Visual Storytelling I

Session Two

MVIS 5101 March–May 2023

The plan for today:

- Discussion about critique
- Share assignments for feedback
- Perception, cognition, and letterforms
- Description of the next assignment

Why have critiques?

“We apprehend only a tiny amount of information in our surroundings, but it’s usually just the right information to carry us through the task of the moment.”

- Colin Ware

What we notice

Pulling only a tiny, necesssary amount from our environment can be useful and efficient. We'd be overwhelmed if we paid attention to everything we saw.

How many changes do you notice?

This illusion is a video that shows a room undergoing several changes. Which ones do you notice?

How many changes do you notice?

Before

After

“The special skill of designers is not so much skill with... design software... but the talent to analyze a design in terms of its ability to support the visual queries of others.”

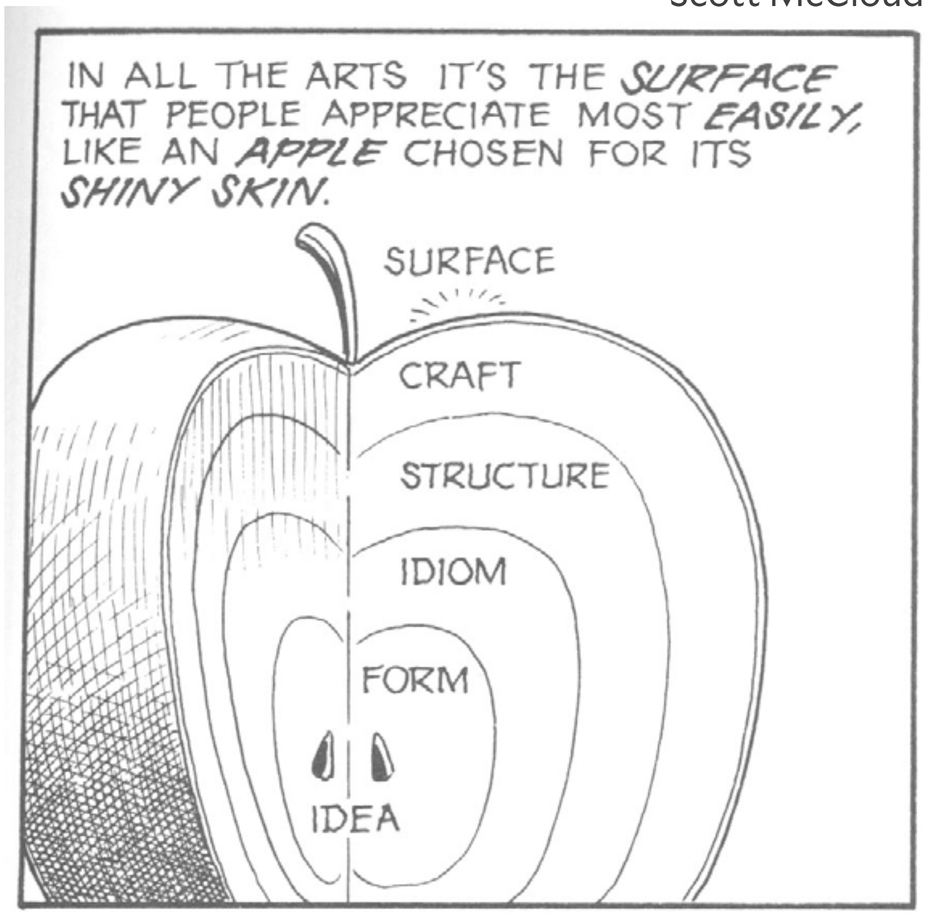
- Colin Ware

Critique & feedback

What is discussed?

- What are the visual qualities of the work that are immediately perceived? *(Surface)*
- How are formal principles of information design being used in the work? *(Craft)*
- What is the overall goal of the visualization? *(Idea/purpose, Form)*
- How successful is the visualization in achieving its overall goals? *(Structure, Idiom)*

Scott McCloud



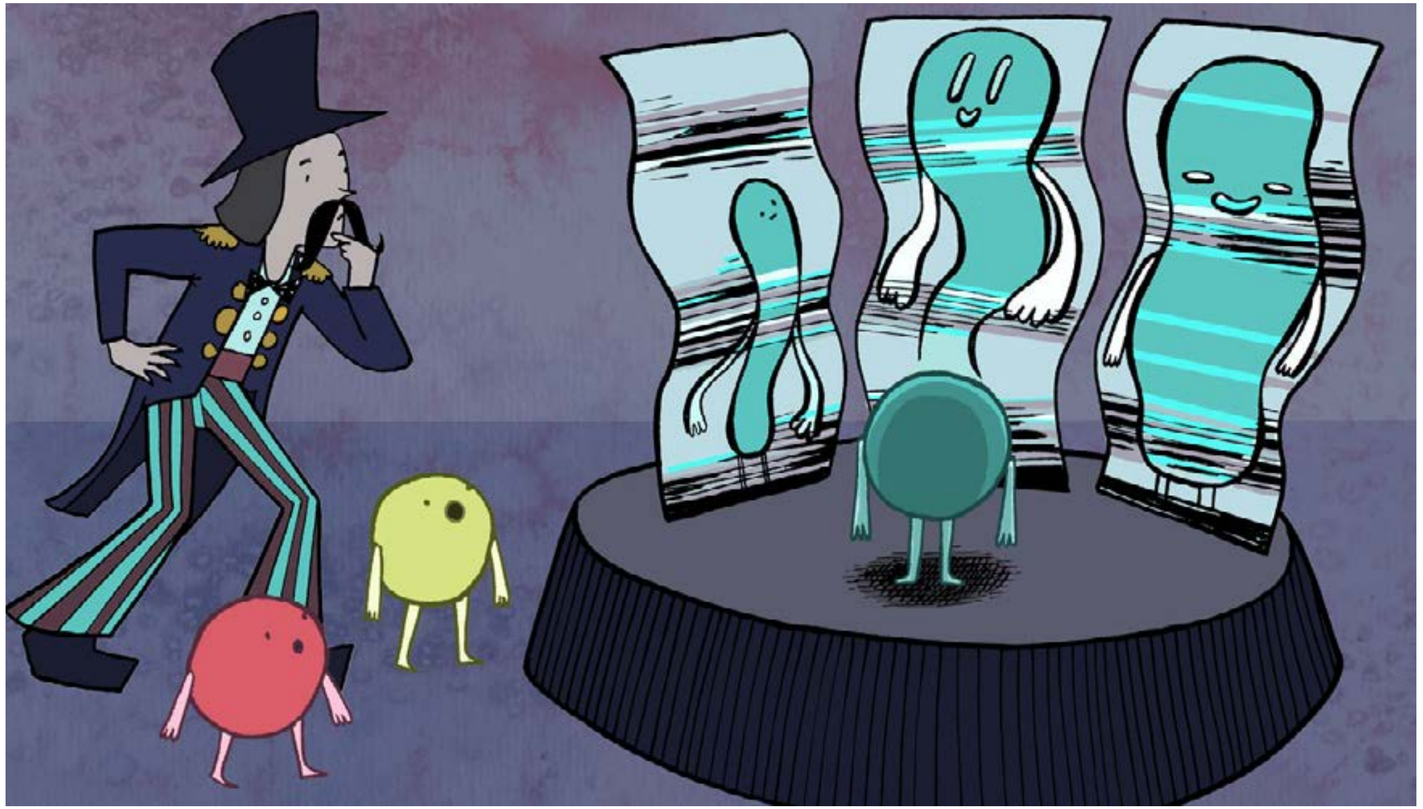
How to give feedback

- A good critique is honest and constructive. Be respectful.
- Be concrete and specific—if your feedback relates to a specific part of the project, be clear about it
- Give feedback in a timely manner
- Own your feedback—don’t relay messages from others
- Focus on the things that can change

How to receive feedback

- Don’t take feedback personally. It’s not about you, it’s about the work and improving it.
- Active listening.
- Try to understand instead of deny, defend or explain.
- Evaluate feedback slowly after you’ve receive it. Say ‘thanks’ and consider if you want to ask clarifying questions or enter into a dialogue.

Symmetry magazine/Sandbox studio



When critique goes wrong

- You may not receive honest feedback from peers if you tend to react defensively
- You may not have a good understanding of how your work will be viewed by its audience
- That can have a cascading effect on your work going forward by creating inaccurate assumptions about what works

Incorporating feedback

You do not have to incorporate all feedback

- It might contradict with other feedback
- It might be inaccurate
- It might be mis-attributing a different problem
- Use your best judgment of who's feedback to incorporate to best improve the work

Critique

Break

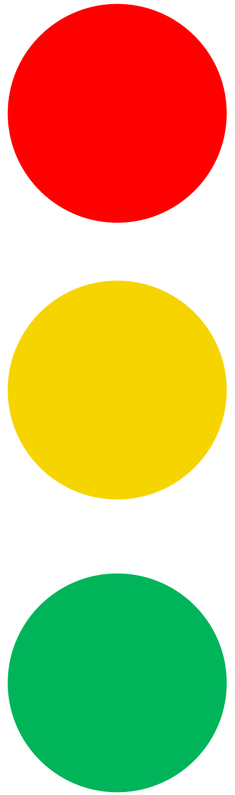
Cognition, Perception, and letterforms

“The special skill of designers is not so much skill with... design software... but the talent to analyze a design in terms of its ability to support the visual queries of others.”

- Colin Ware

Sensory + Cultural coding

Visuals embed both sensory and cultural coding.



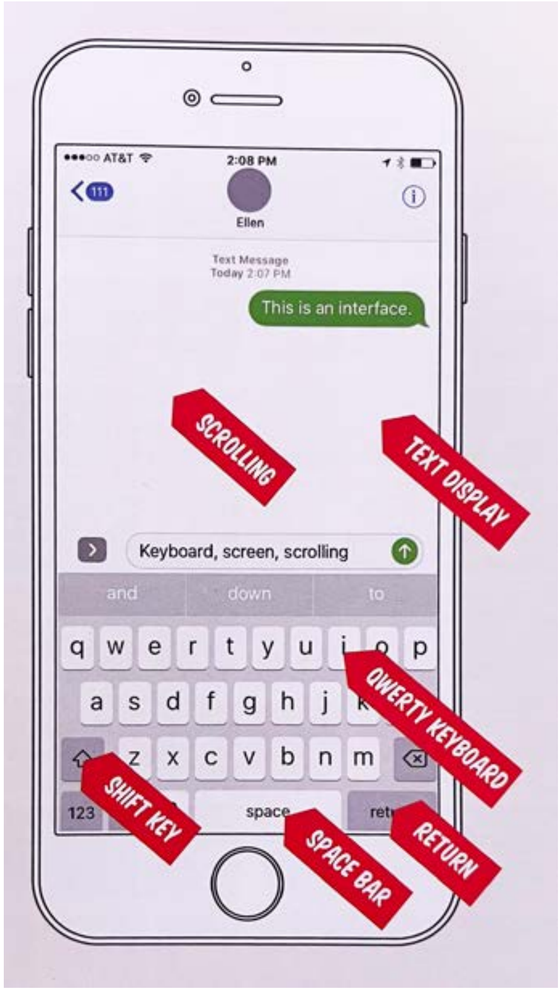
Affordances

“The power of the unaided mind is highly overrated. Without external aids, memory, thought, and reasoning are all constrained. But human intelligence is highly flexible and adaptive, superb at inventing procedures and objects that overcome its own limits. The real powers come from devising external aids that enhance cognitive abilities. How have we increased memory, thought, and reasoning? By the invention of external aids: it is things that make us smart.”
- Don Norman

