

UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES



Human Computer Interaction

WEEK 2

Topics for this Week

1

Perception

2

Typography

3

Color

4

Graphic design

5

Displays, Paper, and other Output Devices

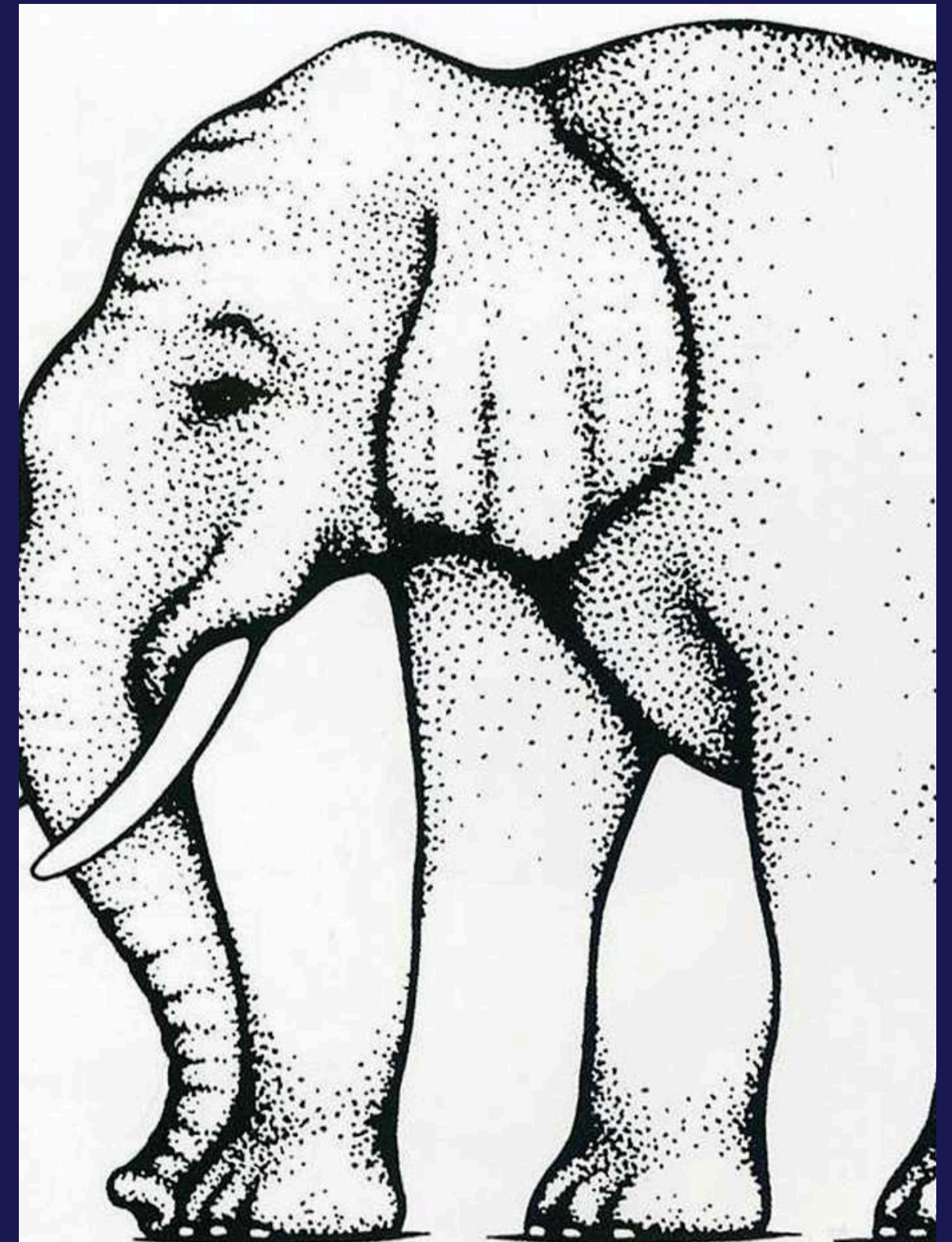
6

Information Visualization

01. Perception

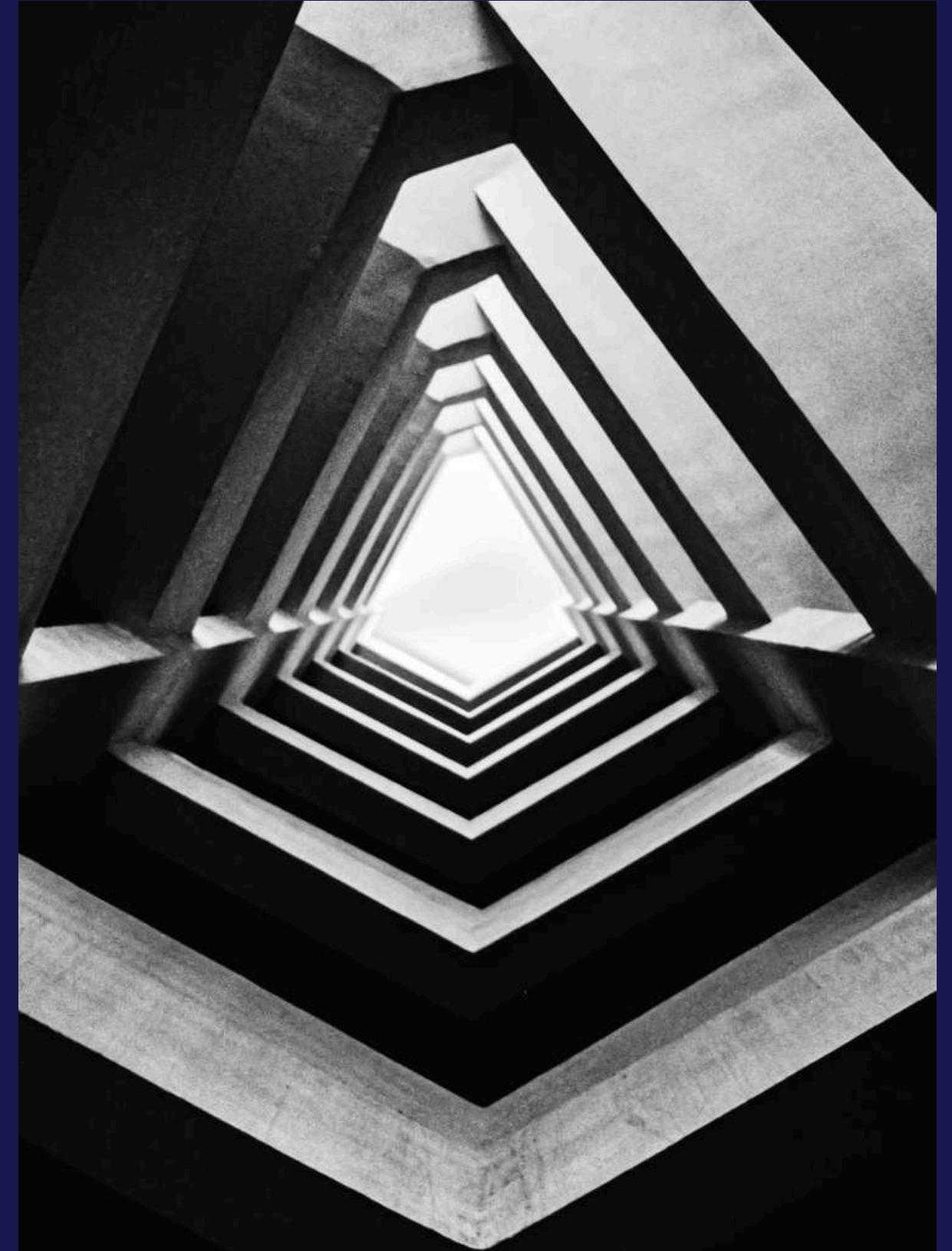
IS ABOUT:

- refers to how users interpret the visual and information presented by a system or interface
- how we recognize patterns, interpret colors, shapes, and sounds, and understand the relationships between elements in a user interface.



