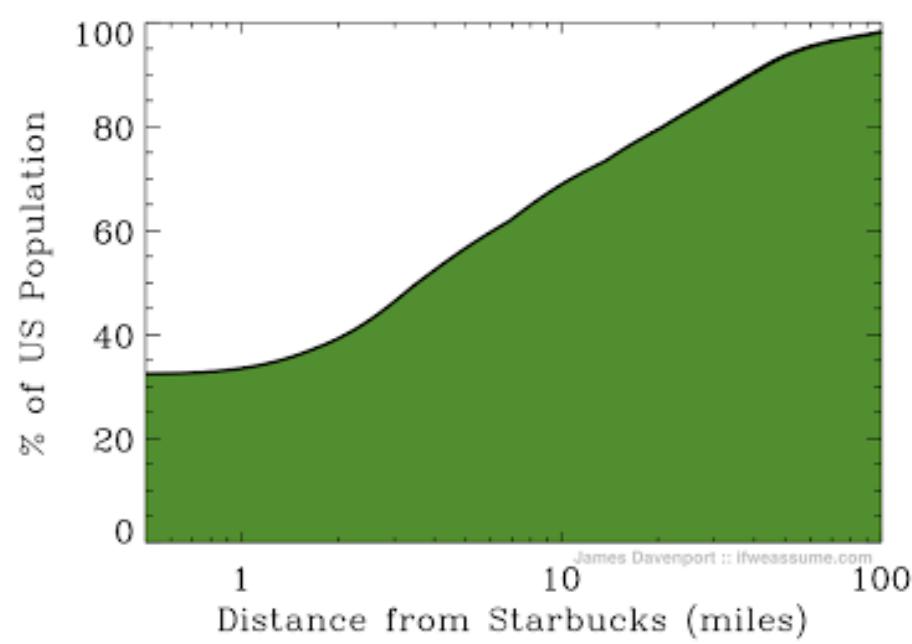


“Orientation”

Not important for Quiz, but perhaps of interest:

“During the medieval age religious doctrine influenced cartography. European cartographers oriented their maps towards the Holy Land since Jerusalem was the place of Christ’s death and resurrection. In fact, the world “orient” comes from the Latin word “*oriens*”, meaning East. Examples of maps with an east orientation are the Mappa Mundi (Medieval European world maps) such as the T-O map. The T-O maps was a symbolic representation of the world, with the O representing boundary of the world, encircled by the earth’s oceans. The T nested inside the O divided the world into the Northern Hemispheres’ three continents: Asia at the top, Europe to the left, and Africa to the right (the southern hemisphere was ignored as it was considered inhabitable at the time). The horizontal bar of the T represented the Mediterranean Sea and the vertical portion of the T the Nile and Don Rivers. Heavily influenced by Christianity, European cartographers in medieval times oriented the maps so that east was at the top where the sun rose and the Paradise was thought to lie.”





Drawn from your Interesting Data...
A Voronoi diagram of Starbucks Locations!

Geography 360
November 23, 2016

Maps revisited

1. *Questions and Announcements*

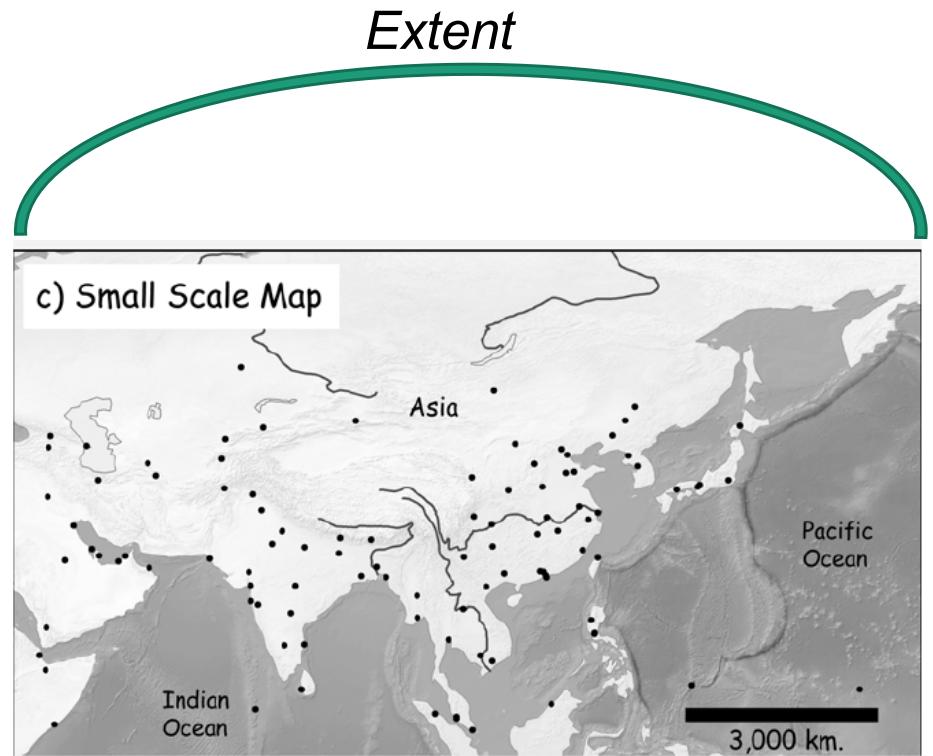
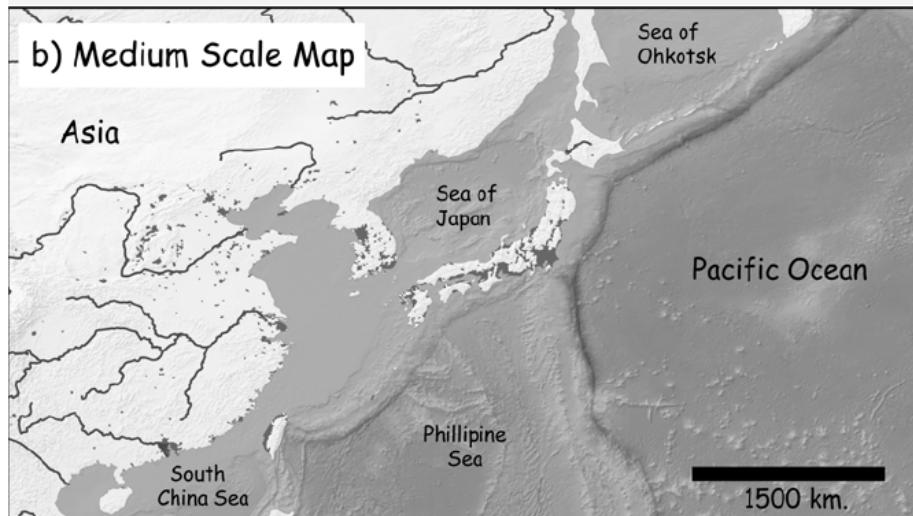
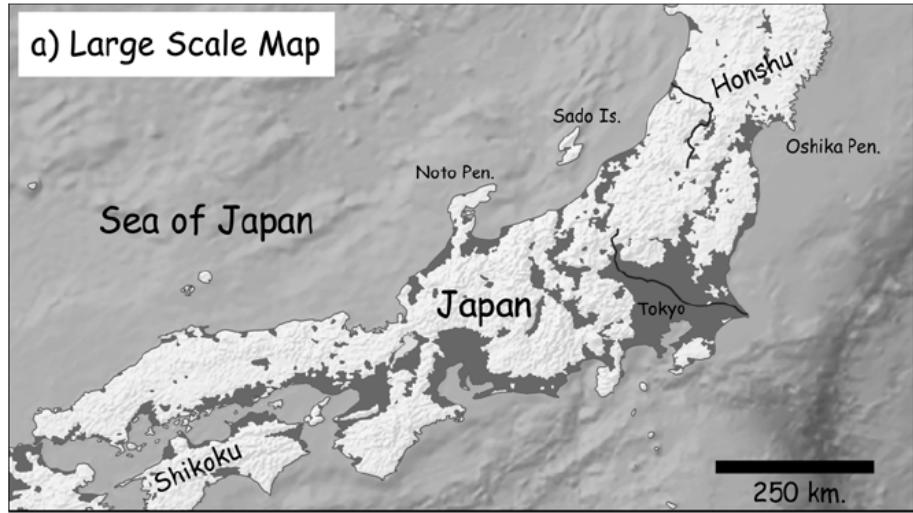
- Extra credits for the tutorial due at 11:59 PM on their days.
- Geography labs closed over weekend.
- Odegaard *seems* open beginning Saturday...? <http://www.lib.washington.edu/about/hours/ougl/odegaard>
- If you want ArcMap for your own PC, get your license codes from TAs ASAP.
- Request CSDE access ASAP if you want it and haven't done so.
- Final Project Question about raster analysis, inspired by your Interesting Data.