Affordances

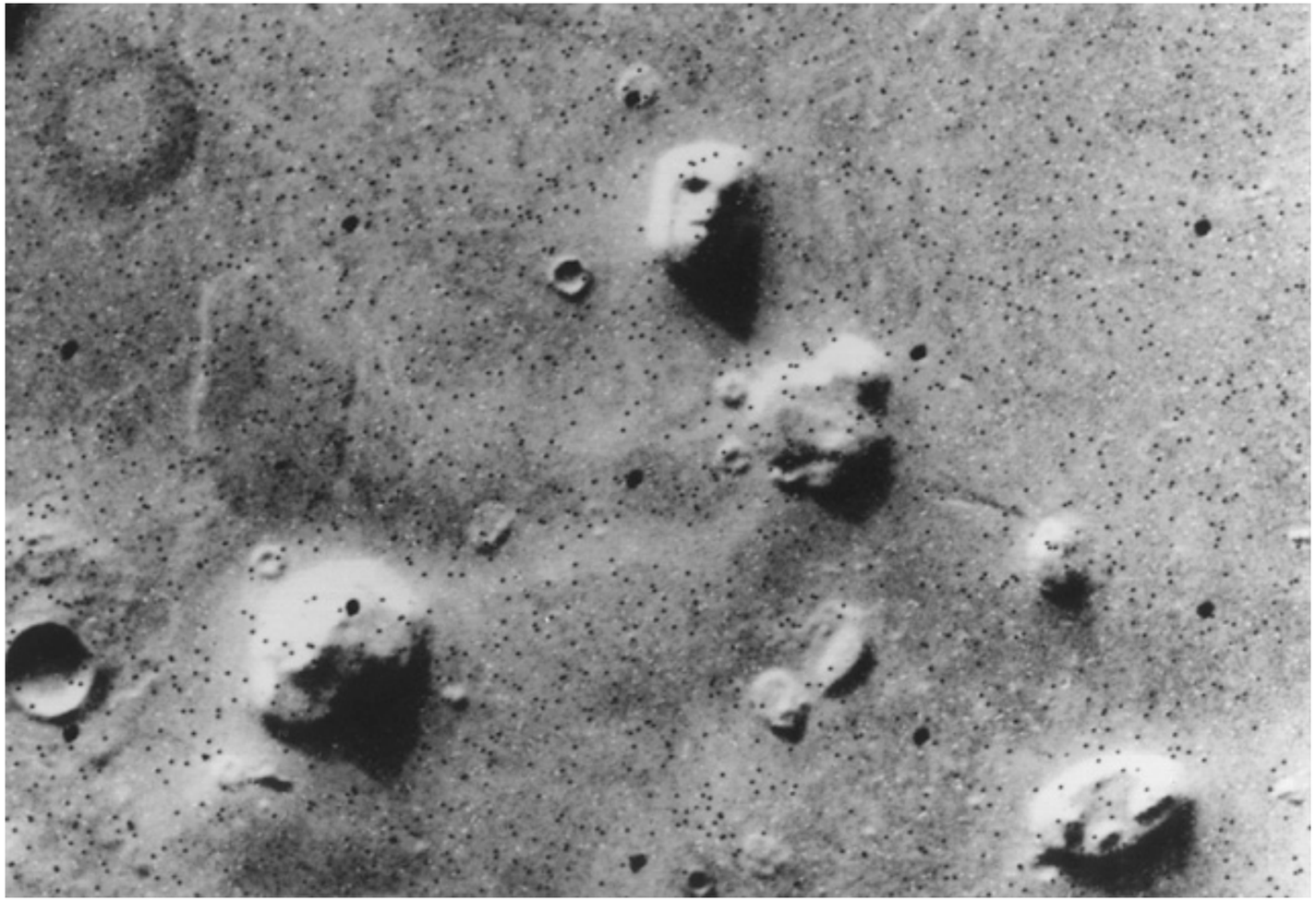
Ellen Lupton

Physical and digital affordances



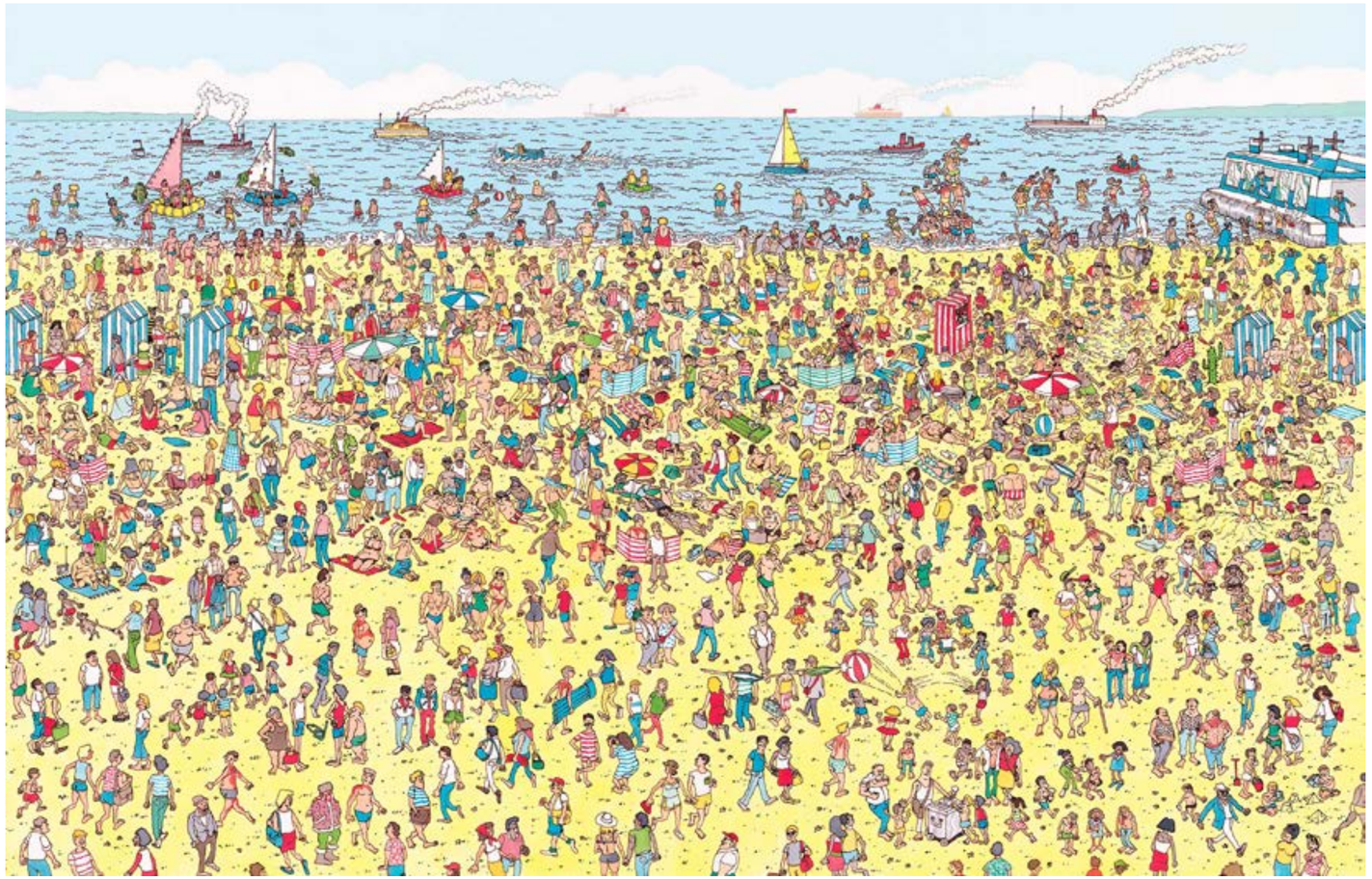
“Bottom up” perception

- Our brain perceives patterns and makes connections based on what we know
- Think of the traffic light
- Also: the “Face on Mars” discovered by NASA’s Viking 1 and 2 Mars orbiters in 1976.



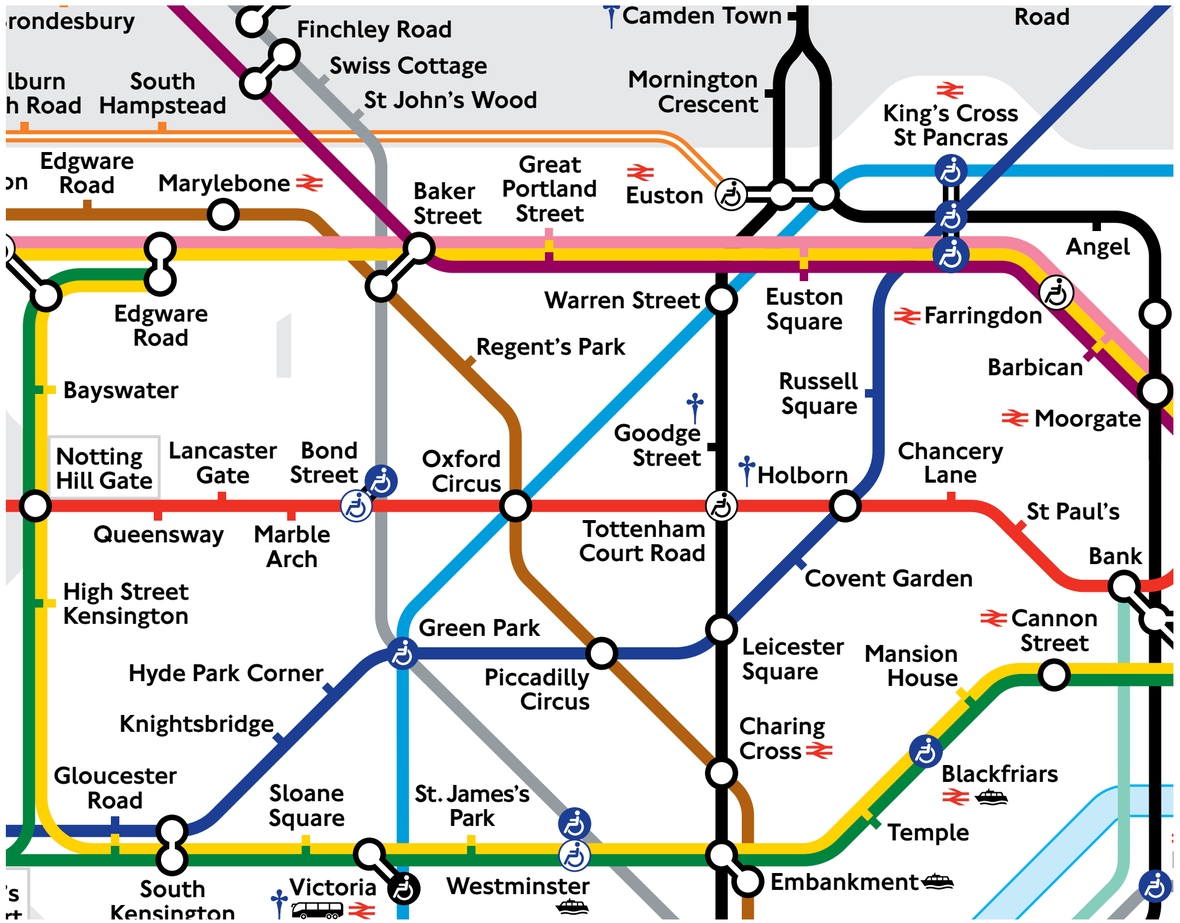
“Top down” perception

- Focus is on attention
- “If you are looking for a red light, your red light detector will go off.”
- The brain learns tasks and moves your eyes for a visual search task (ie: find horizontal stripes) that executes the task based on a limited series of eye movements and tasks.



Visual queries

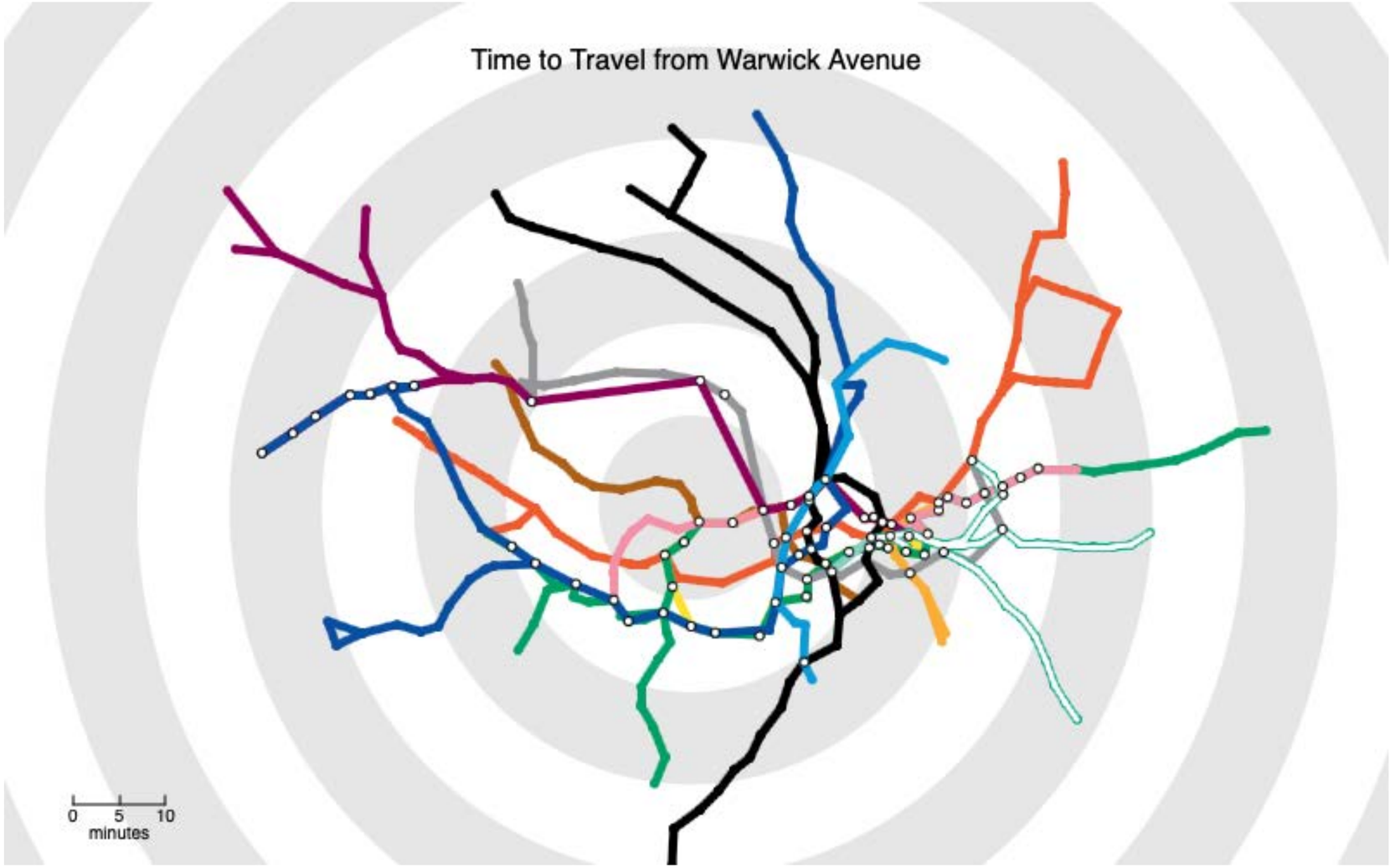
Think of a “query” as something that the mind does to compare visual elements. What can we ask that this visualization can help answer?



