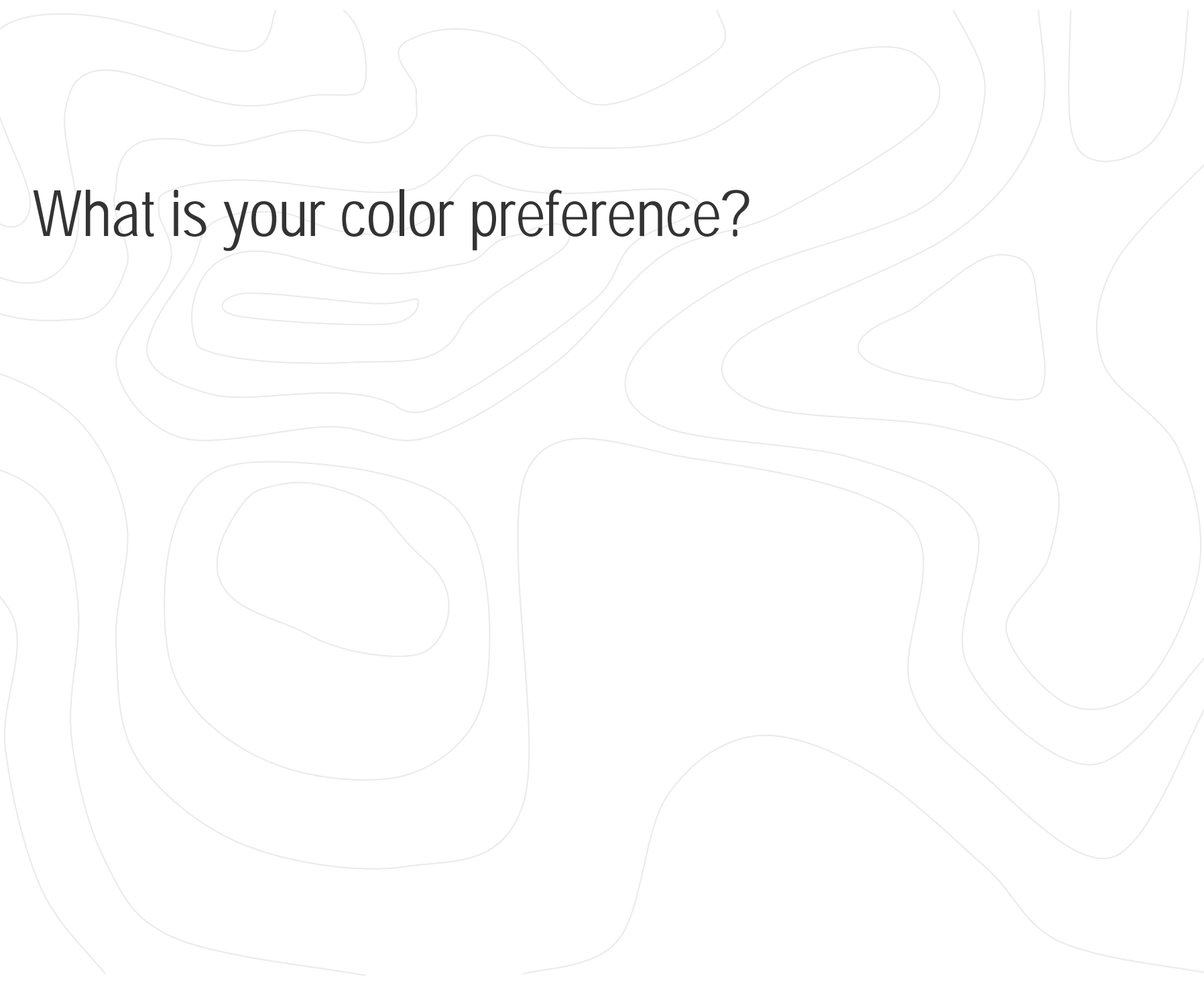


Color

- Color Creates Instant Impact
- It is a vital part of the image or impression created
- Captures attention before the composition or form is completely distinct
- Colors used to
 - Identify
 - Find
 - Simplify
 - Organize



What is your color preference?





