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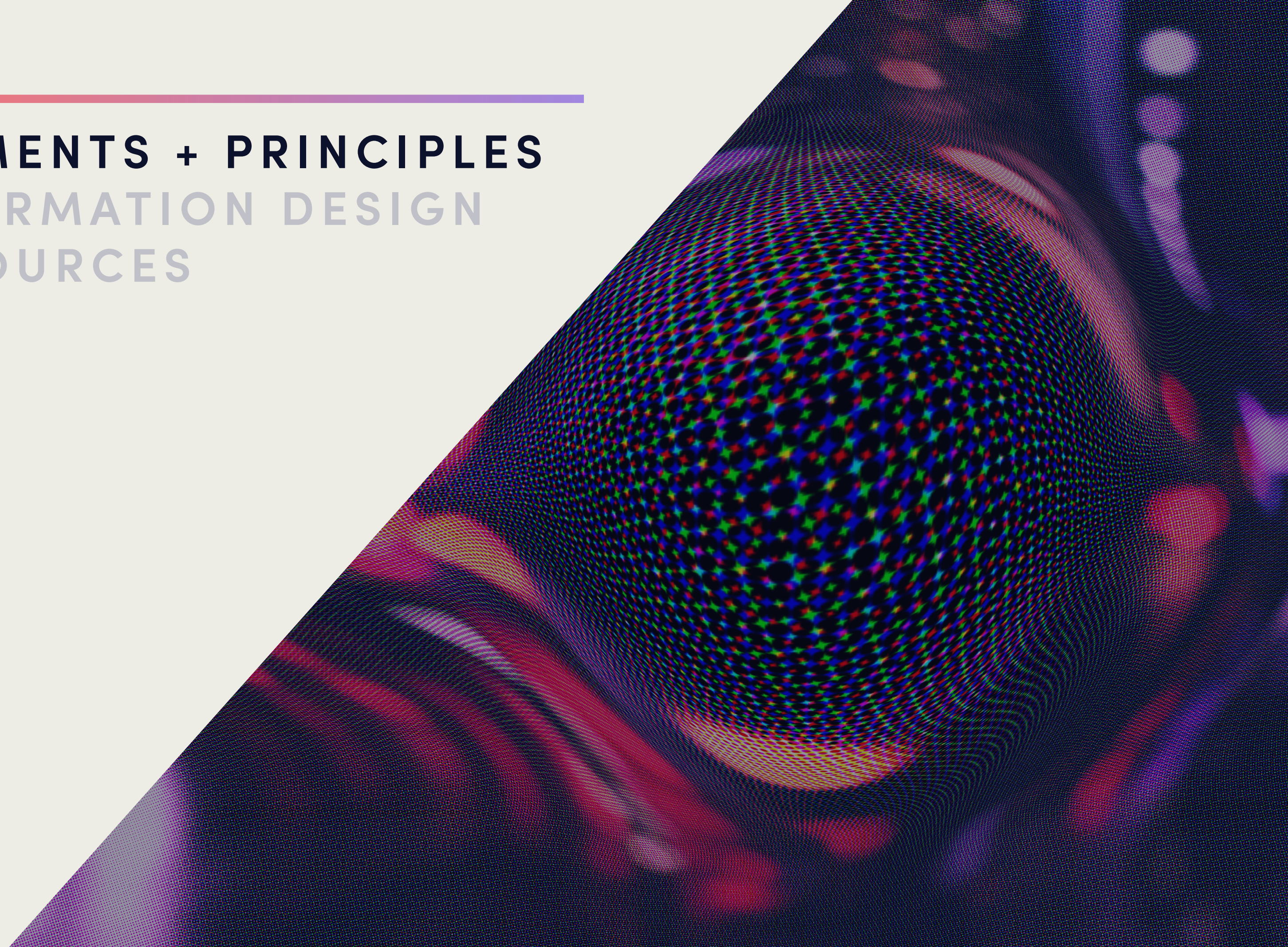
# INFORMATION DESIGN

MARIT McCLUSKE X GRAPHIC DESIGN



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**ELEMENTS + PRINCIPLES**  
INFORMATION DESIGN  
RESOURCES





# BASIC ELEMENTS OF DESIGN

Elements are the ingredients of design!



- ▶ **Line**
- ▶ **Color**
- ▶ **Texture**
- ▶ **Form (3D)**
- ▶ **Shape (2D)**



# BASIC PRINCIPLES OF DESIGN

Principles are recipes for using elements!



- ▶ **Dominance/emphasis**
- ▶ **Harmony/Unity**
- ▶ **Balance**
- ▶ **Scale/Proportion**
- ▶ **Similarity + Contrast**
- ▶ **Hierarchy**





# GESTALT PRINCIPLES OF DESIGN

## Grouping Principles from Gestalt psychology



The whole is **OTHER** than the sum of its parts

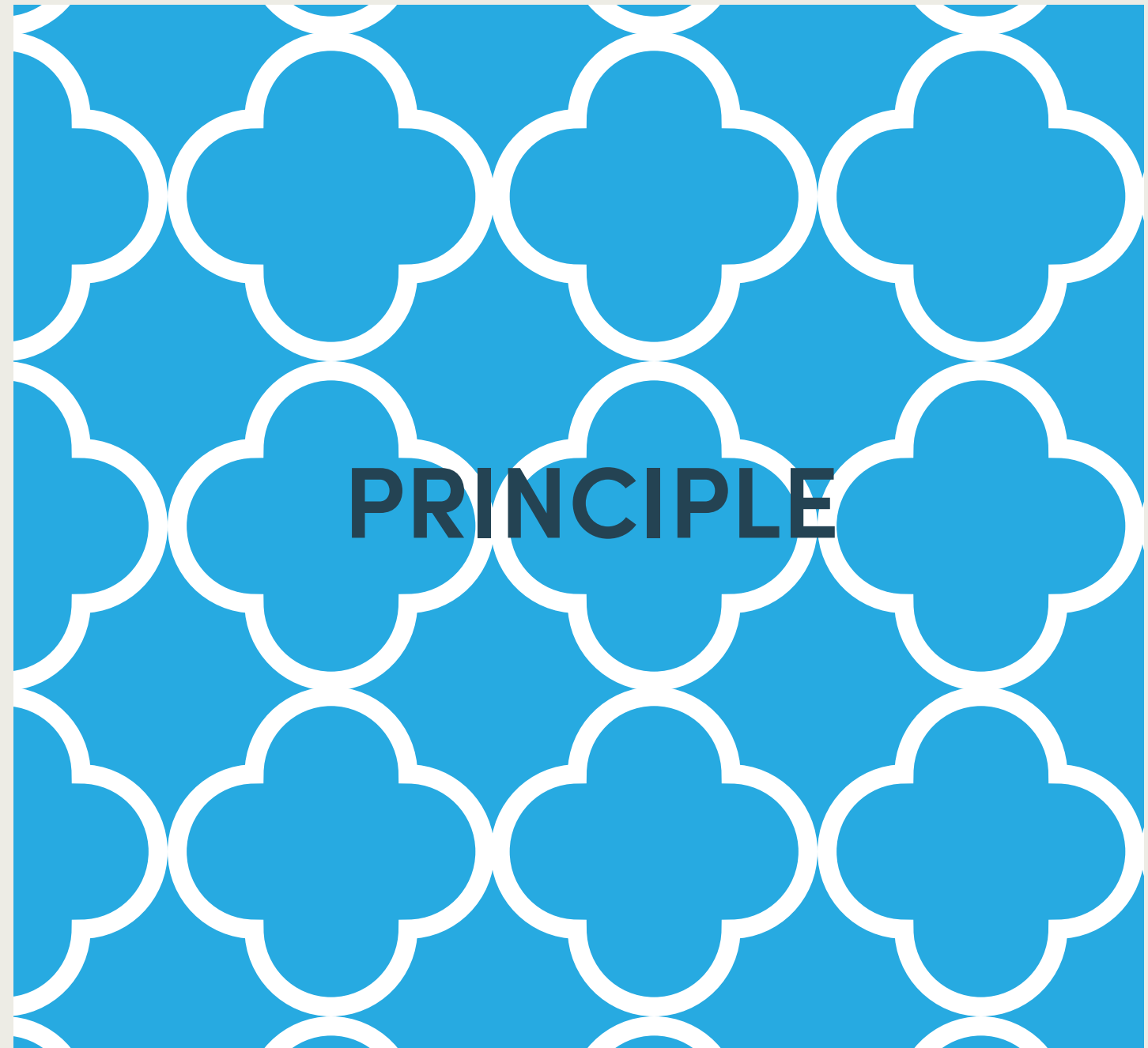
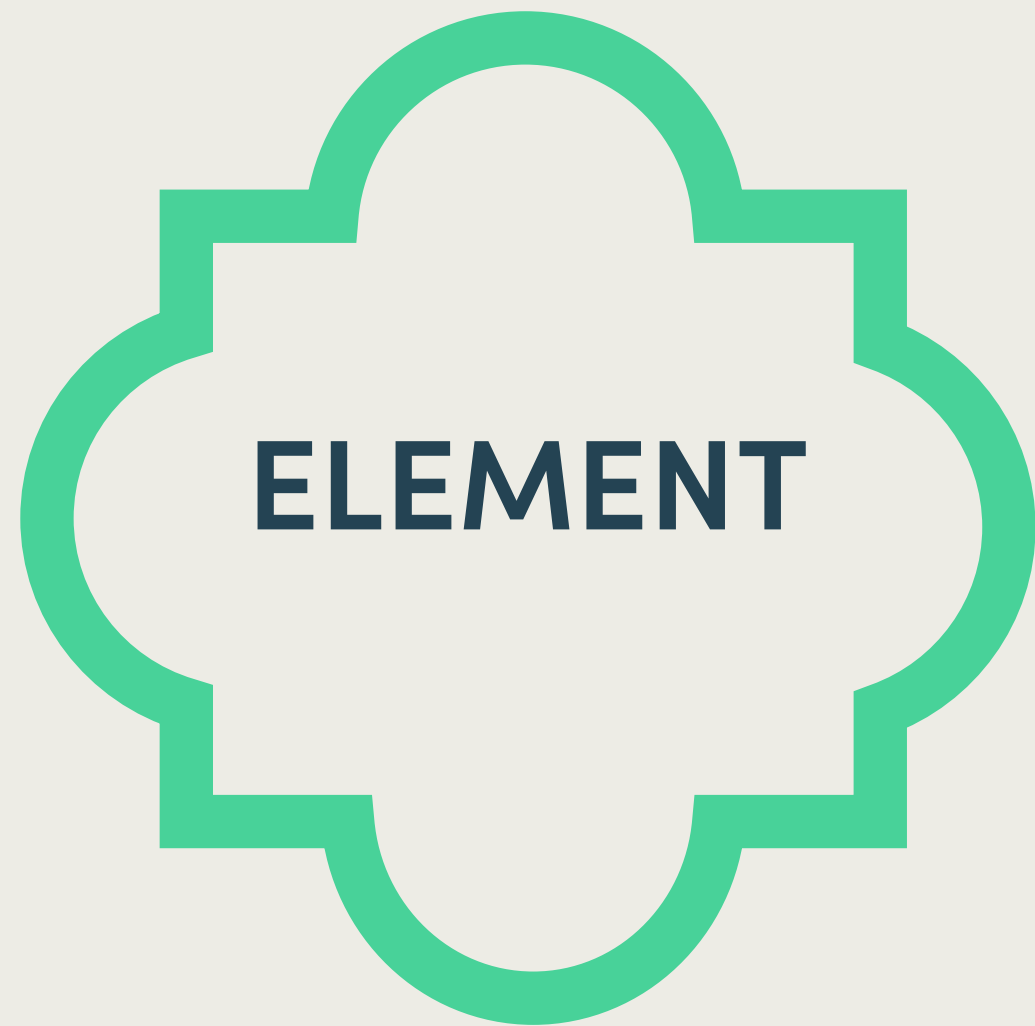
We recognize patterns in often ambiguous forms as we visually and psychologically attempt to make order out of chaos, give harmony to what is seemingly disconnected bits of information.

