Data visualization and reshaping

Lecture 3

IFT6758, Fall 2020

Principles of Data Visualization: **4. Ease comparisons**

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- **(i) Use common axes**

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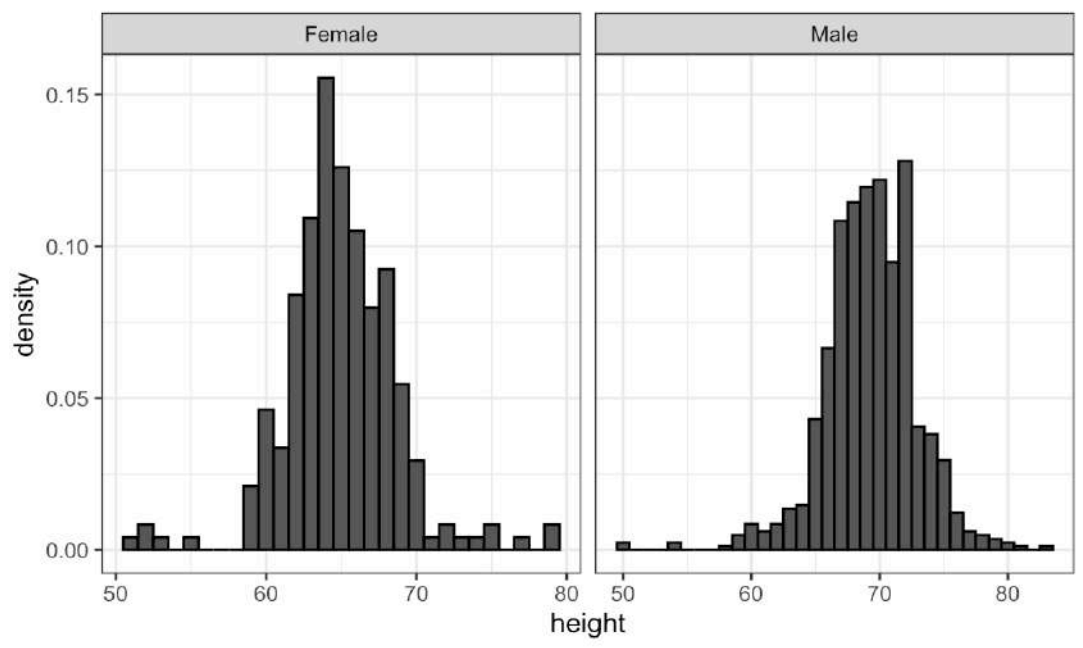

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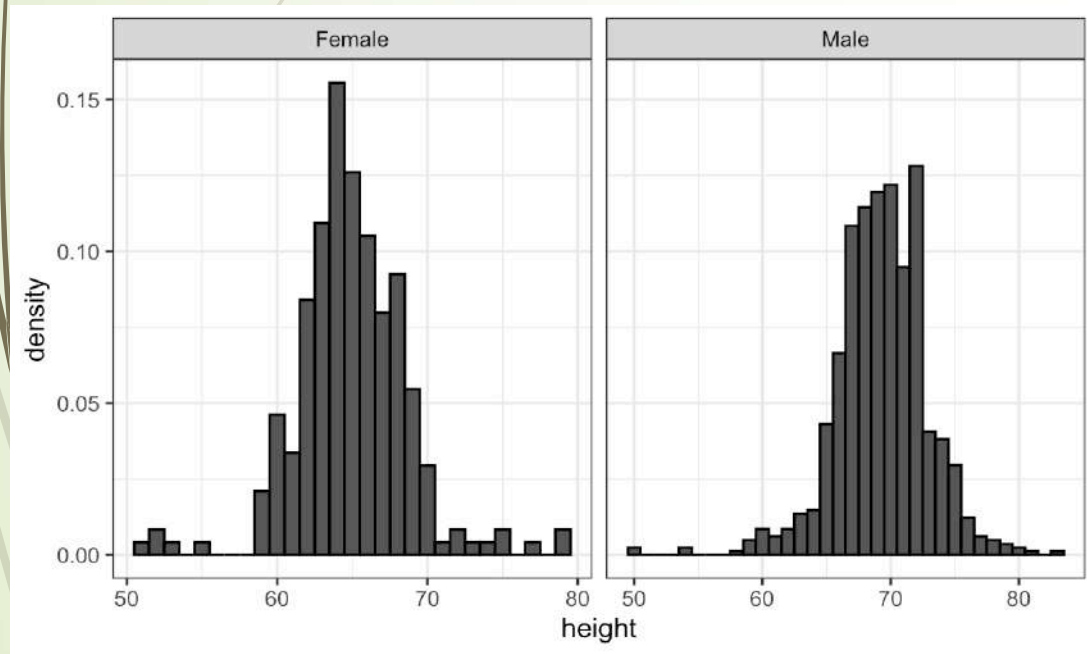