Use of Color

● Color Preference Research

● Blue

● Red

● Green

● Violet

● Orange & Yellow – Yellow & Orange

- Higher Grades vs. Lower Grades



Color

Le Courrier du Livre research on legibility at a distance

● Most Legible

- Black on Yellow
- Green on White
- Red on White
- Blue on White
- White on Blue
- Black on White
- Yellow on Black
- White on Red
- White on Green
- White on Black
- Red on Yellow
- Green on Red
- Red on Green



Cultural/Historical Significance of Color

- **White** – Light, Triumph, Joy, Innocence
- **Black** – Darkness, Mourning,
- **Yellow** – Light, Divine, Enlightenment, Understanding
- **Red** – Love, Valor, Energy, Fire
- **Blue** – Truth, Wisdom, Divine Eternity, Human Immortality
- **Purple** – Royalty, Dignity
- **Green** – Nature, Fertility, Adaptability, Prosperity, Hope



Color

- Color and Human Response

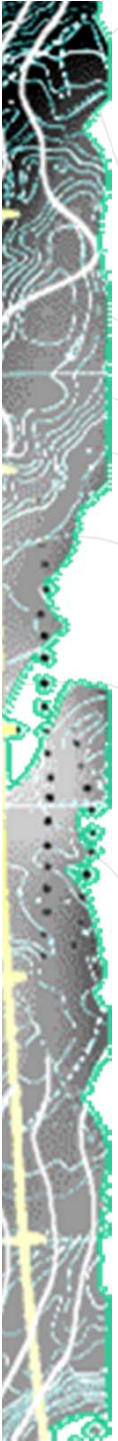
- Emotional

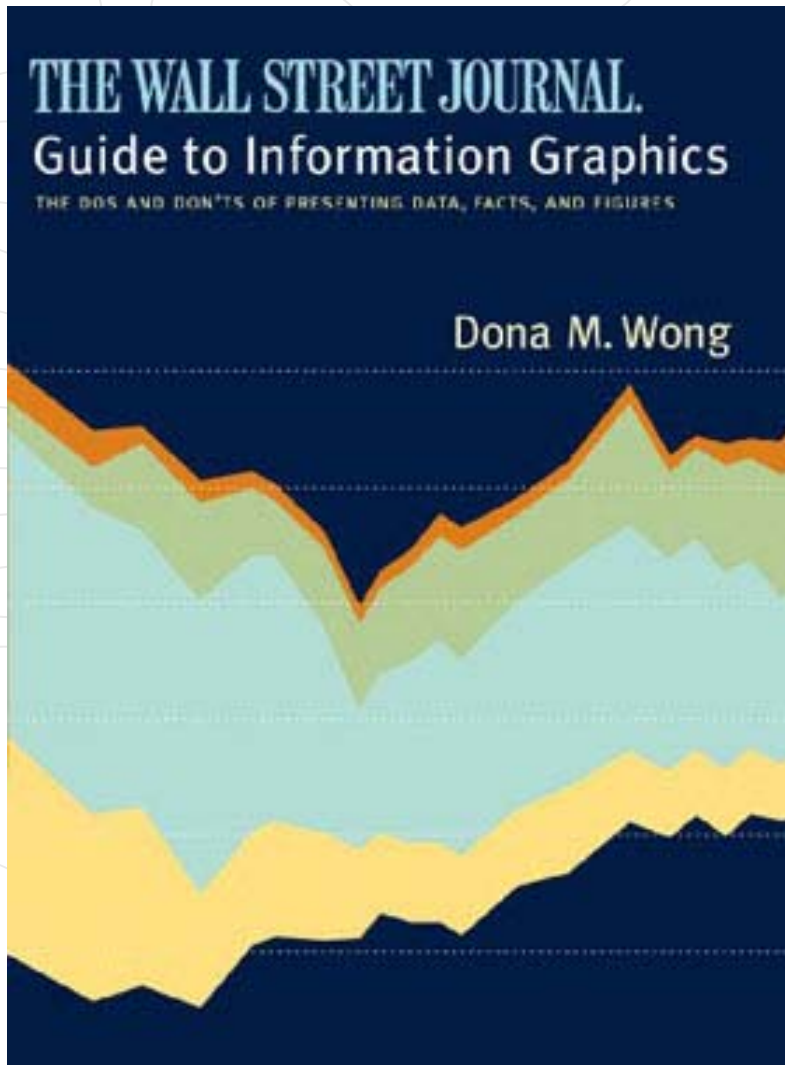
- Warm Colors – Cold Colors
- Color and Space
- Color - IQ, Alertness and Creativity:
 - Light Blue, Yellow, Yellow-Green, and Orange = Greatest
 - Black and Brown = Dullness