We are predisposed to see simple patterns, simple patterns are easier to perceive.





**Cognitively, when viewing the 'whole', the mind makes a leap from comprehending the parts to understanding the larger picture.**

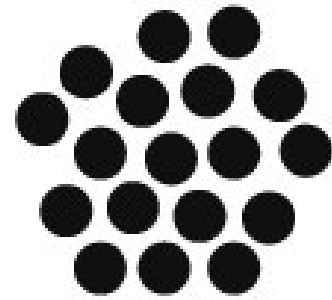




# Grouping Principles from Gestalt psychology: 6 Principles of Design

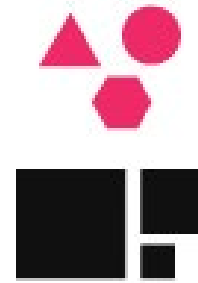
Designer: Arnav Sameer

## Unity / Harmony



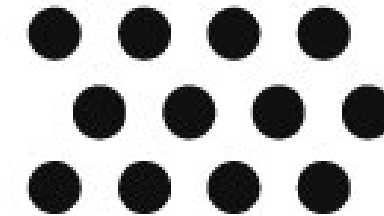
### PROXIMITY

A sense of the distance between elements



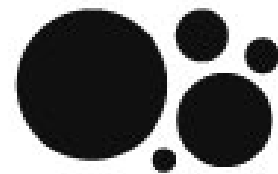
### SIMILARITY

Ability to seem repeatable with other elements



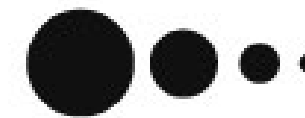
### CONTINUATION

The sense of having a line or pattern extend



### REPETITION

Elements being copied or mimicked numerous times

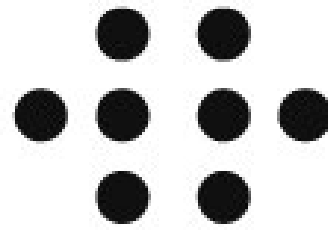


### RHYTHM

Achieved when recurring position, size, color, and use of a graphic element has a focal point interruption

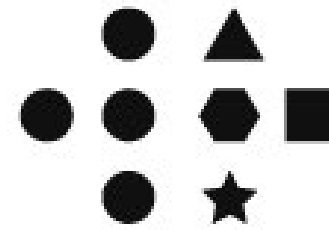


## Balance



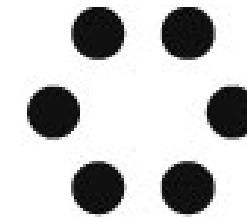
### SYMMETRY

Elements on either side of the axis are arranged similarly



### ASYMMETRY

Elements on each side differ in shape but still are in visual equilibrium

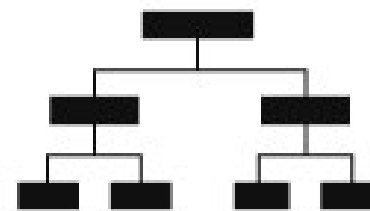


### RADIAL

Elements are arranged around a circular form

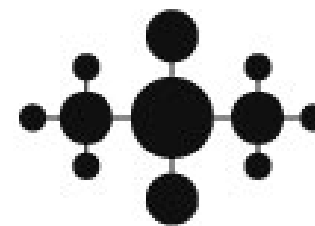


## Hierarchy



### TREES

Elements arranged in the order of a tree with a trunk, branches & sub branches



### NESTS

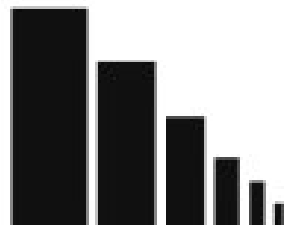
Elements mapped on to each other as parents, children & grand children



