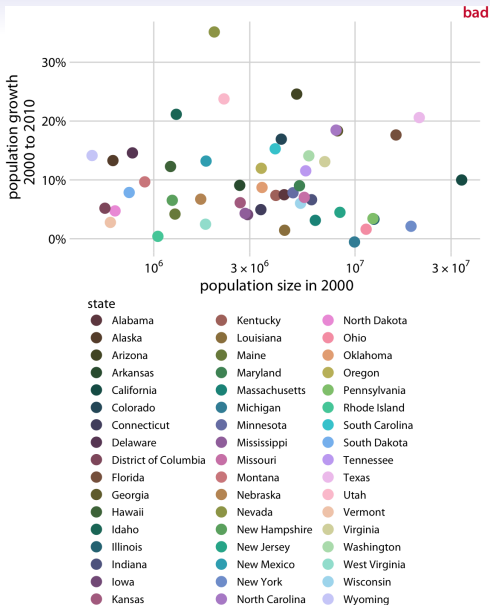


Chapter 19

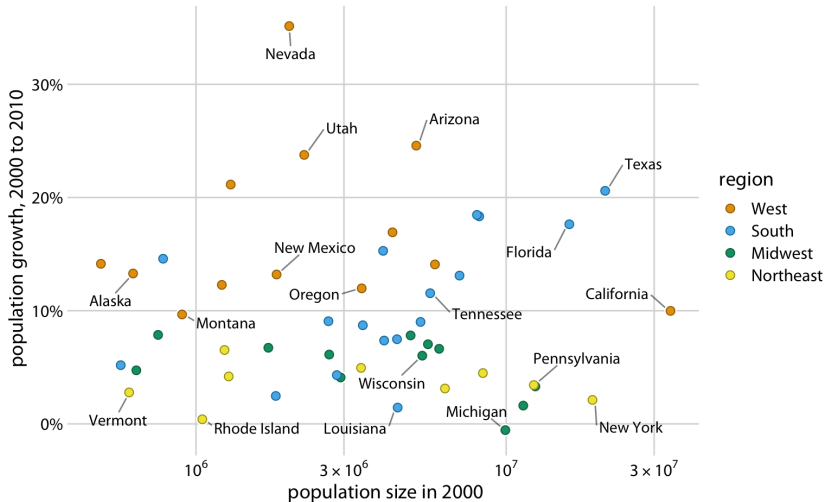
Fundamentals of Data Visualization

May 5, 2023

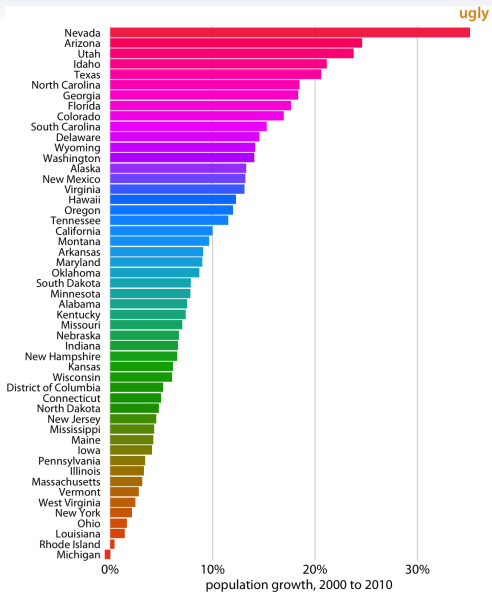


- Pitfalls of color use:
- too much information.

Direct labelling



- Use direct labeling instead of colors when you need to distinguish between more than about eight categorical items.



- Pitfalls of color use:
 - color with no purpose.
- Avoid large filled areas of overly saturated colors. They make it difficult for your reader to carefully inspect your figure.

Non-monotonic color scales

rainbow scale

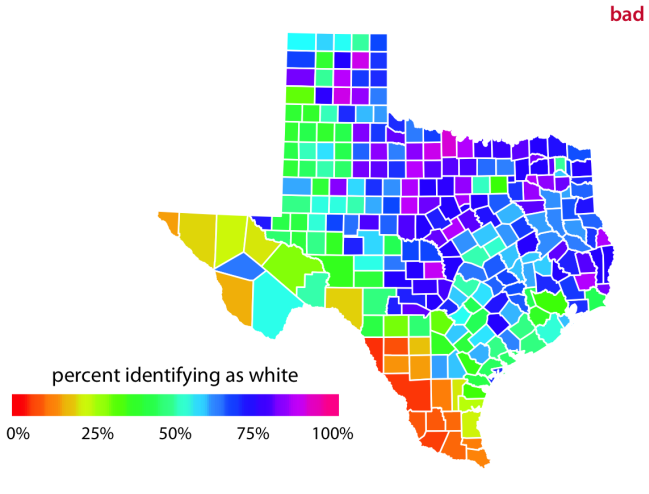


rainbow converted to grayscale



- Colors at two ends are the same.
- Areas where colors change rapidly.
- Areas where colors change slowly.
- Grayscale shows the brightness changes randomly.

Rainbow scale



- Painful to look at for a long time.
- Highlights some things, obscures others.

Color blindness

- deuteranomaly/deutanopia: difficulty seeing green
- protanomaly/protanopia: difficulty seeing red
- tritanomaly/tritanopia: difficulty seeing blue
- anomaly: some impairment in the perception
- anopia: complete absence of perception of that color
- Approximately 8% of males and 0.% of females suffer from some sort of color-vision deficiency
- red/green deuteranomoly is most common form