Visual queries

Tom Carden

What visual queries can one make of this different visualization of the London Underground?



Visual queries

If we've previously used maps for route planning, we have a cognitive plan for how to solve a query. An unfamiliar format will take more context and effort to use.

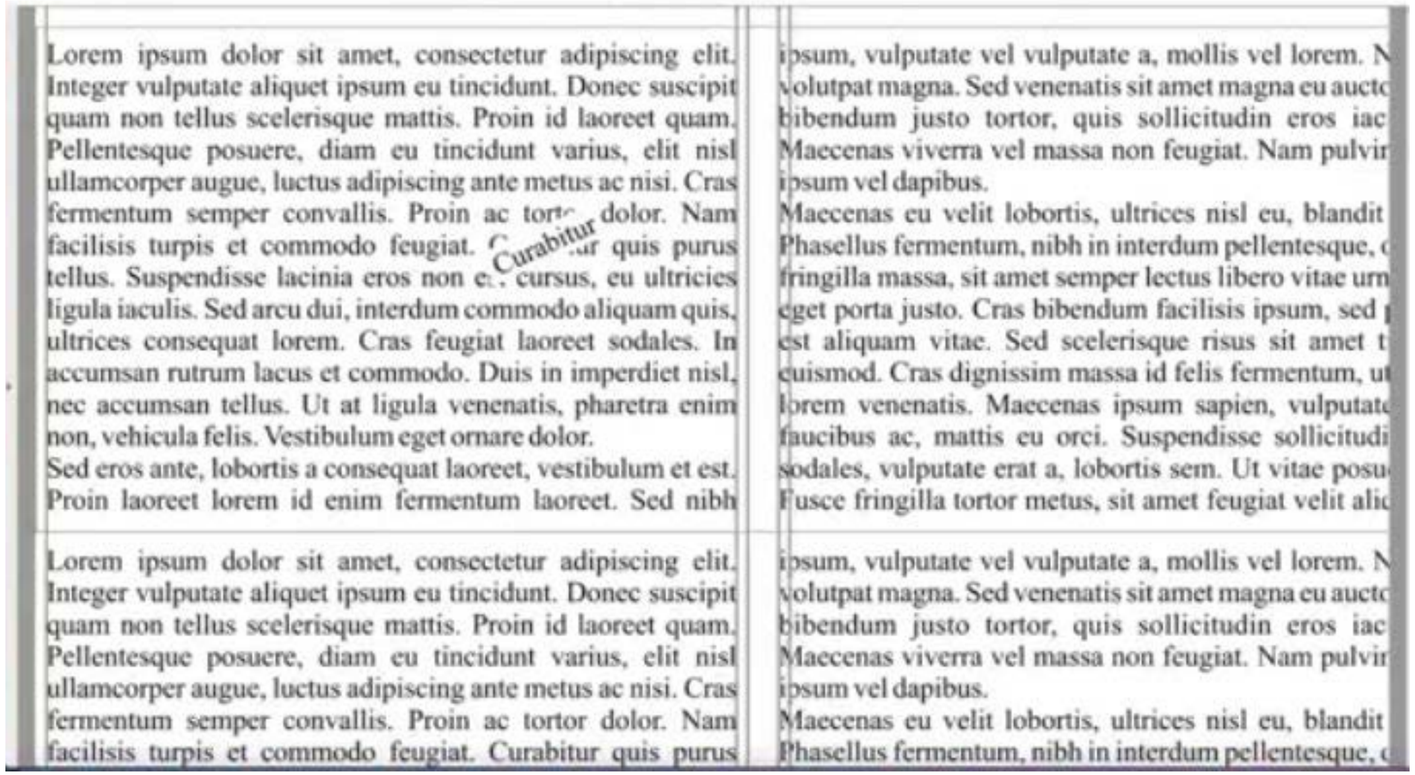
Georgia Lupi

Feature channels

The brain is tuned to see outliers. It's one of the most essential elements of human perception.

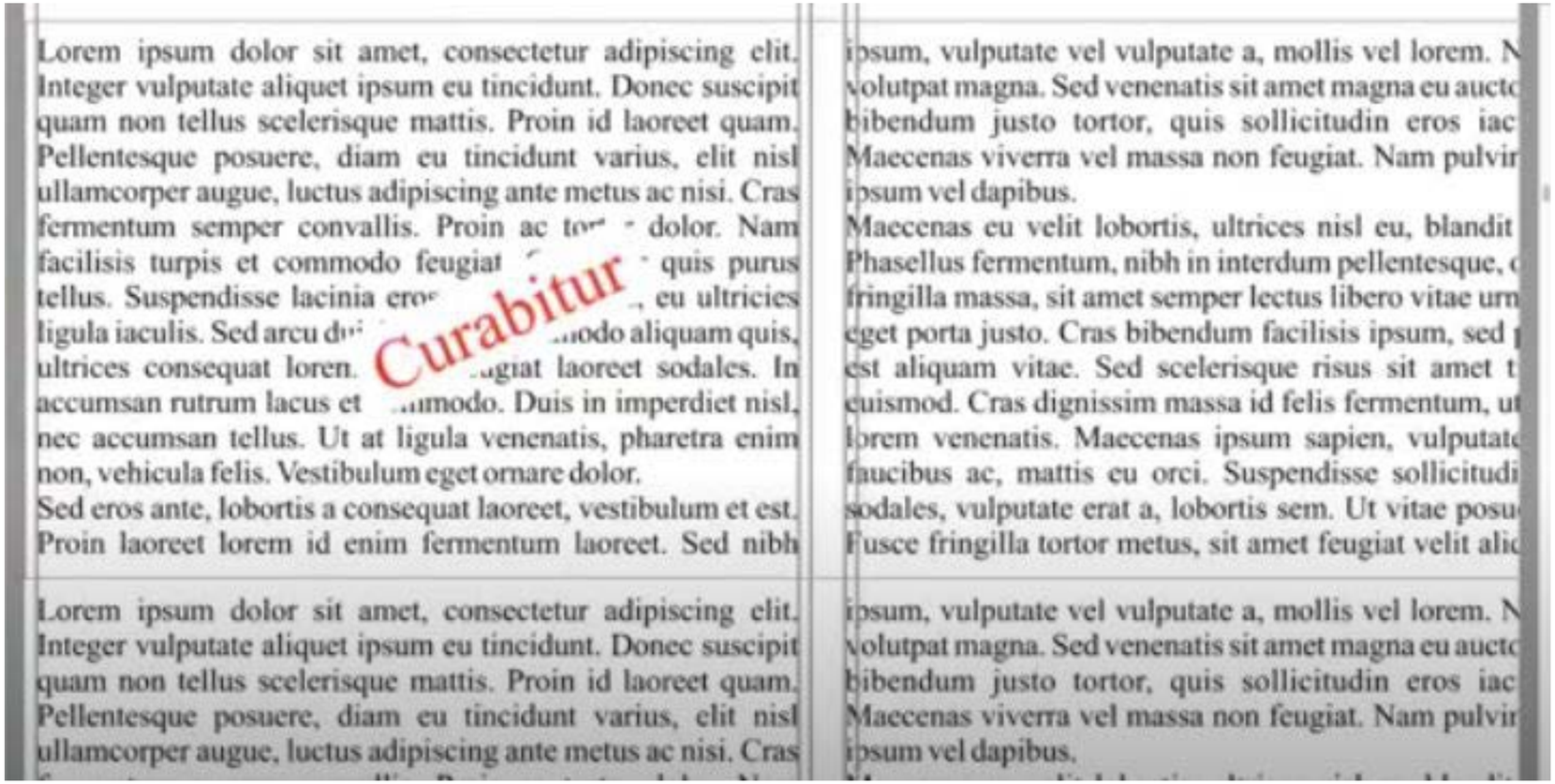
Understanding that helps us know how the brain and visual system makes sense of the world.

Feature channels use simple, high impact, and preattentive ways for the audience to distinguish data of different categories.



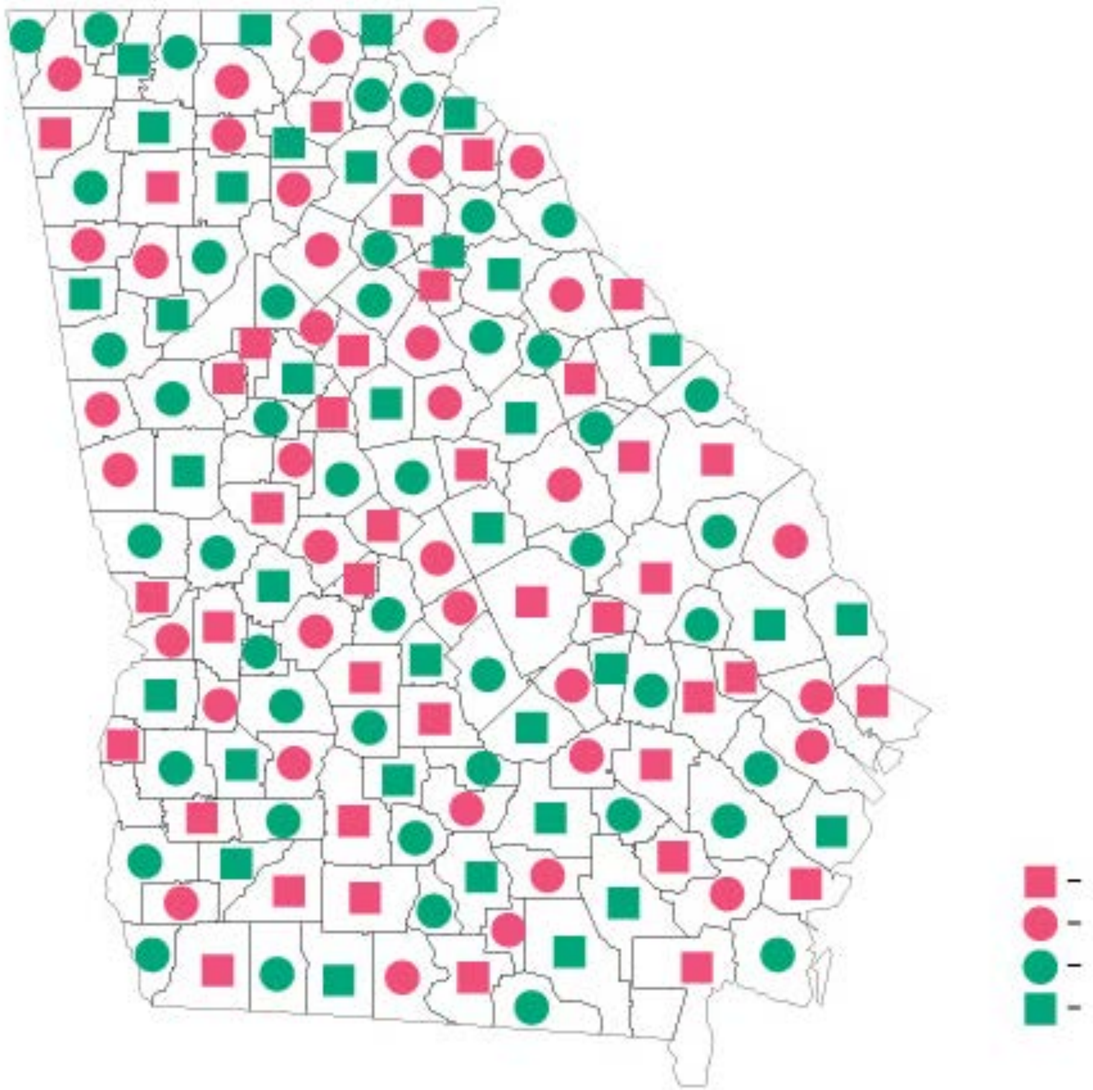
Feature channels

Multiple categories of distinction can be used to increase emphasis.