### WEIGHT

Elements of the same weight belong to the same class of hierarchical positions

## Scale / Proportion



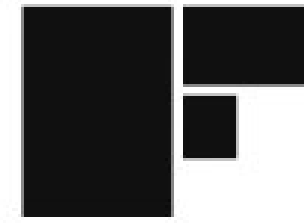
### SIZE

Elements of different sizes in relationships with each other



### RATIO

Elements related to each other in a ratio appear together in visual harmony

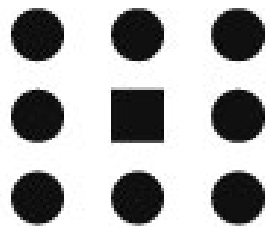


### DIVISIONS

These create focal points that automatically give a sense of the relationships

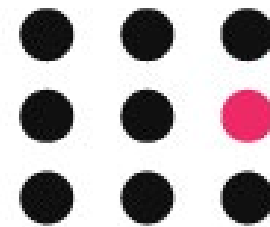


## Dominance / Emphasis



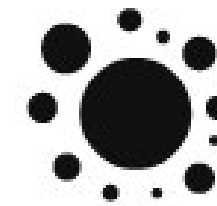
### HIGHLIGHT

Breaking the visual hierarchy using form to lay emphasis



### COLOUR

To distinguish between elements in a series of similar forms

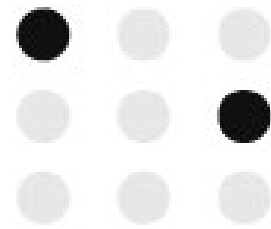


### SIZE

Elements of different sizes focus the viewers attention accordingly

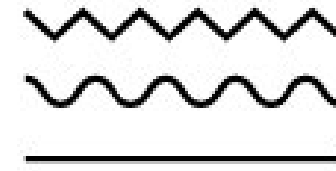


## Similarity & Contrast



### LIGHT & DARK

Clear foreground & background separation lend contrast between elements



### LINE

Elements of varying textures & forms bring about a contrasting effect



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ELEMENTS + PRINCIPLES  
**INFORMATION DESIGN**  
RESOURCES



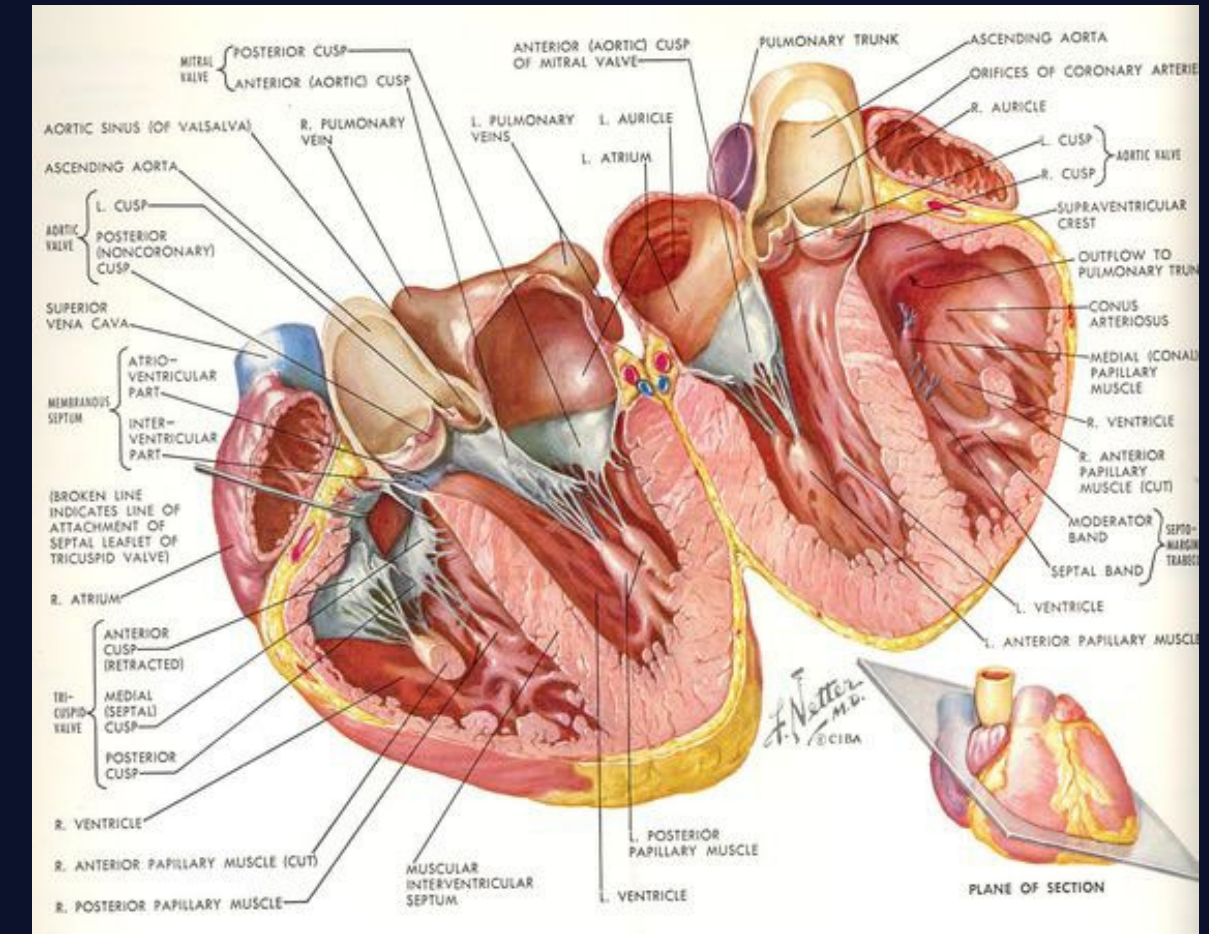
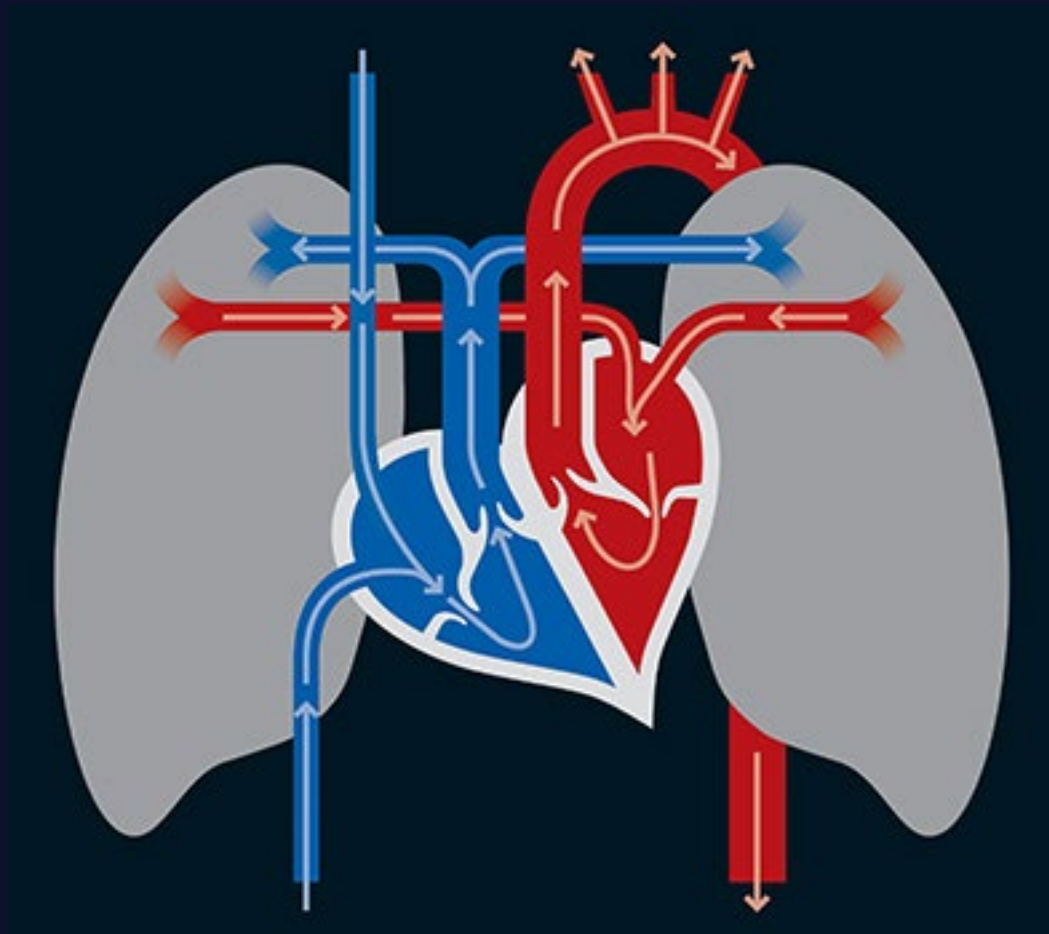


# INFORMATION DESIGN

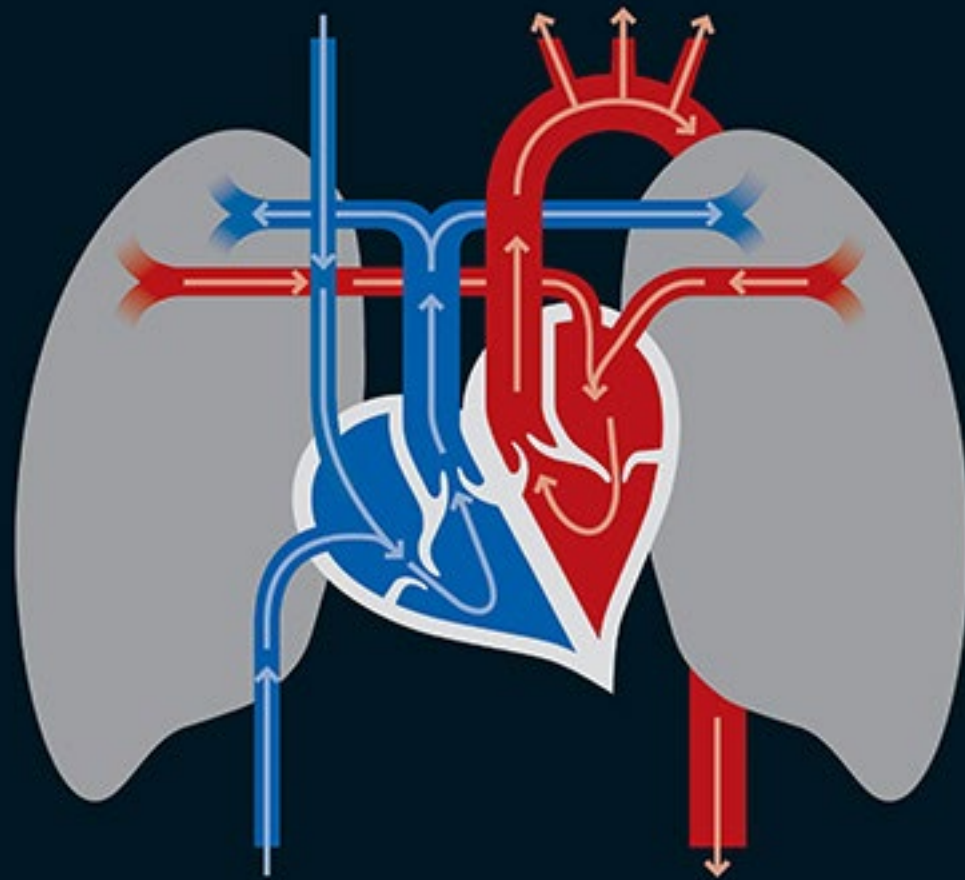
A successful design balances the meaning of information with the perceptions & experiences of the audience.

Lines

3 functions of lines



# ELEMENTS IN INFORMATION GRAPHICS: LINE



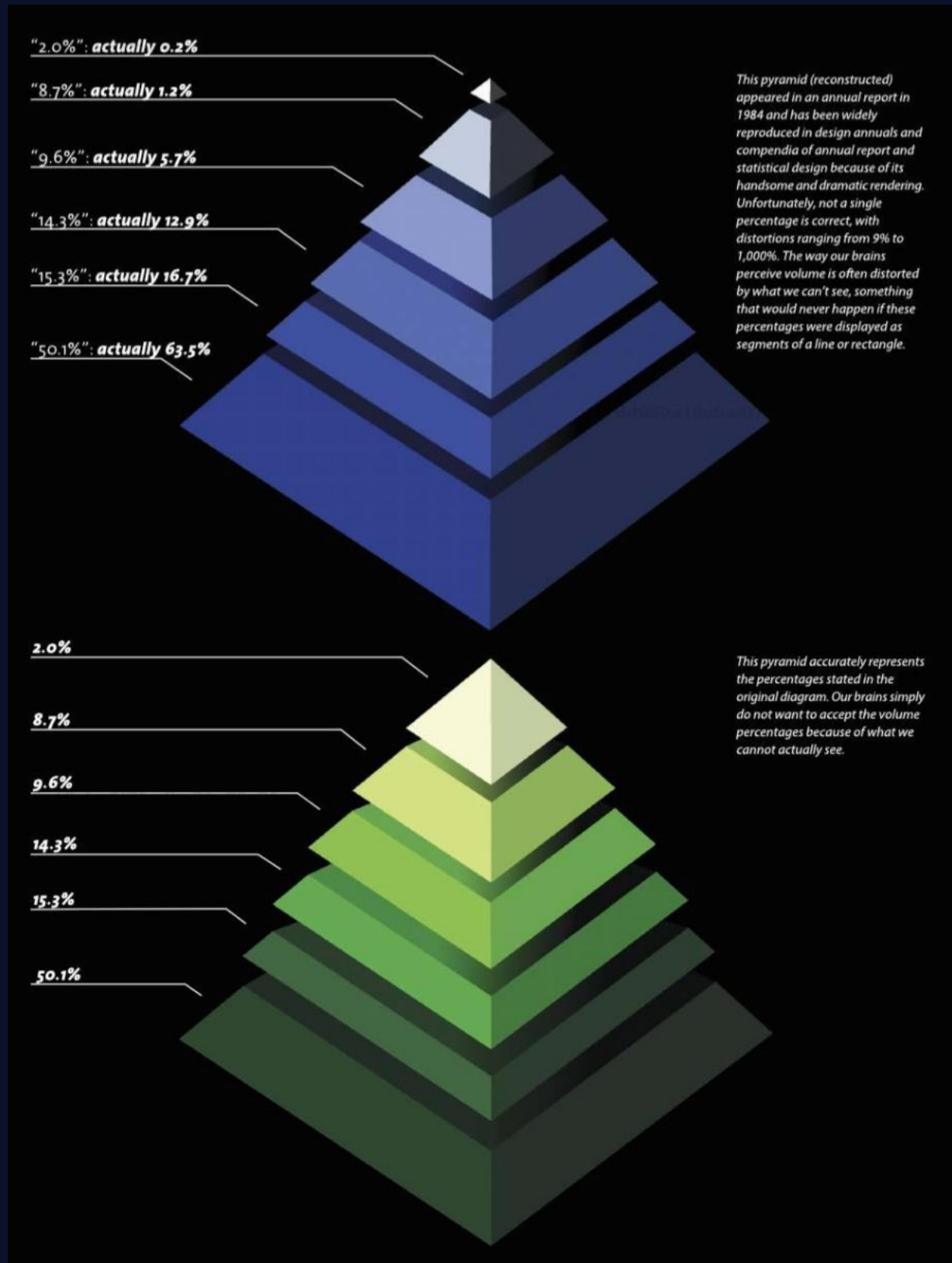
## 3 functions of lines:

- ▶ Establish edge/boundary of space
- ▶ Establish connection/pointer between objects
- ▶ Use as linear element representation
- ▶ Lines used to outline an element are excessive and unneeded!