2. *Map design considerations*

- Terminology and Elements
- Visual Hierarchy and Intellectual Hierarchy

3. *Checking in with you, anonymously.*

Maps have *scale* and *extent*



Scale: Ratio or fraction of distance on map to distance on ground.

This is why ‘large’ and ‘small’ scale may seem counterintuitive at first.

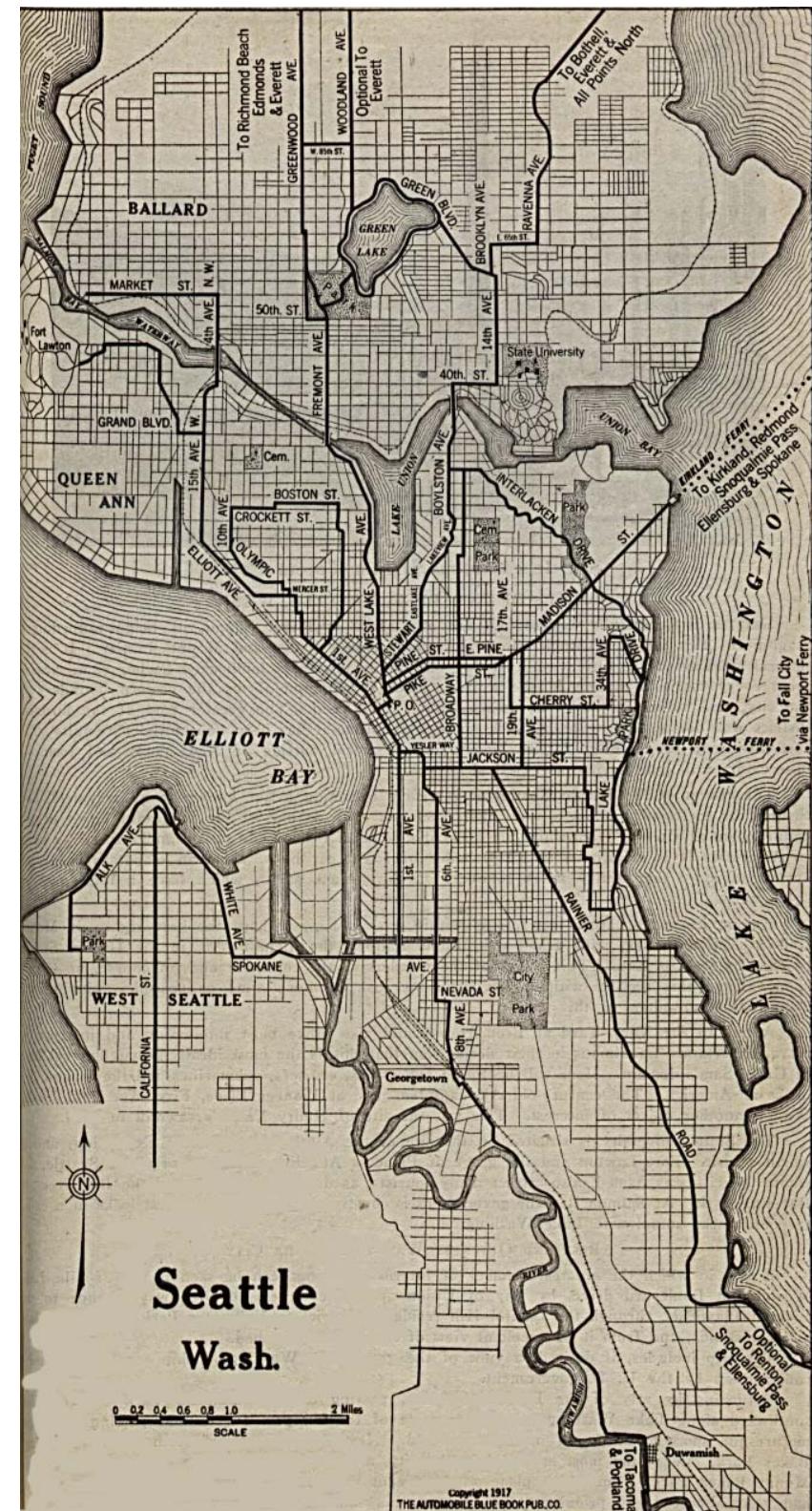
Some Potential Map Elements

(especially relevant to single-sheet paper maps)

- View
- Title
- Legend
- Scale Bar
- North Arrow
- Data Source(s)
- Author
- Date

Not all maps need to use all elements.

You need to be able to articulate good reasons for including and excluding elements.



Map title – issues to consider:

- Size
- Textual content
 - Good starting point is to have title explain:
What? Where? When?
- Placement

Population Change

Population Change in Arizona 1980-2000

Population Change in Arizona 1980-2000

Map Legends can be diverse...