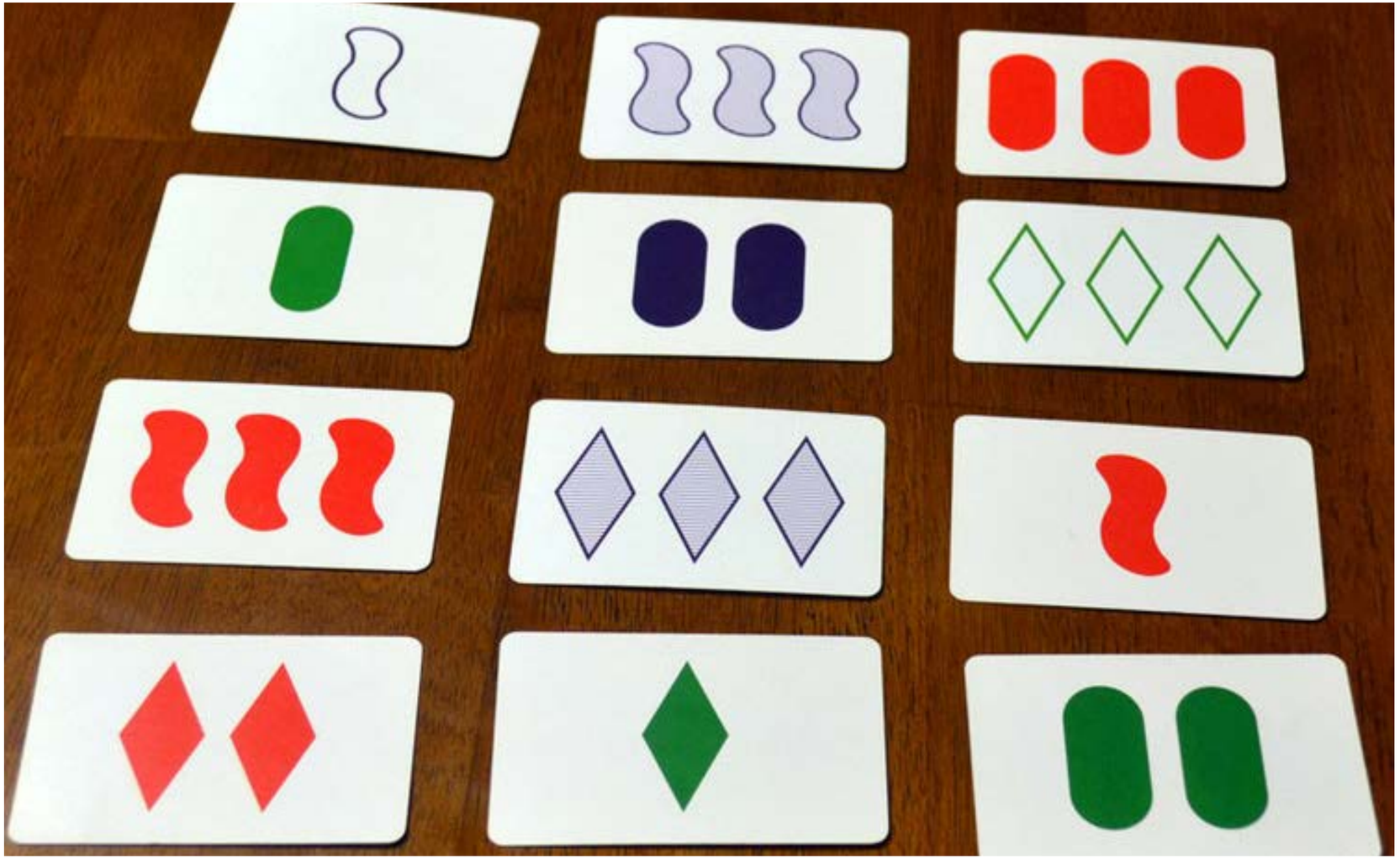
Feature channels

However, multiple distinctions don’t always create a visual shortcut. Try finding the green squares.



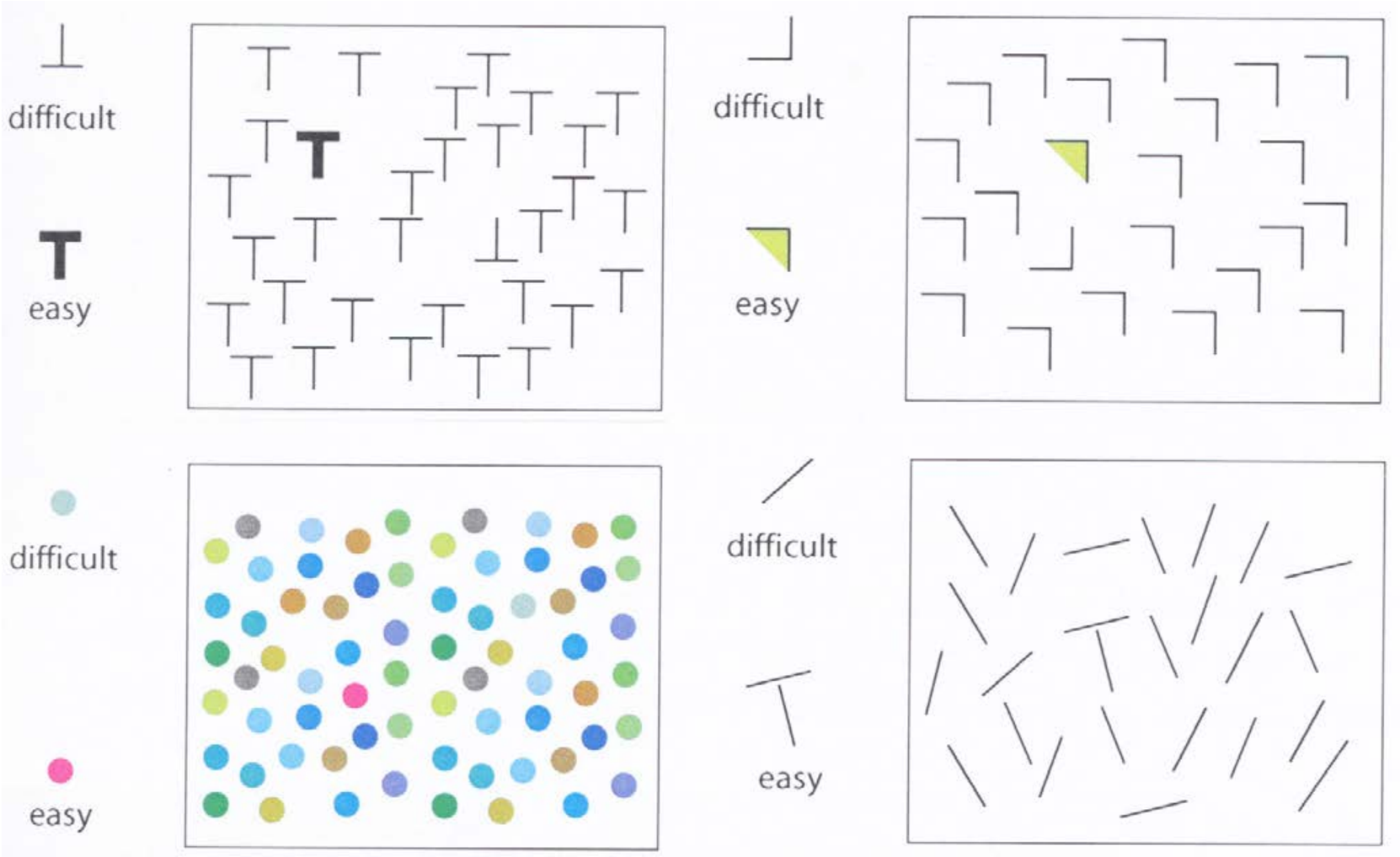
Feature channels

The game “Set” intentionally challenges our pattern-finding abilities



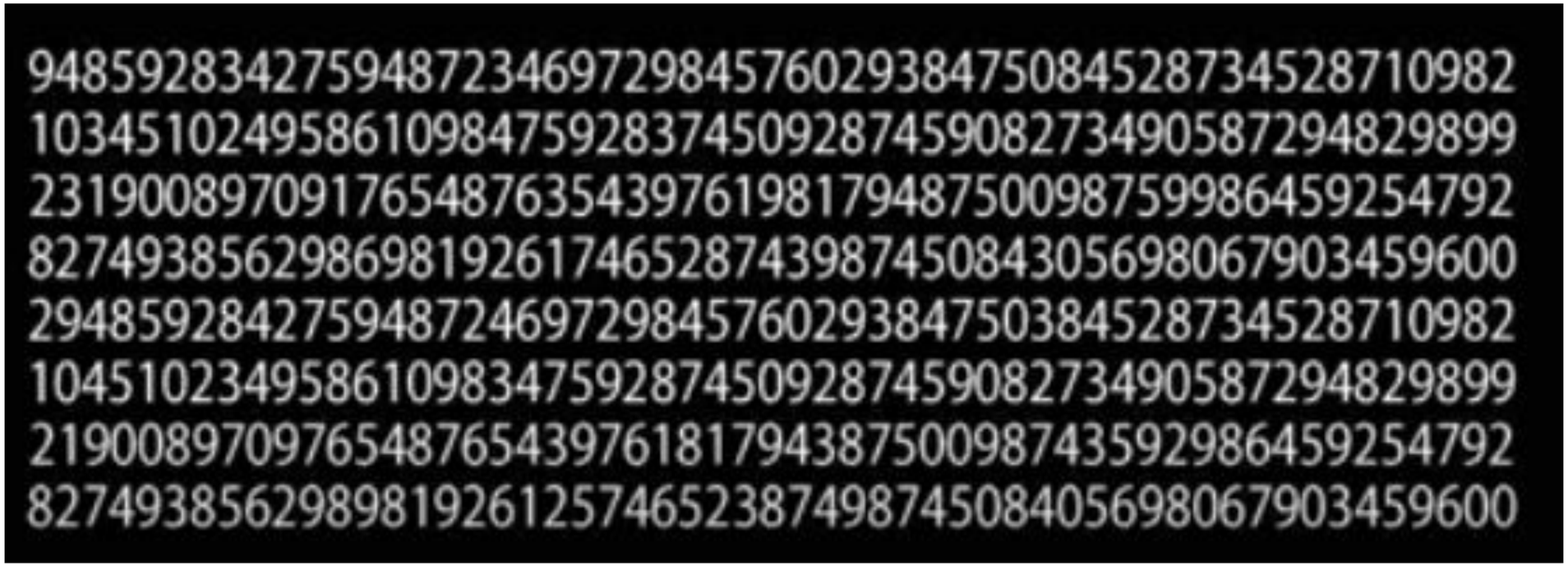
Feature channels

Visibility enhancements are not symmetric. For example, size increase is more distinctive than size decrease.



