

# Gestalt Principles

- Proximity
- Similarity
- Continuity
- Closure
- Symmetry
- Figure/Ground
- Common Fate

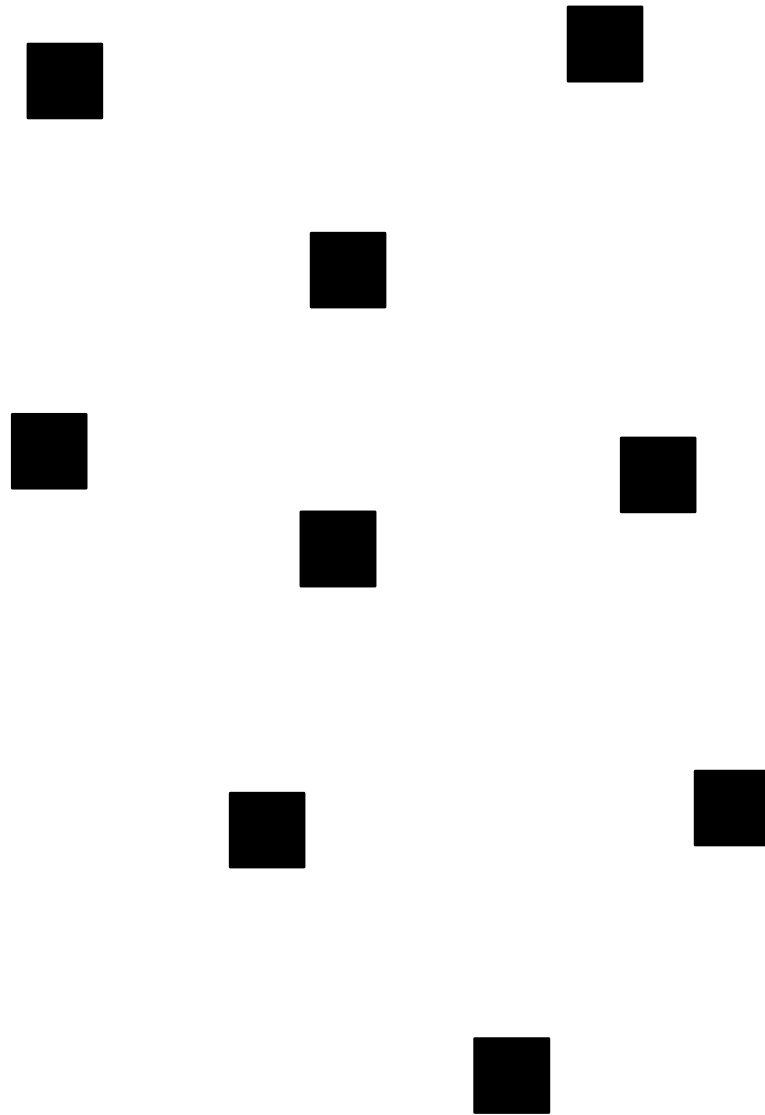
Gestalt is the German word for “shape” or “figure”

# Proximity

- The relative distance between objects in a display affects our perception of whether and how objects are organized into sub-groups.

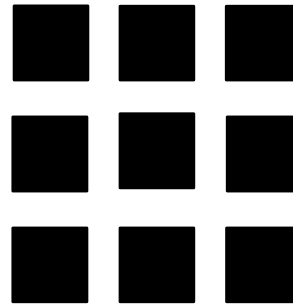
# Proximity

Boxes should appear unrelated to each other



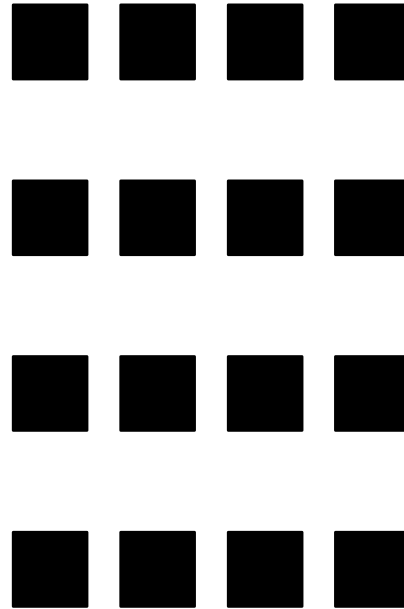
# Proximity

Boxes should  
now appear to  
be a group



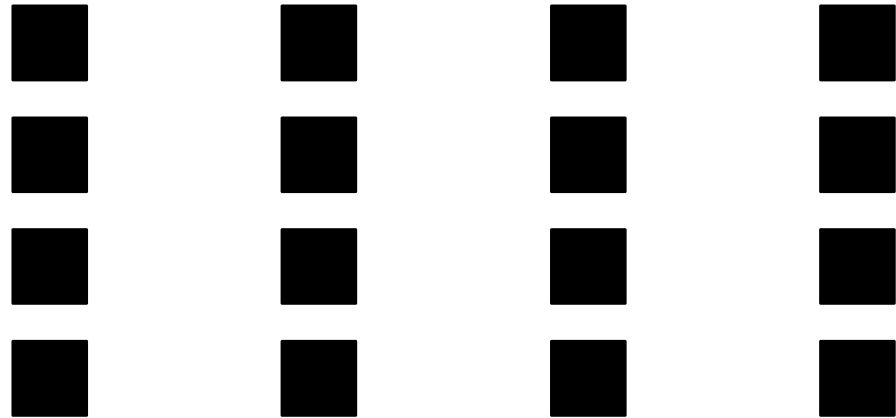
# Proximity

Boxes should  
now appear to  
be grouped by  
row



# Proximity

Boxes should  
now appear to  
be grouped by  
column



# Proximity

- UI designers want to group similar things. This firewall policy.



In outlook Distribution List Membership dialog box, list buttons are in a group box, separate from the control buttons – (from J Johnson “Designing with the mind in mind”, p 14)

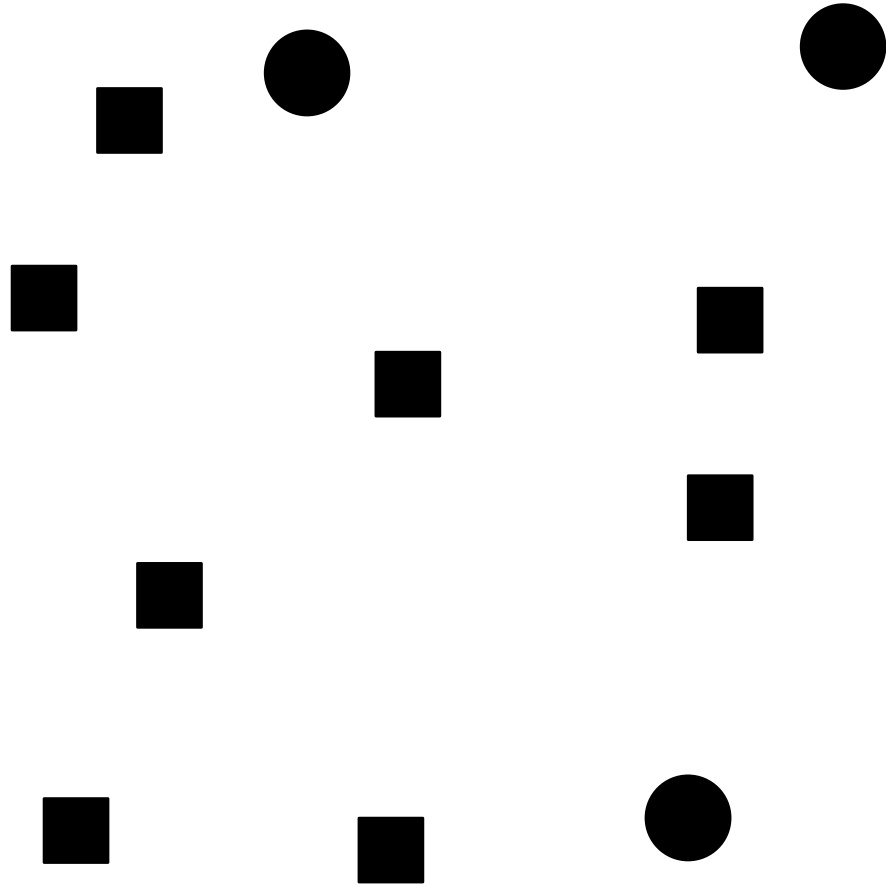
# Similarity

- Objects that look similar appear grouped.