(FYI: Rarely do you *need* to label them as 'Legend'...)



Building Accent Lighting



Pedestrian Scale Lighting



Historical Quadrangle



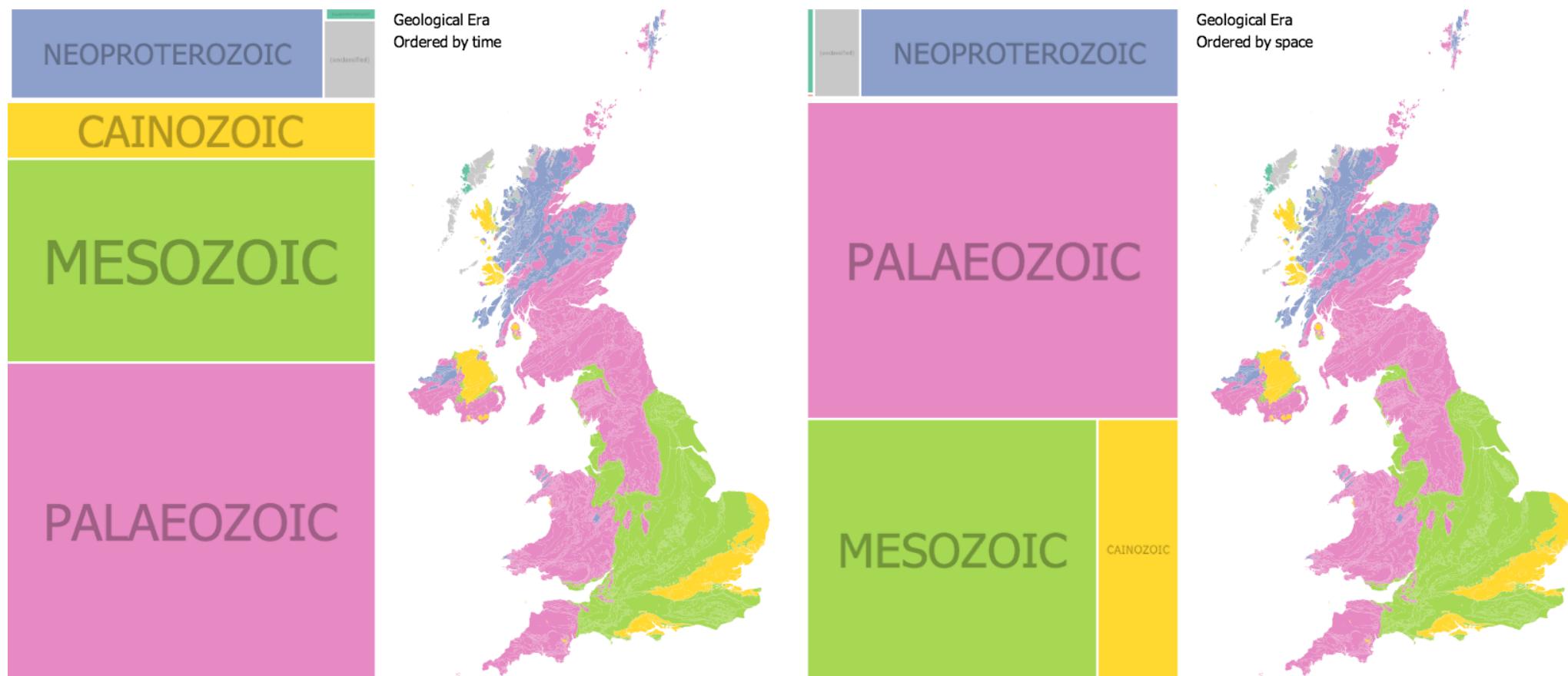
Building Tower Lighting



Historical Quadrangle Fixtures



Legends can be informative graphics themselves, as here...



Source: Dykes et al. (2010), "Rethinking Map Legends with Visualization"

Or here, in a “Natural Legend.”

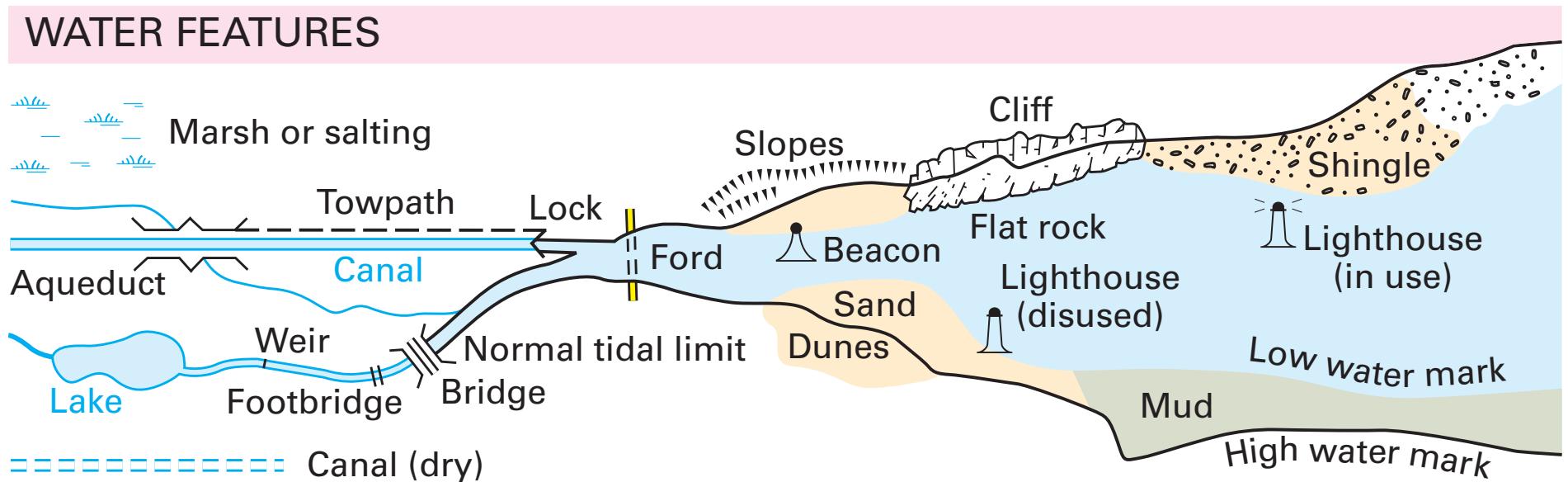
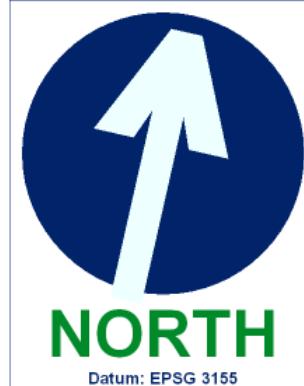