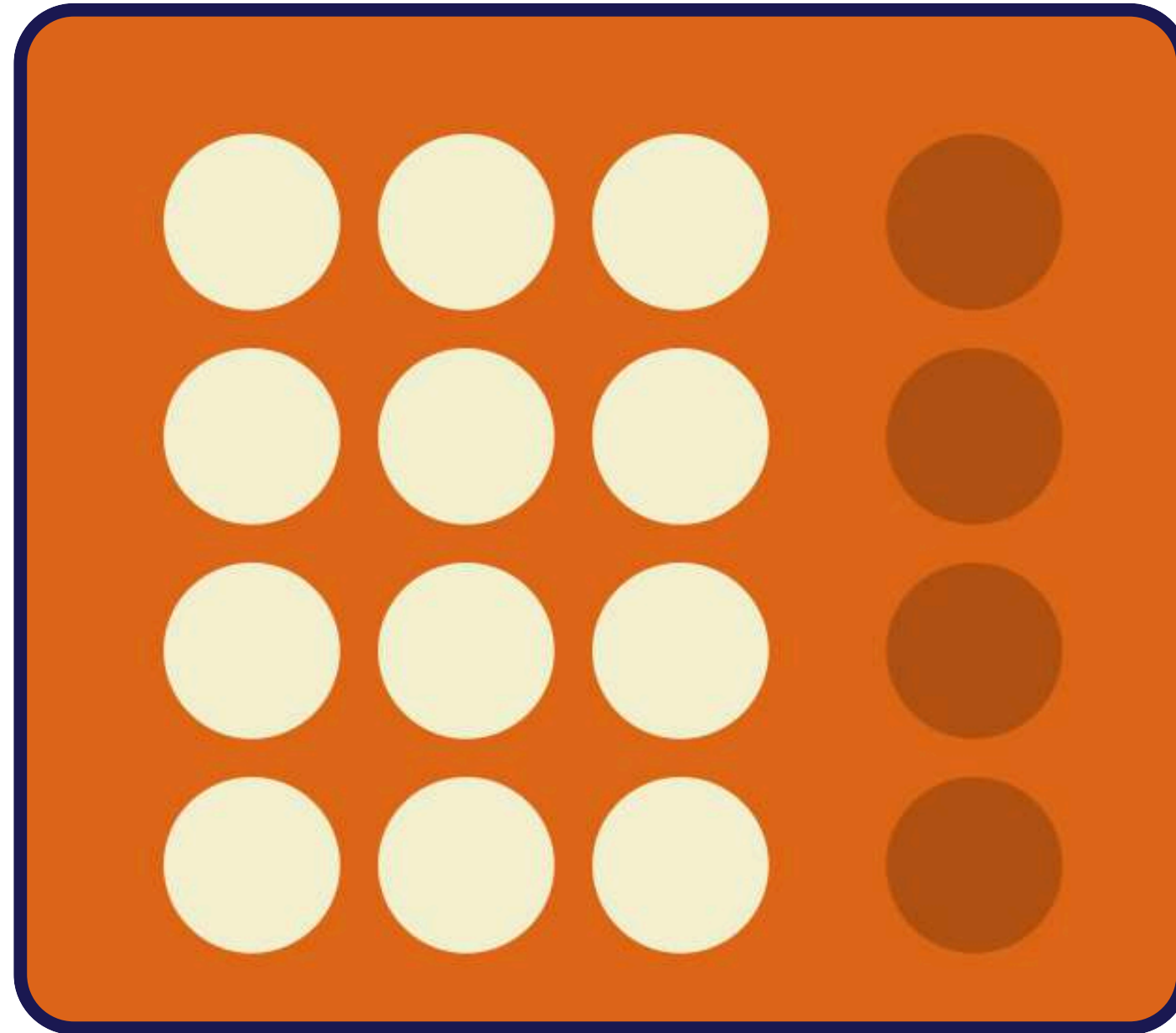
01. Gestalt Laws of Perception

- rooted in psychology, describe how humans naturally organize and interpret visual elements into groups.
- laws explain why we tend to see patterns and structures in what we perceive



Law of Proximity

Elements that are close to each other are perceived as a group.



02.

Law of Similarity

Similar elements (in shape, color, size, etc.)
are perceived as part of the same group.



Law of Closure

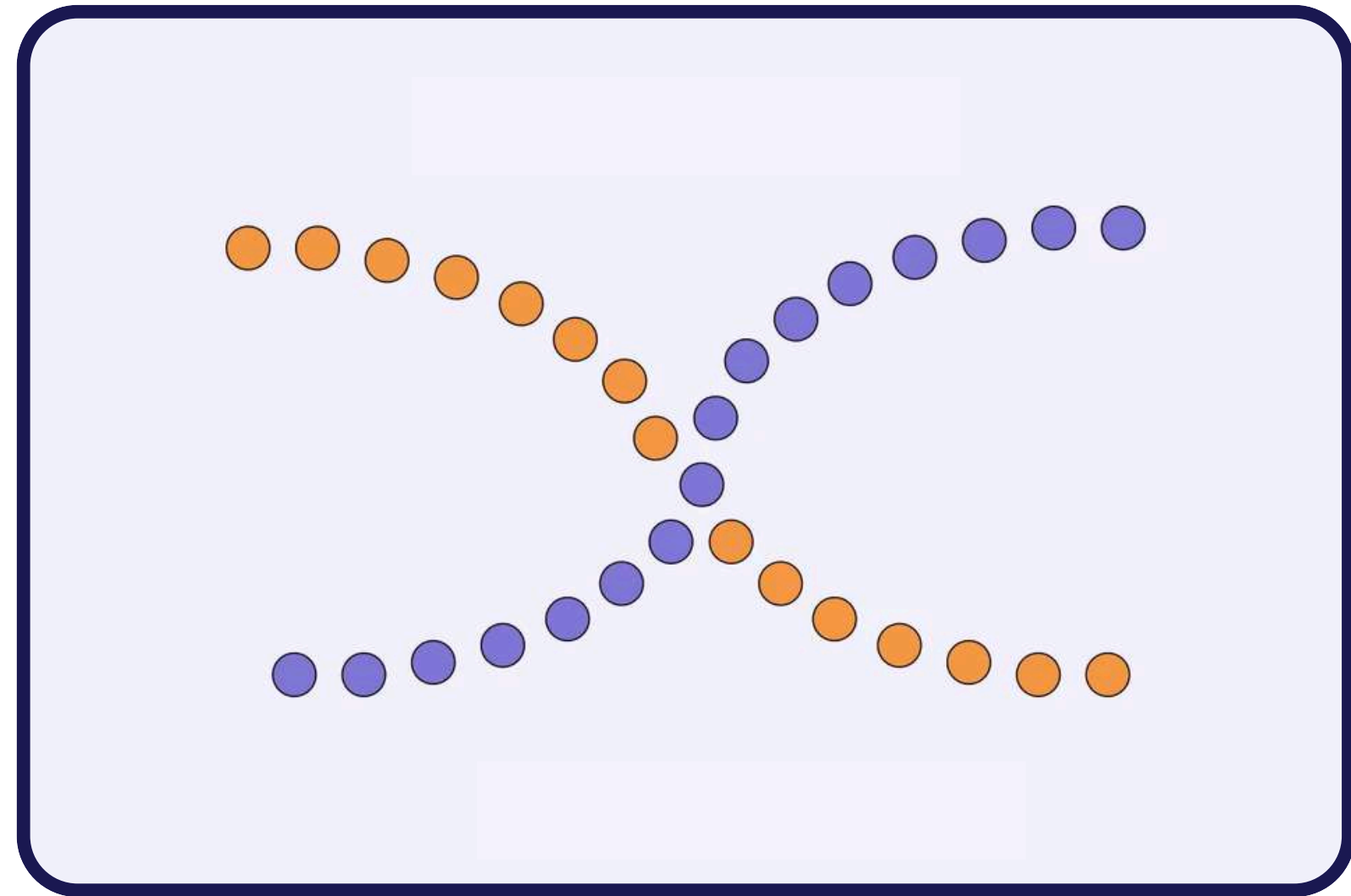
We tend to perceive a complete image even when some parts are missing.



02.

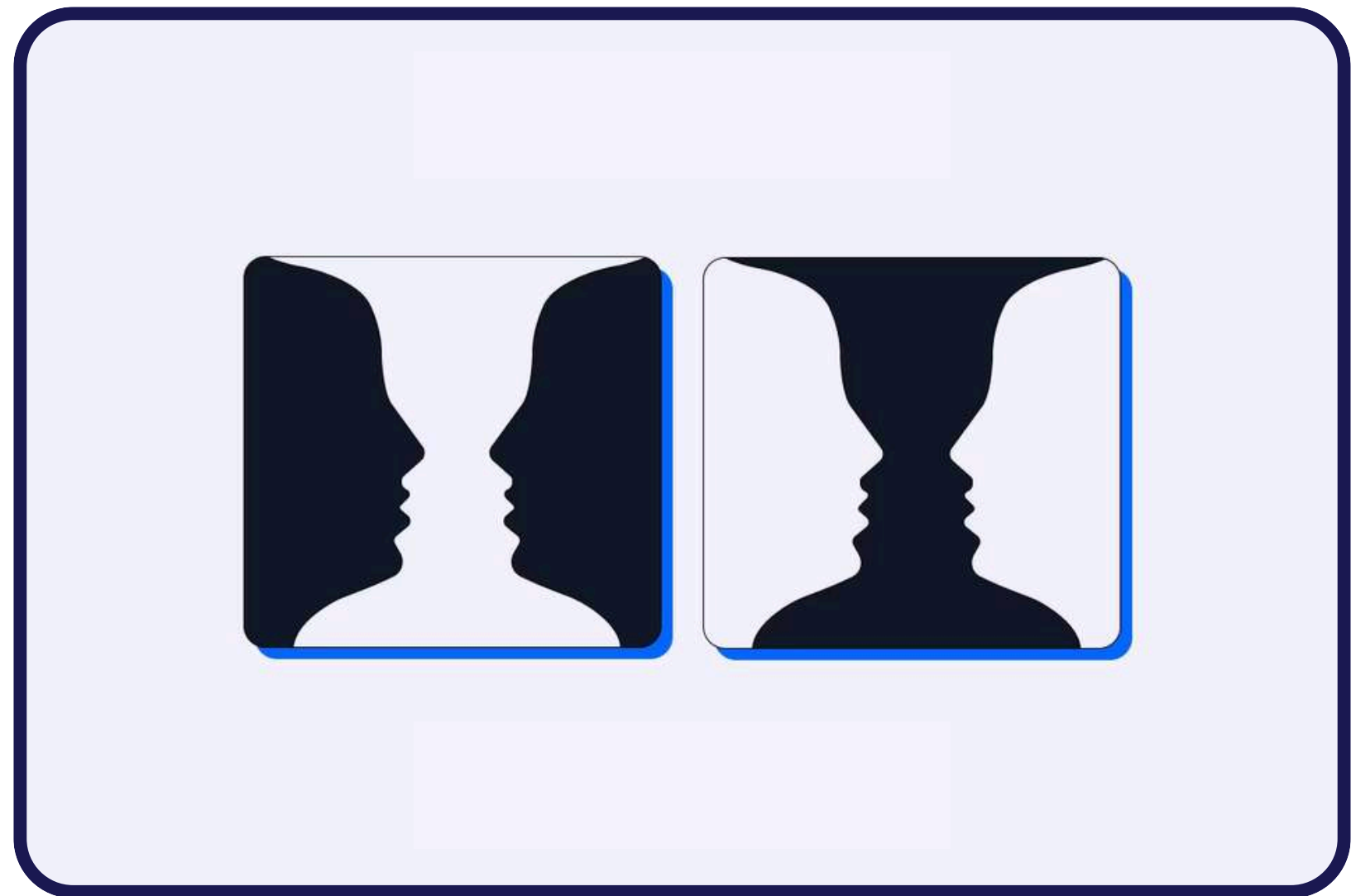
Law of Continuity

Our eyes are drawn along paths, lines, or curves, leading us to see elements that follow a continuous line as connected.