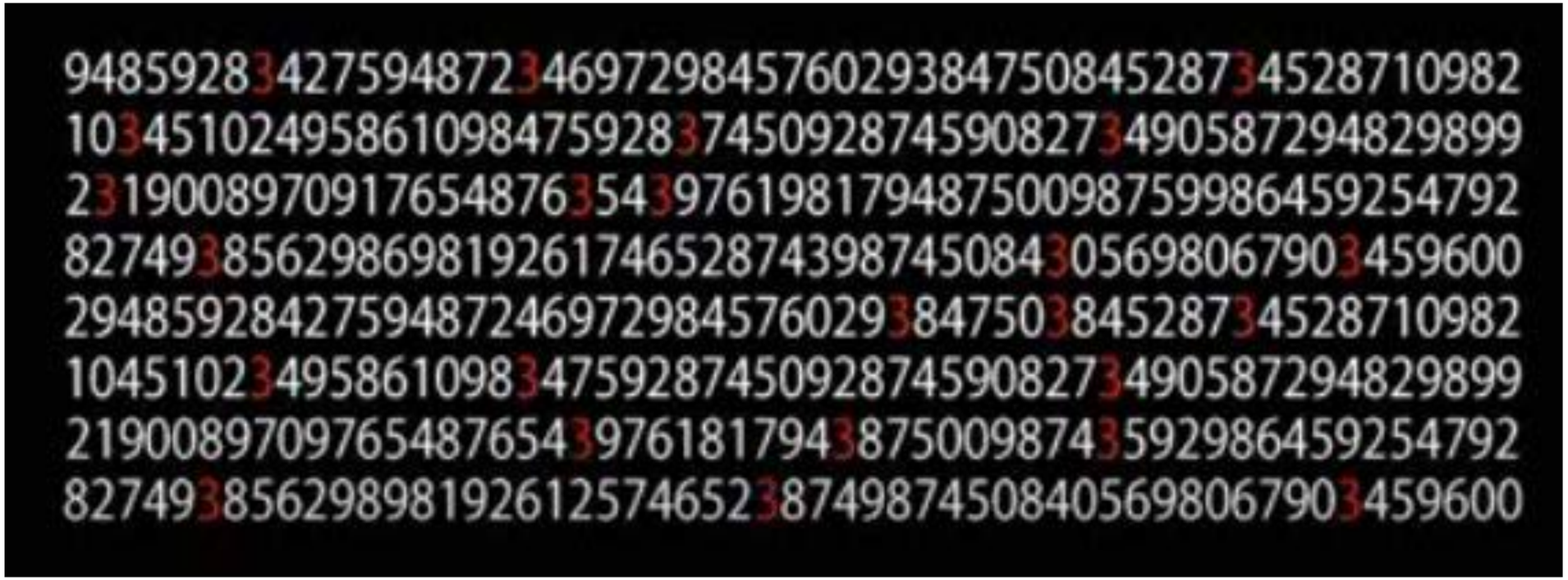
Pattern recognition

Find all the “3”s below



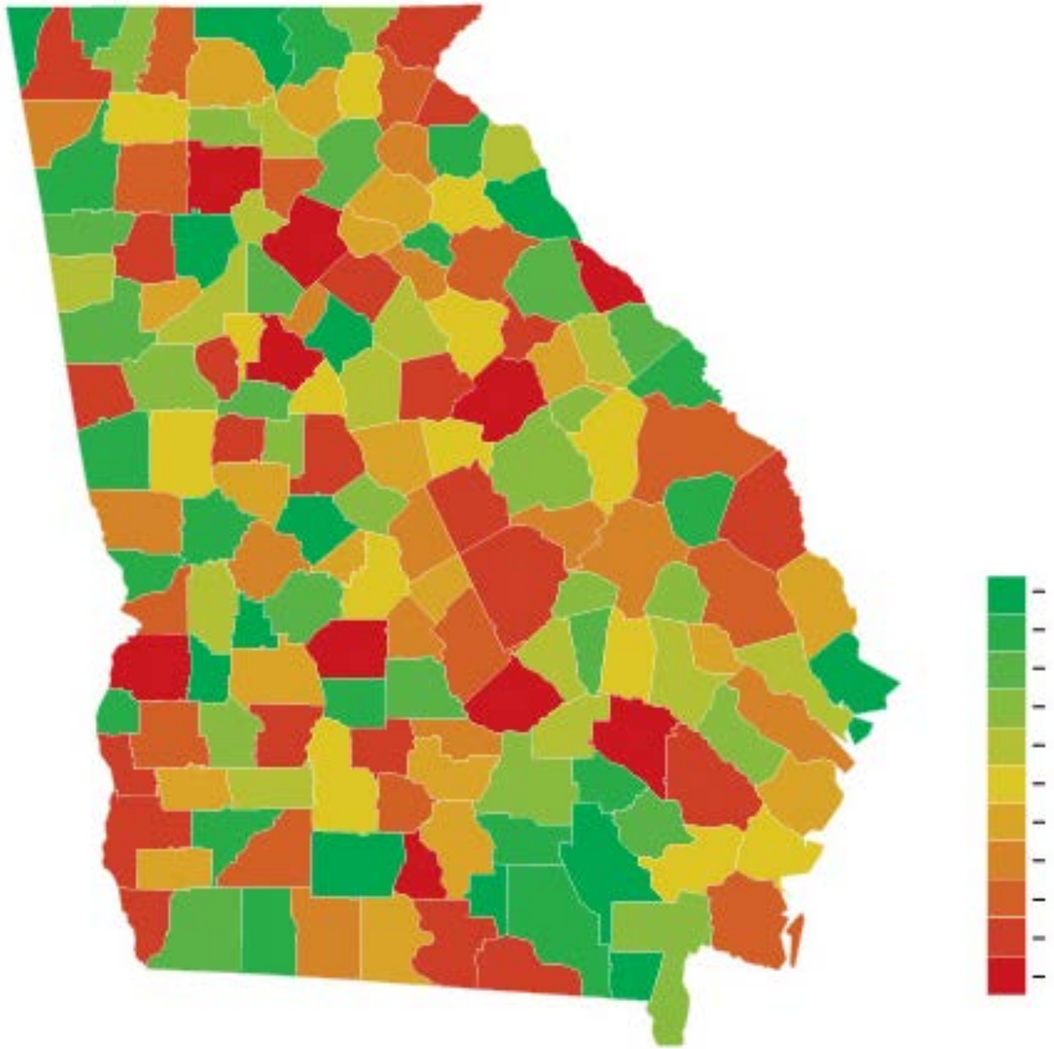
Pattern recognition

Using a different feature channel allows for much less effort.



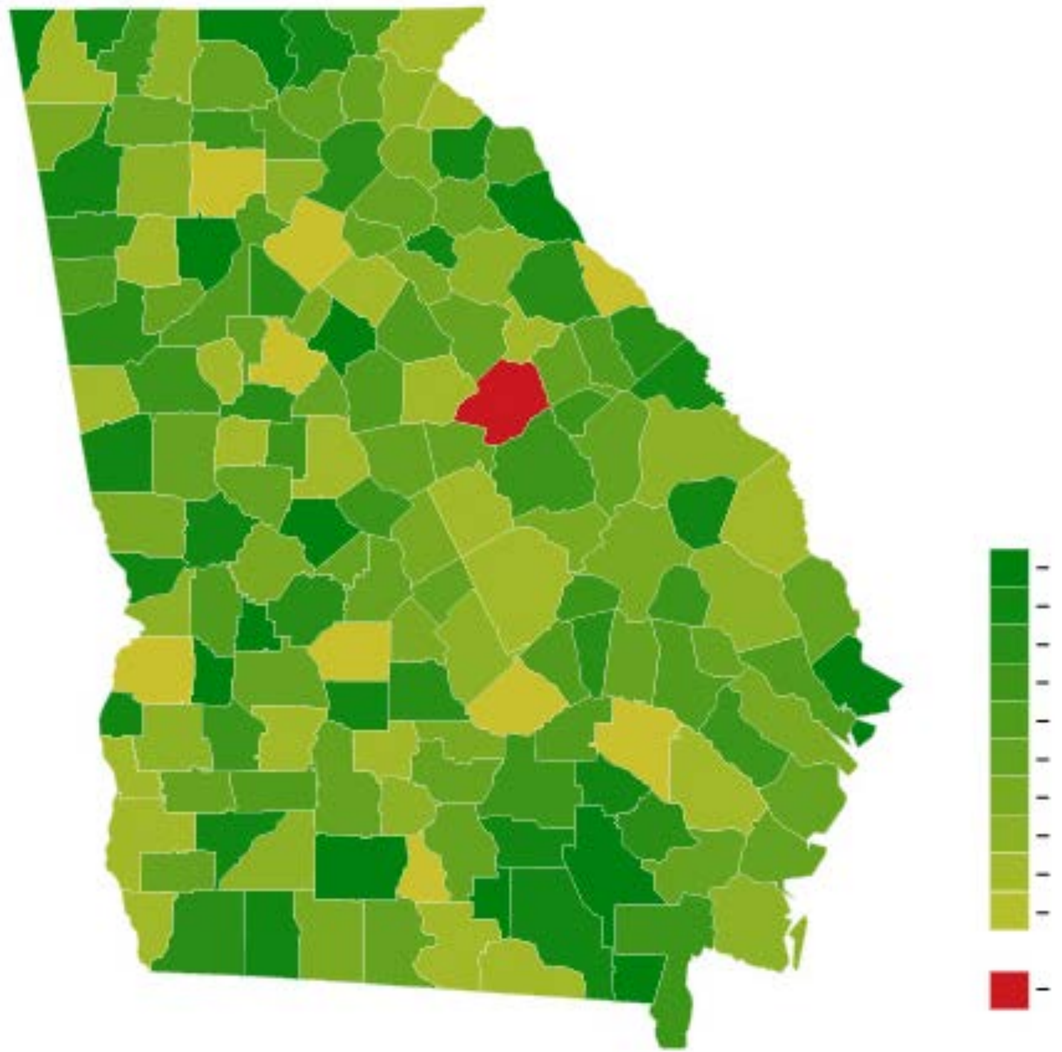
Using feature channels

- Greens and reds are visually appealing and emphasize each other.
- However, using a bipolar choropleth creates a lot of visual noise.
- How could we improve this?



Using feature channels

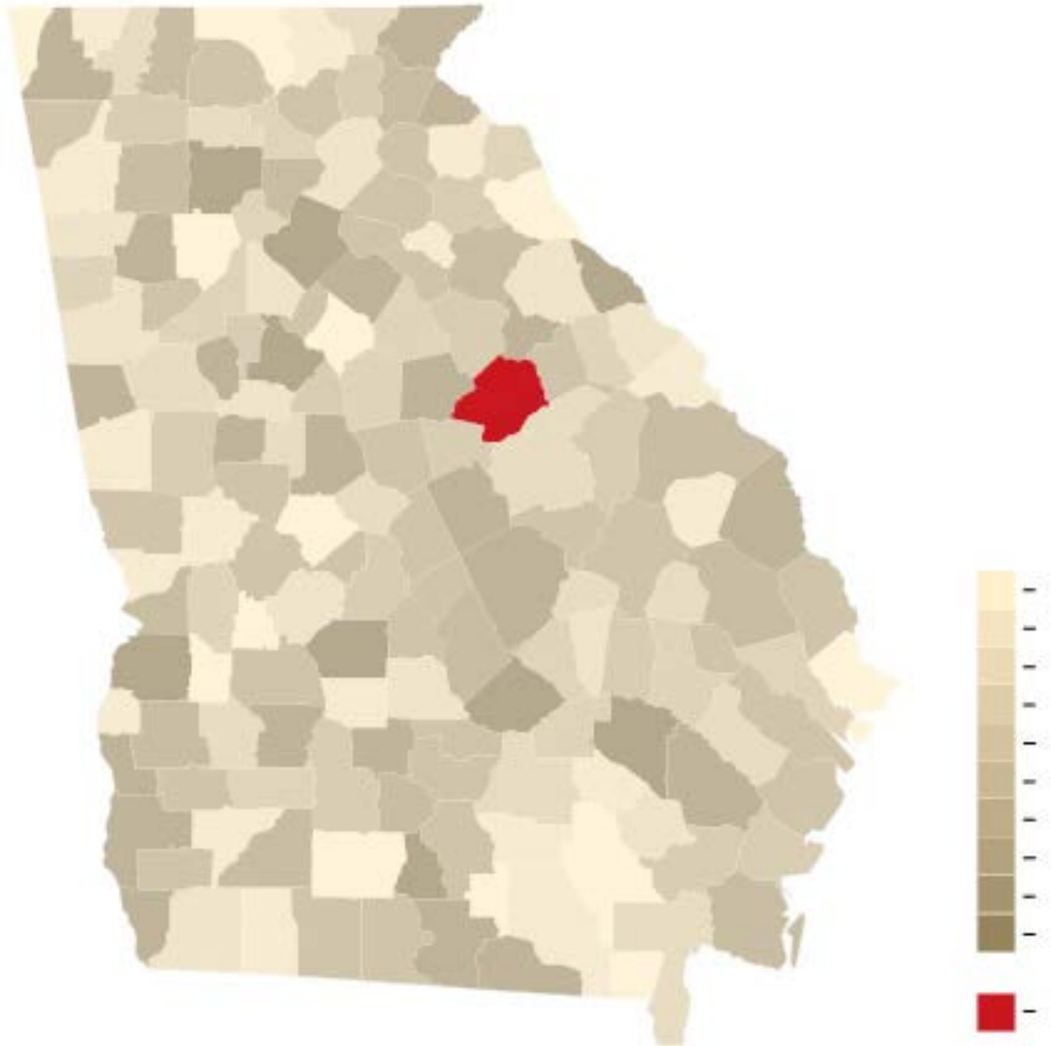
- Creating a separate category to emphasize the high figure for the red shaded area.
- Still has the same issues as the previous map; the red area is more apparent, but has similar contrast to the dark green.