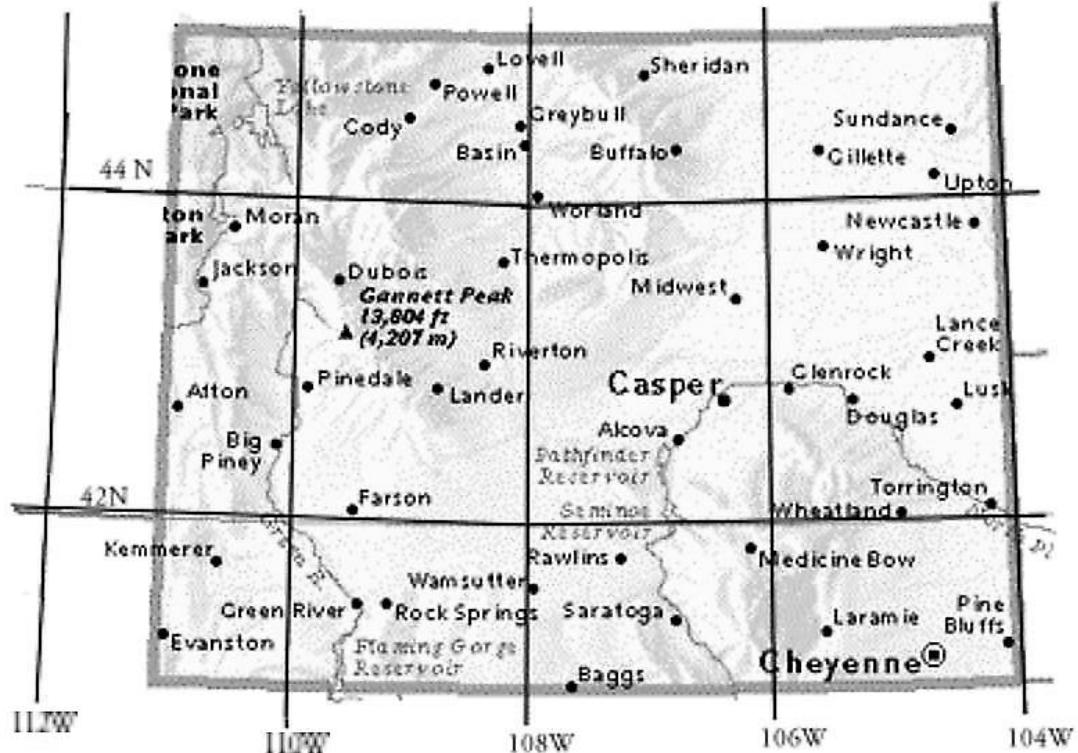
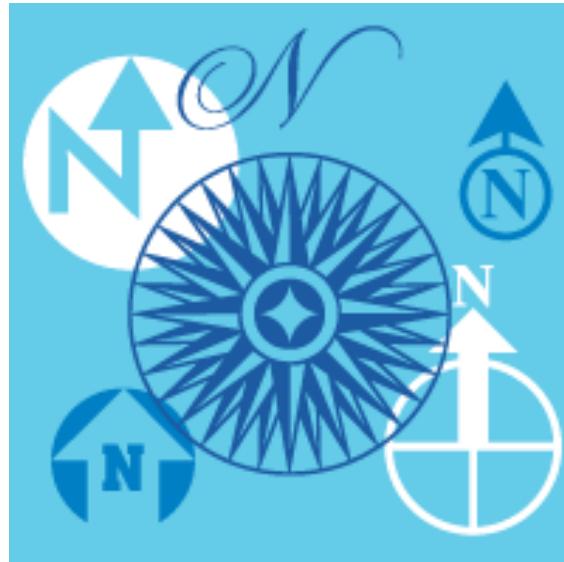
Fig. 3. *The Map is the Legend – Map Section.*

An extract of the OS Landranger 1:50,000 map symbols sheet [44] containing a natural legend. Features are arranged in a linear fashion to show indicative but fictitious geography. ©Crown Copyright 2002.

Elements that help orient readers.



- North arrow and graticule can help.



- Remember: Your map's first North arrow is likely too large and distracts from the map.
- When would having a North arrow be misleading?

Visual Arrangement

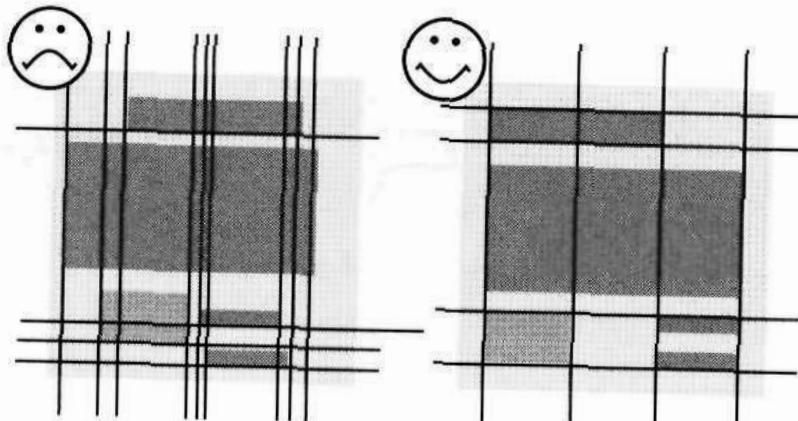
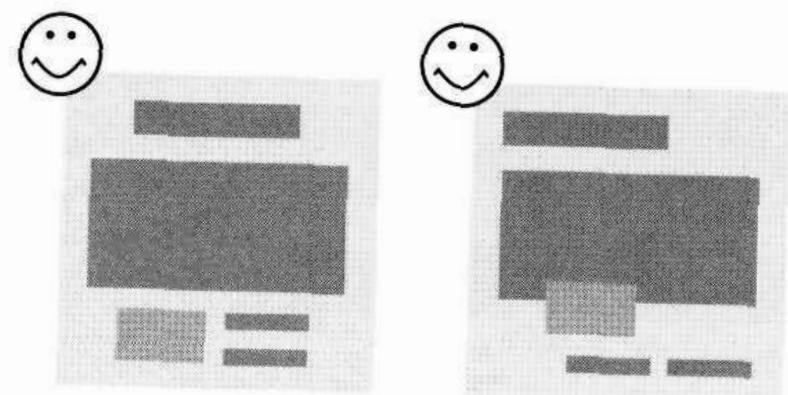
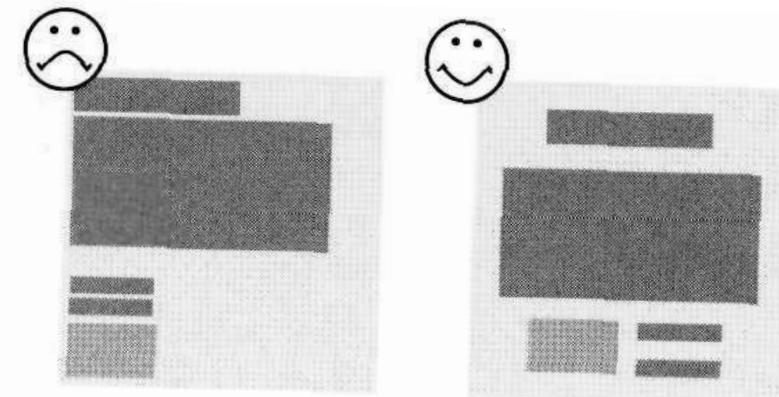
(Pay attention to it!)