Law of Figure/Ground

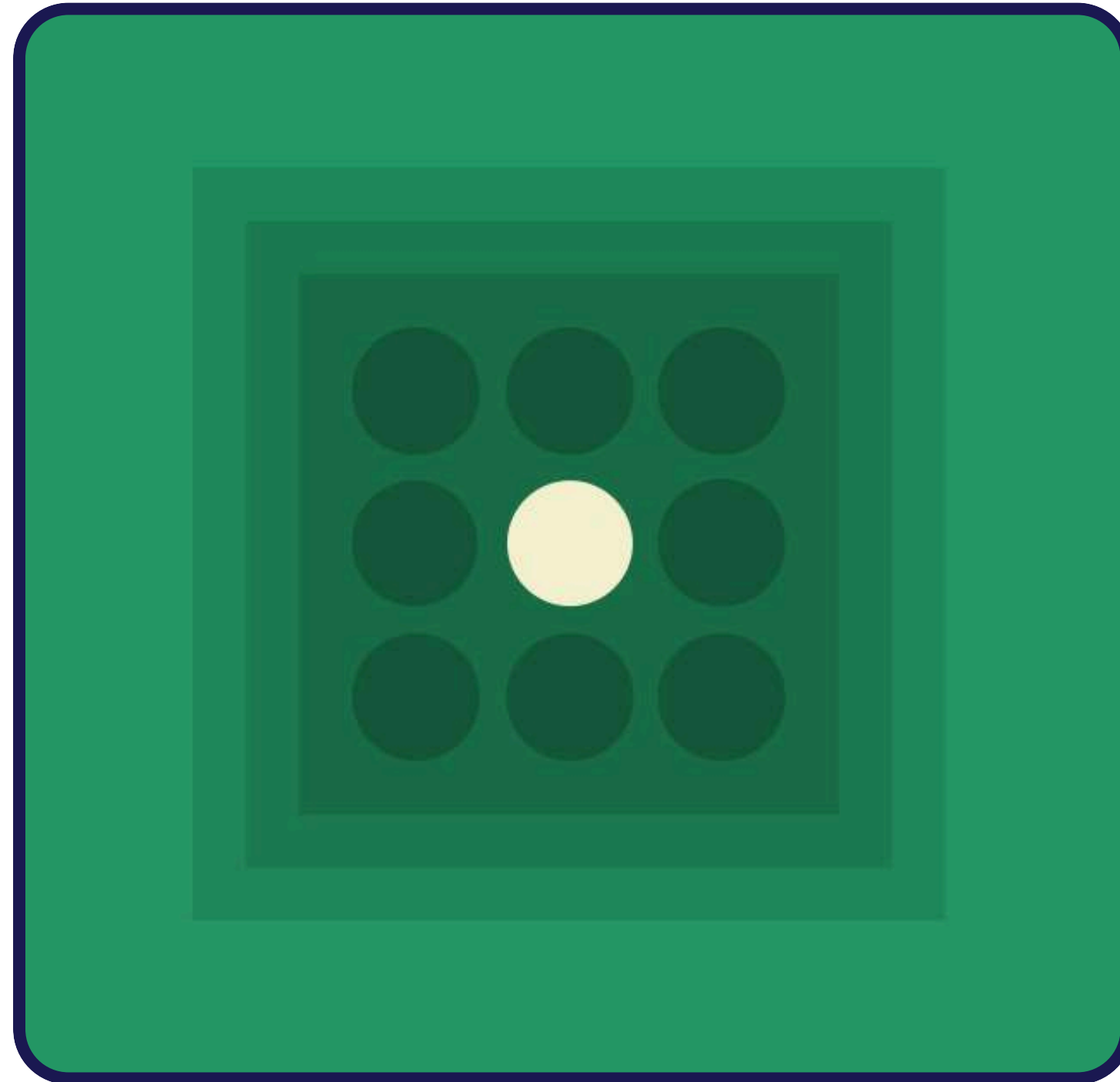
This law explains how we distinguish an object (the figure) from its background (the ground).



02.

Law of Common Region

used to group related elements visually by enclosing them within a border, background color, or shading.



02.

02. Typography

IS ABOUT:

- the art and technique of arranging text in a way that makes it not only readable but also visually appealing and effective in communicating information.

HEADINGS

80px **heading 1**

64px **heading 2**

48px **heading 3**

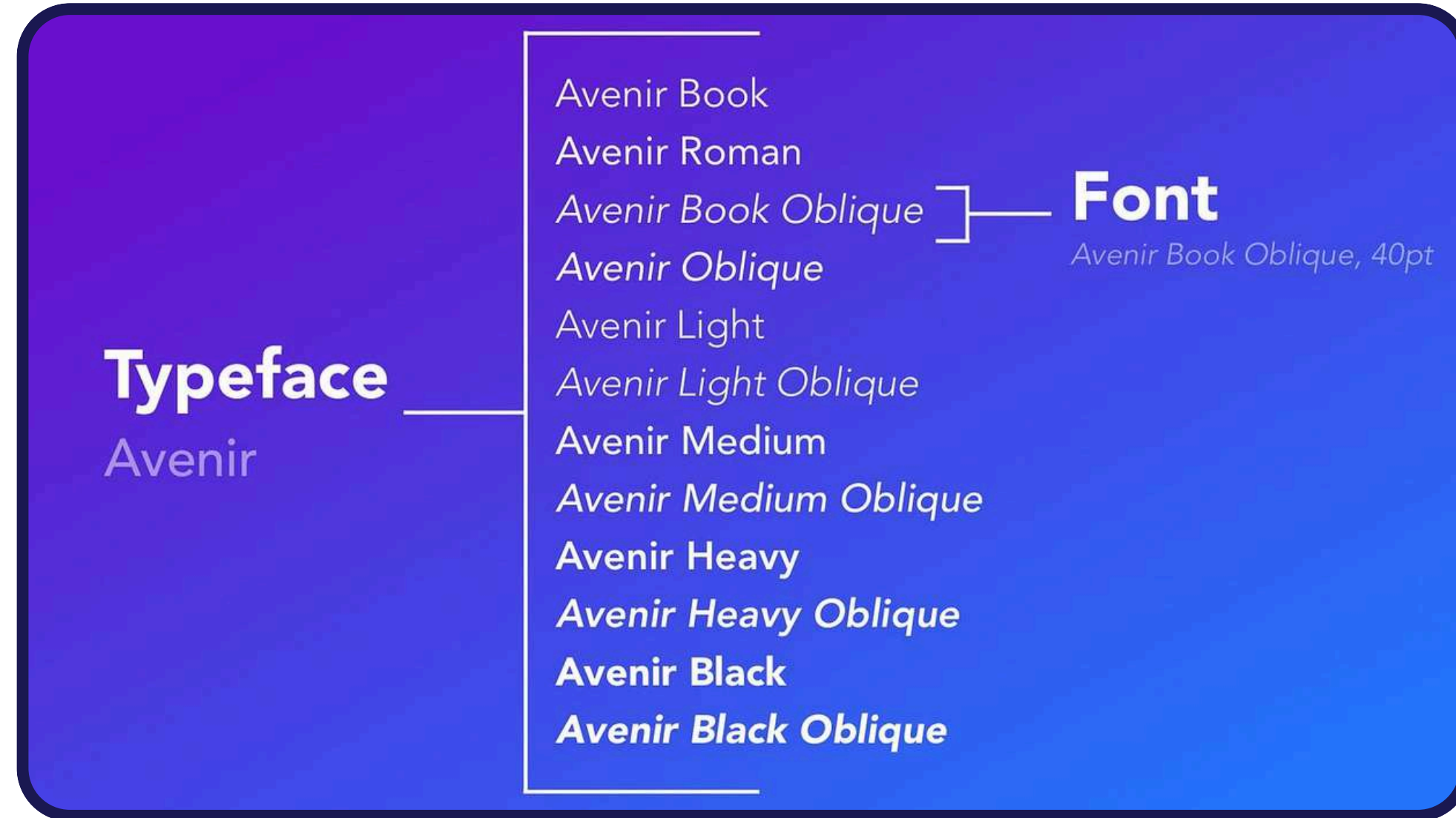
40px **heading 4**

32px **heading 5**

24px **HEADING 6**

Fonts and Typefaces

- **Font:** refers to a specific style and size of text
- **Typeface:** the design of the text itself, like Arial, Times New Roman, or Helvetica.



Font Size

- size of the text is crucial for readability.



Spacing

- **Affordances - Line Spacing:** This refers to the vertical space between lines of text.
- **Letter Spacing** - Adjusting the space between characters can impact readability.



Text Alignment

- Text can be aligned left, right, centered, or justified.

Left align

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type.

Center align

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type.

Right align

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type.

Justified

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type.

Hierarchy and Emphasis

- Typography helps establish a visual hierarchy by differentiating headings, subheadings, and body text through font size, weight (boldness), and style (italic).

02.

Typographic Hierarchy

Print, Web & UI Design

☹️

€ 6,753.54	
Current Balance	
Earlier this week	
Erich Spickermann	-€ 4,700.00
31 Jan	
Cinema Paradiso Baden	-€ 12.80
31 Jan	
YT Ad Revenue	€ 2,235.43

😊

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TYPOGRAPHY

The Effective Structure

Typography hierarchy shows the reader which information to focus on, which is most important, and which is just supporting the main points. There are a variety of things that make up typographic hierarchy on the web. These include: Size is generally the