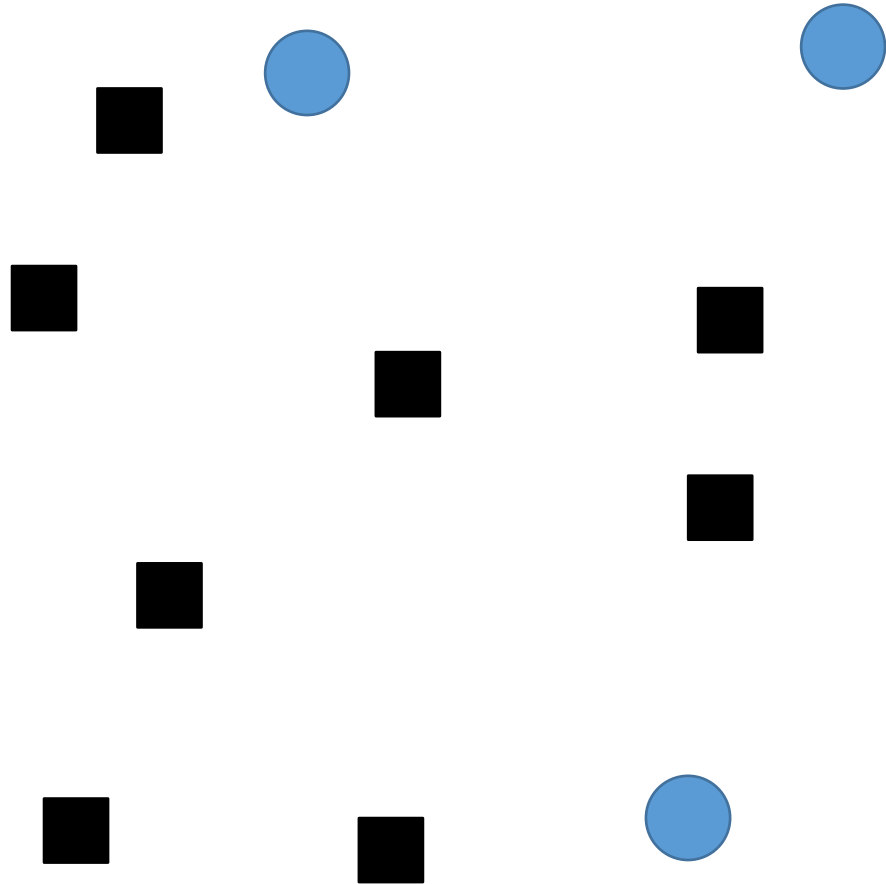
# Similarity

Your brain naturally tries to put circles in one group and boxes in another



# Similarity

Circles should  
look very  
grouped now



## Similarity

Same story  
with the stars,  
they different  
looking ones  
should appear  
grouped



# Similarity

Text boxes all look similar which is good.

Proximity a bit far on top box

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First Name \*

Last Name \*

Academic Title \*

Department \*

Instructor email \*

Personal Email  
(optional)

Phone \*

To access supplements, please select the subject area most appropriate to your department and/or courses you teach.

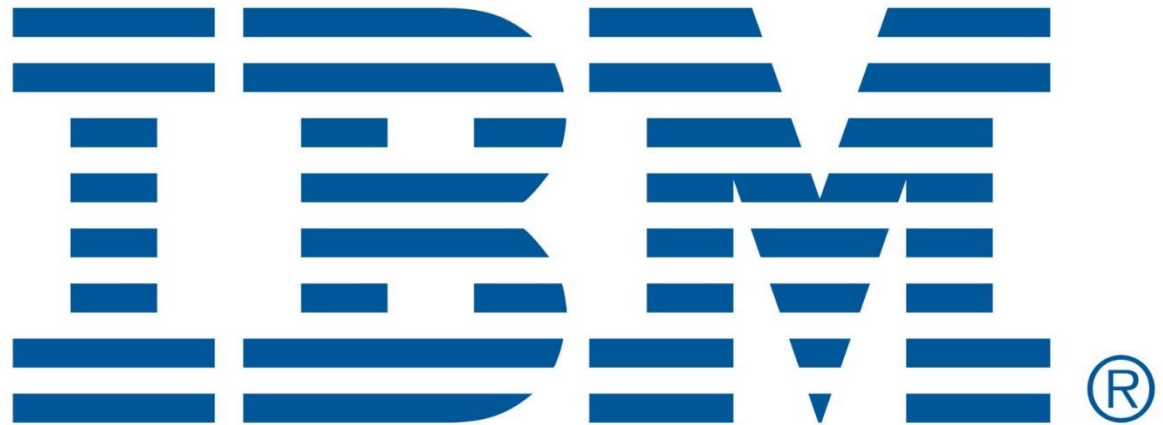
# Continuity

- We resolve ambiguity by adding in missing data in such a way that we perceive whole objects. We are biased towards perceiving continuous forms rather than disconnected pieces.

## Continuity

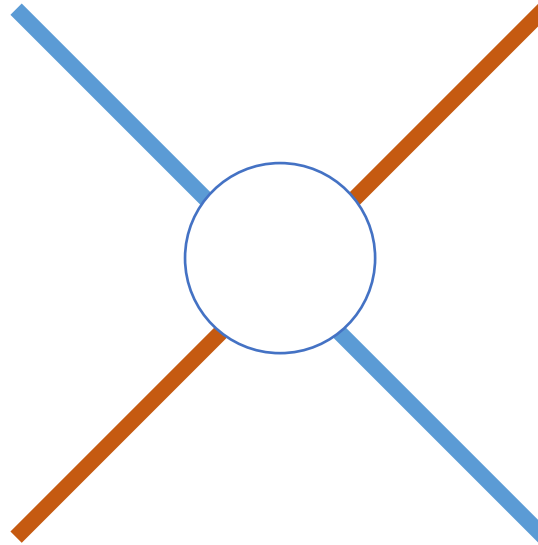
Is this 40 lines?

Or is it the  
letters IBM?



## Continuity

Your brain fills in the gaps to create whole structures.