(via Krygier and Wood)

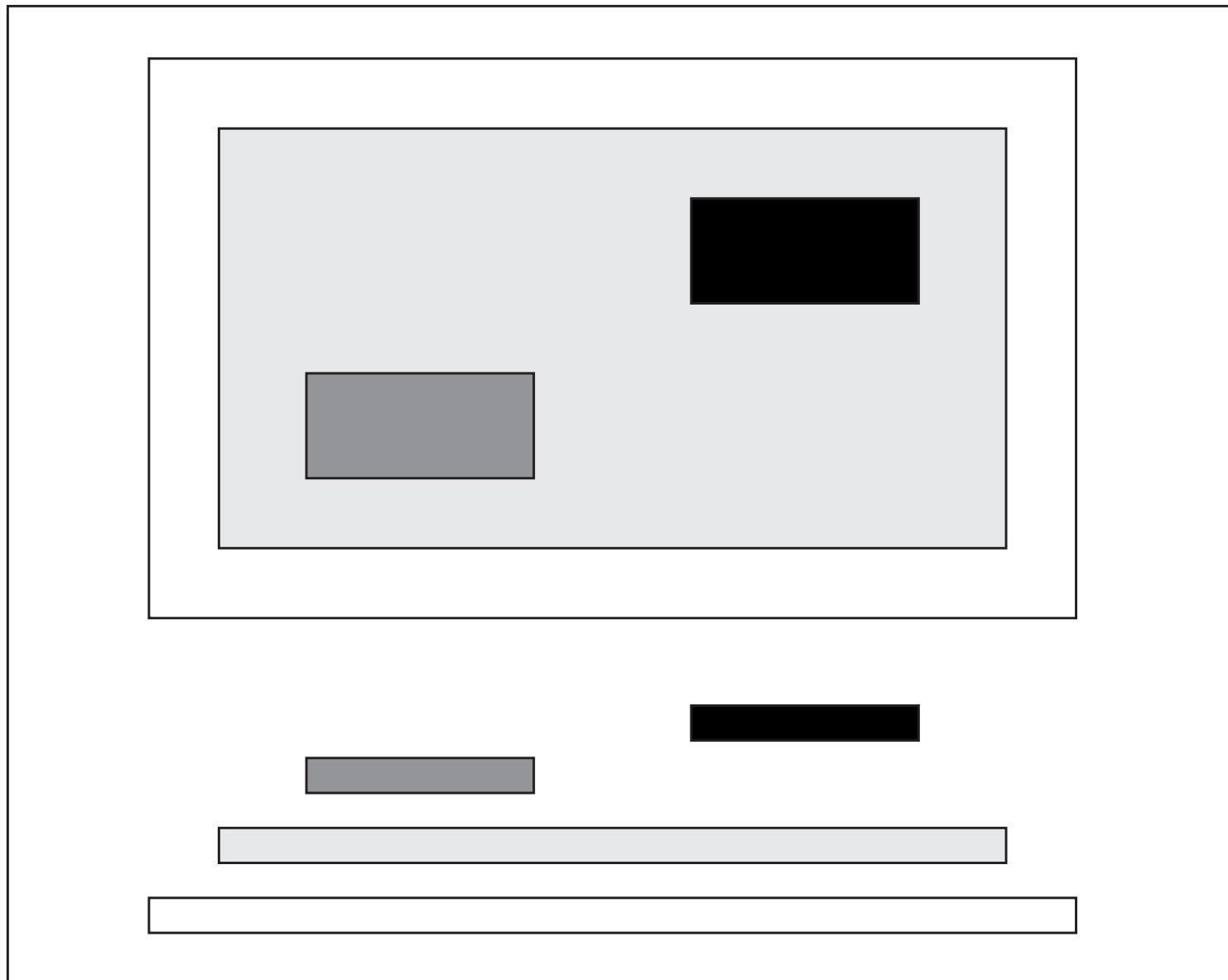
Balance can be assessed when all your map pieces are in place. Map pieces vary in weight: some seem heavier, others lighter. Does your arrangement seem off-balance? Unless you want to suggest a lack of balance to your readers, rearrange your map pieces for better balance.

Symmetry can be thought of as balance around a central vertical axis. Symmetrical balance (left) feels traditional, conservative, and cautious. Asymmetry (right) depends on off-center weights and balances. It typically feels modern, progressive, complex, and more creative.

Sight-lines are invisible horizontal or vertical lines that touch the top, bottom, or sides of map elements. Minimizing the number of sight-lines reduces disjointedness and stabilizes and enhances map layout. This allows your map's readers to focus on the map's subject.



Visual hierarchy



Visual and Intellectual Hierarchies

‘Visual hierarchy’: how important the various map elements appear relative to each other. Which ones ‘pop out’ of the page?

- When mapmaking, figure out your goals for the map *first*.*
- Your goals define an ‘intellectual hierarchy’ of what elements you want to emphasize.
 - You then design your visual hierarchy to match your intended intellectual hierarchy.

* There is a difference between exploratory and expository work, here: If you are just exploring data to discover interesting patterns and relationships for yourself, you may have to be more general in your goals for the time being.