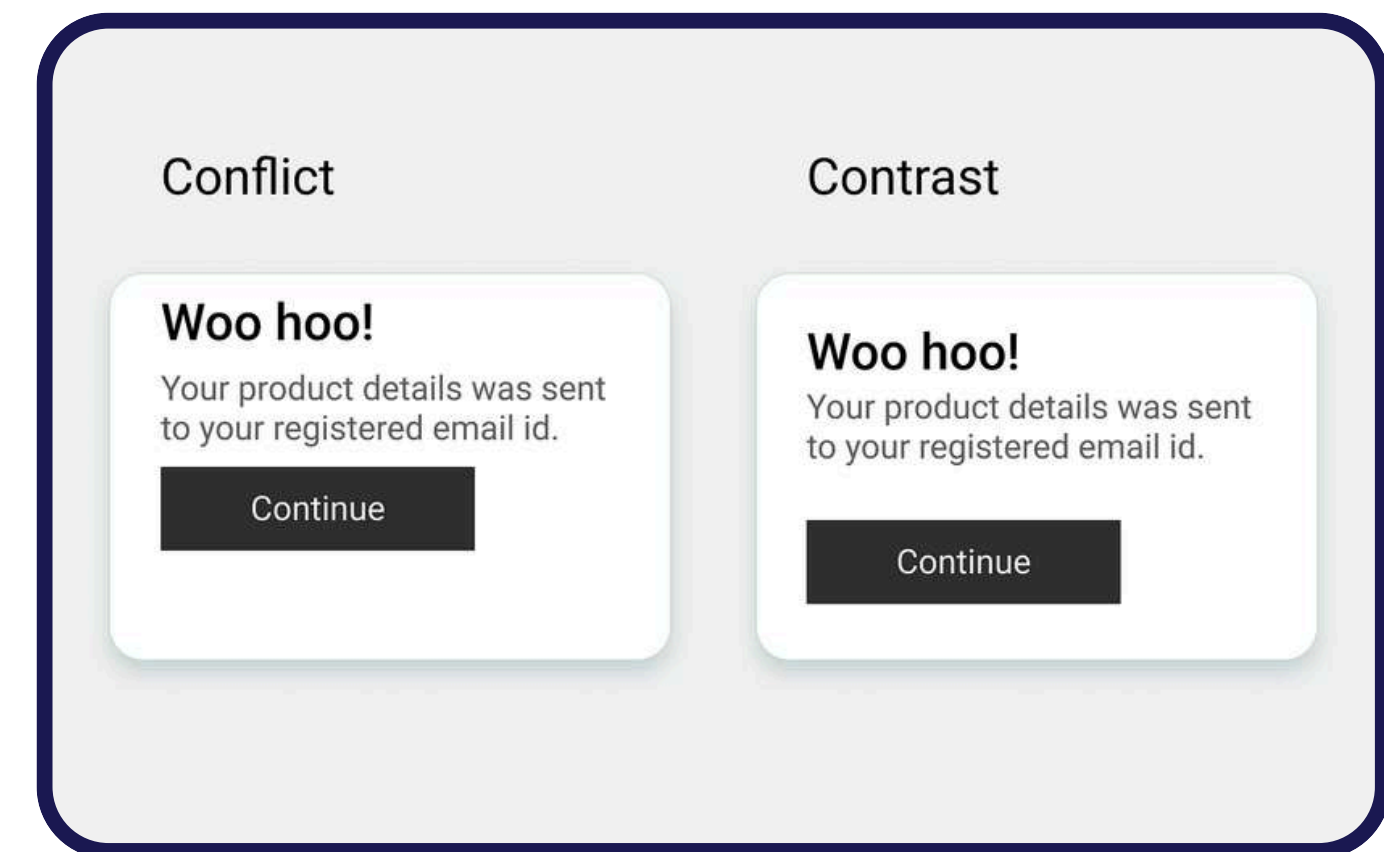
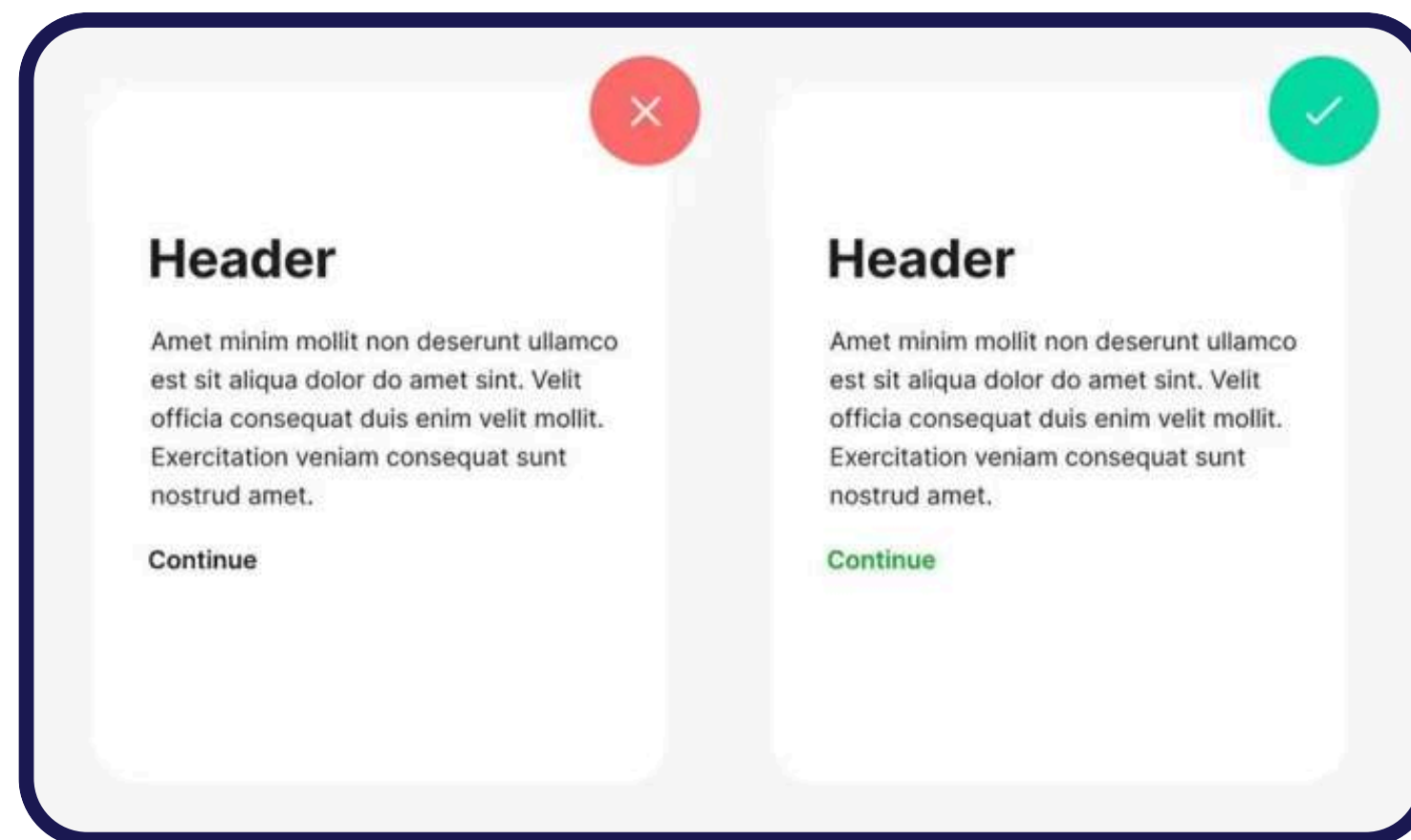
HEADLINE
(Level One)

SUBHEADS
(Level Two)

TEXT
(Level Three)

Contrast

- Typography helps establish a visual hierarchy by differentiating headings, subheadings, and body text through font size, weight (boldness), and style (italic).



03. Colors

- Is one of the things that help us interpret what we perceive.

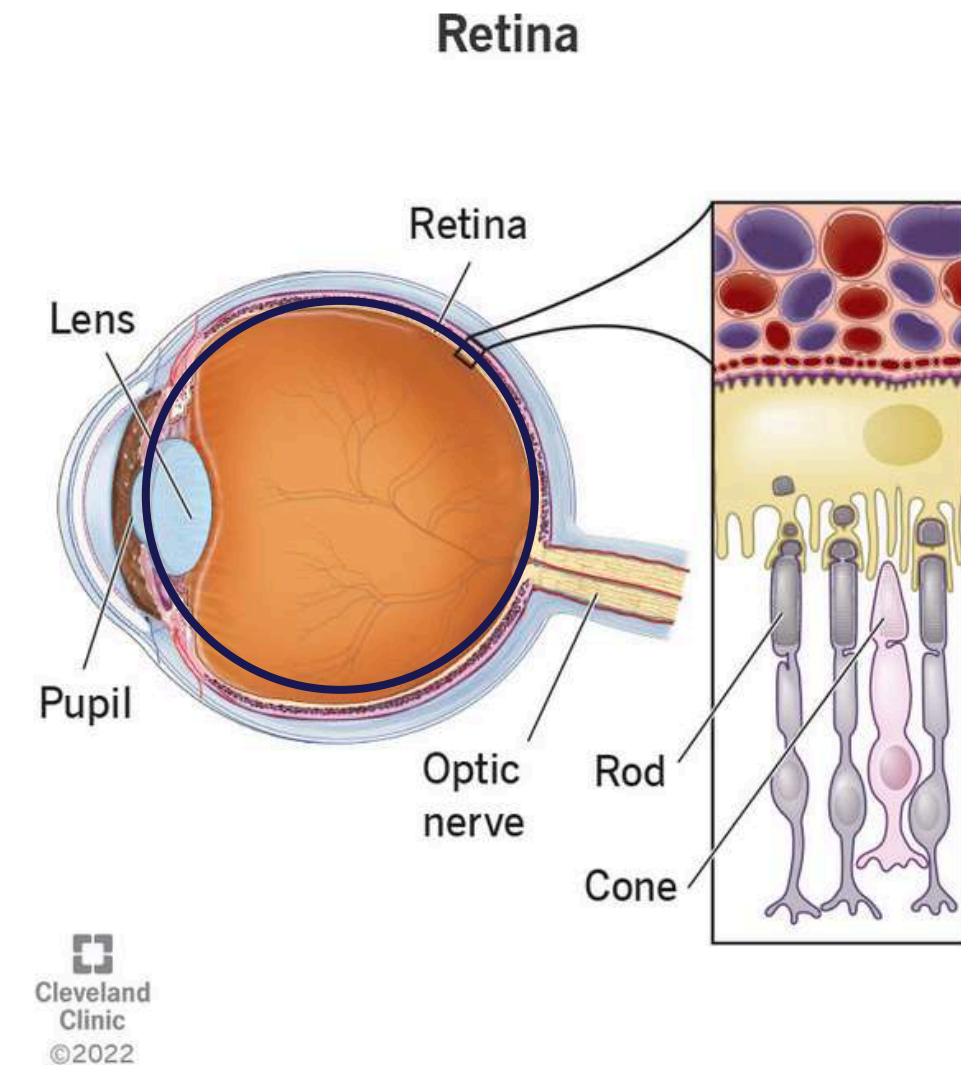


Brief description of how the human visual system processes color information from the environment.