The use of outline in the heart is thick to help imply a section cut of the heart (white area shows physiological structure) and blue/red areas help indicate a volume of blood present. The veins and arteries and lungs have no outline to avoid confusion.

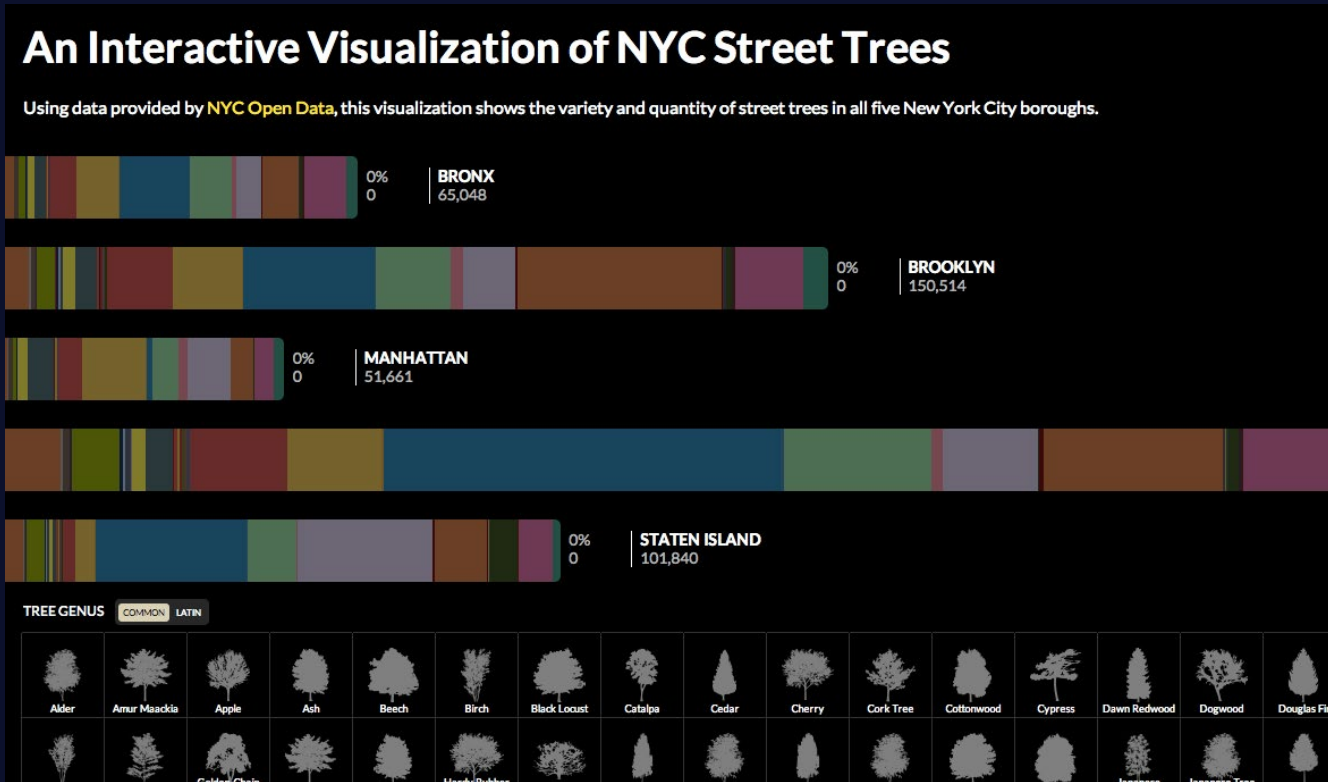


# SHAPE & SCALE



- ▶ Shape/form carries connotations: shape/form should be used to display categorical differences with no hierarchy or ordering
- ▶ Beware of optical illusions: the human brain has a tough time with geometry and often can't accurately gauge when an object has doubled or tripled in size
- ▶ Scale is often underestimated when comparing sizes. Objects doubled in size often look 50%-70% bigger
- ▶ What we perceive as visually correct vs quantitatively accurate comparisons can be different.

# COLOR & TEXTURE

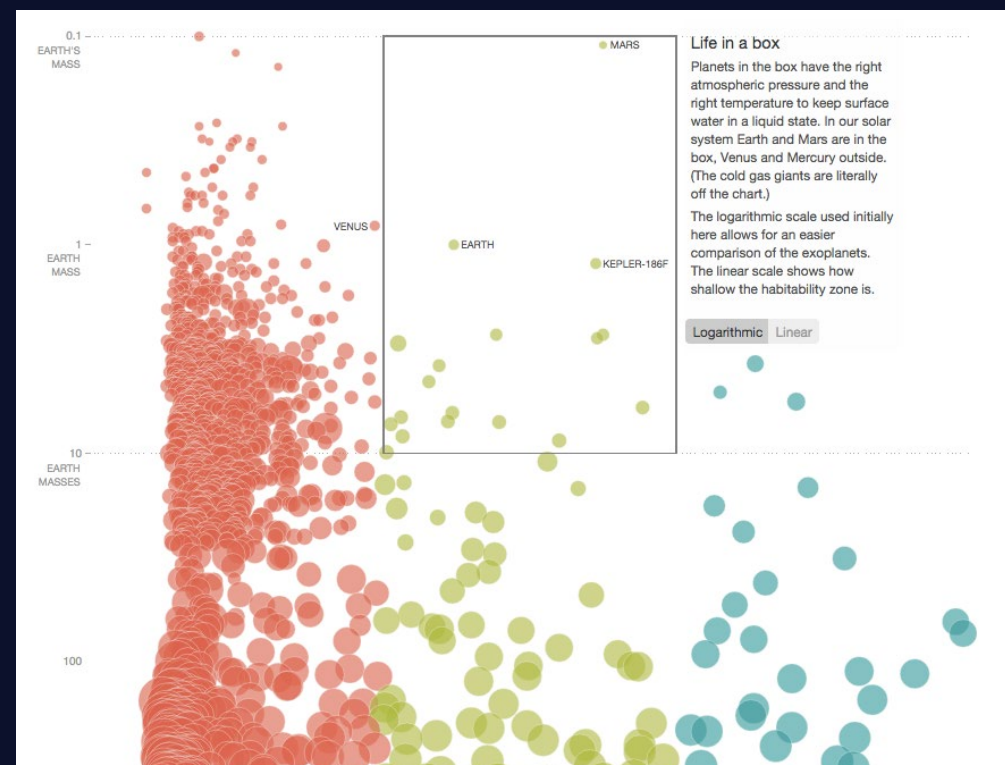


▶ A maximum of 7 colors are easily distinguished in information graphics. Use of texture and opacity to add further distinction should come for secondary information

▶ Use colors with familiar connotations if possible

▶ Coded color often needs a key

▶ Patterns permit layering



# TYPE AND LABELING

## SANS SERIF

hello my name is serif serif serif serif serif serif  
serif serif serif serif serif serif serif serif serif  
serif serif serif serif serif serif serif serif serif  
serif serif serif serif serif serif.

## 5% grey tint

**The quick brown  
fox jumped over  
the lazy dog.**

Sans serif vs. Serif typefaces, generally:

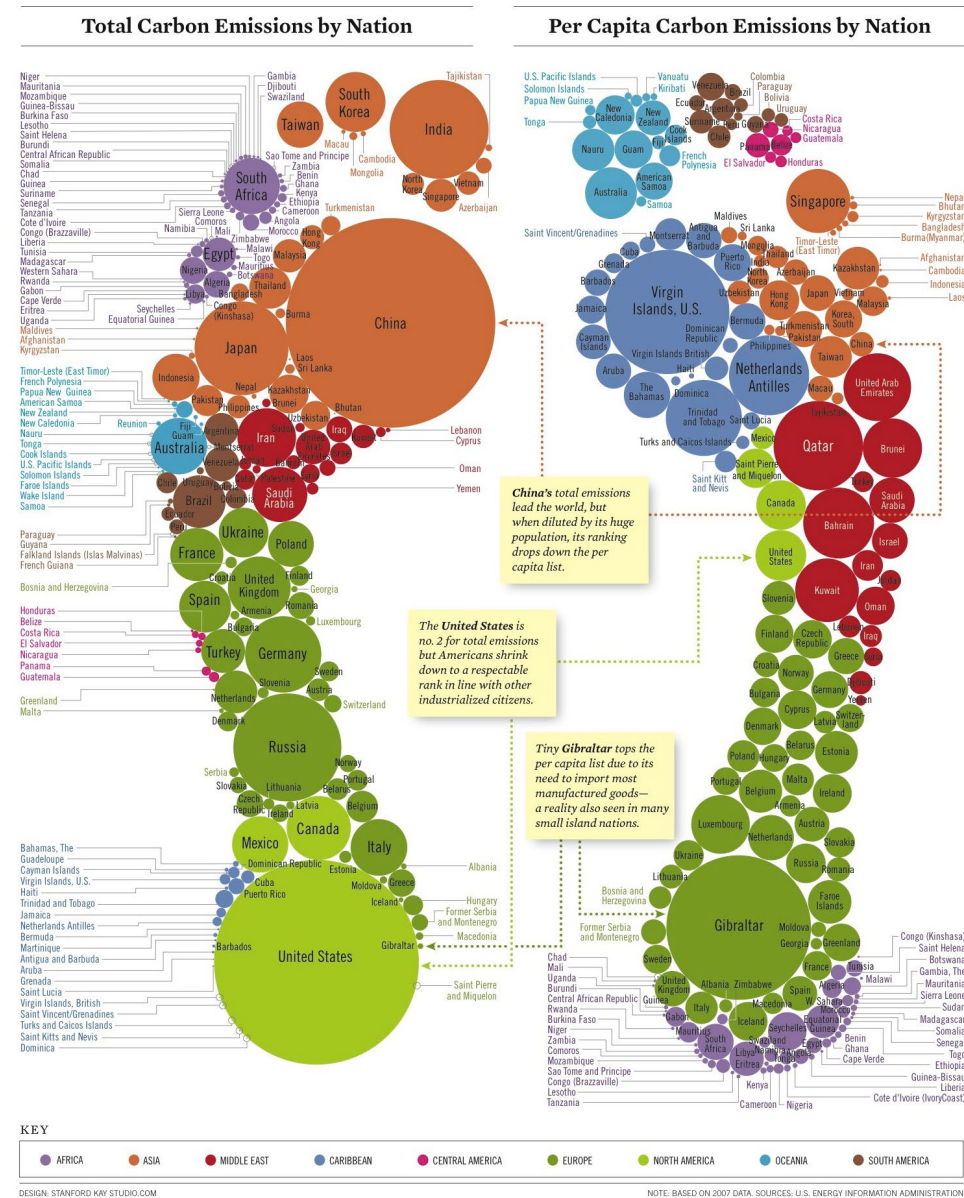
- ▶ **Sans serifs are used for legibility at larger type sizes, and in digital formats**
- ▶ **Serifs are used for legibility in blocks of text, especially in print media**
- ▶ **White text on a dark background will cause a halo effect: use a 5–10% grey shade**
- ▶ **Text in white on dark tends to look bolder than type in black, especially when both effects are used**