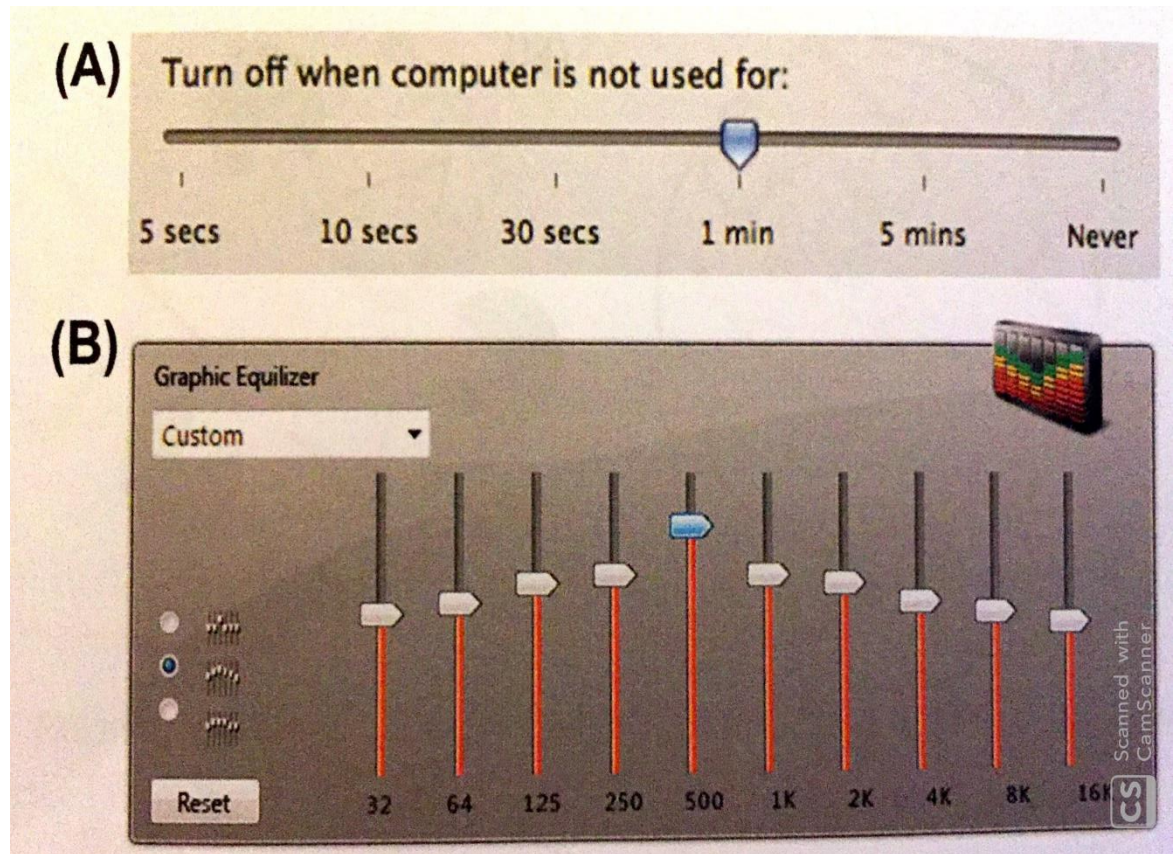


# Continuity





# Continuity



Continuity: we see a slider as a single slot with a handle somewhere on it, not as two slots separated by a handle: (A) Mac OS and (B) ComponentOne. – (from J Johnson “Designing with the mind in mind”, p 19)

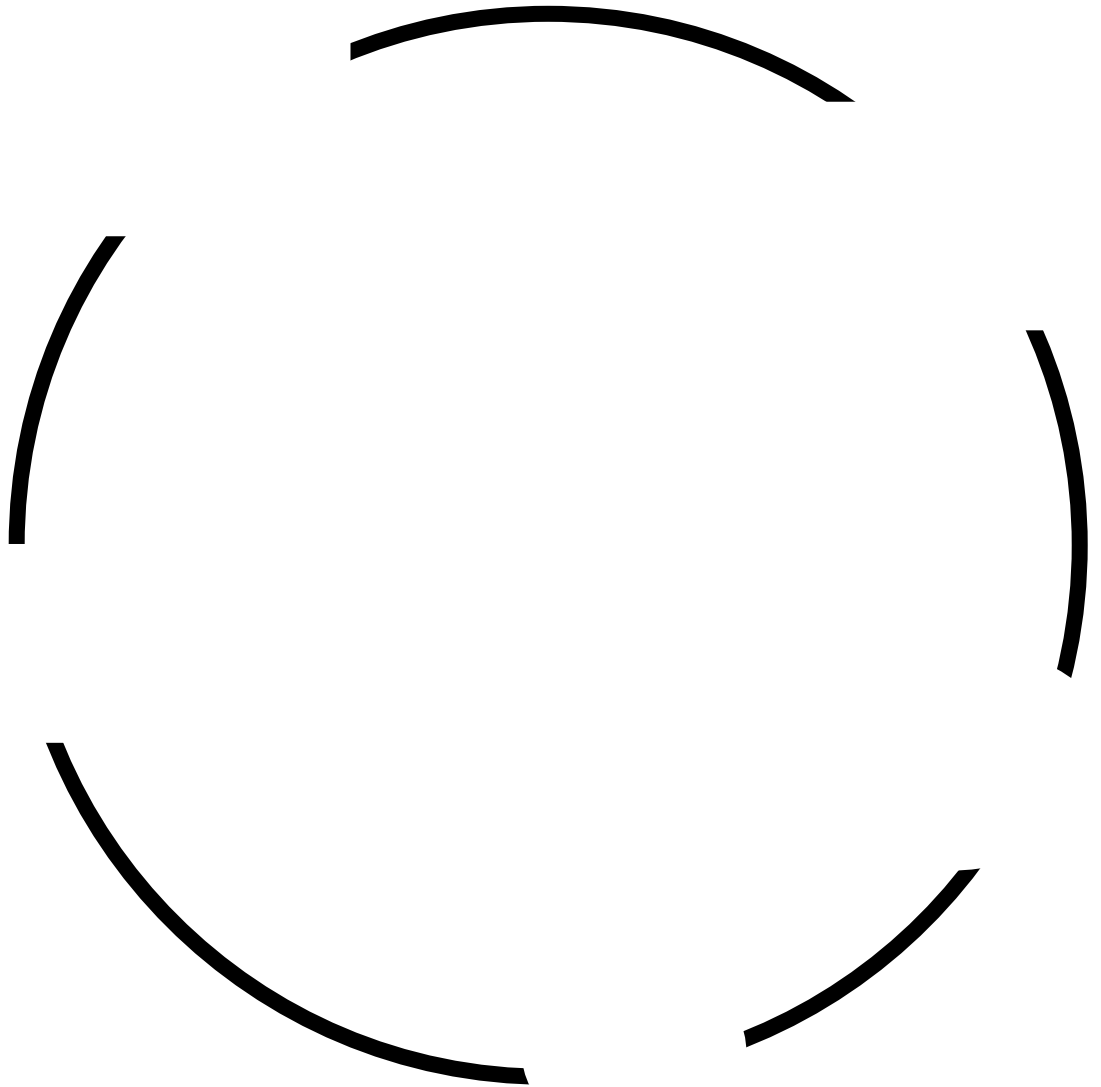
# Closure

- We automatically try and close open figures so they are seen as whole objects rather than bits of line.

## Closure

What shape is  
this?

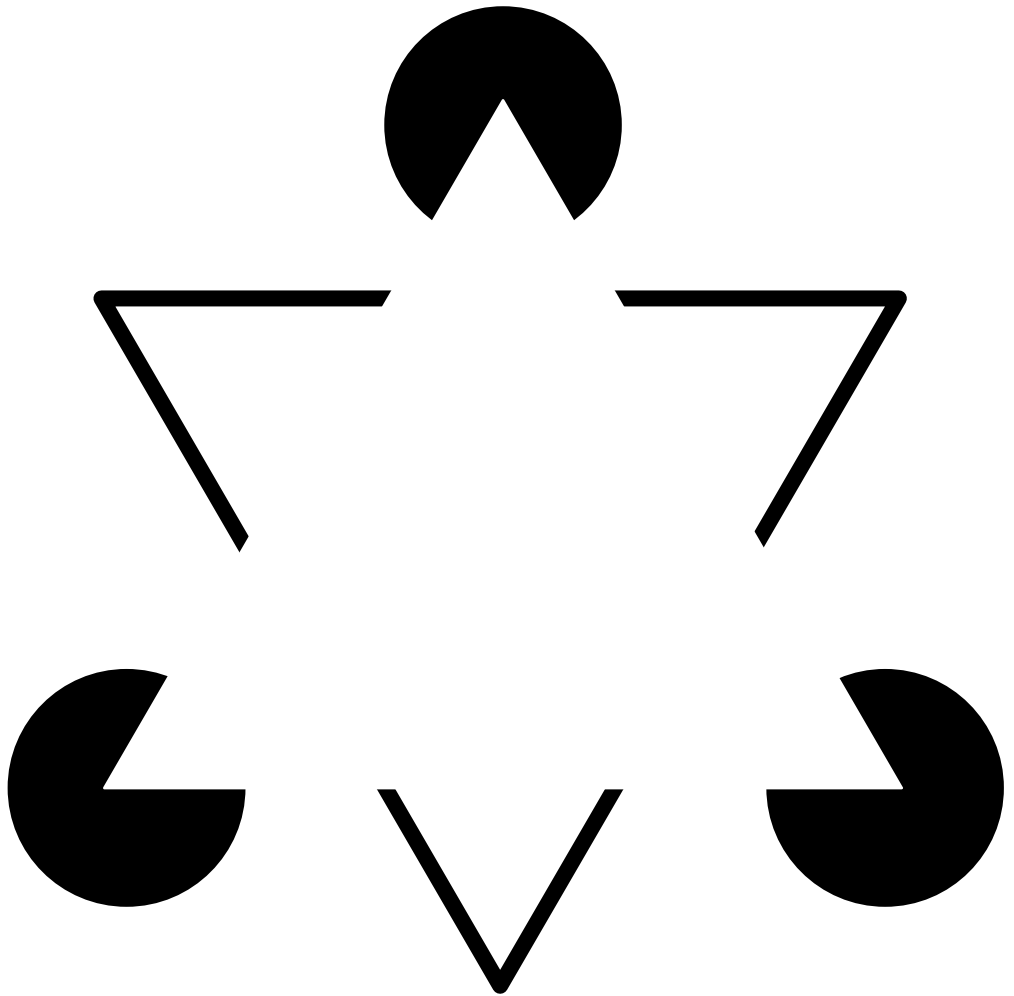
Try and make  
your brain see  
5 lines.