- the retina at the back of the human eye—the surface onto which the eye focuses images—has two types of light receptor cells:

1. **Rods** - rods detect light levels but not colors.

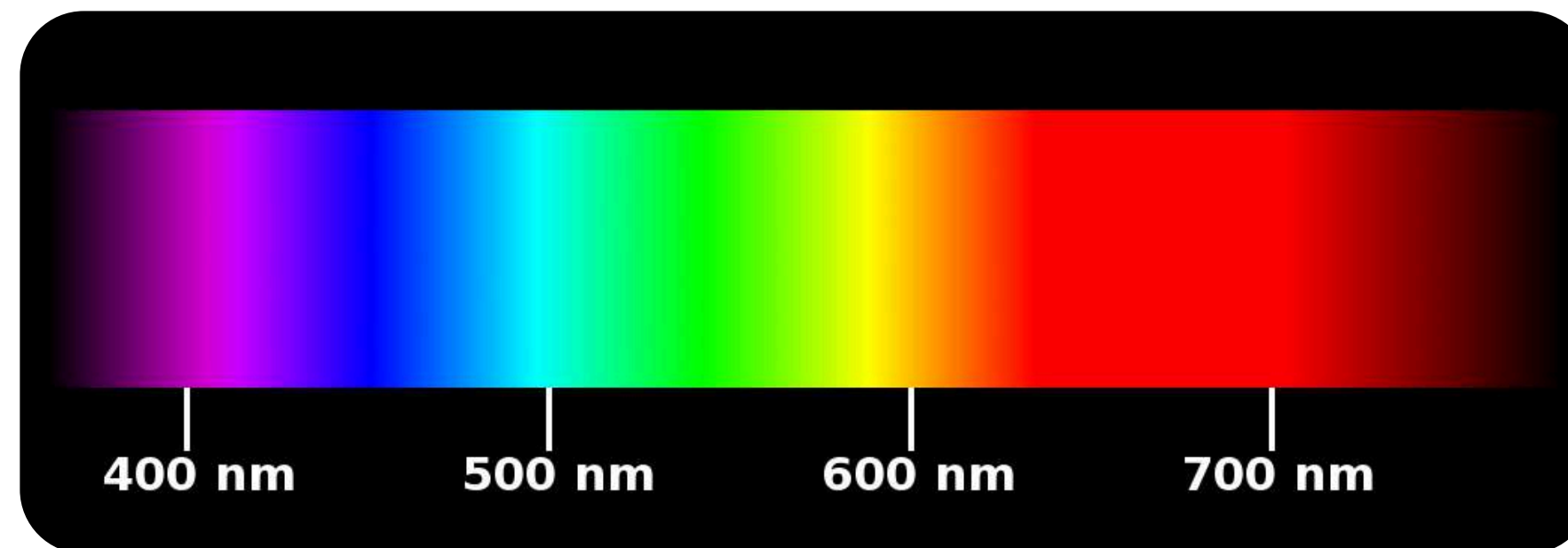
2. **Cones** - detect colors.



03.

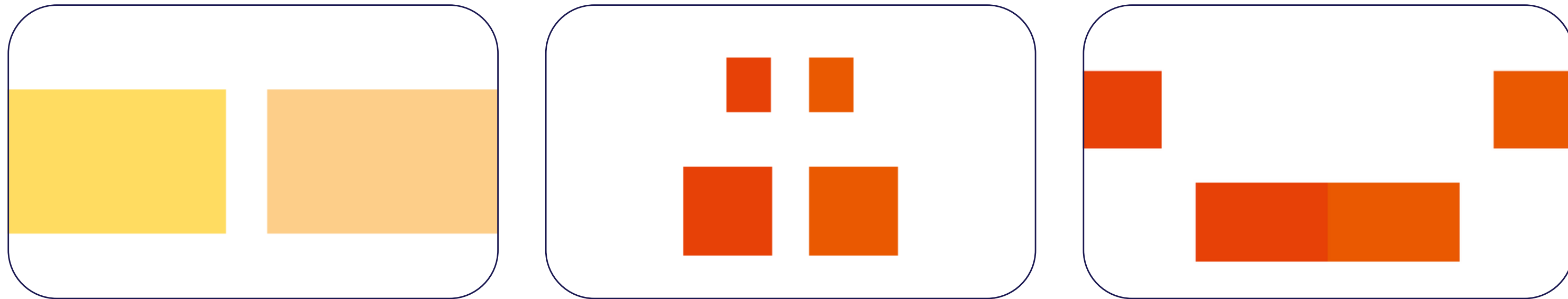
3 Types of Cones

1. **Low frequency:** - These cones are sensitive to light over almost the entire range of visible light.
2. **Medium frequency** - They distinguish colors in the middle of the spectrum, helping us differentiate between reds, yellows, and greens.
3. **High frequency** - S cones help us detect and perceive the color blue.



Factors affect our ability to distinguish colors from each other

1. **Paleness:** The paler (less saturated) two colors are, the harder it is to tell them apart
2. **Color patch size:** The smaller or thinner objects are, the harder it is to distinguish their colors.
3. **Separation:** The more separated color patches are, the more difficult it is to distinguish their colors.



Human color perception has both strengths and limitations. Many of those strengths and limitations are relevant to user interface design:

- Our vision is optimized to detect contrasts (edges), not absolute brightness.
- Our ability to distinguish colors depends on how colors are presented.
- Some people have color-blindness.
- The user's display and the viewing conditions affect color perception.

03. Color Psychology

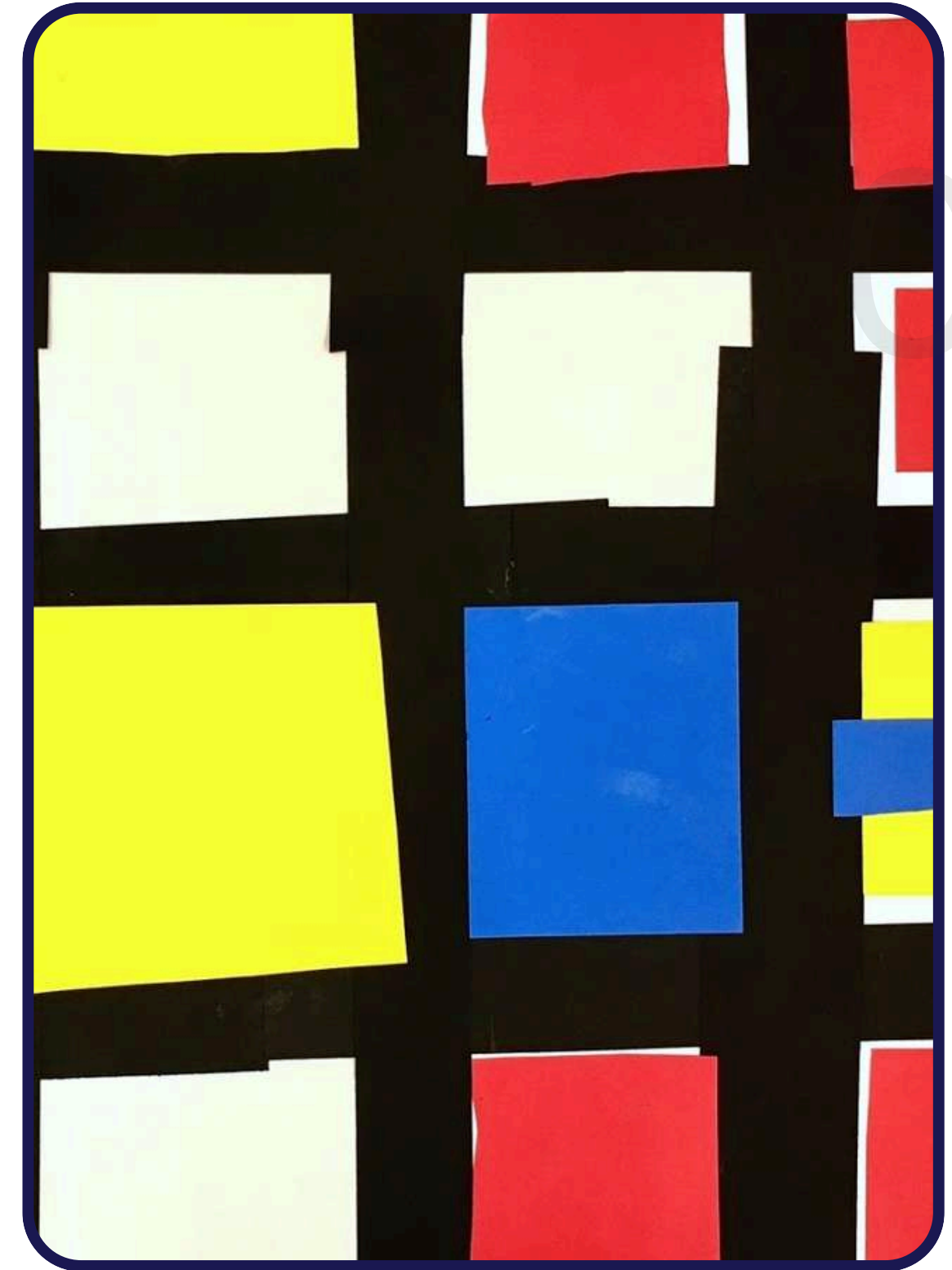
- Colors have a unique power and they evoke specific emotional responses.
- Warm Colors - Stimulate
- Cool Colors - Relax