# ELEMENTS AND PRINCIPLES TOGETHER

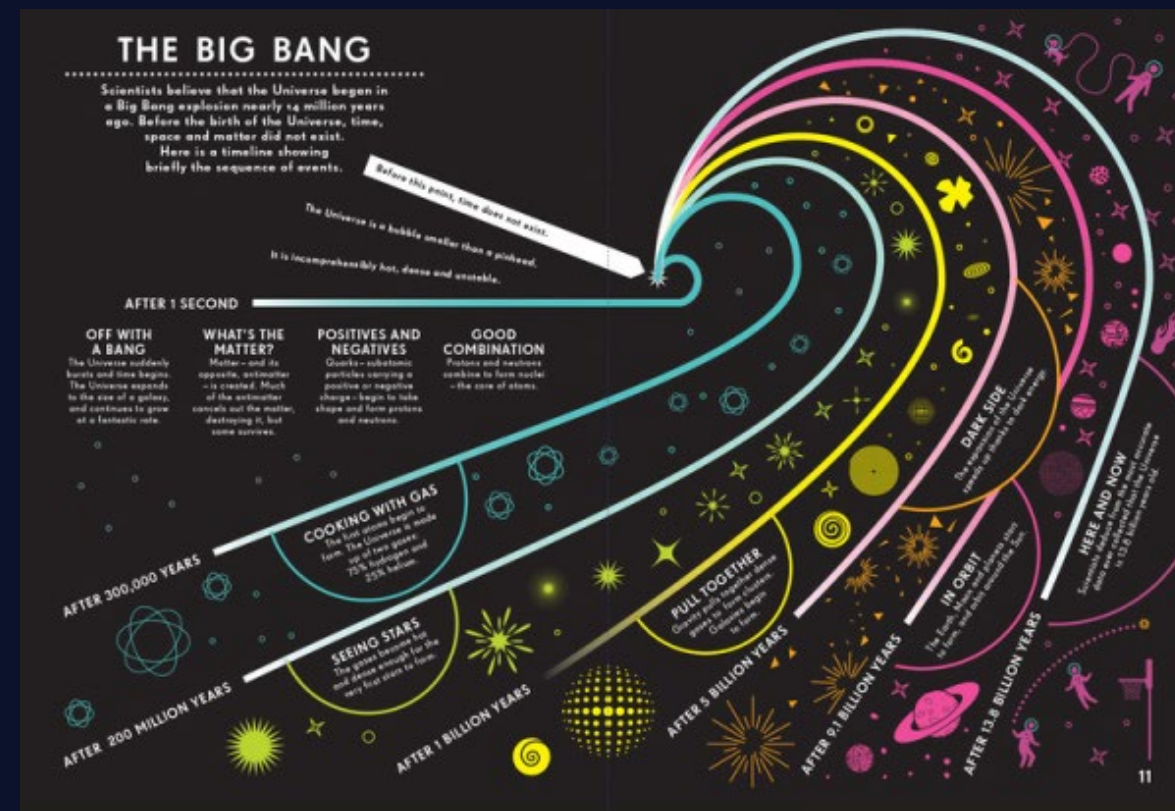
## Tracking Carbon Emissions

A footprint comparison of total carbon dioxide emissions by nation and per capita shows there's plenty of room for smaller countries to reduce their carbon footprints.  
By Stanford Kay



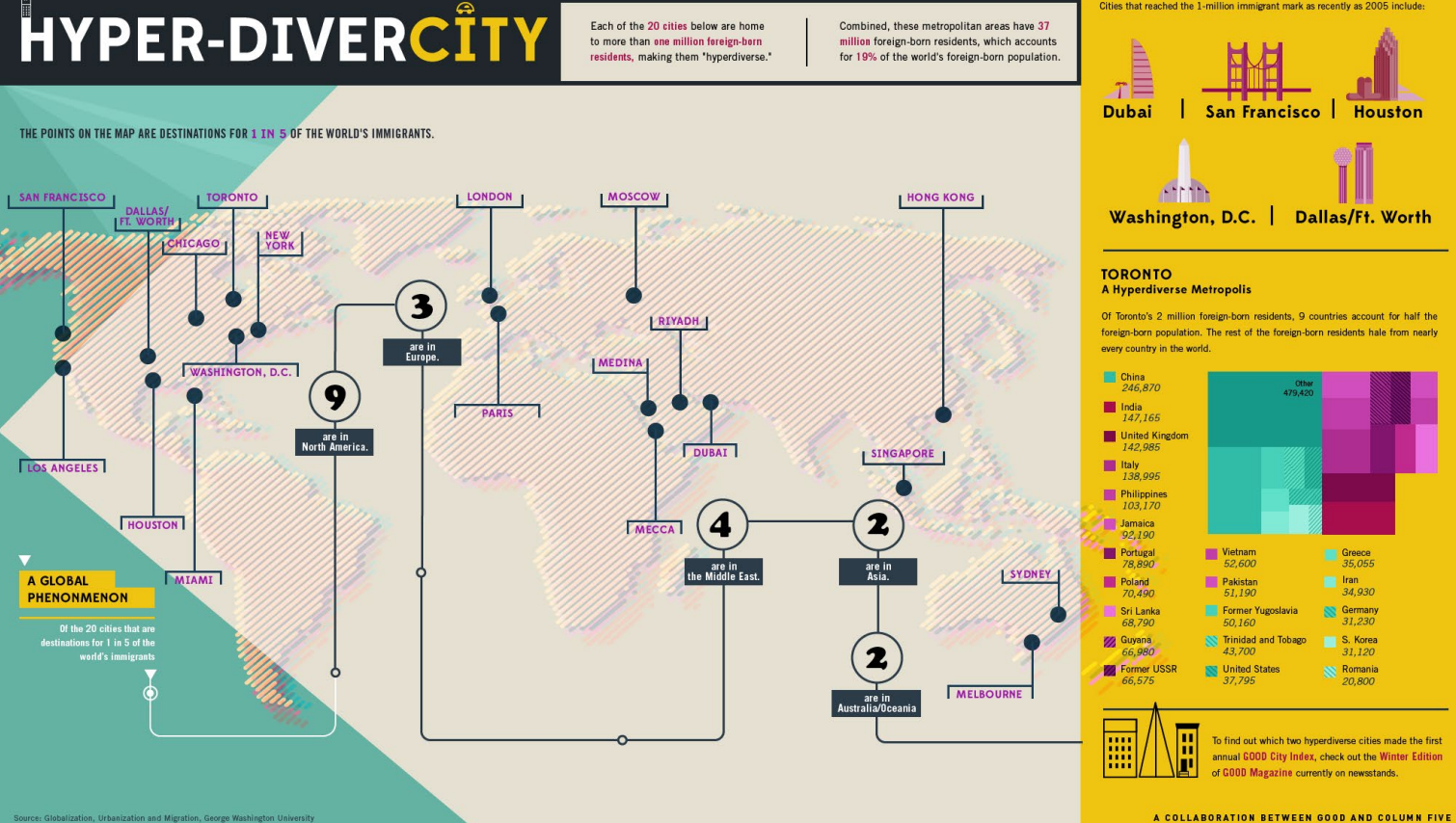
▶ Color can be used to establish hierarchy or aid organization

▶ Space can be used to establish hierarchy, balance, or scale



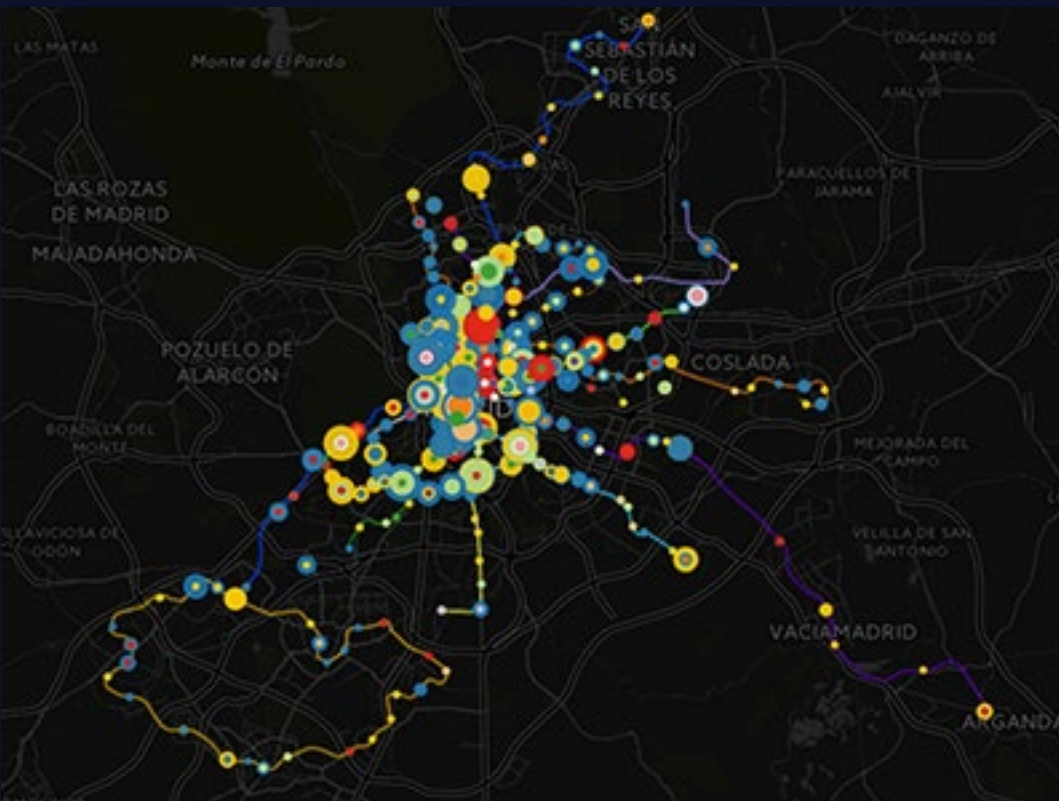
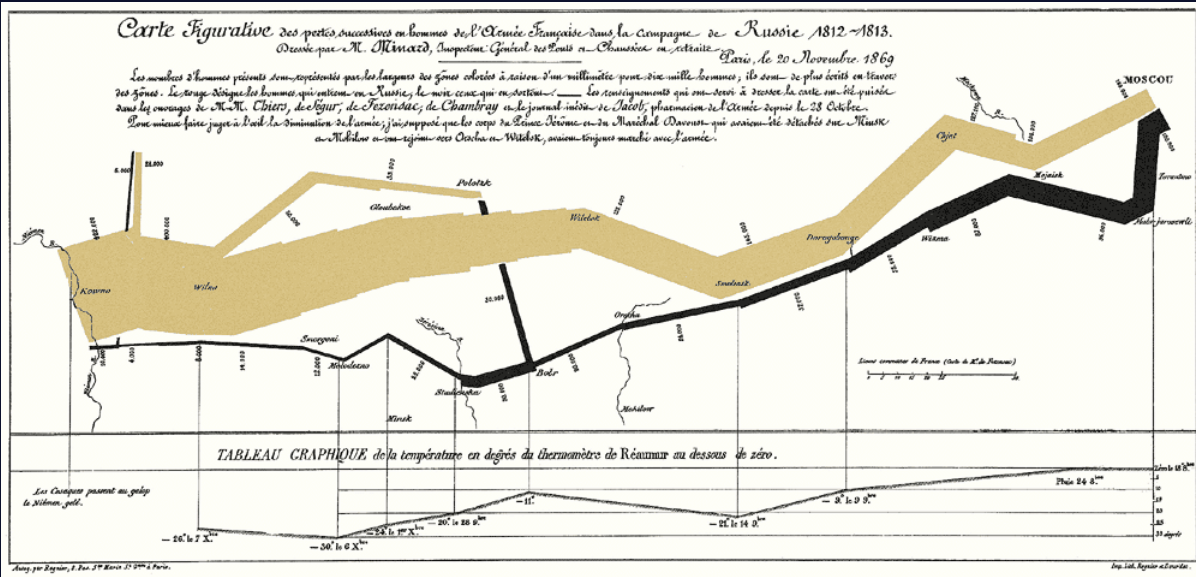