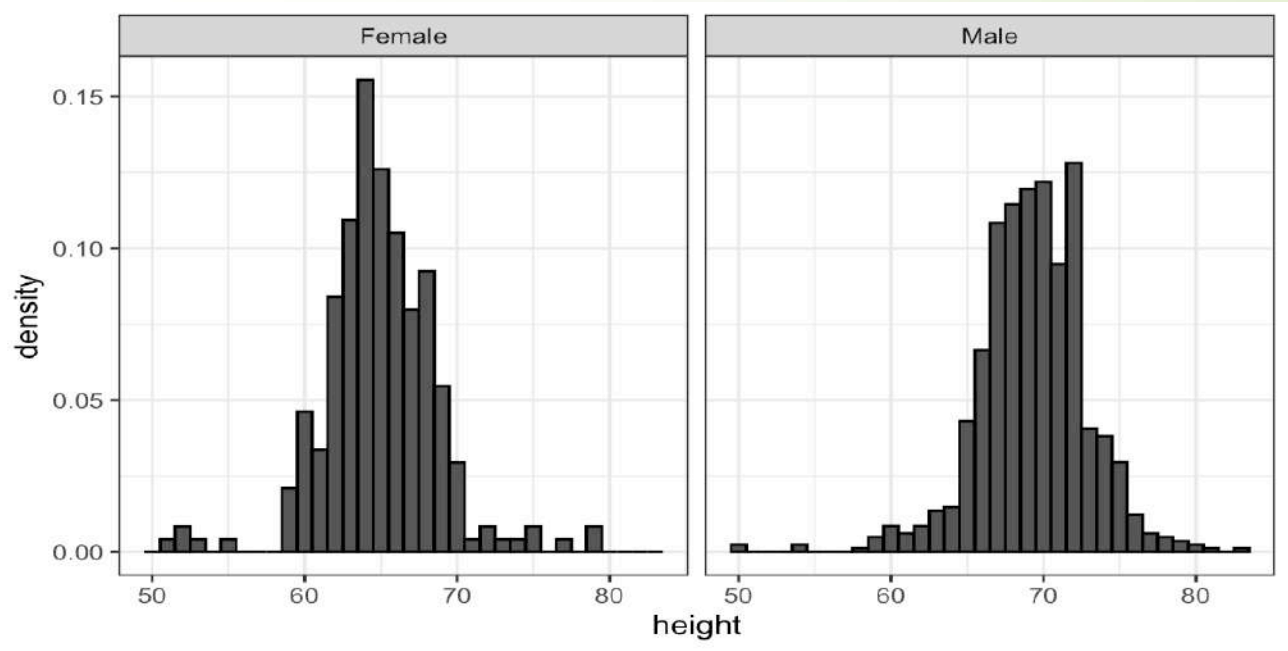

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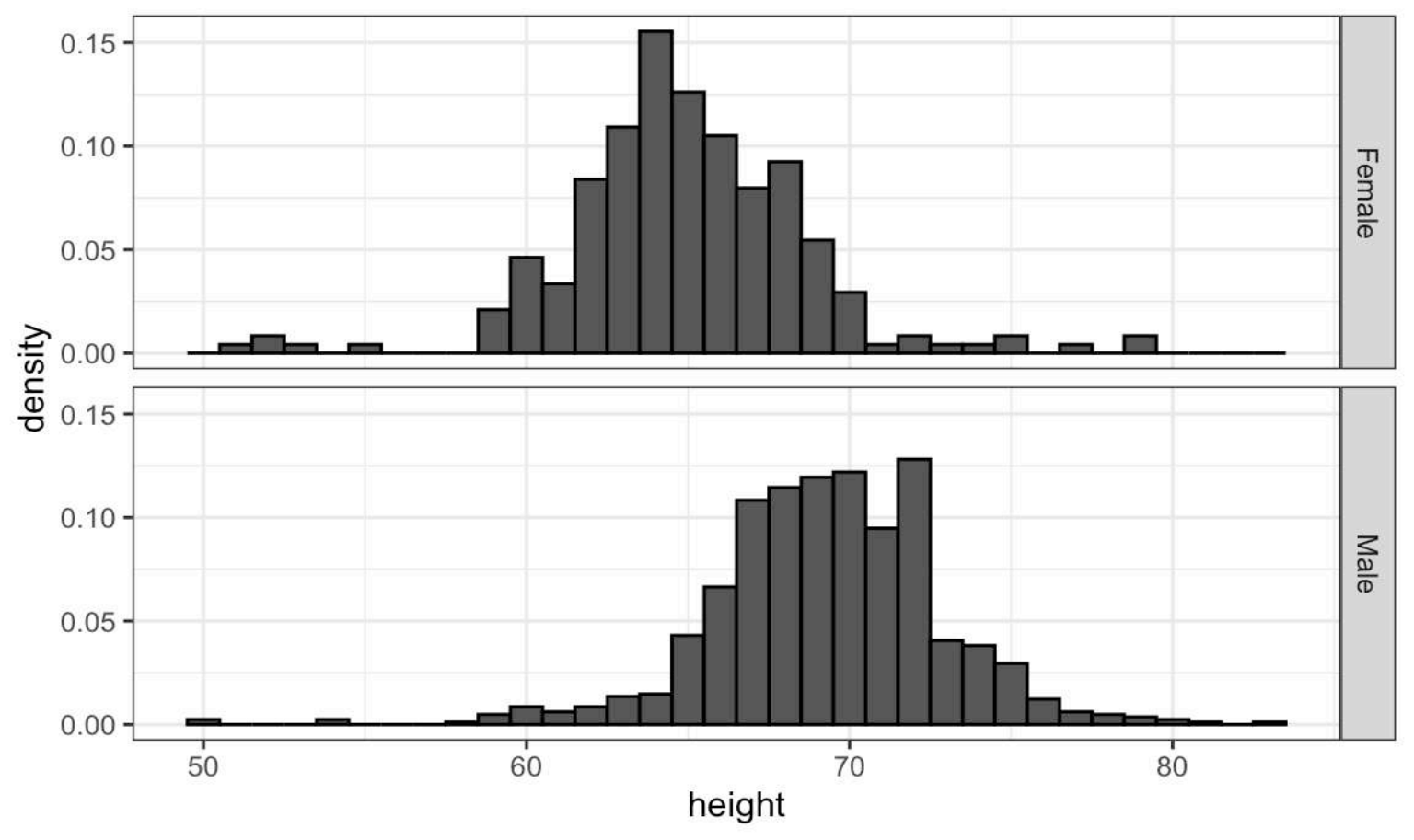