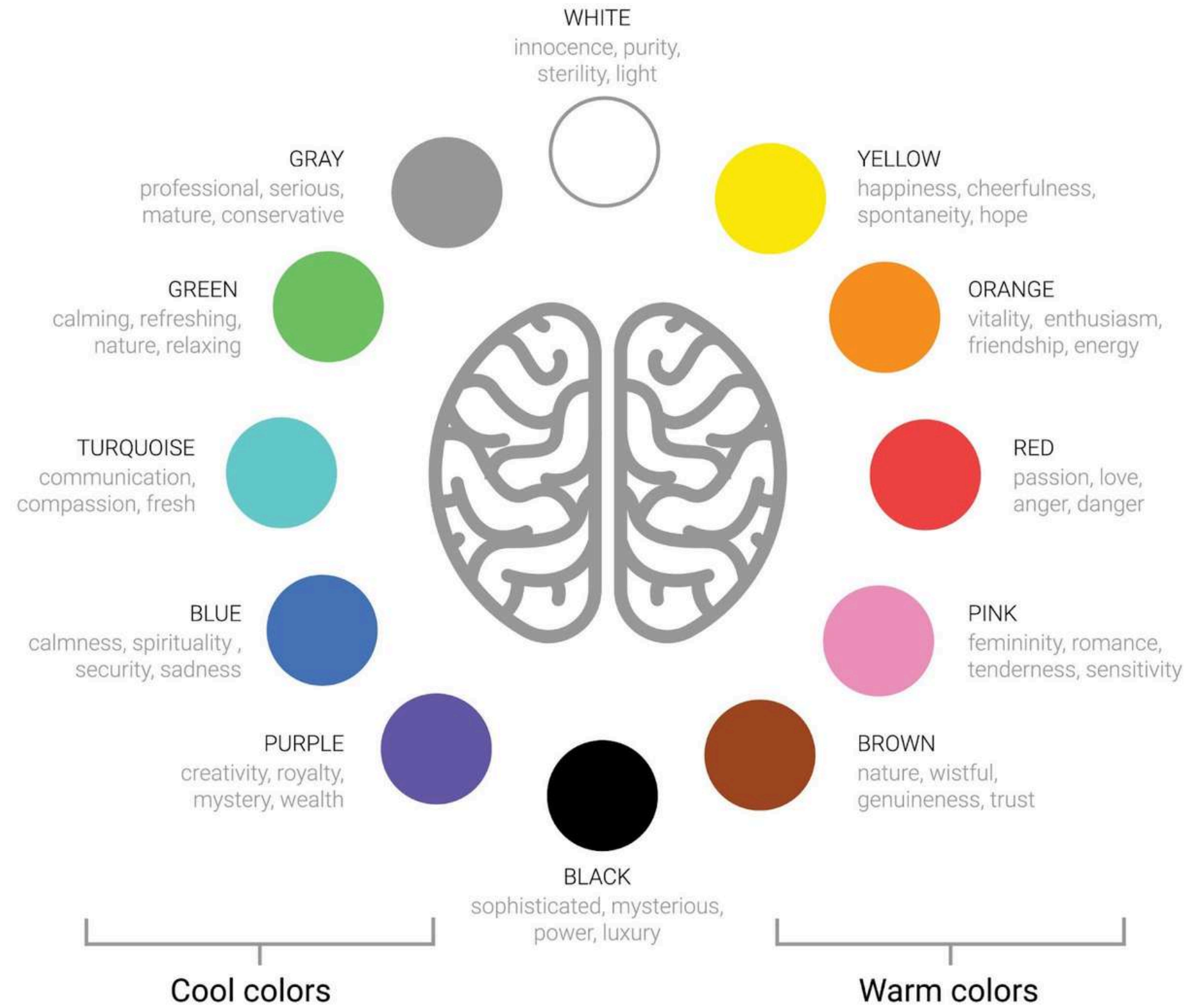


Psychological Primary Colors

1. **RED**
2. **BLUE**
3. **YELLOW**
4. **GREEN**

They relate respectively to the body, mind, emotions, and the essential between these three.





02.

RED  <p>EASTERN brides, happiness, prosperity, good fortune</p> <p>WESTERN passion, excitement, danger, love, anger, stop</p> <p>MIDDLE EAST danger, caution, evil</p>	ORANGE  <p>EASTERN sacred, happiness, spirituality</p> <p>WESTERN harvest, autumn, warmth</p> <p>MIDDLE EAST mourning, loss</p>	PINK  <p>EASTERN marriage, feminine</p> <p>WESTERN feminine, caring, romance</p> <p>MIDDLE EAST no colour meaning</p>
YELLOW  <p>EASTERN courage, prosperity, recent death</p> <p>WESTERN happiness, cowardice, hope, summer</p> <p>MIDDLE EAST mourning, masculine</p>	WHITE  <p>EASTERN death, mourning, unhappiness, misfortune</p> <p>WESTERN brides, medical, purity, cleanliness, holiness, surrender, peace</p> <p>MIDDLE EAST purity, mourning, high-ranking status</p>	GREEN  <p>EASTERN fertility, prosperity, infidelity,</p> <p>WESTERN nature, money, jealous, luck</p> <p>MIDDLE EAST fertility, money, colour of Islam</p>
BLUE  <p>EASTERN wealth, strength, immortality, feminine</p> <p>WESTERN trust, depression, corporate, masculine, conservative</p> <p>MIDDLE EAST heaven, spirituality, mourning</p>	PURPLE  <p>EASTERN wealth, nobility, spirituality</p> <p>WESTERN royalty, wealth, death,</p> <p>MIDDLE EAST wealth, virtue, royalty</p>	BLACK  <p>EASTERN health, knowledge, prosperity, stability</p> <p>WESTERN funerals, death, rebellion, mourning, strength</p> <p>MIDDLE EAST mourning, mystery, rebirth</p>

02.

Things to Consider in Selecting Colors

- Cultural Color Associations
- The profile of the audience and its color preference
- The Character and Personality of the organization presented
- Designers personal relationship to the color

03.

04. Graphic Design

- Various methods are used to create and combine symbols, images and/ or words to create a visual representation of ideas and messages.
- Art with purpose



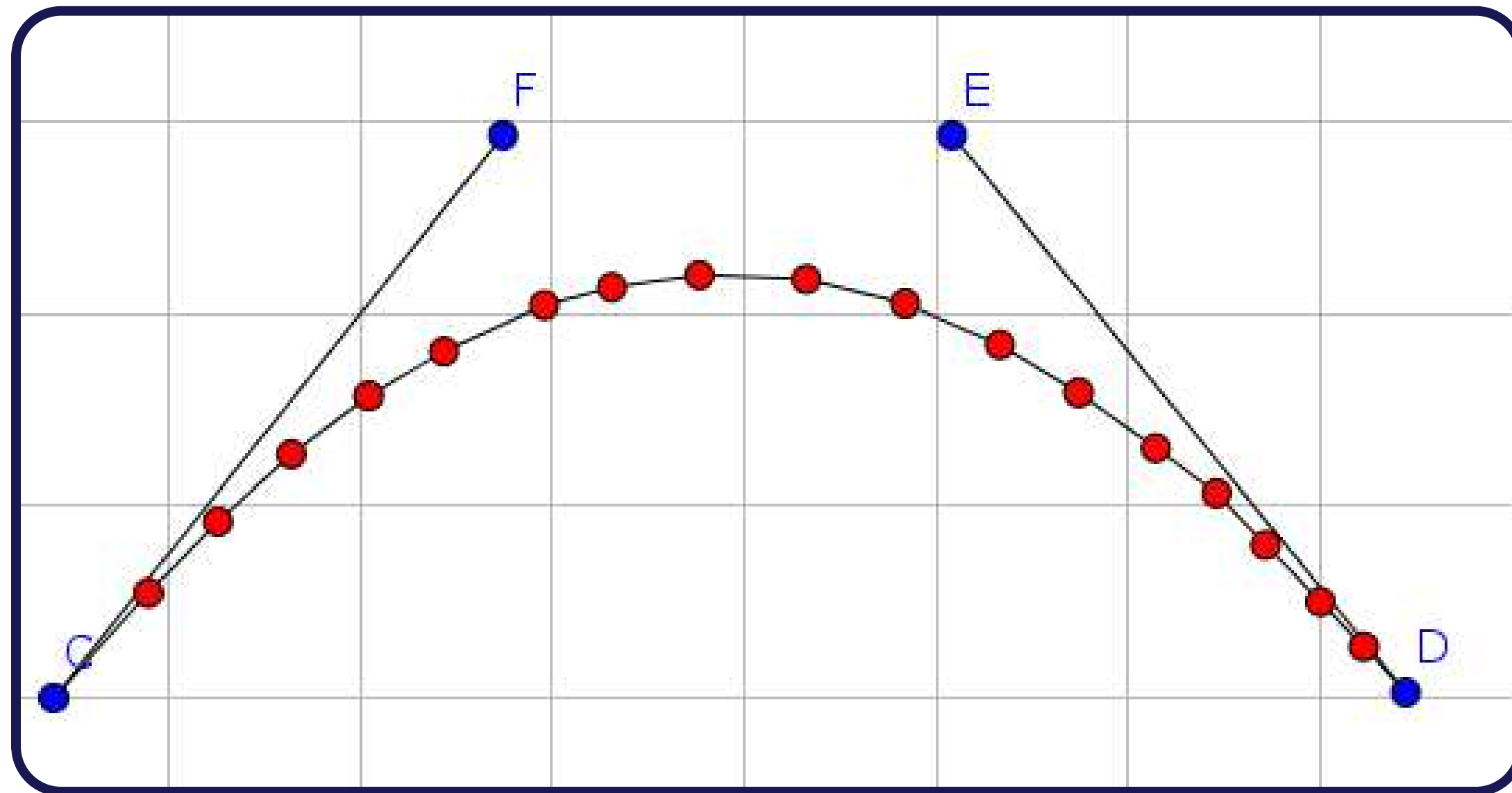
Graphic Design Tools

- Adobe Photoshop
- Illustrator
- InDesign
- Canva
- Adobe Express
- More..

04.