# ELEMENTS AND PRINCIPLES TOGETHER

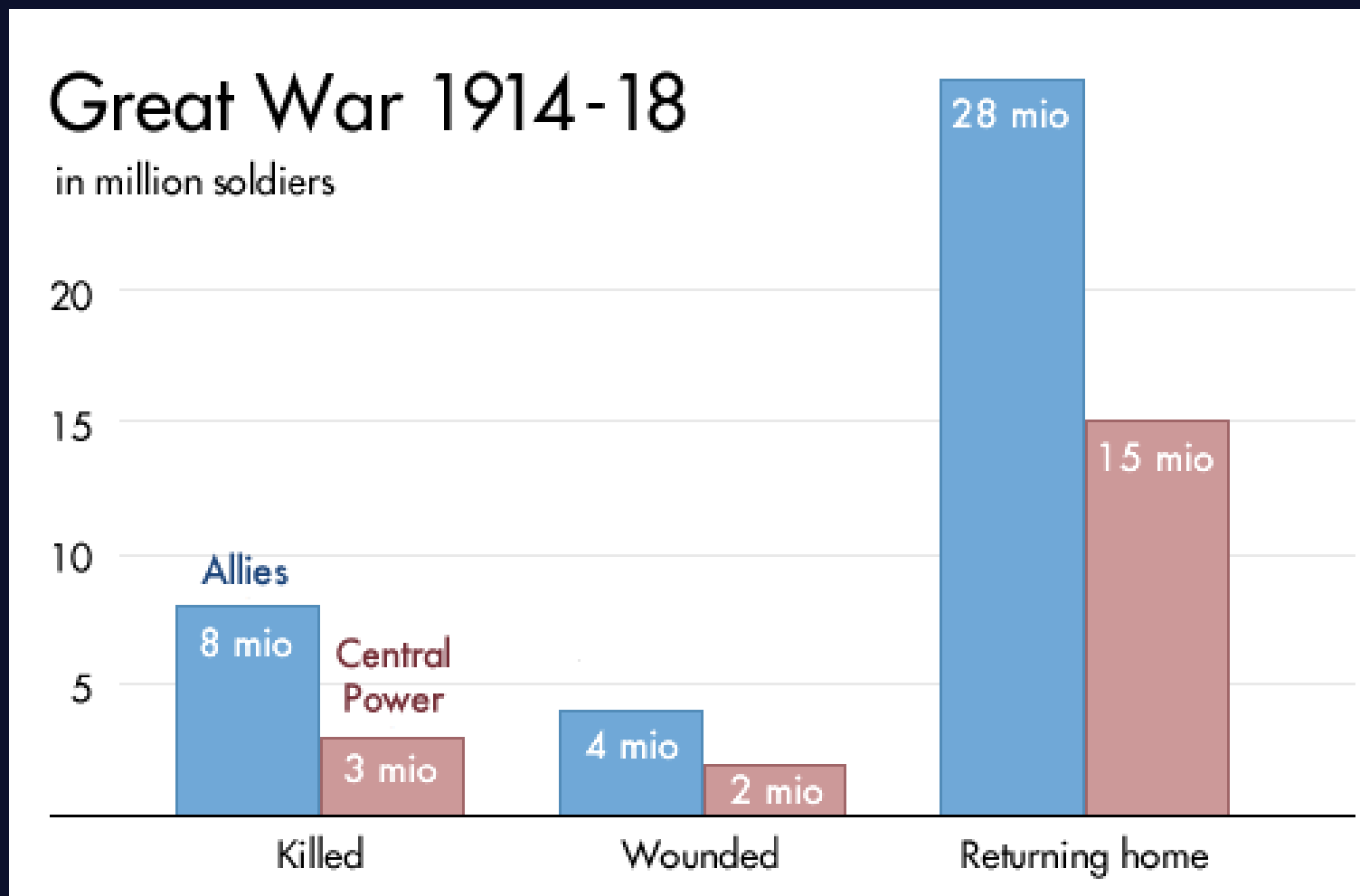


▶ Shape can be used to establish an aesthetic or define boundaries

▶ Texture can be used to generate or repel interest



# DESIGNING INFORMATION

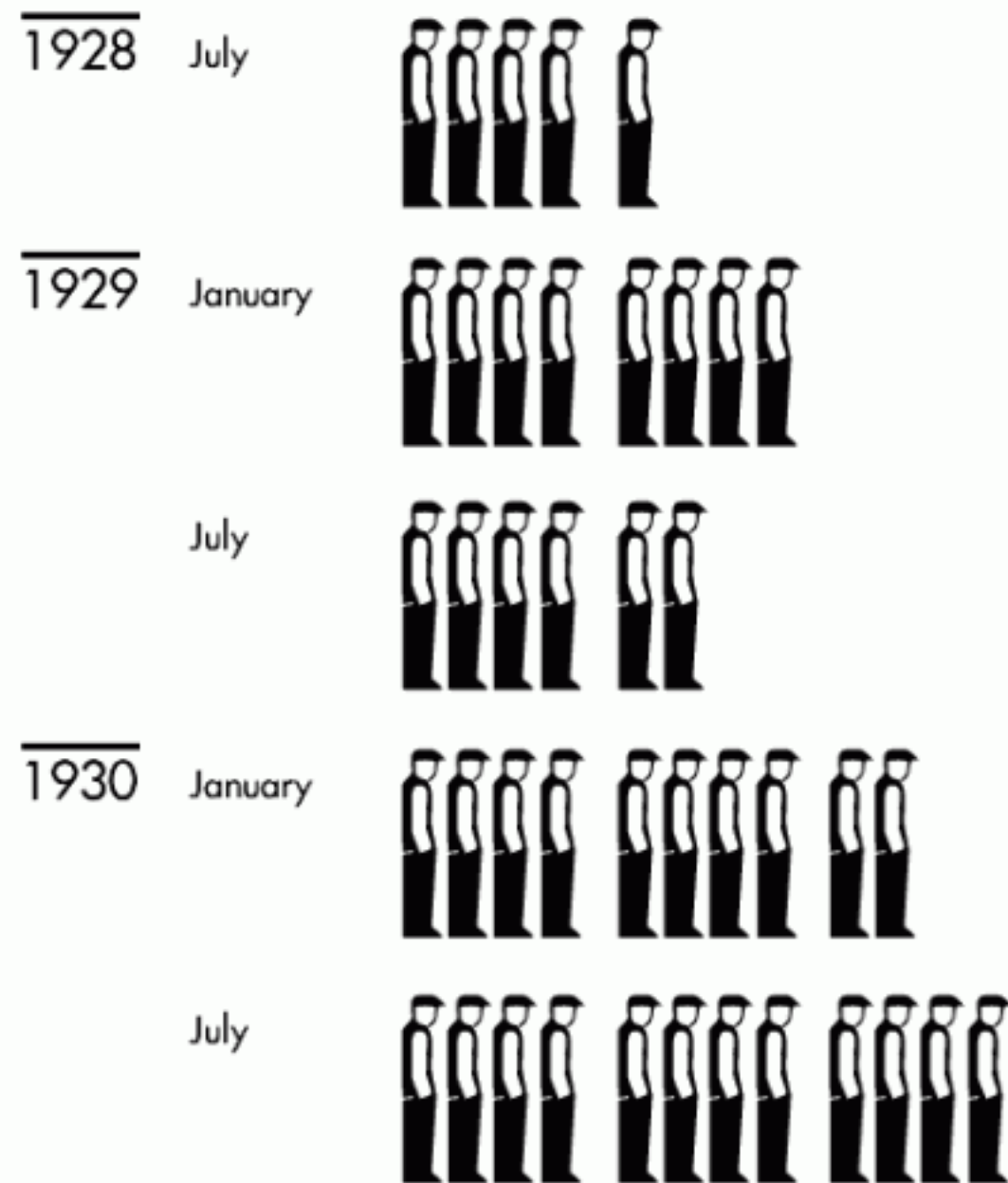


Two methods of conveying information: one provokes emotional engagement, more time spent engaging means greater depth of understanding or connection