## Closure

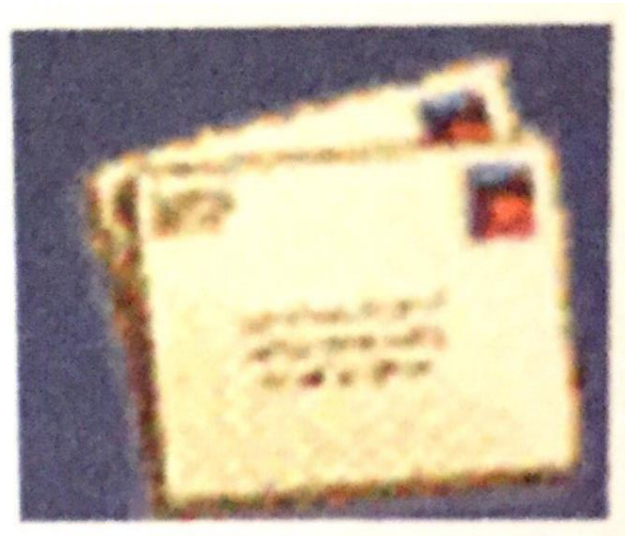
What shapes do you see?

One of the shapes doesn't even have any ink representing it.



## Closure

How many envelopes you see in the figure?



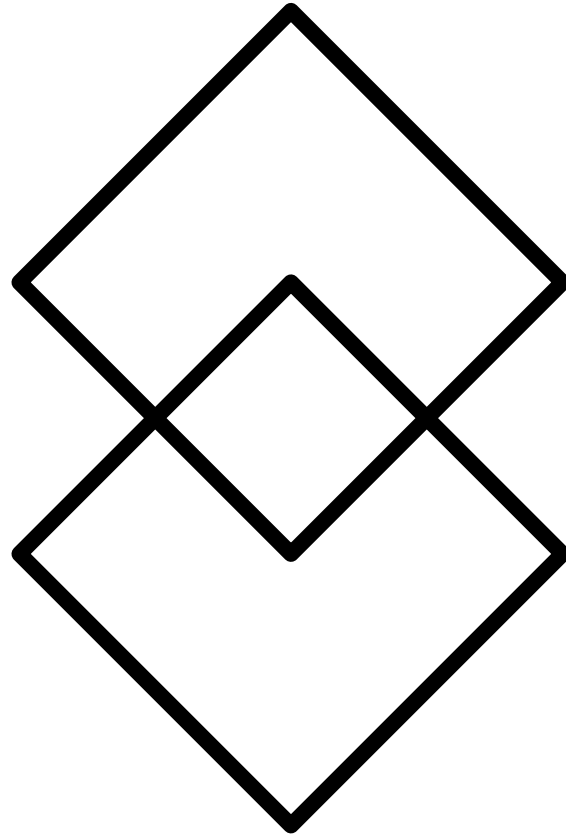
Icon depicting stacks of objects exhibit the Closure principle: partially visible objects are perceived as whole – (from J Johnson “Designing with the mind in mind”, p 20)

# Symmetry

- We tend to parse complex images in a way that reduces complexity. Even if there are multiple interpretations, our brain tries to pick the simplest one.

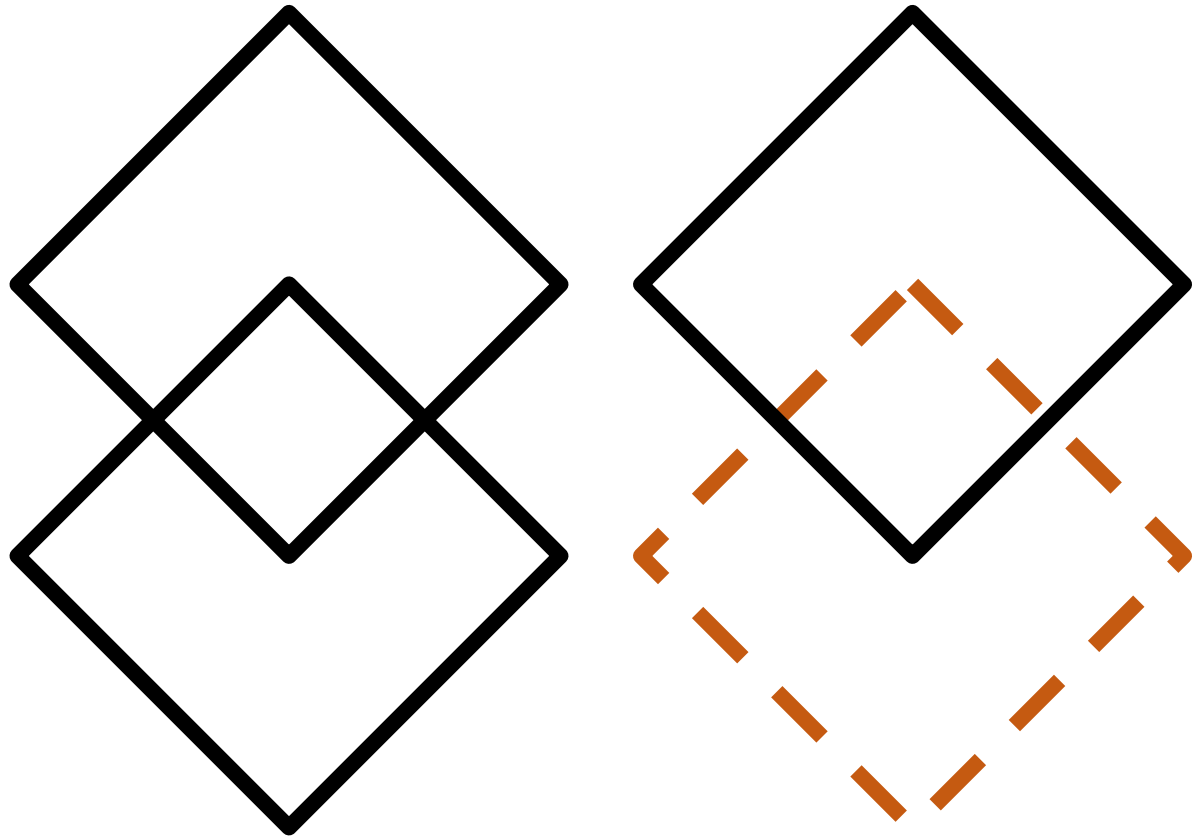
# Symmetry

What does this shape look like to you?