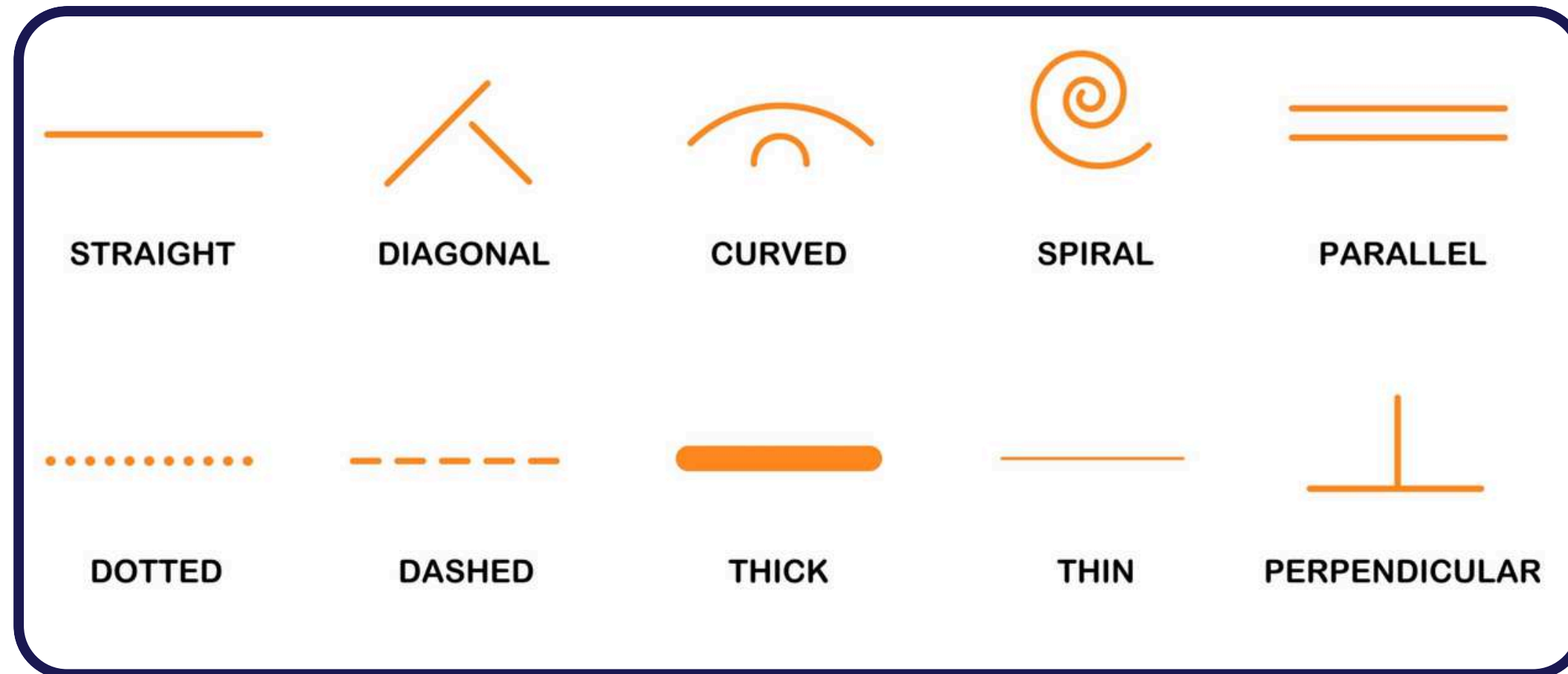
Building Blocks

- **Point** - A fundamental particle of Graphic Design



Building Blocks

- **Lines** - Any mark connecting to points



Building Blocks

- **Shapes** - Anything that has a width and height is a shape.



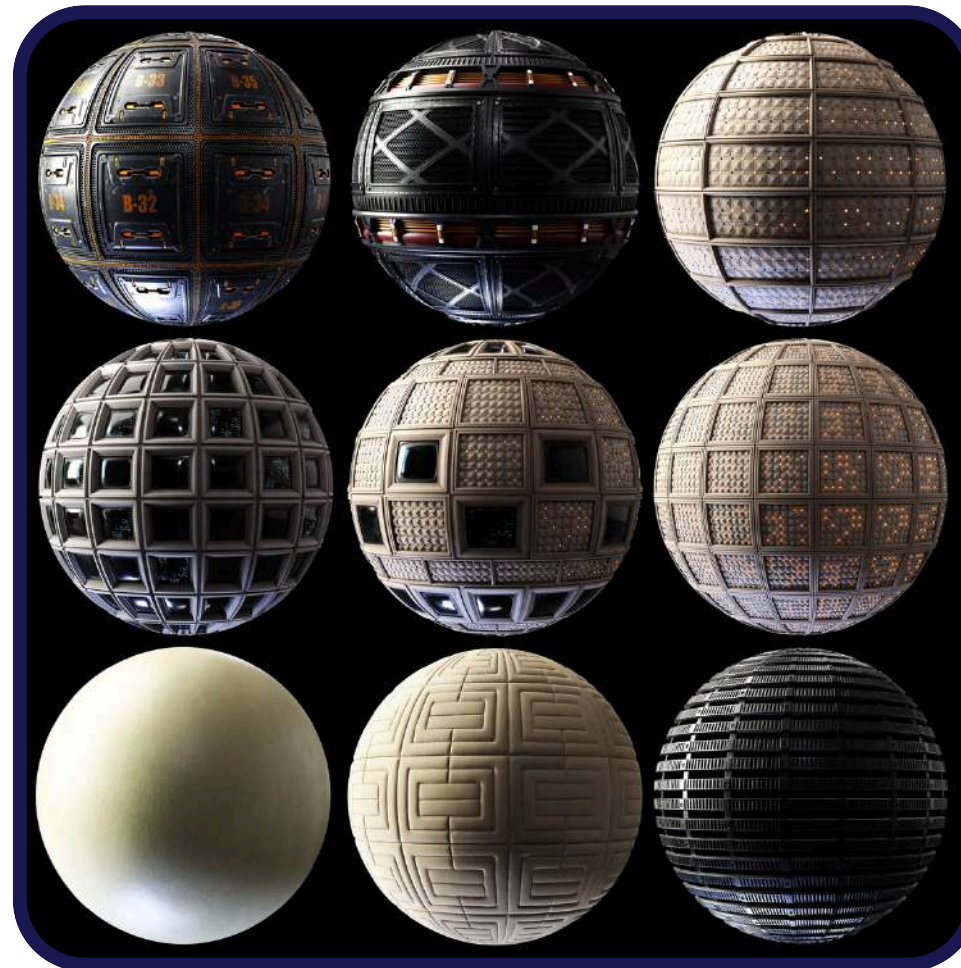
Building Blocks

- **Pattern** - Our tendency to make meaning an order will find a pattern things.



Building Blocks

- **Texture** - Look or feel of a surface; can create mood and personality



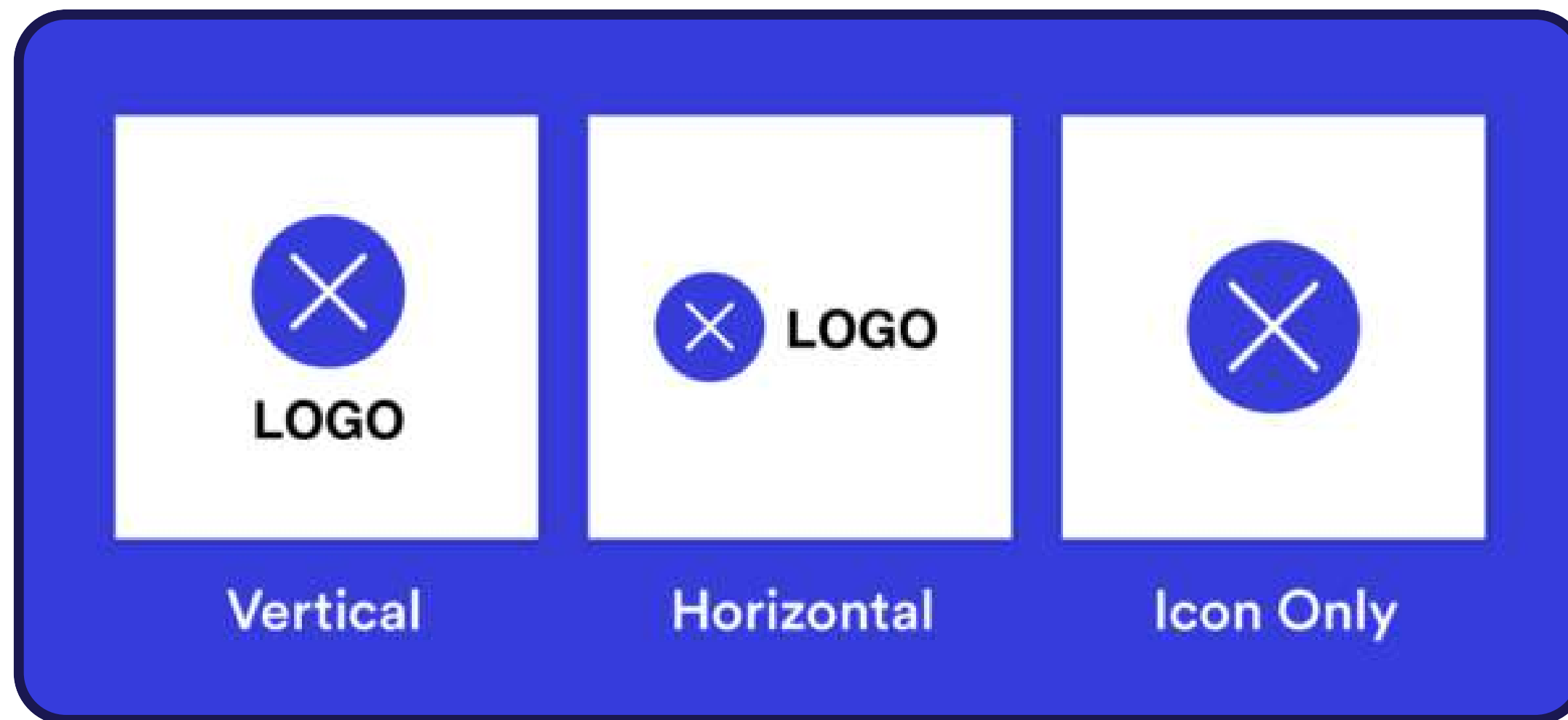
Building Blocks

- **Space-** Distance or area between things.

04.