# DESIGNING INFORMATION

## Unemployed in Berlin



Each figure 25,000 unemployed

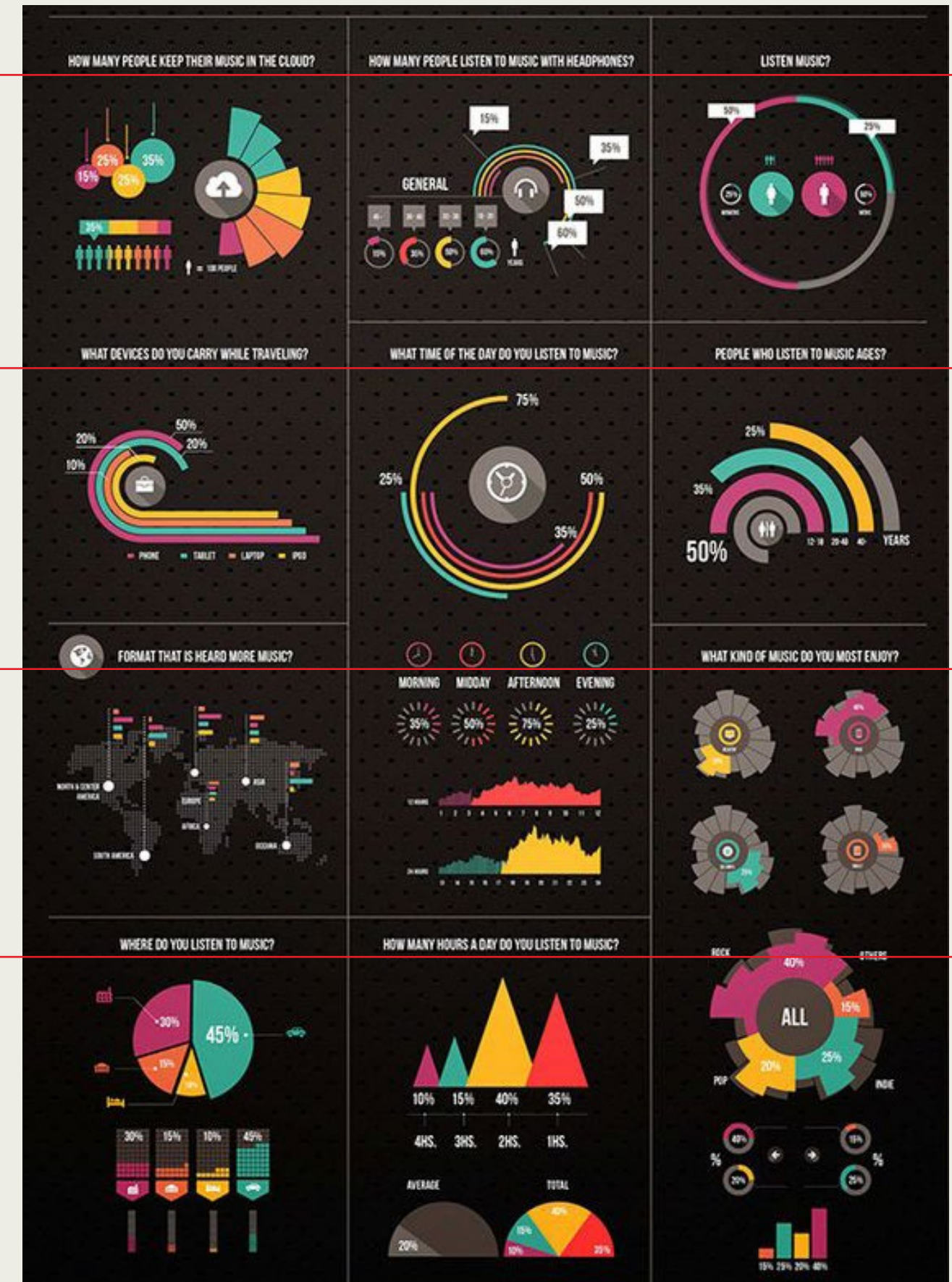
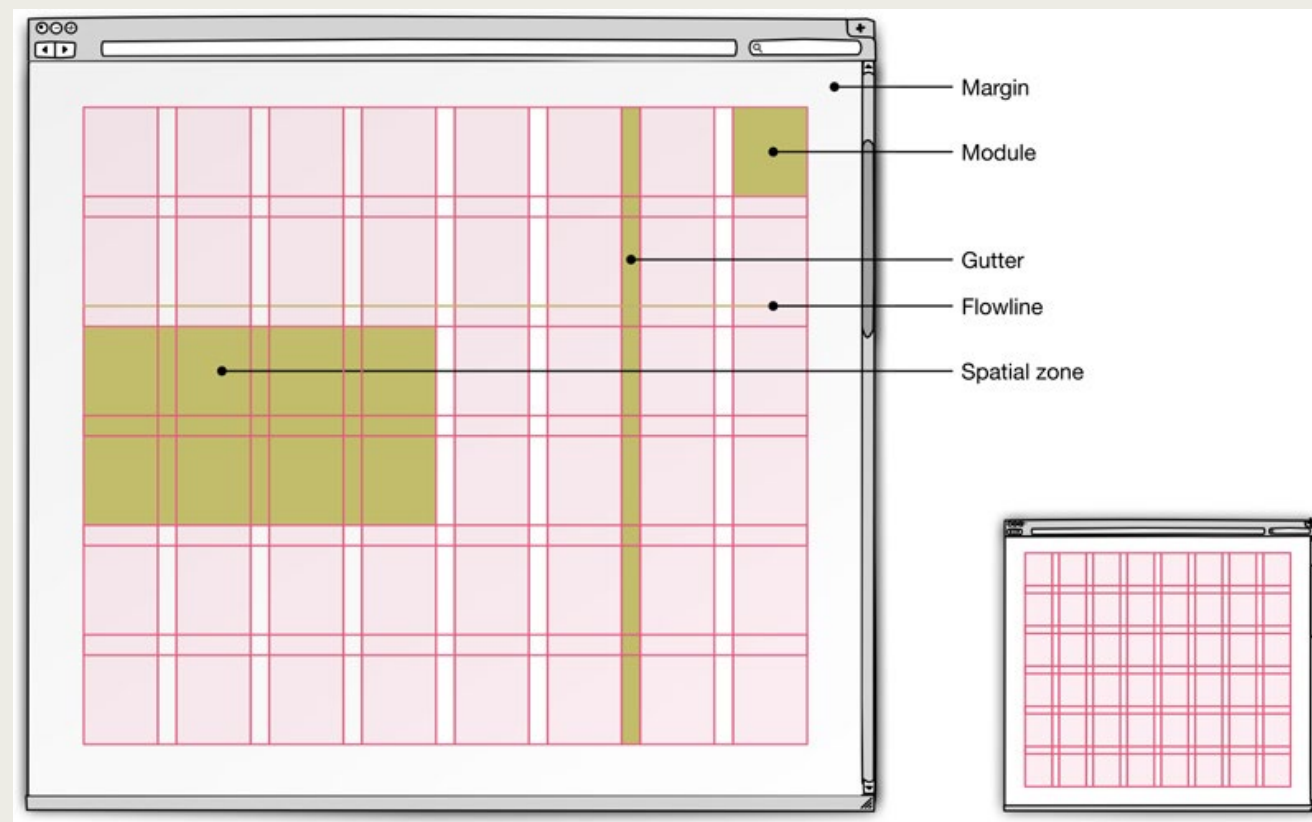
## Gestalt principles:

- ▶ Continuity and proximity aids in “chunking” information
- ▶ Scale and hierarchy establish level of importance



# GRIDS & LAYOUT

An underlying organizational grid enhances clarity, legibility, and balance of visual communication. Grids also provide continuity and unity (Gestalt!) when you have multiple pages or complex diagrams.





# GRIDS & LAYOUT

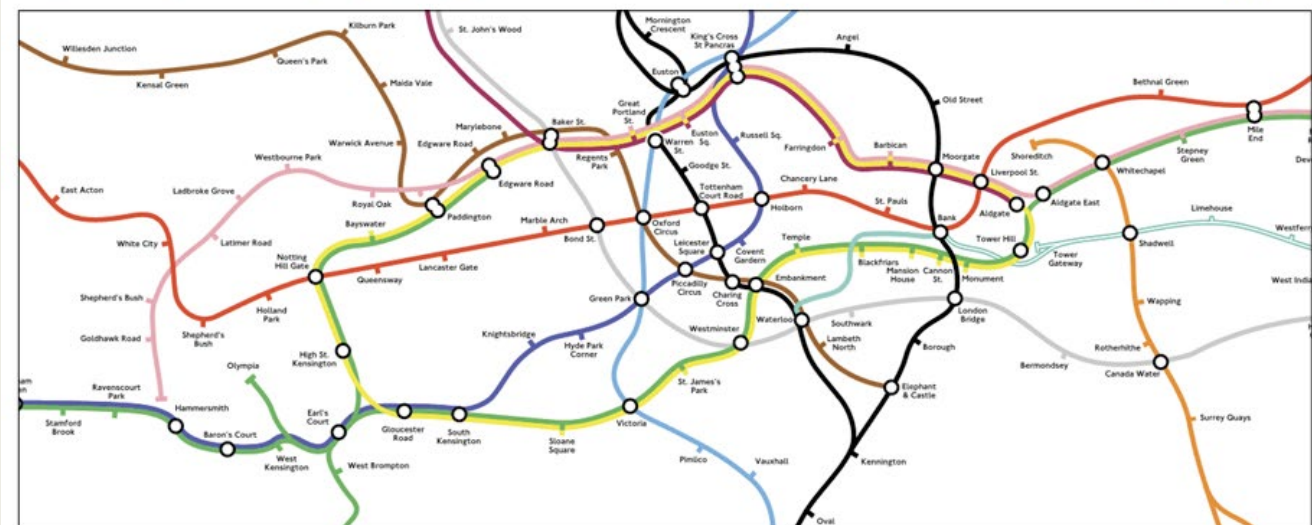
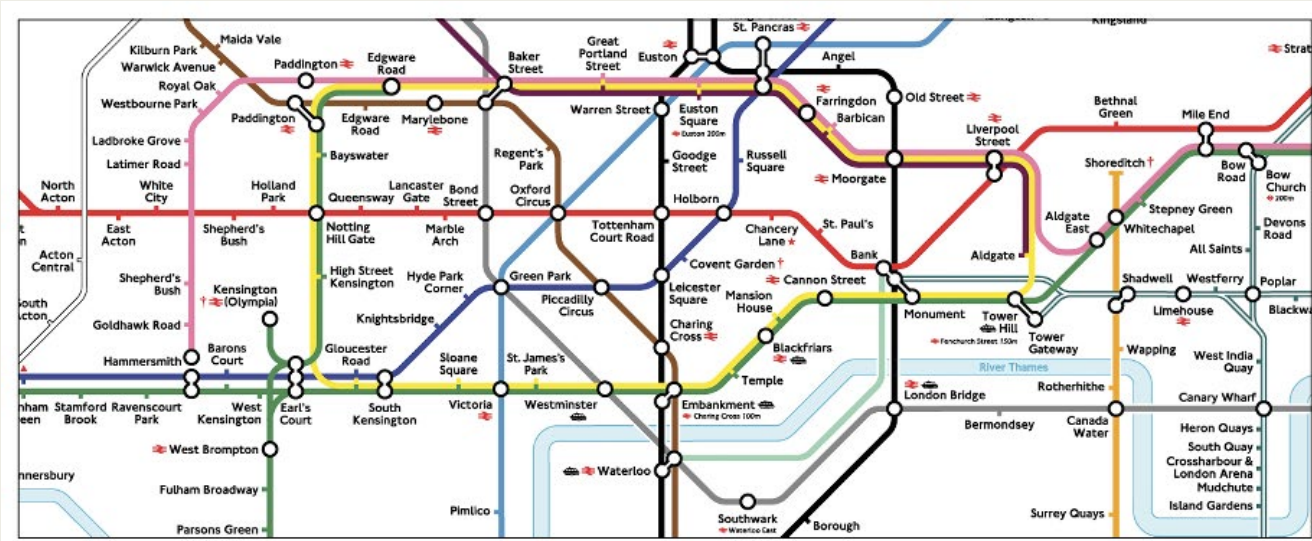


Proportion and scale are important principles of a layout to *encourage attention*. A grid can enforce rules to define markers which aid in accessing and understanding content.