# Symmetry

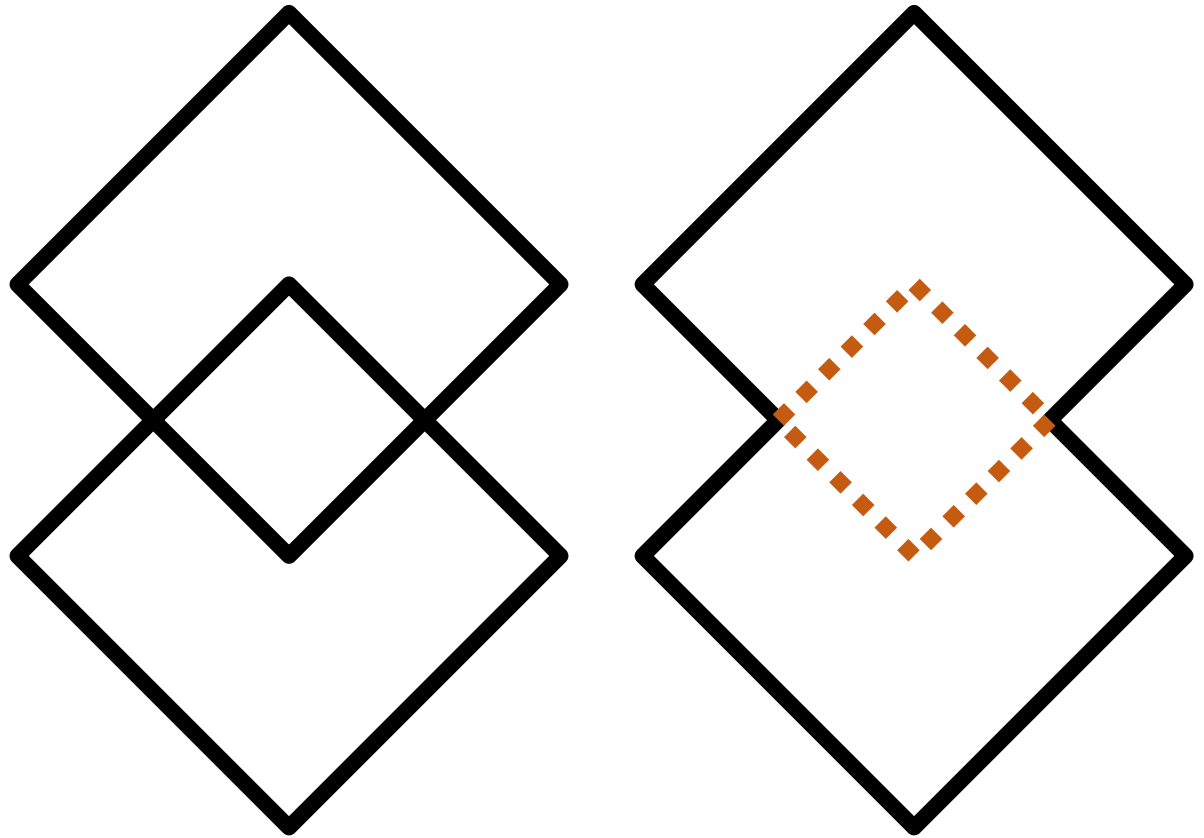
Most people probably saw two rectangles overlapping.