Using feature channels

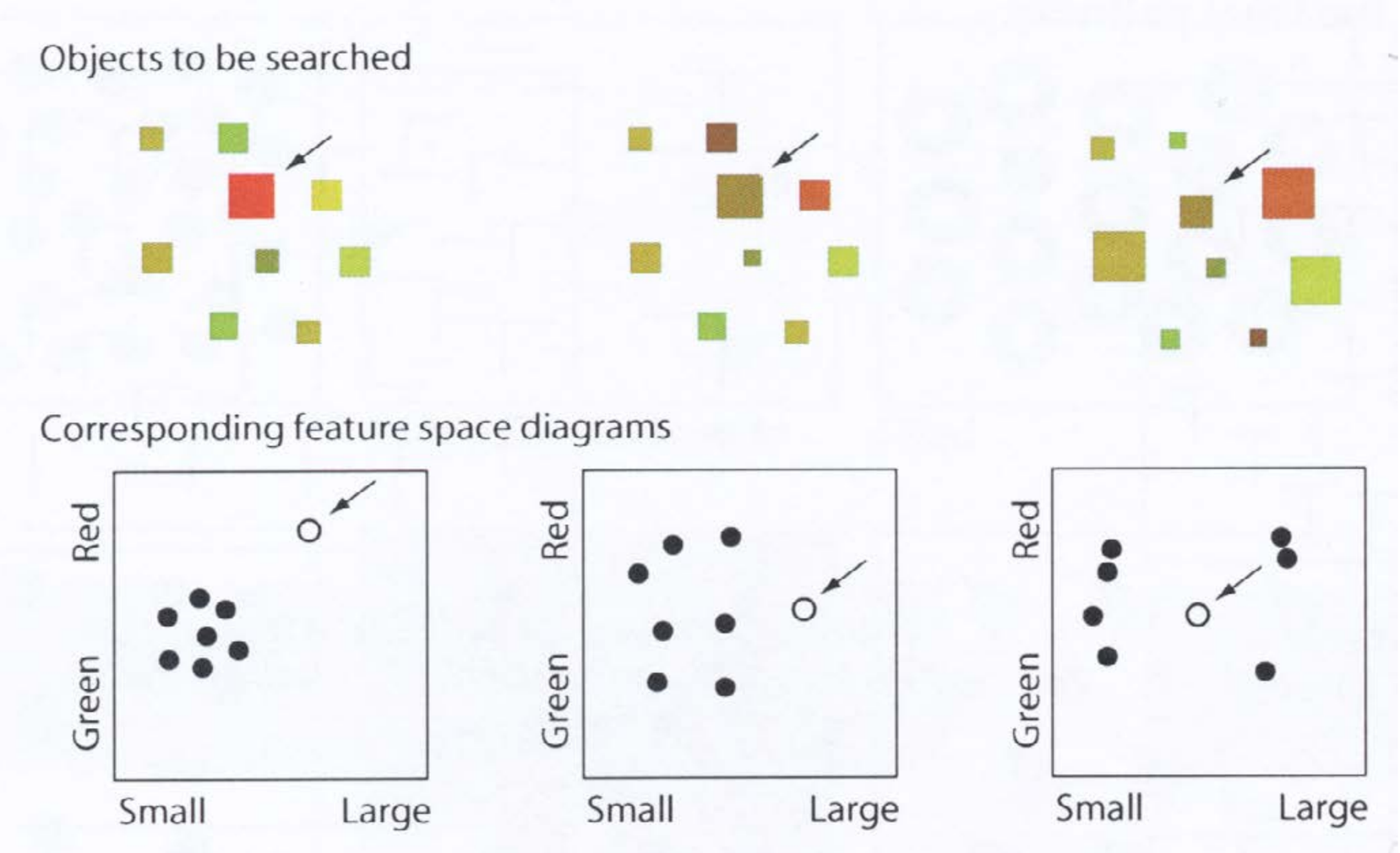
Notice how the impact of the red area is so much greater when the rest of the feature channel is a neutral tone.

This is a tunable process.
The degree of contrast from a feature's surroundings makes it distinct.



Using feature channels

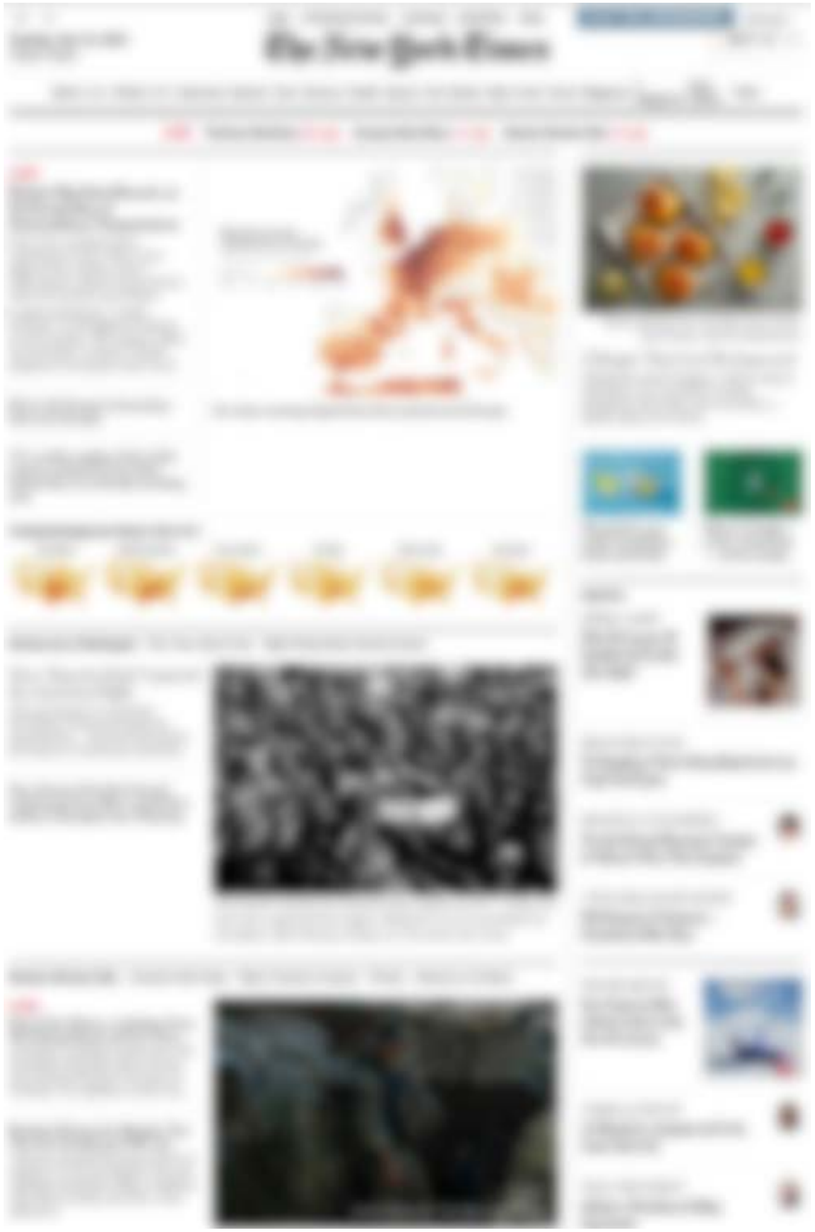
"If the target symbol differs on two feature channels, it will be more distinct than if it differs on only one."



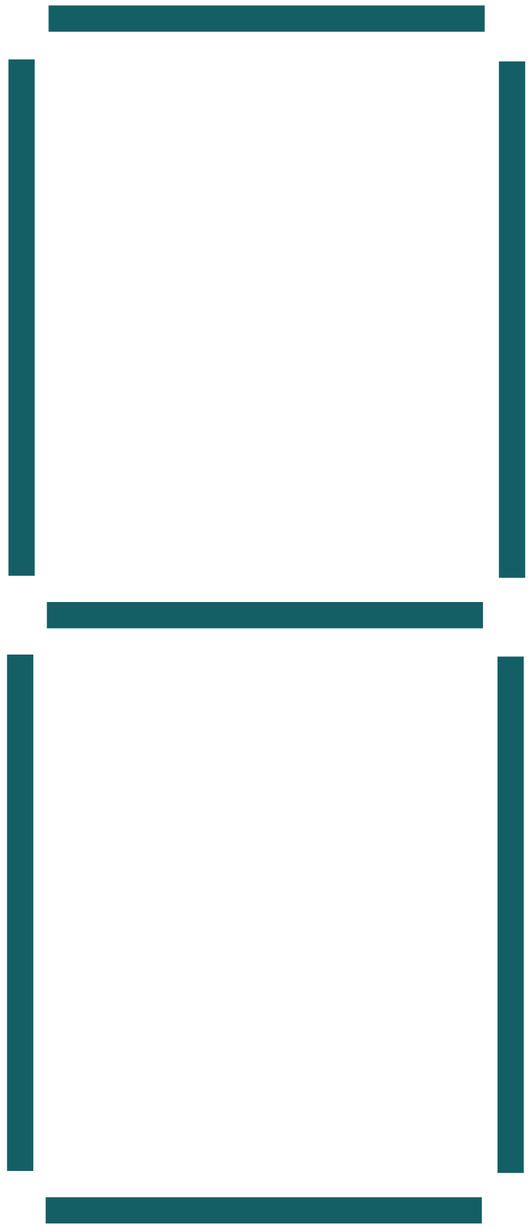
Using feature channels

Experience tells us where to look first.

A typical scanning strategy is one we use when reading



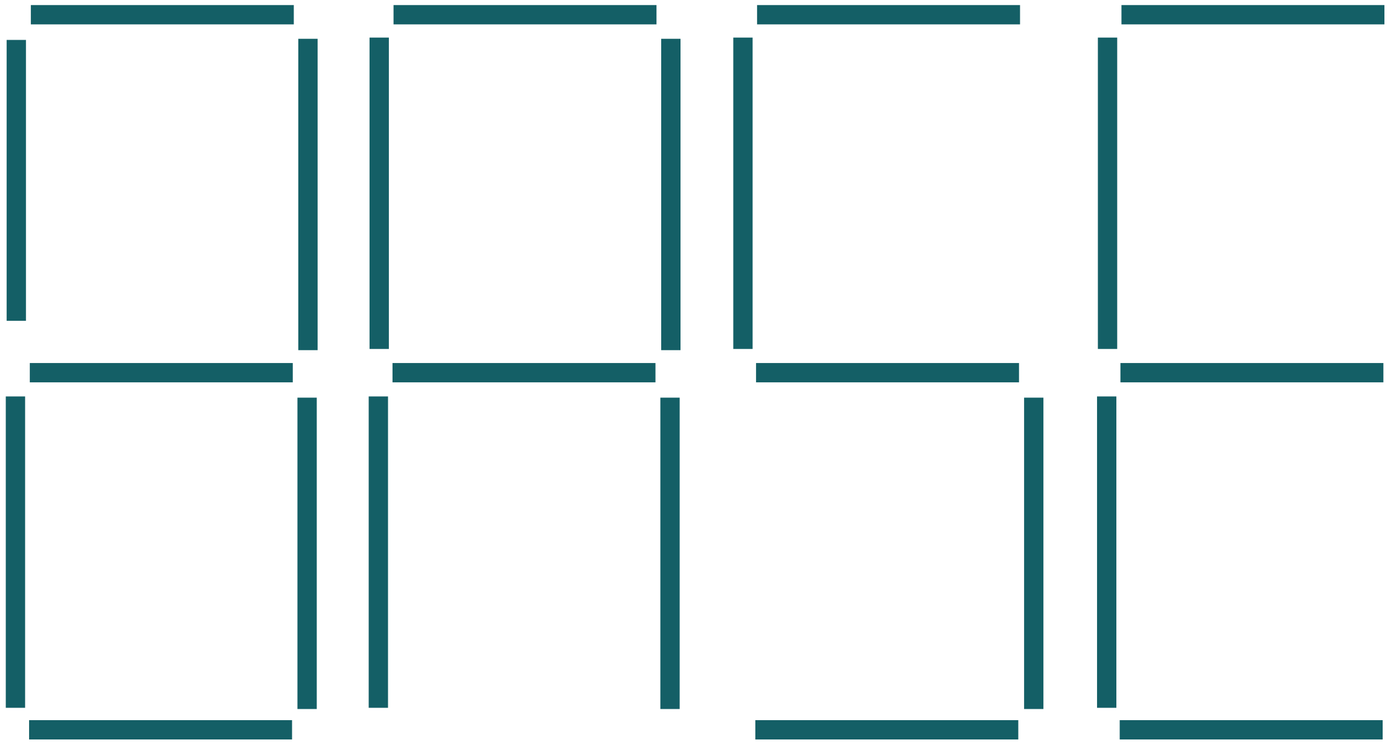
Thinking with Type



Letters & words

Letters that are distinct from one another help us to recognize them, but we can also gather information from the context. Similar to three colored circles = traffic light.