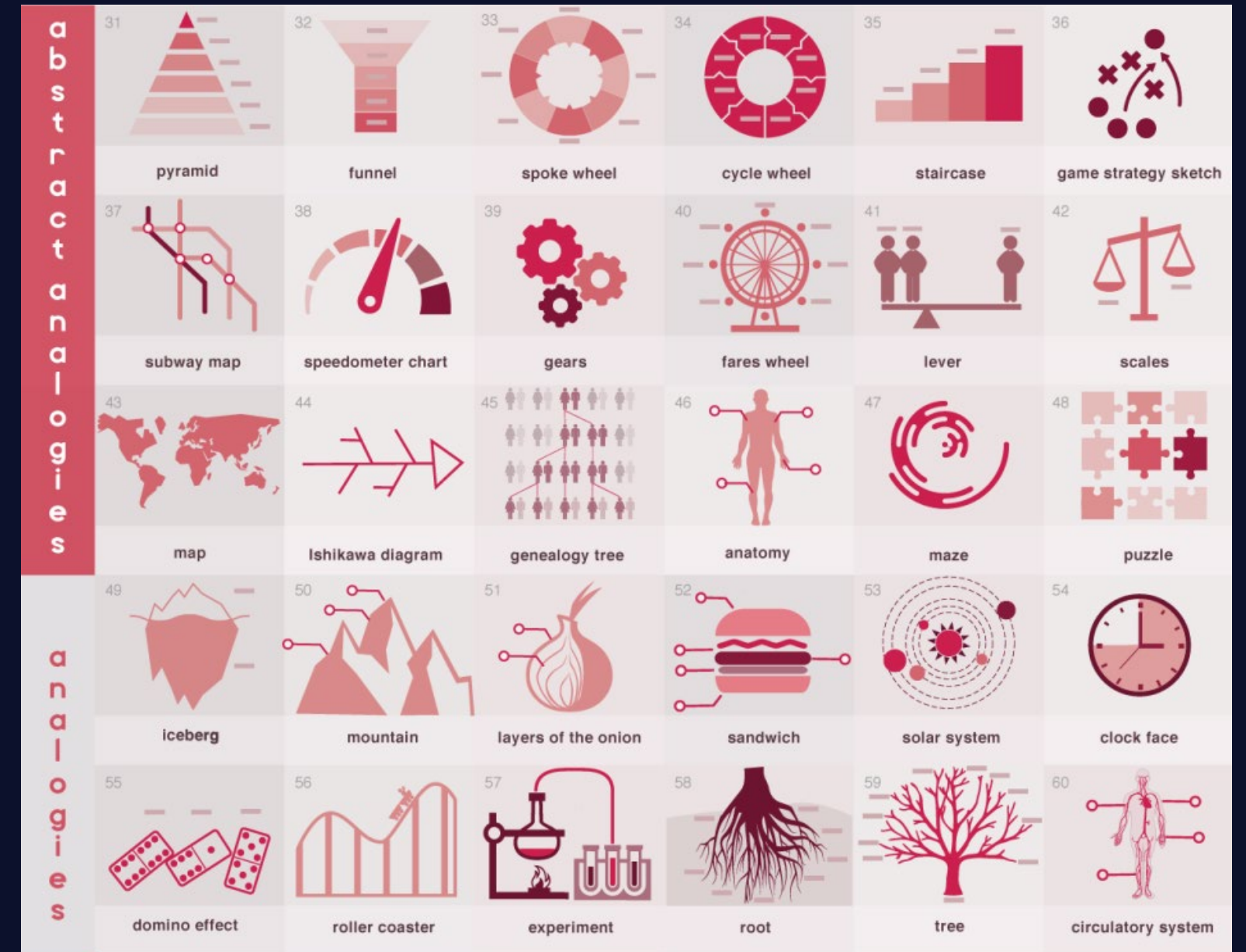
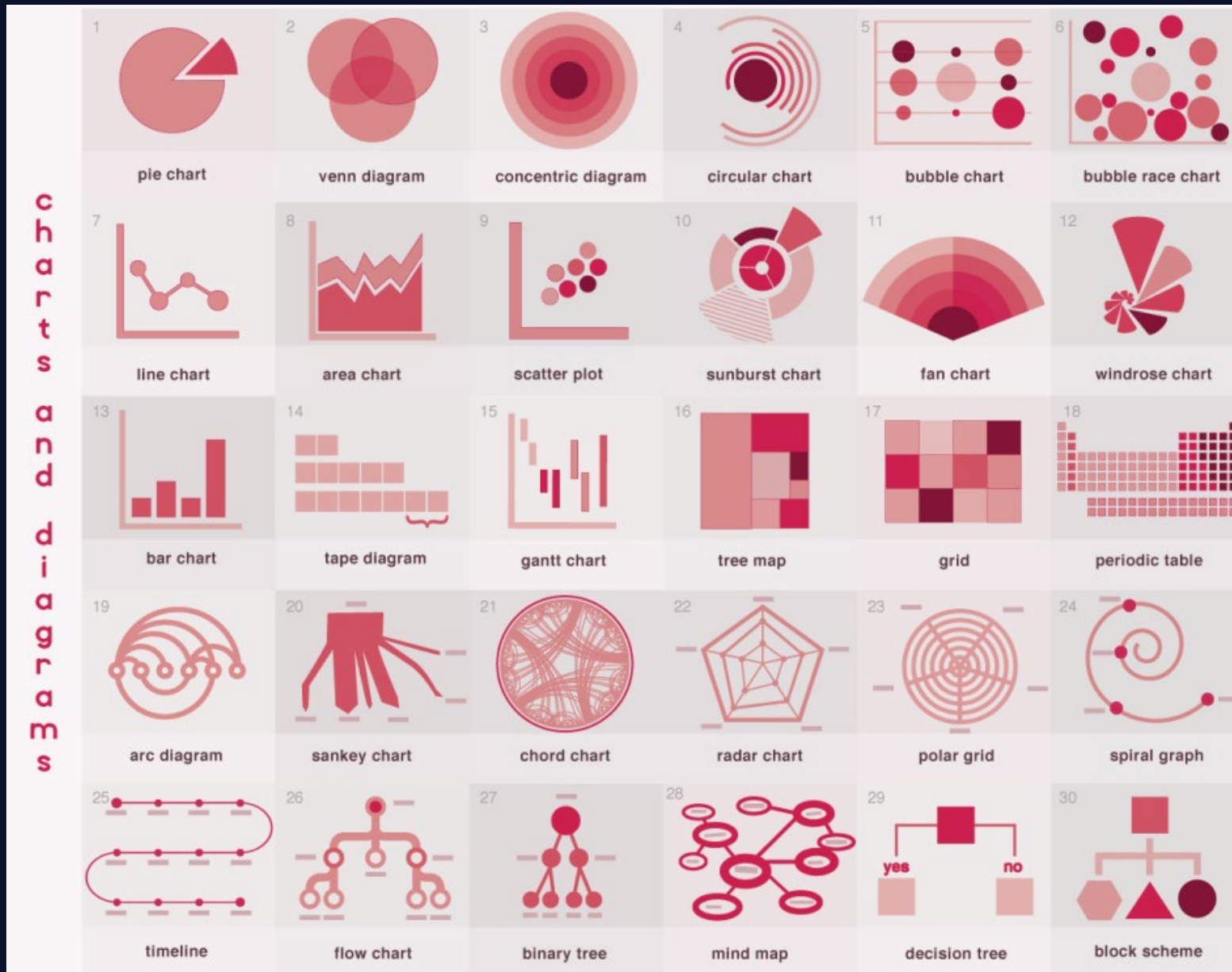
# GRIDS & LAYOUT

A grid can be visible or invisible: an implied framework or an obvious design element. Grids are an essential design principle for organizing and presenting complex information in a systematic manner.





# VISUALIZING DATA



Design is thinking made visual. –Saul Bass

# HIERARCHY OF NEEDS

For every design action there is an emotional reaction

Aaron Walter; Don Norman

AESTHETICS

Design appeals to the senses on a visceral level

INTERACTION

Interaction engagement is not superfluous, enhances a meaningful experience

ORDER

Design elements have purpose and balance, the system of guidance is clear

ORGANIZATION

Intuitive to use, information is clear

FUNCTION

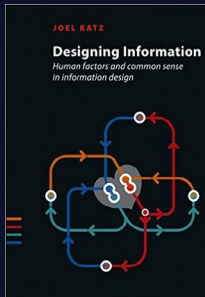
Useful, fits human behavior, easy to master

RELIABILITY

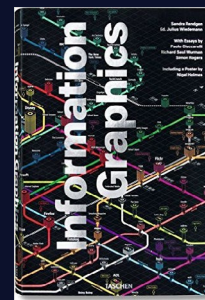
Stable and consistent performance, familiar



# RESOURCES



▶ **Designing Information: Human Factors and Common Sense in Information Design. Joel Katz, 2012**



▶ **Information Graphics. Sandra Rendgen, 2012**

▶ **Human Factors: <http://www.jnd.org/>**

▶ **IXD: <https://www.interaction-design.org>**

▶ **<https://www.canva.com/>**

**Thank You!**