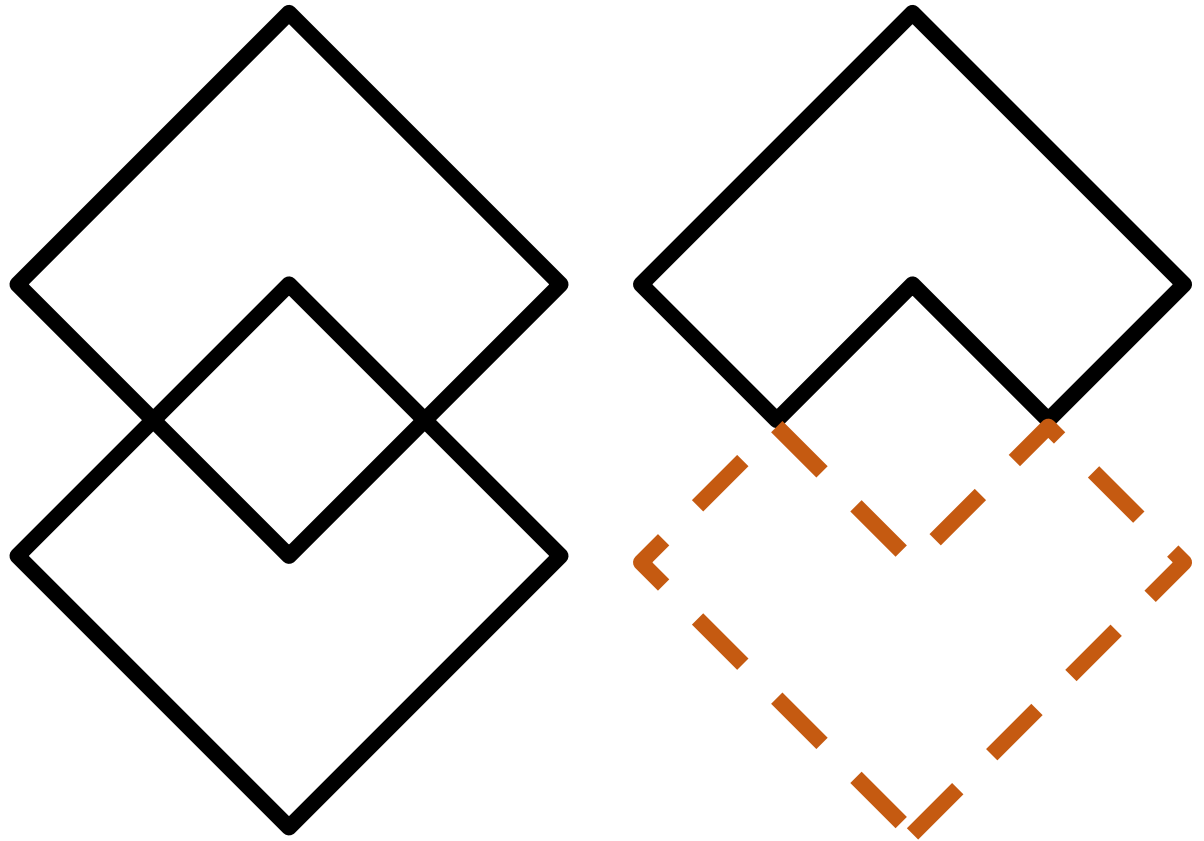
# Symmetry

It could be a  
small rectangle  
overlapping a  
more complex  
shape



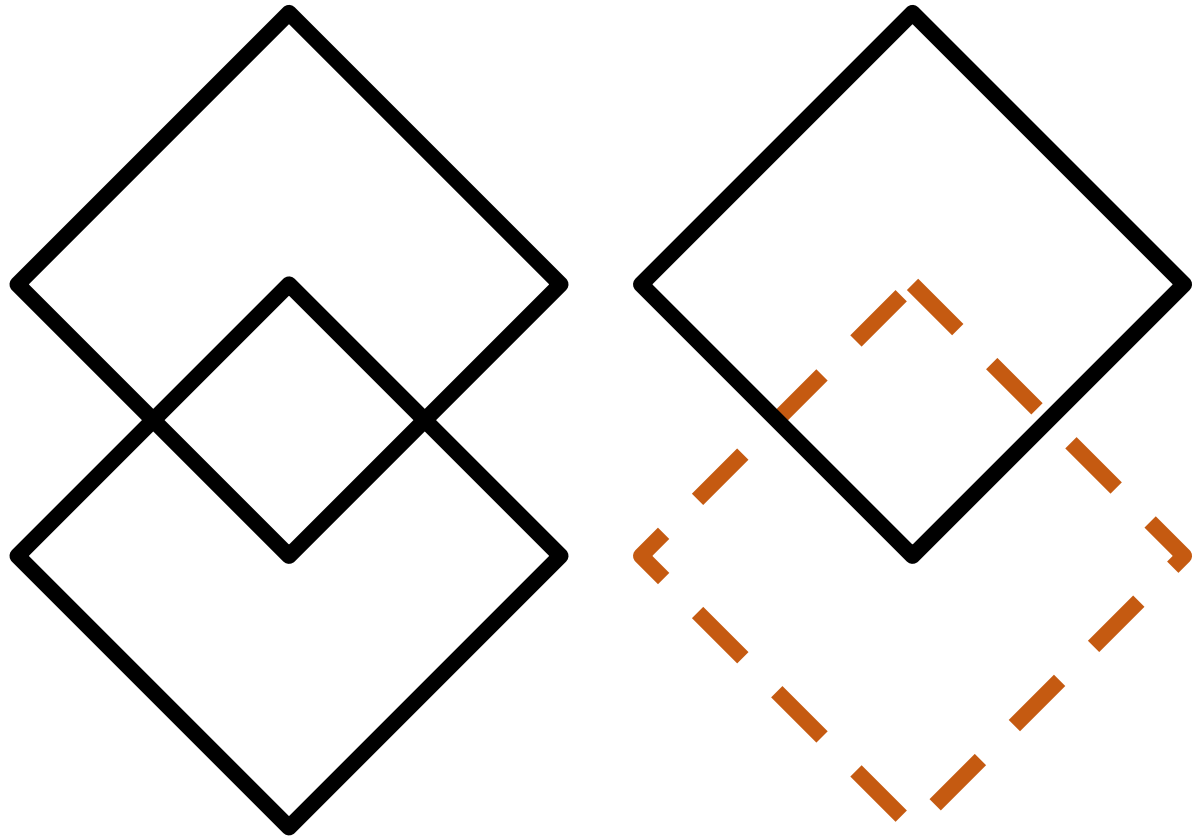
# Symmetry

It could be two  
L shaped angles



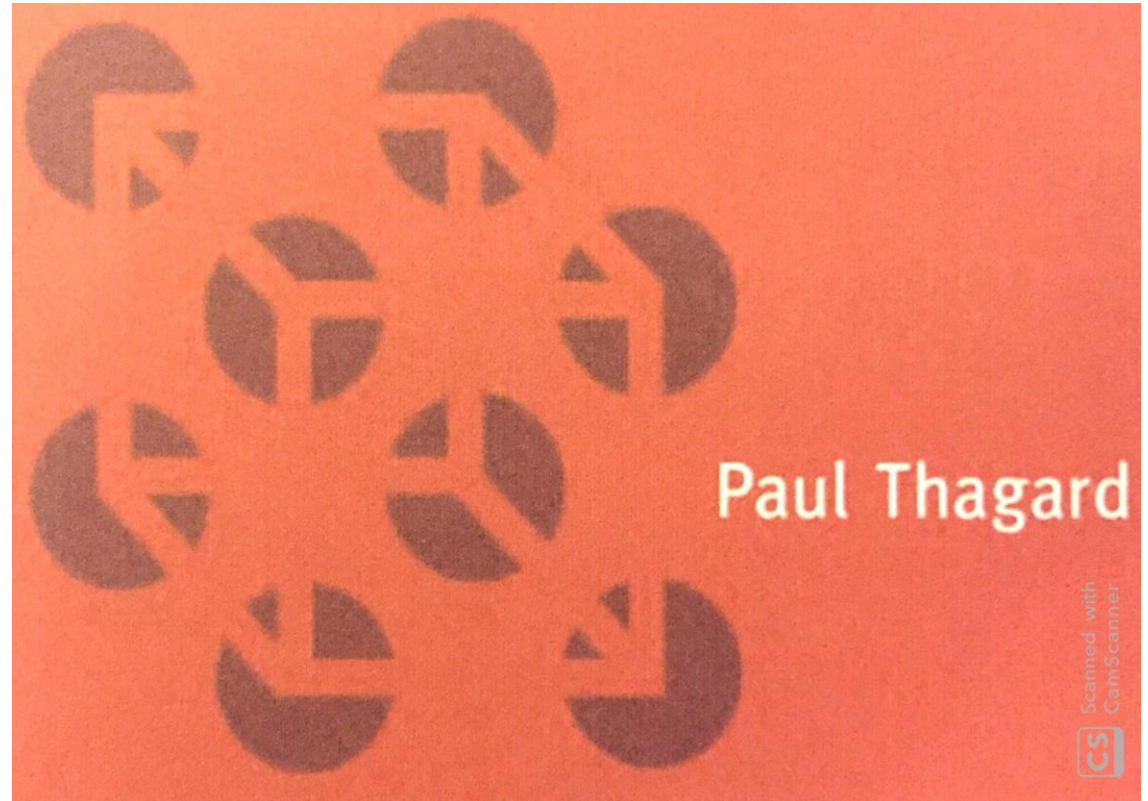
## Symmetry

Our brains like simplicity, so we are most likely to pick two overlapping rectangles



# Symmetry, Closure and Continuity

“Coherence in  
Thought and  
Action”  
(Thagard, 2002)



The cover of the book *Coherence in Thought and Action* (Thagard, 2002) uses the symmetry, Closure, and continuity to depict a cube – (from J Johnson “Designing with the mind in mind”, p 21)

# Figure/Ground

- Our brains try and separate images into a foreground and a background.

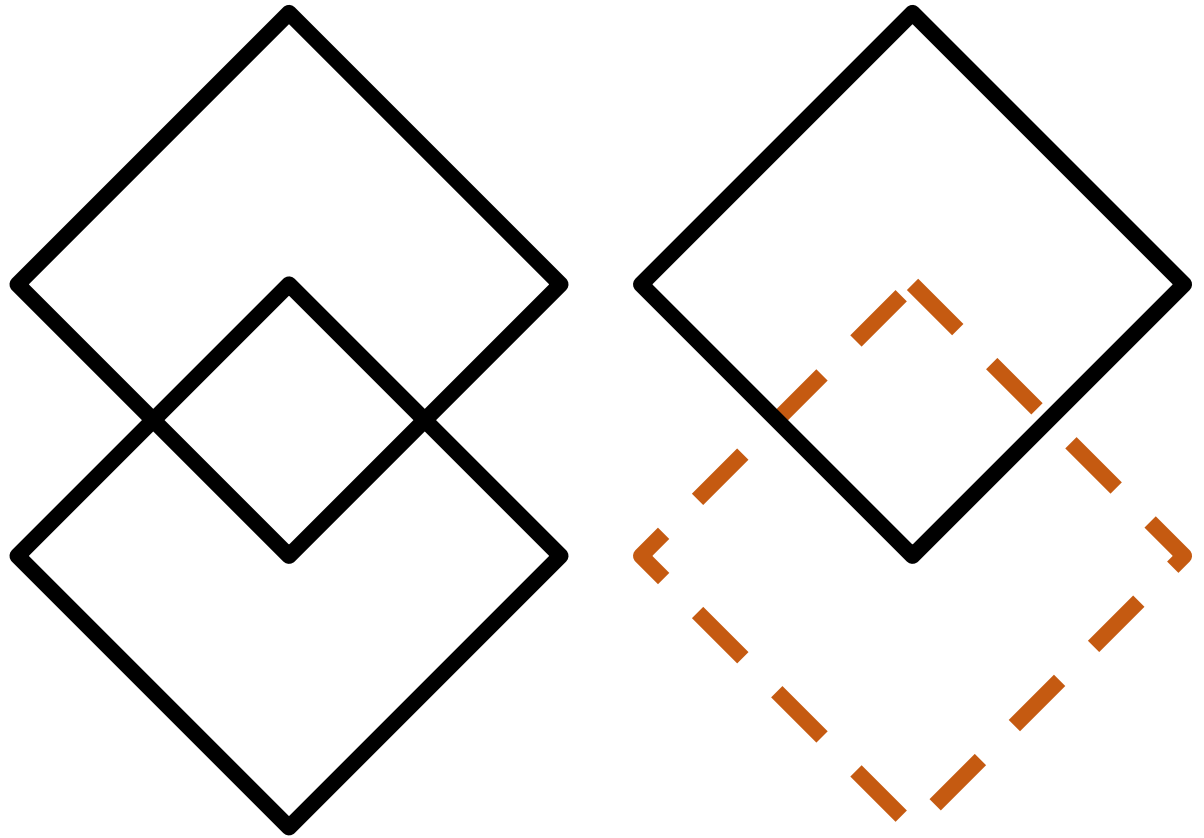
## Figure/Ground

Bigger image  
looks like  
background,  
and smaller  
image looks like  
foreground