On the other hand, letters that are too dissimilar can slow down our comprehension.



Letters & words

A mechanized design approach gave way to view of typography as an elastic system of formal features. Relationships between letters became more important than the identity of individual characters.

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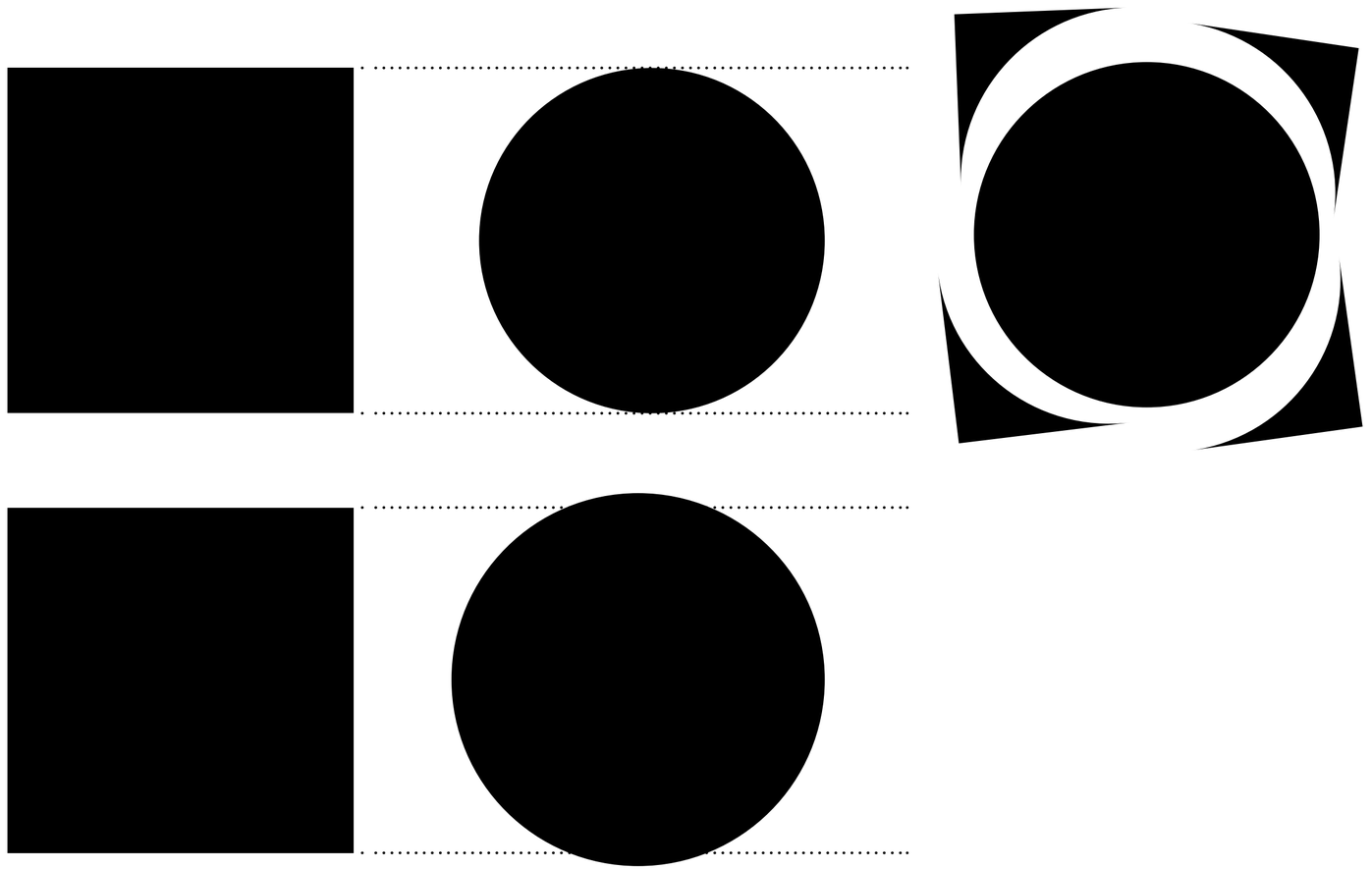
Typeface creation

One way type designers create similarity between letters in a typeface is to make rounded letters fall below the baseline, and rise above the x-height.

Typeface creation

One way type designers create similarity between letters in a typeface is to make rounded letters fall below the baseline, and rise above the x-height. This makes rounded letters feel like they have a similar size as rectangular ones.



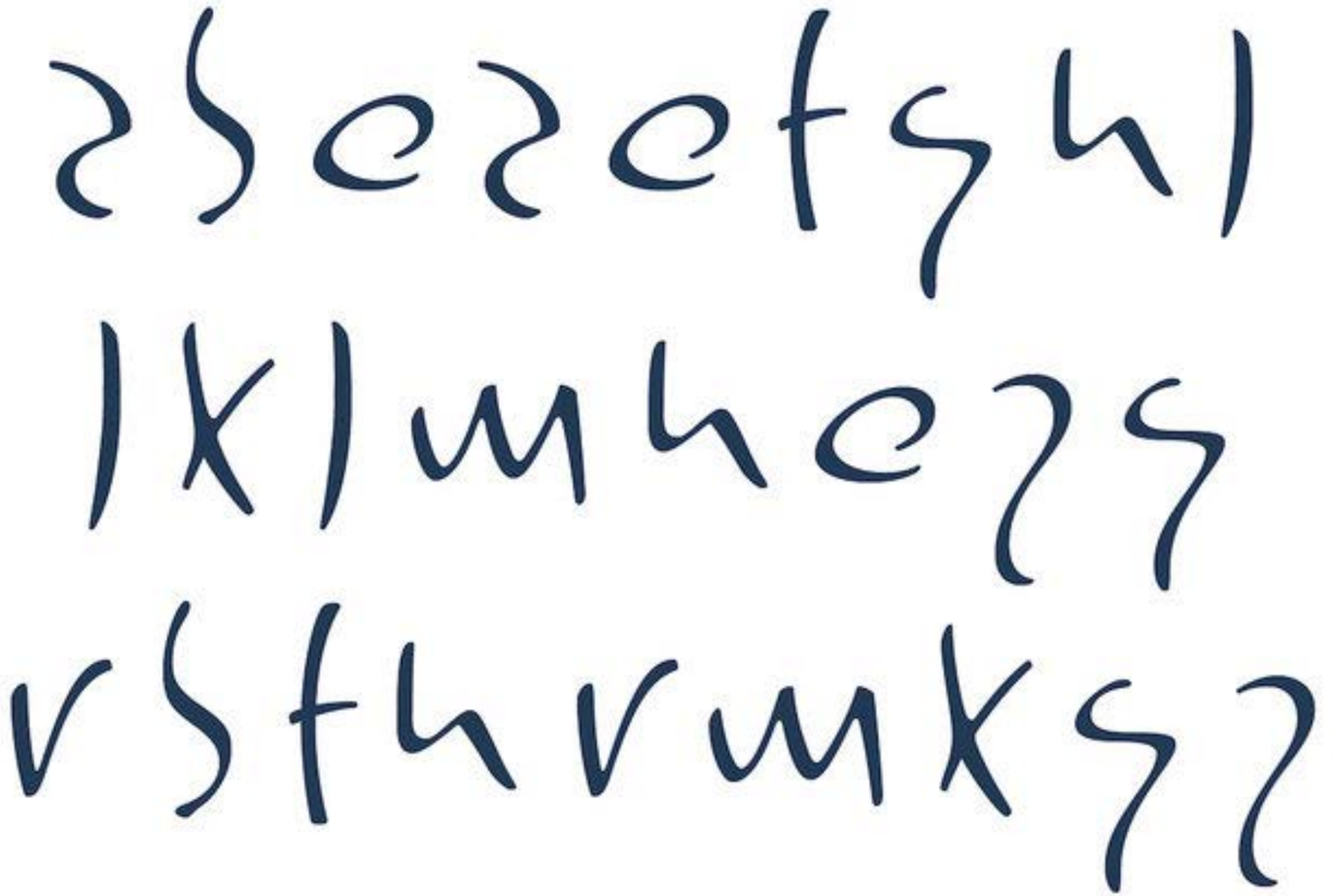
Typeface creation

Another example of pattern recognition in type. This typeface was designed by Tobias Frere-Jones.

Tobias Frere-Jones

Letters

You expect a typeface to have 26 letters



Tobias Frere-Jones

Type

But this one actually has 11.

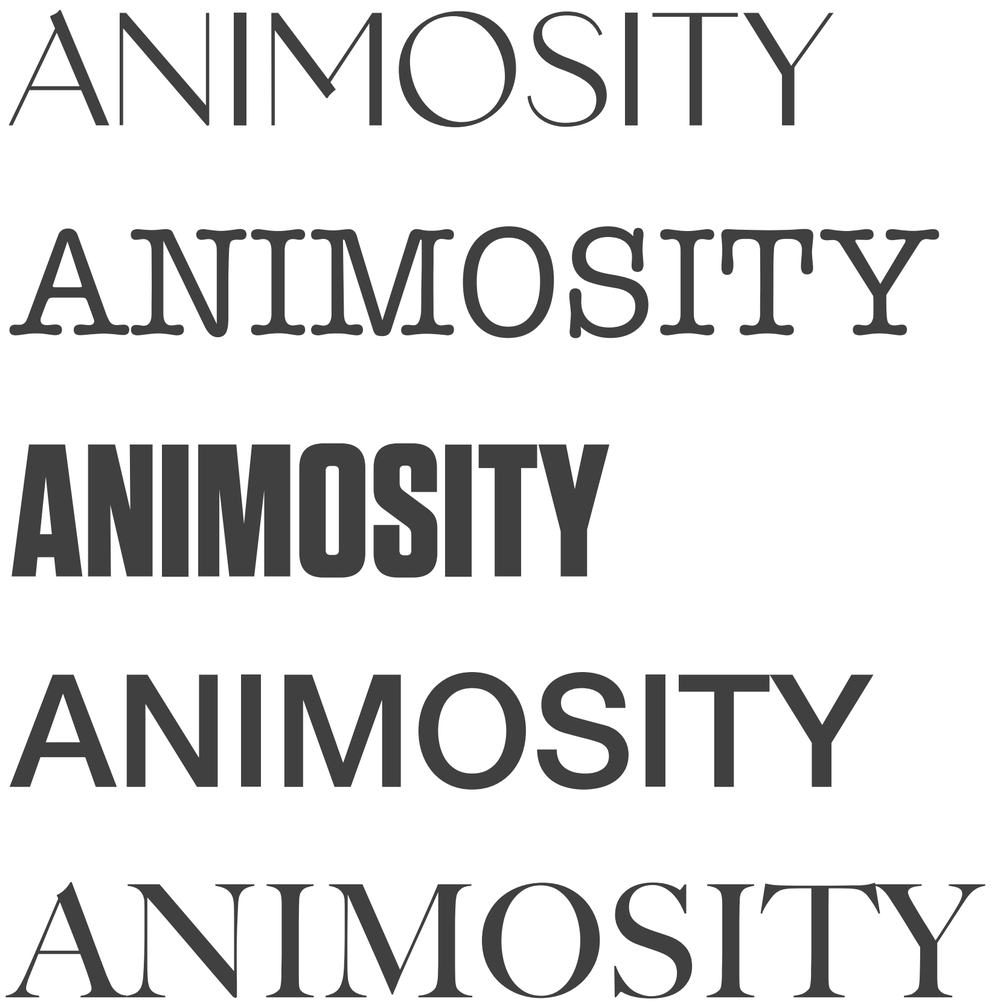
Tobias Frere-Jones

Choosing typefaces

Typefaces are essential resources for a designer.

They contain cultural coding.

“There is no playbook that assigns a fixed meaning or function to every typeface; each designer must confront the library of possibilities in light of a project’s unique circumstances.”



Manipulating typefaces

Do not digitally distort the proportions of the letters to create wider or narrower letters. Choose a condensed or wide typeface instead.