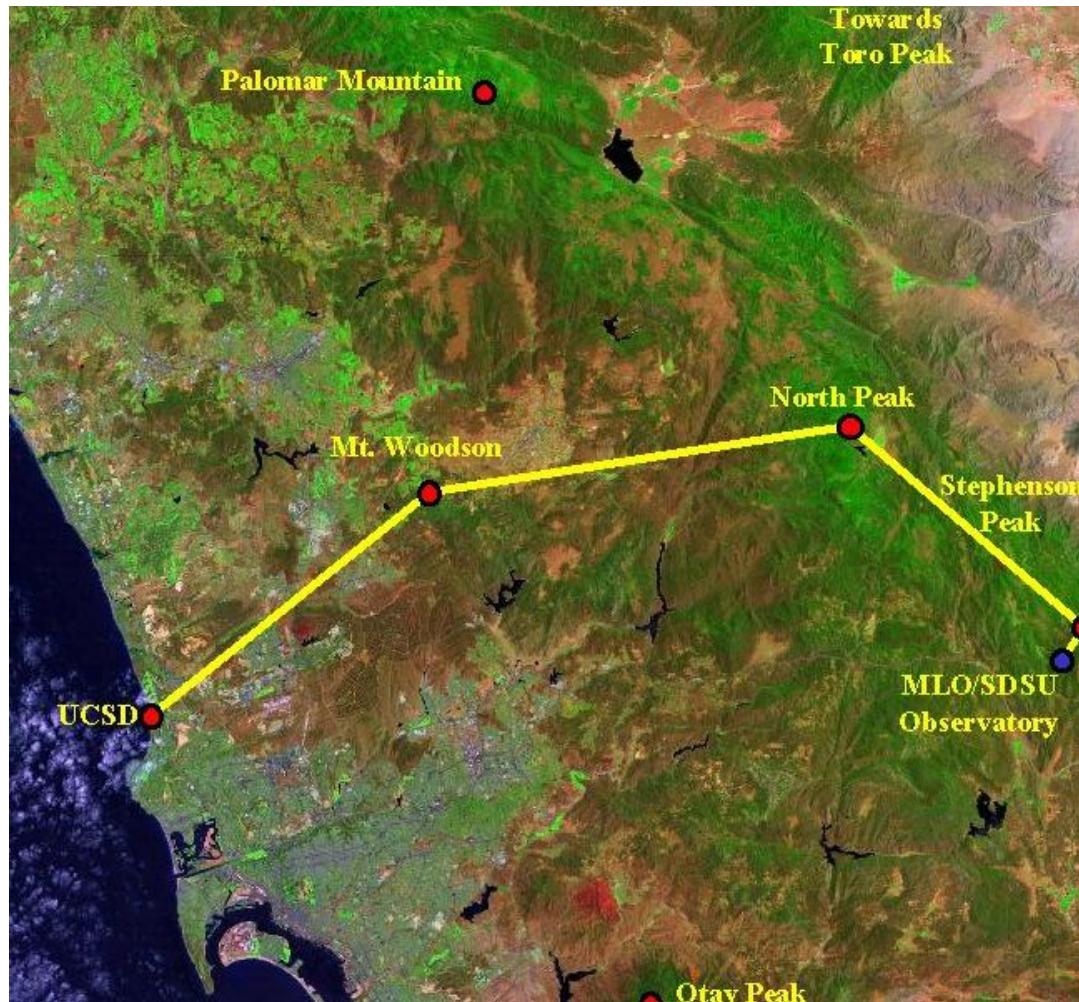
A few ways to create visual hierarchy

- Balance / arrangement
- Contrast (color / size)
- Figure-ground relationship

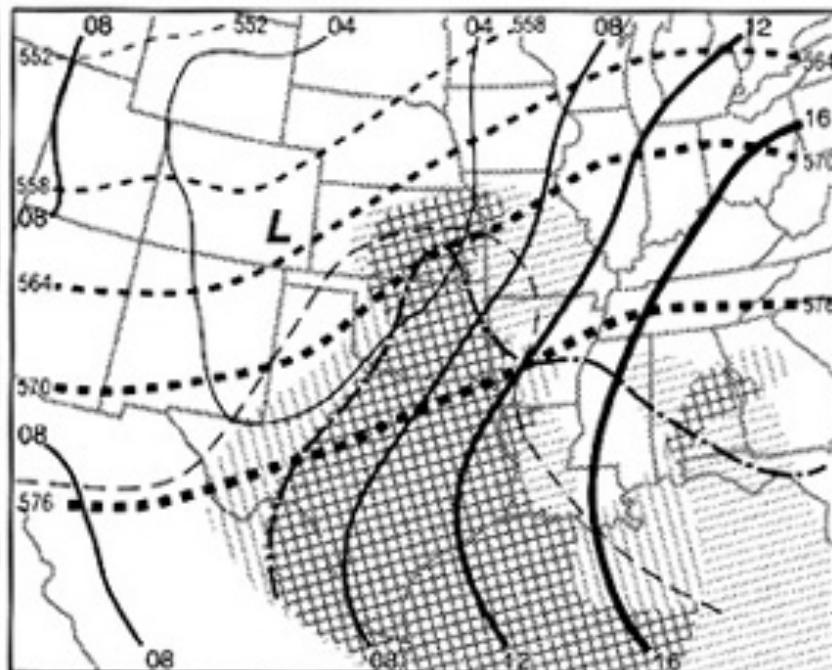
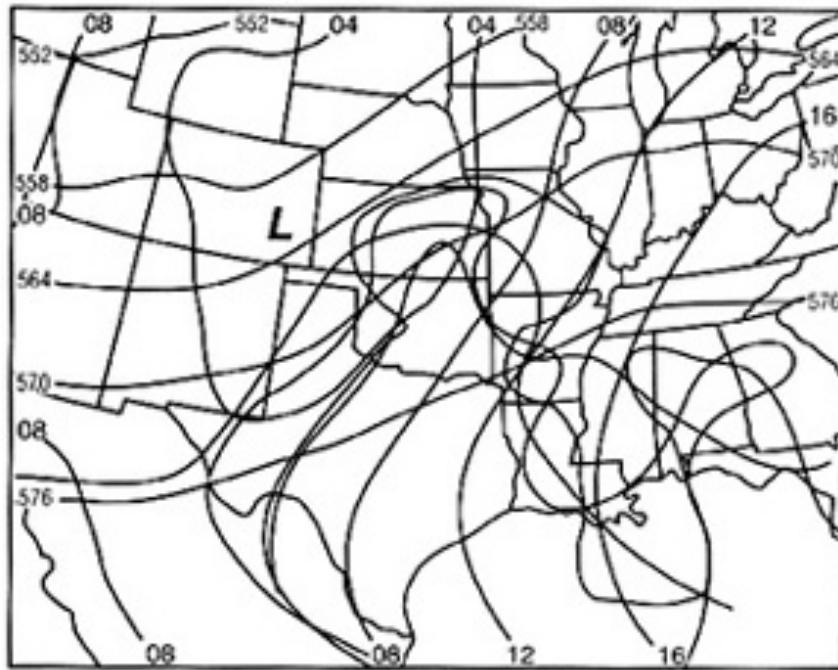
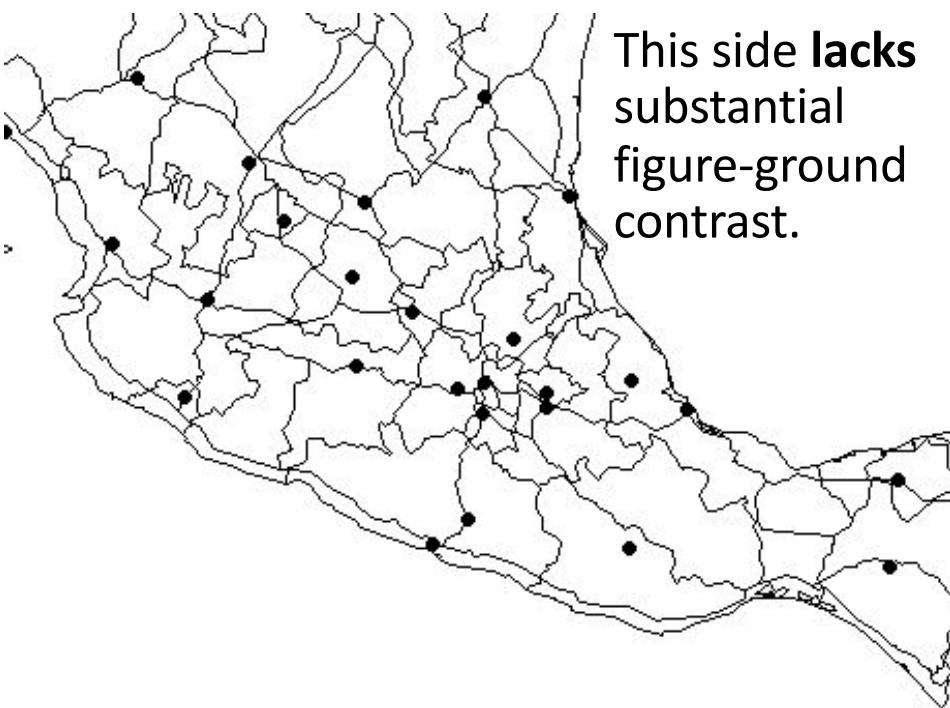
Contrast creating visual hierarchy