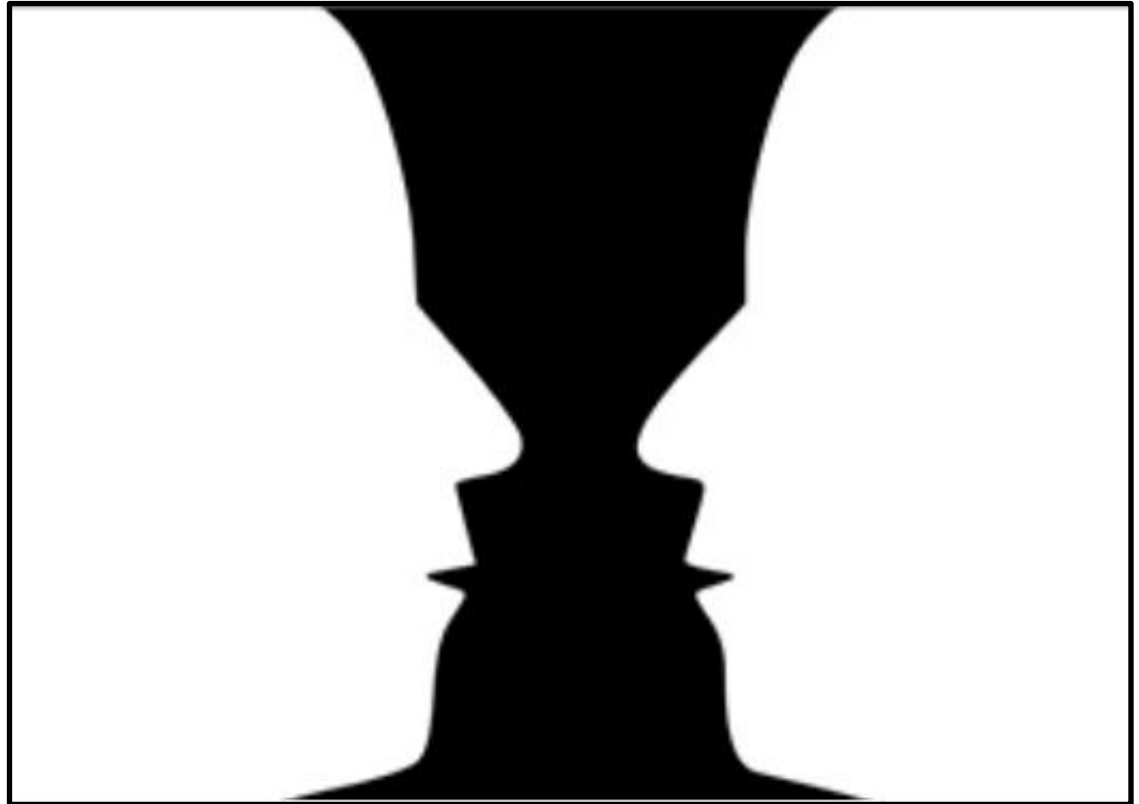
## Figure/Ground

This image is also an example of figure/ground, your brain naturally picks one as the foreground and one as the background



## Figure/Ground

This image is also an example of figure/ground, your brain naturally picks one as the foreground and one as the background



Example of Figure/Ground from *Interaction Design Foundation*, Available at: <https://www.interaction-design.org>



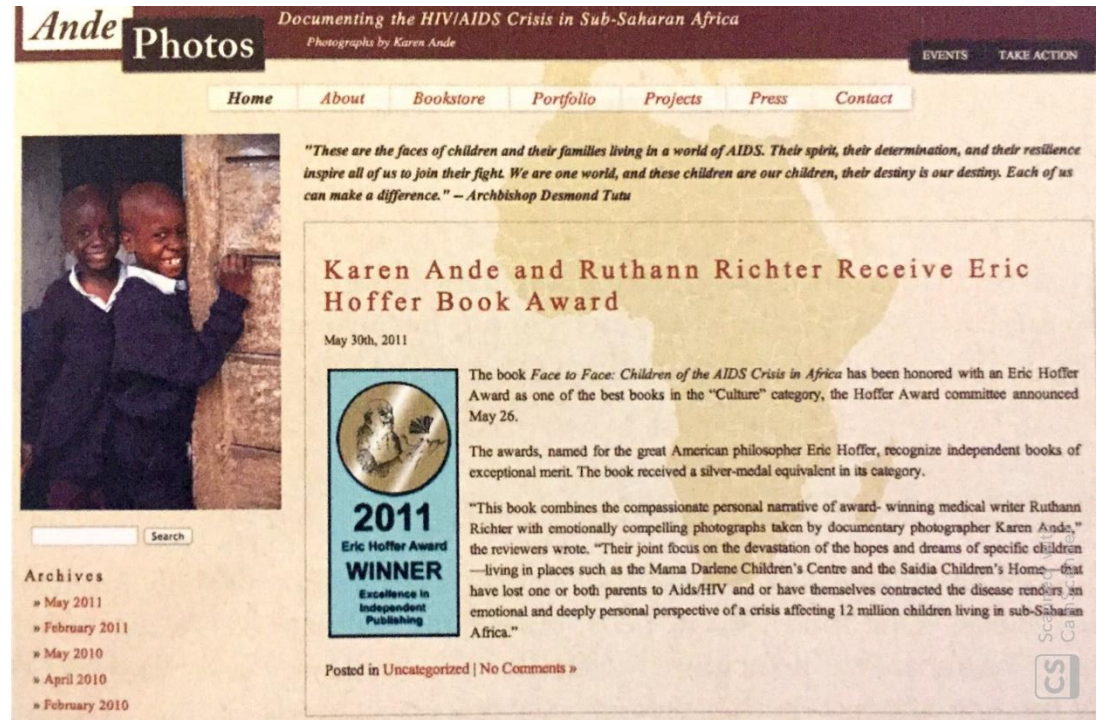
## Figure/Ground

M. C. Escher is one of the more famous artists to use this principle



# Figure/Ground

Figure/Ground  
is used to bring  
more  
information  
over other  
content



The screenshot shows the website 'Ande Photos' with the subtitle 'Documenting the HIV/AIDS Crisis in Sub-Saharan Africa' and 'Photographs by Karen Ande'. The navigation menu includes 'Home', 'About', 'Bookstore', 'Portfolio', 'Projects', 'Press', and 'Contact'. A quote from Archbishop Desmond Tutu is displayed: "These are the faces of children and their families living in a world of AIDS. Their spirit, their determination, and their resilience inspire all of us to join their fight. We are one world, and these children are our children, their destiny is our destiny. Each of us can make a difference." – Archbishop Desmond Tutu. The main article is titled 'Karen Ande and Ruthann Richter Receive Eric Hoffer Book Award' and is dated May 30th, 2011. It features a photo of two children and a '2011 Eric Hoffer Award Winner' badge. The article text states: 'The book *Face to Face: Children of the AIDS Crisis in Africa* has been honored with an Eric Hoffer Award as one of the best books in the "Culture" category, the Hoffer Award committee announced May 26. The awards, named for the great American philosopher Eric Hoffer, recognize independent books of exceptional merit. The book received a silver-medal equivalent in its category. "This book combines the compassionate personal narrative of award-winning medical writer Ruthann Richter with emotionally compelling photographs taken by documentary photographer Karen Ande," the reviewers wrote. "Their joint focus on the devastation of the hopes and dreams of specific children—living in places such as the Mama Darlene Children's Centre and the Saidia Children's Home—that have lost one or both parents to Aids/HIV and or have themselves contracted the disease renders an emotional and deeply personal perspective of a crisis affecting 12 million children living in sub-Saharan Africa."