- Physical

- Attention
 - Hotter – Brighter = More
 - Cooler – Darker = Less

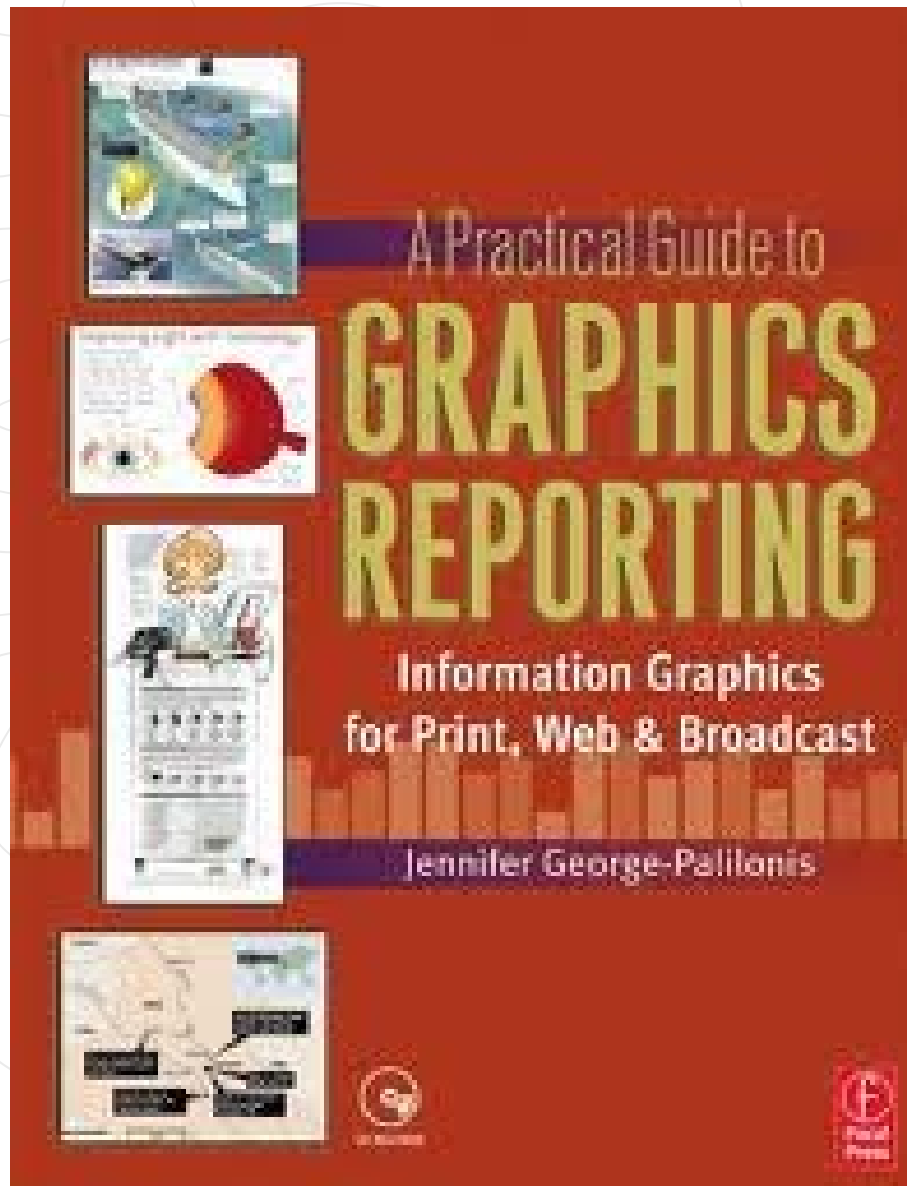
Color Impact





What can the Wall Street Journal teach us about information graphics?

<http://www.perceptualedge.com/blog/?p=707>



**A Practical Guide to Graphics Reporting: Information Graphics for
Print, Web & Broadcast**

Focal Press | 2006 | ISBN: 0240807073 | 200 pages | PDF | 13,6 MB

A PERIODIC TABLE OF VISUALIZATION METHODS

Data Visualization Visual representations of quantitative data in schematic form (either with or without axes)		Strategy Visualization The systematic use of complementary visual representations in the analysis, development, formalization, communication, and implementation of strategies in organizations.												G graphic facilitation			
Information Visualization The use of interactive visual representations of data to amplify cognition. This means that the data is transformed into an image, it is mapped to screen space. The image can be changed by users as they proceed working with it.		Metaphor Visualization Visual Metaphors position information graphically to organize and structure information. They also convey an insight about the represented information through the key characteristics of the metaphor that is employed.												Compound Visualization The complementary use of different graphic representation formats in one single scheme or frame.			
Concept Visualization Methods to elaborate (mostly) qualitative concepts, ideas, plans, and analyses.																	
C continuum	Tb table	Ca cartesian coordinate														Ct cartoon	
Pi pie chart	L line chart															Ri rich picture	