Contrast in terms of:

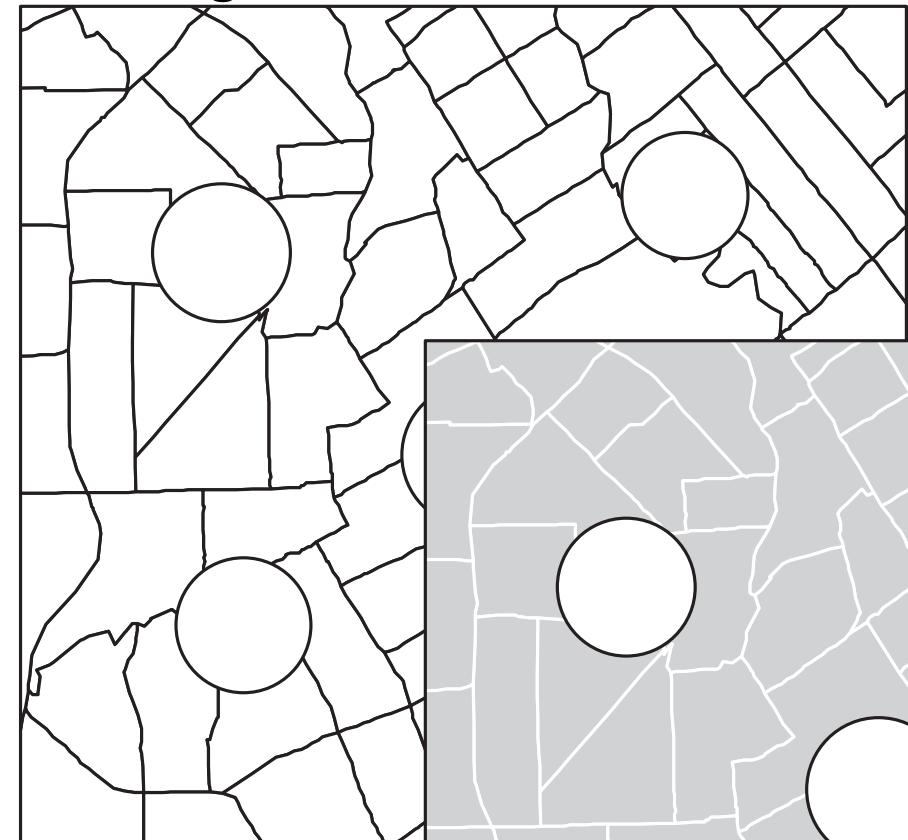
- Color
- Size



“Figure-Ground” creating hierarchy



Little Figure-Ground contrast



Better Figure-Ground contrast

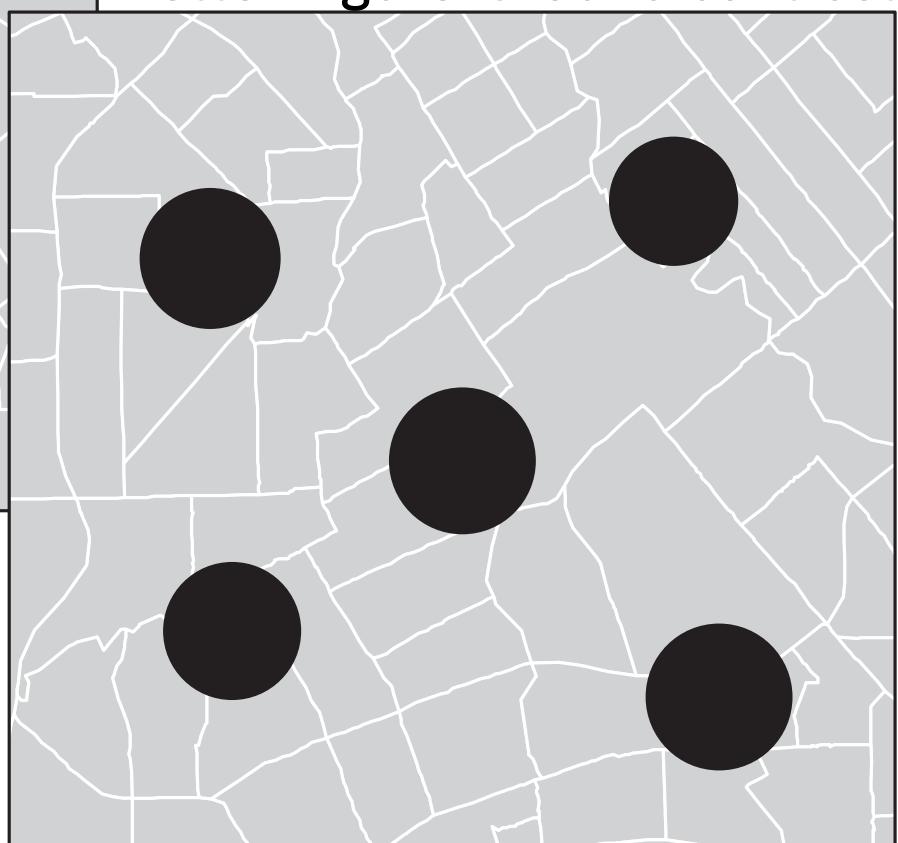
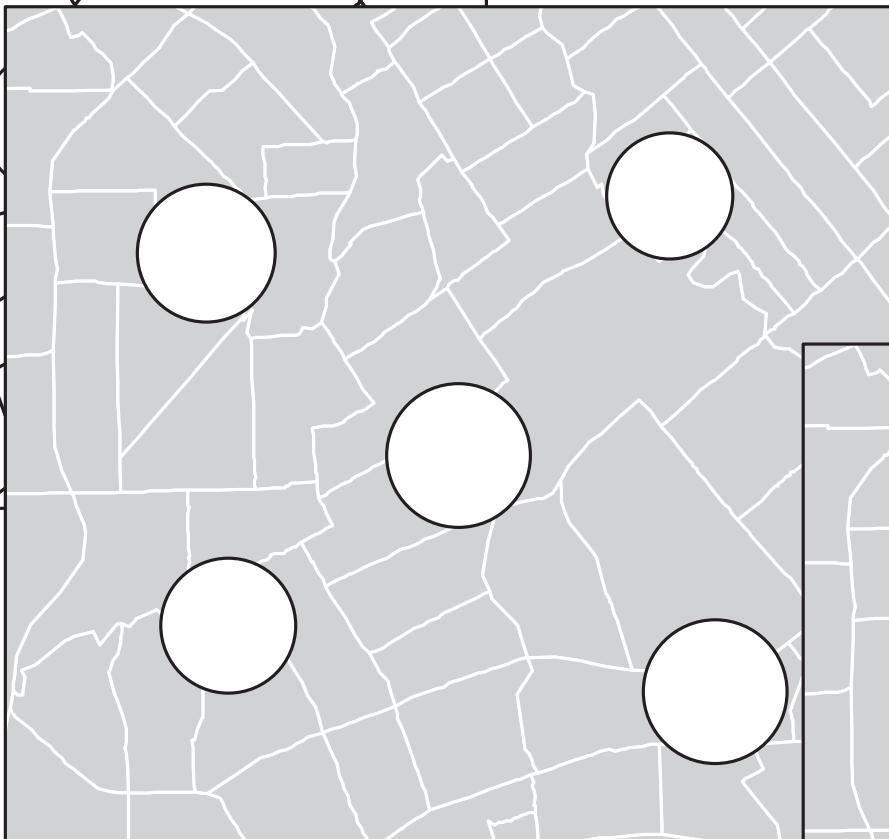
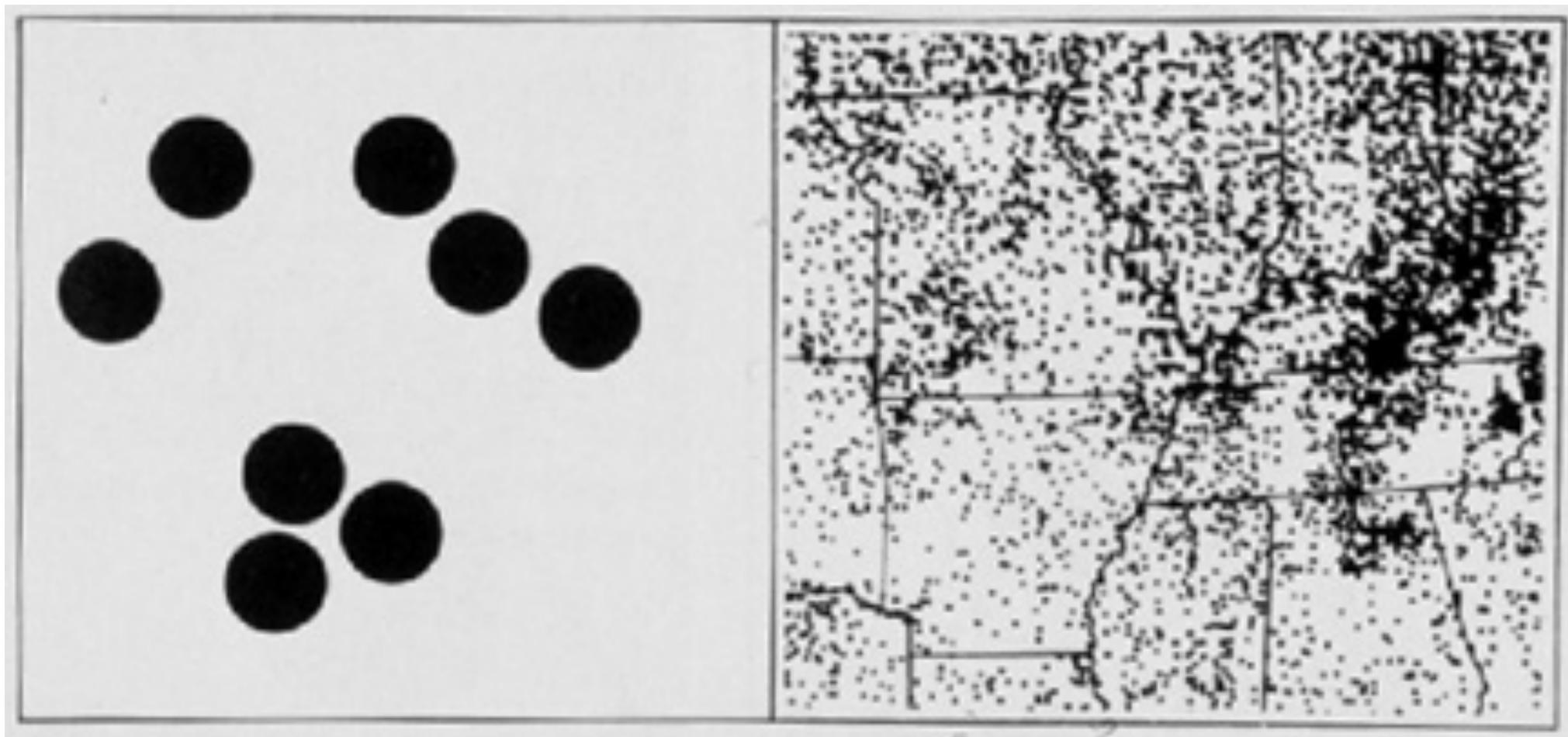


Figure-Ground contrast arising from visual density and juxtaposition.

Below, the symbolization of phenomena is large enough to appear dense and generate 'figure'.



Geography 360
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Anonymous Survey

1. What is helping you learn in this class? What is helping you feel comfortable and safe and in a position to learn?
2. Is there anything that's not helping you learn or is creating a difficult climate for you, in the classroom, in lab, on campus, or in life in general? Do you have any suggestions for things that I might be able to change to help?