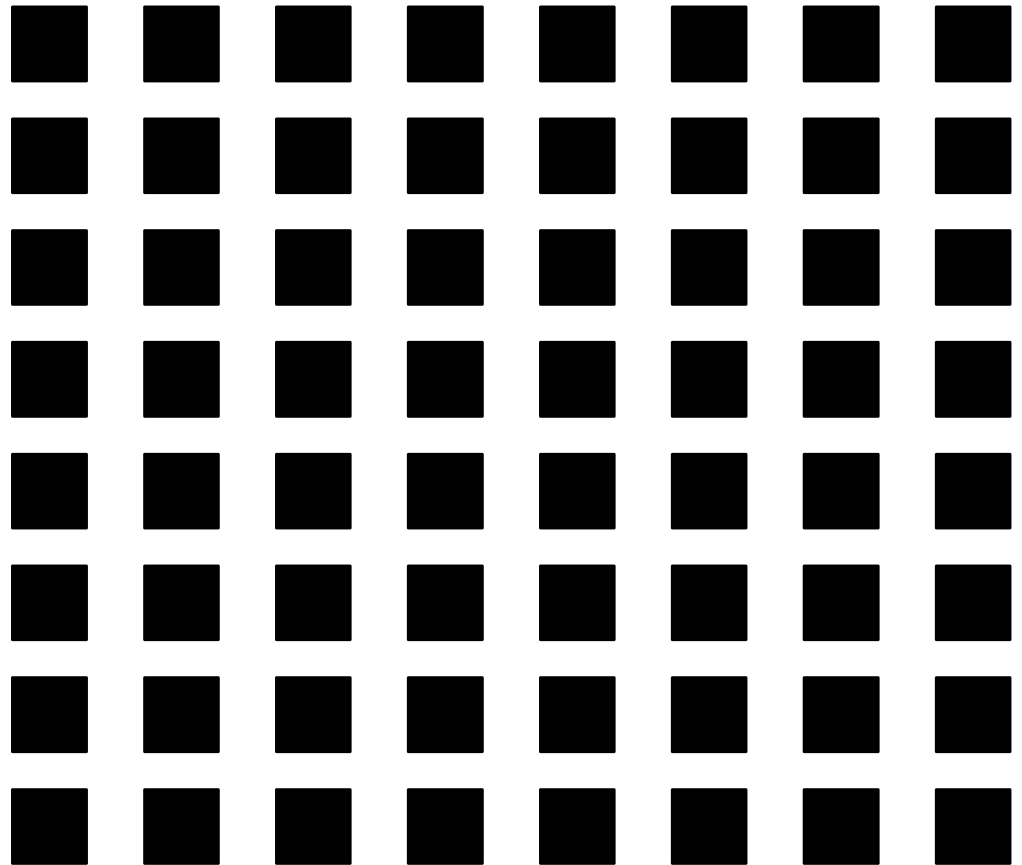
Figure/Ground is used at AndePhotos.com to display a thematic watermark “behind” the content – (from J Johnson “Designing with the mind in mind”, p 23)

# Common Fate

- Similar to proximity and similarity, but concerning moving objects. Things that move with similar patterns are seen as grouped.

## Common Fate

Boxes that  
move together  
naturally seem  
grouped



## Common Fate

A flock of birds is viewed as a single unit when flying in the same direction

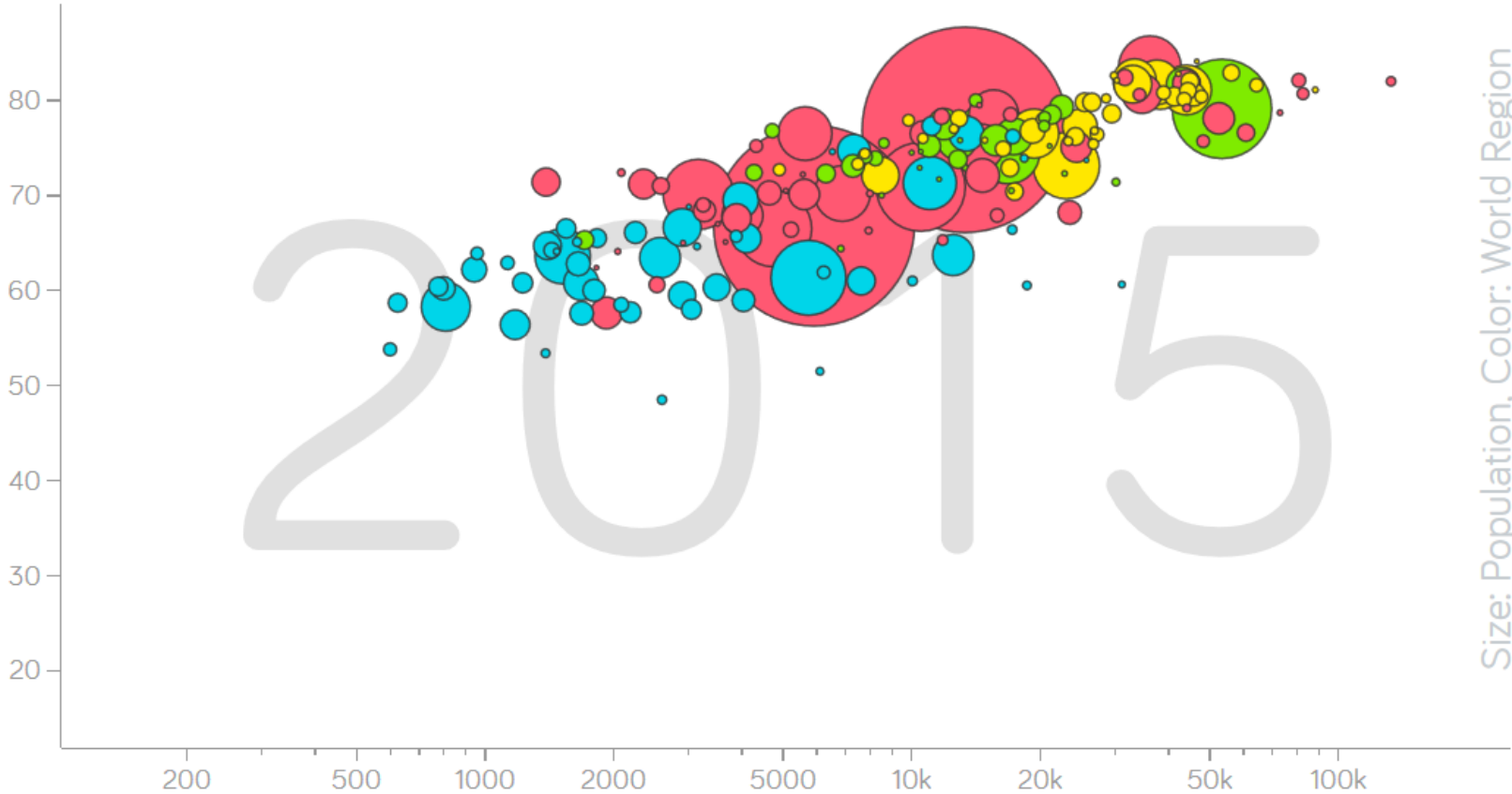


(by [Martin Adams](#) on [Unsplash](#))

**Principles often happen together**



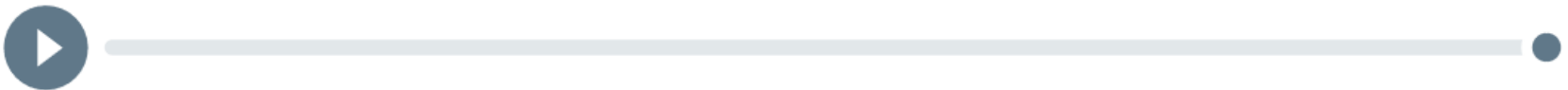
Life expectancy, years



Size: Population, Color: World Region

Income per person, \$/year (GDP/capita)

DATA DOUBTS



[https://www.gapminder.org/tools/#\\_chart-type=bubbles](https://www.gapminder.org/tools/#_chart-type=bubbles)



Bruno Catalano *In Search of Missing Pieces*  
<https://mymodernmet.com/in-search-of-missing-pieces-13>





Michelangelo, *Creation of Adam*, c. 1510. Sistine Chapel, Rome.



Katsushika Hokusai, *The Great Wave Off Kanagawa*  
From "Thirty-six Views of Mount Fuji"; 1823-29

**Questions?**