B bar chart	Ac area chart	R radar chart cobweb	Pa parallel coordinates	Hy hyperbolic tree	Cy cycle diagram	T timeline	Ve venn diagram	Mi mindmap	Sq square of oppositions	Cc cosmetic circles	Ar argument slide	Sw swim lane diagram	Gc gantt chart	Pm perspective diagram	D dilemma diagram	Pr parameter ruler	Kn knowledge map
Hi histogram	Sc scatterplot	Sa sankey diagram	In information lense	E entity relationship diagram	Pt petri net	Fl flow chart	Cl clustering	Lc layer chart	Py pyramid technique	Ce cause-effect chains	Tl toulmin map	Dt decision tree	Cp open critical path method	Cf concept fan	Co concept map	Ic iceberg	Lm learning map
Tk tuley box plot	Sp spectrogram	Da data map	Tp treemap	Cn core tree	Sy system dyn./ simulation	Df data flow diagram	Se semantic network	So soft system modeling	Sn synergy map	Fo force field diagram	Ib ibis argumentation map	Pr process event chains	Pe PERT chart	Ev evocative knowledge map	V Vee diagram	Hh heaven's hell chart	I informal

Cy **Process Visualization**

Hy **Structure Visualization**

- Overview**
- Detail**
- Detail AND Overview**
- Divergent thinking**
- Convergent thinking**

Note: Depending on your location and connection speed it can take some time to load a pop-up picture.

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version 1.5

Su supply demand curve	Pc performance charting	St strategy map	Oc organization chart	Ho house of quality	Fd feedback diagram	Ft failure tree	Mq magic quadrant	Ld life-cycle diagram	Po porter's five forces	S s-cycle	Sm stakeholder map	Is ishikawa diagram	Tc technology roadmap
Ed edgeworth box	Pf portfolio diagram	Sg strategic game board	Mz mintzberg's organigram	Z zwicki's morphological box	Ad affinity diagram	De decision discovery diagram	Bm bcg matrix	Stc strategy canvas	Vc value chain	Hy hype-cycle	Sr stakeholder rating map	Ta taps	Sd spray diagram

http://www.visual-literacy.org/periodic_table/periodic_table.html



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