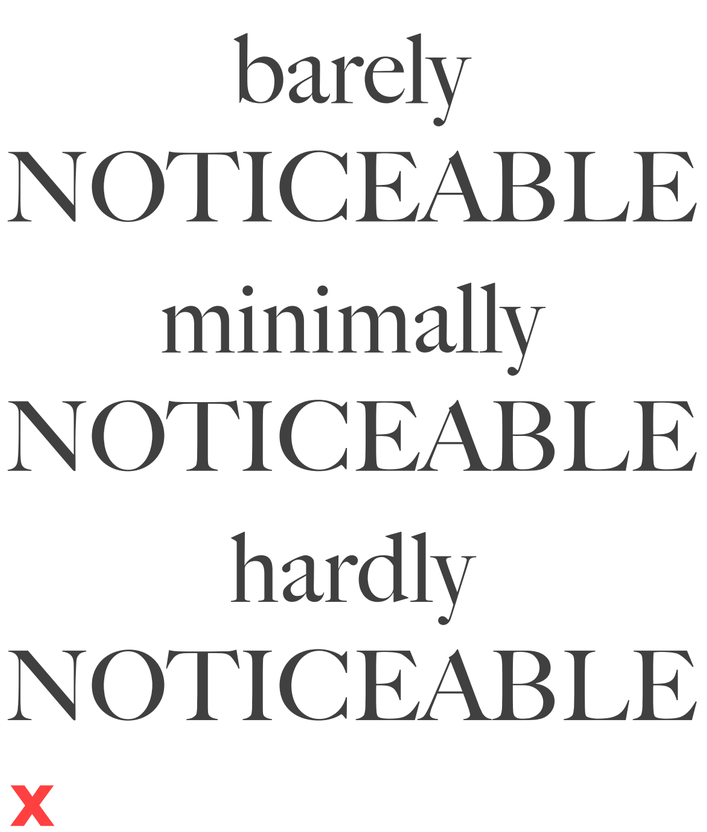
Combining typefaces

Choose type combinations that have easily noticeable differences.

Avoid type combinations that are too similar to each other.

Combining typefaces

Avoid creating unintentional differences that could distract a reader.



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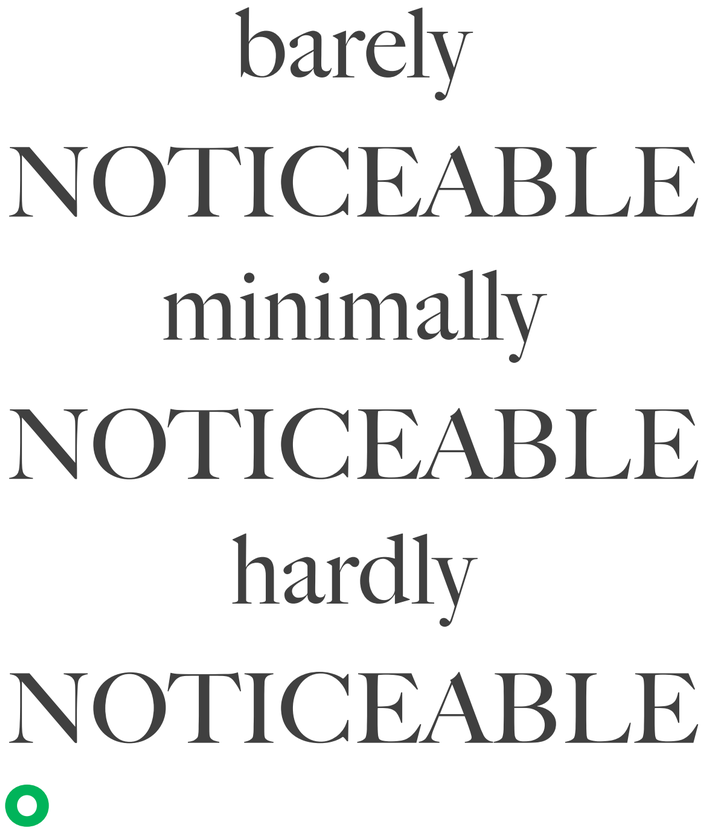

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Combining typefaces

Avoid minimally noticeable differences in type

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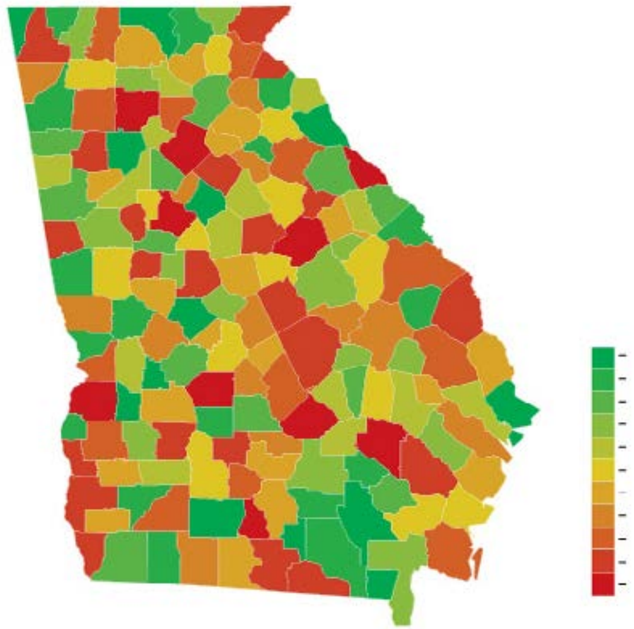
Tuning distinction

THE WORLD RECORD



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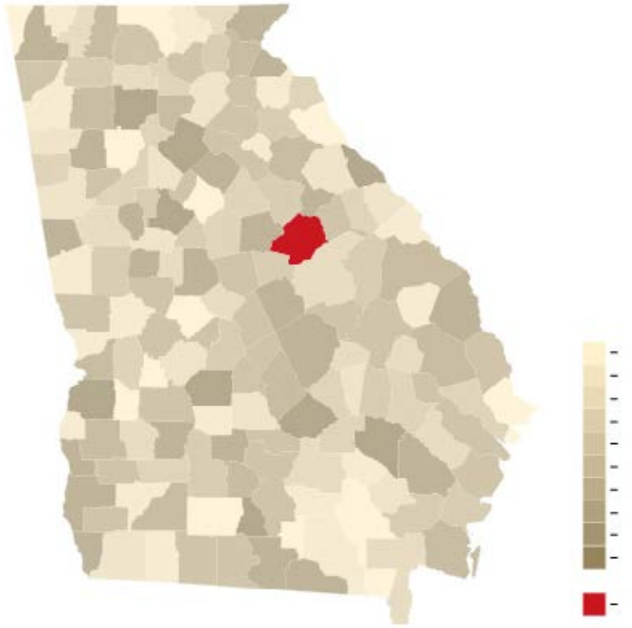

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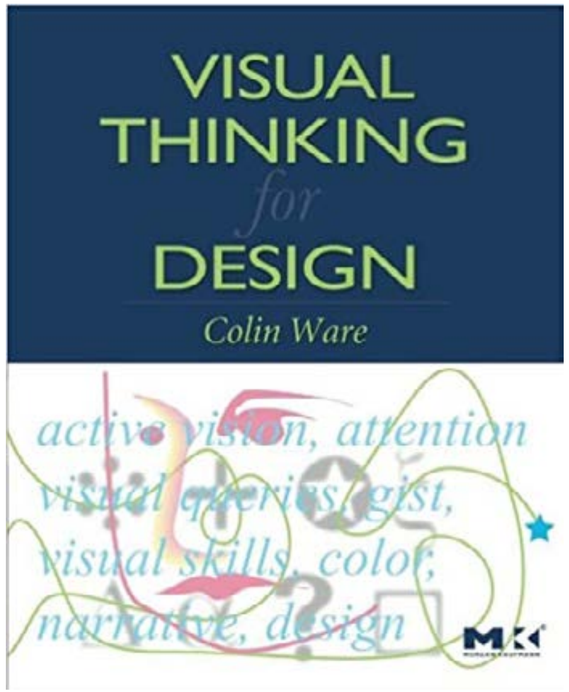
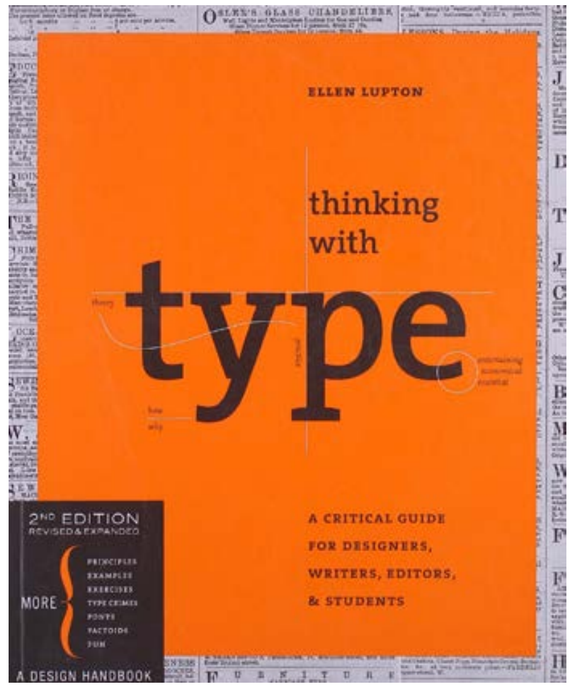
For next week

Reading

- Ware chapter 3
- Lupton chapter 2 (Text)





Assignment

Design two versions of a composition in a design application for different audiences.

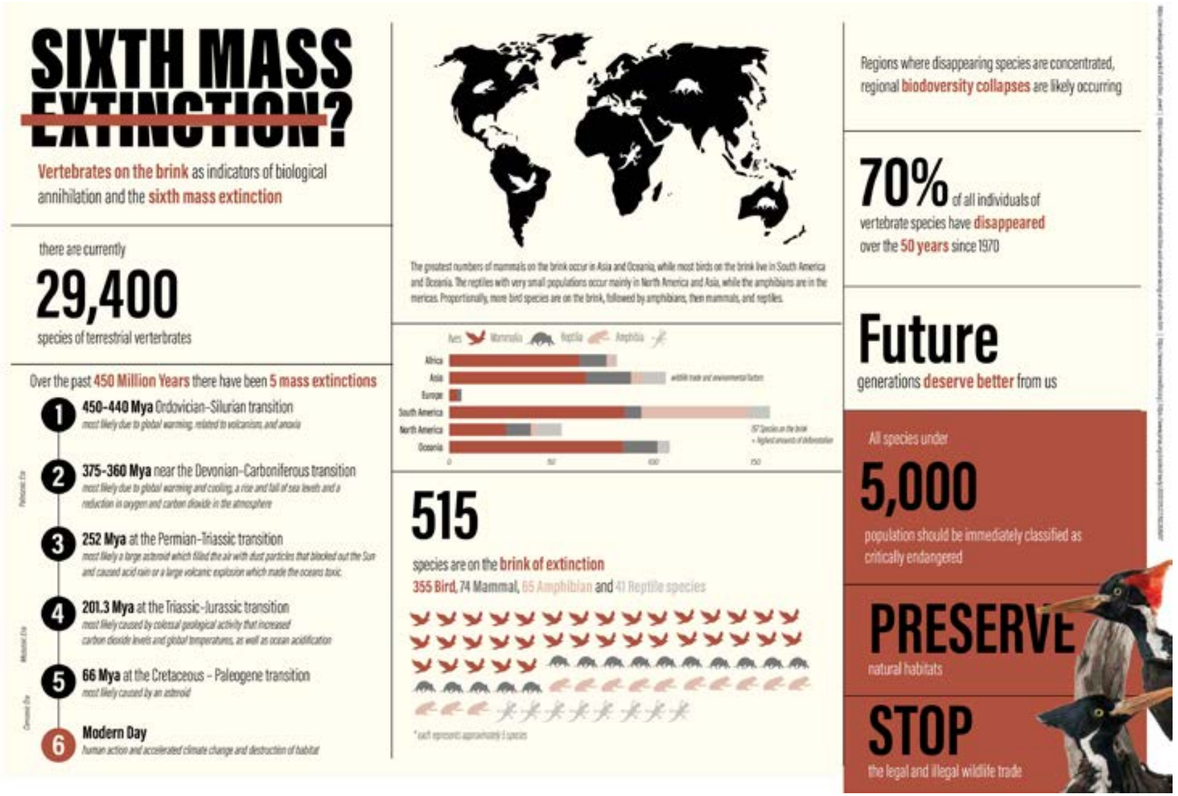
- Design two versions of the same visualization that employs at least three different feature channels to consciously attract our attention. Think about how you want to come across to each audience in terms of typefaces, language, color palette.
- Use feature channels to deliver at least 3 key pieces of information about endangered species (several can be combined in a single visualization, or shown in a sequence), such as WHERE they are endangered, WHICH animals are most endangered, WHY (the causes) of endangerment, etc.

Assignment

- The type of visualization is up to you, but you must customize your visualization; do not use only the generated defaults it was created with. You must also include one meaningful variation in type (ie: size, weight, typeface combination)
- Submit the assignment as a PDF.
- There is an article on the topic of animal extinction in Canvas with links to data you can use.
- You may use a different theme and data, but you must get approval first.

Assignment example

Linsey Silver



Questions?