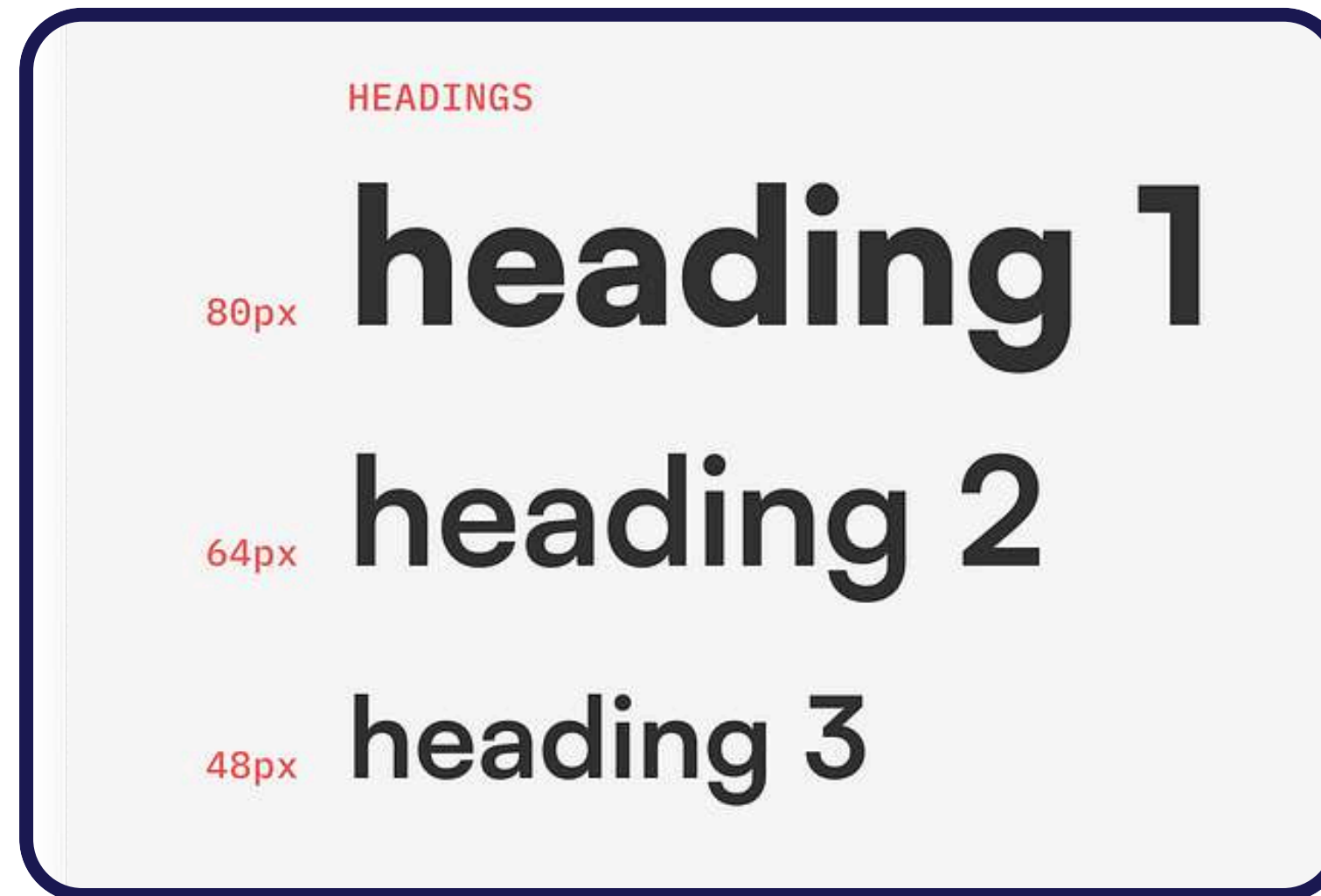
Building Blocks

- **Size** - How large or small something is



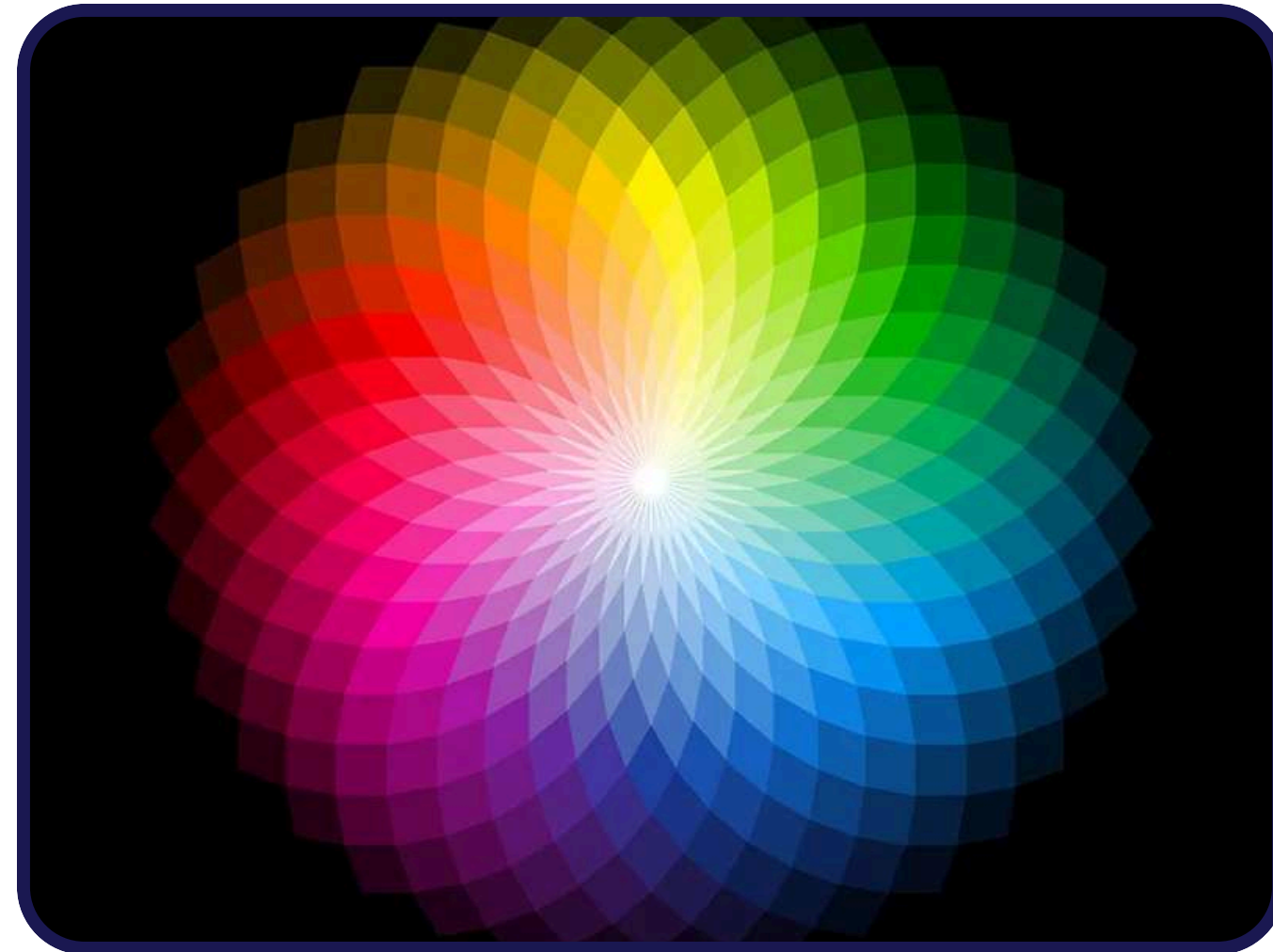
Building Blocks

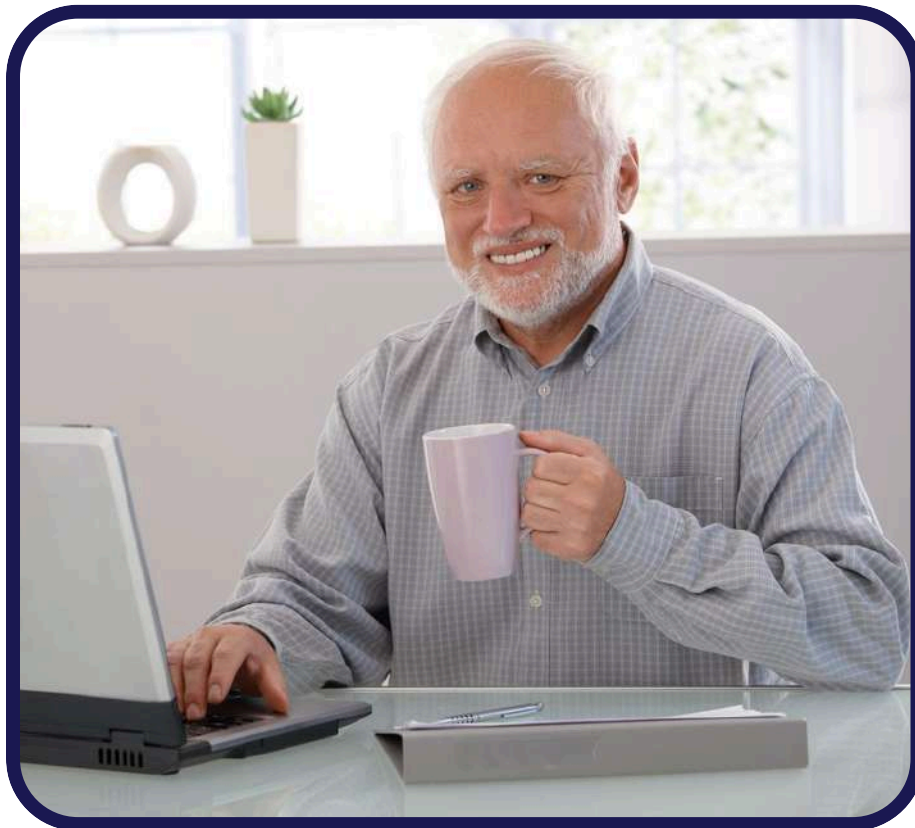
- **Typography** - One of the most important tools for a graphic designer.



Building Blocks

- **Color** - Can convey moods, create images, attract attention and identify objects.





Assignment

1. Find two examples of poorly designed user interfaces on the internet and explain why they are considered bad designs.
2. Recreate these interfaces and improve them by applying better typography, colors, and overall usability principles.
3. Provide a brief explanation of the elements you enhanced and the reasons for those enhancements.
4. Send your assignments at: jhamaya.santiago@ustp.edu.ph

Deadline: August 29, 2024