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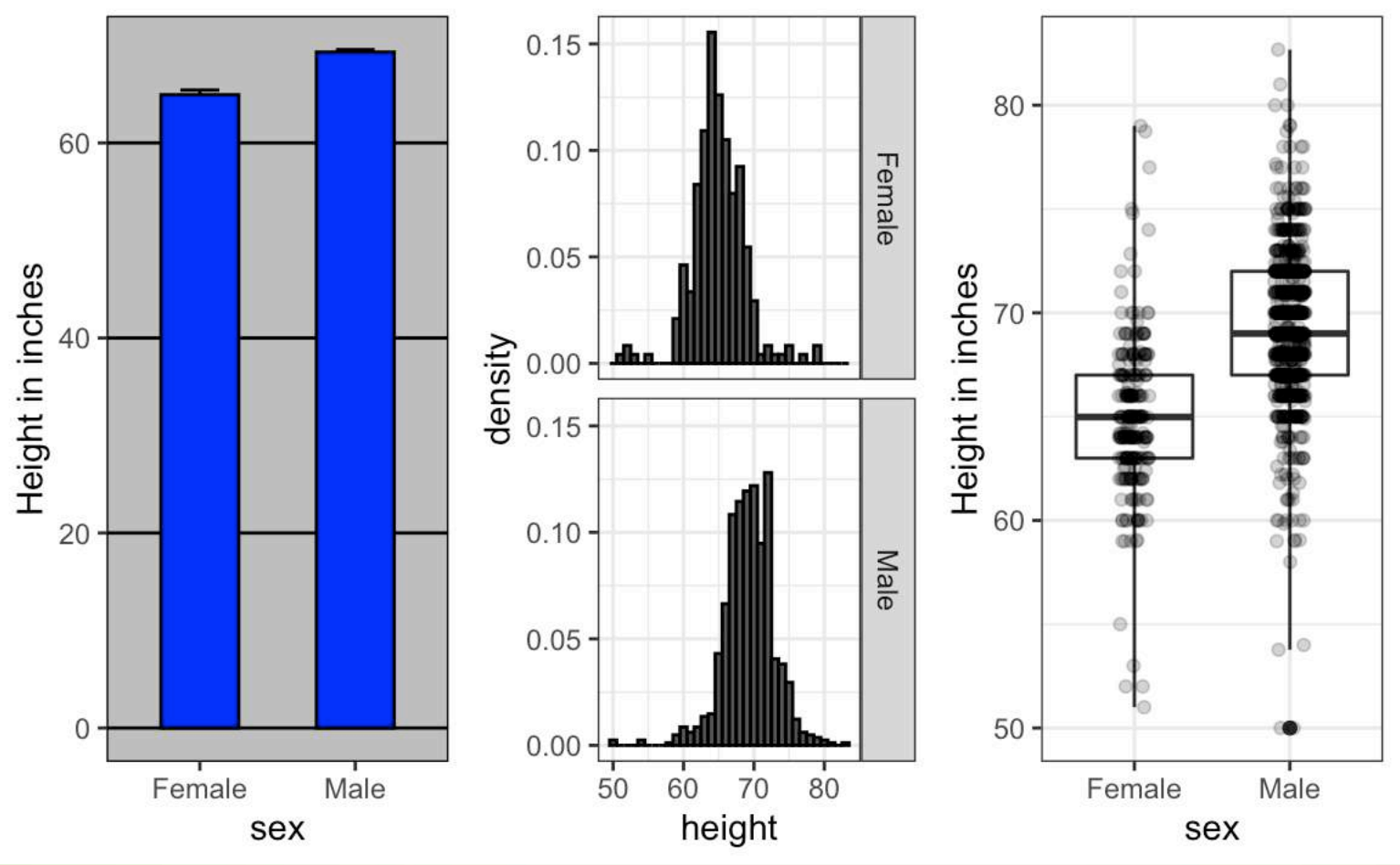

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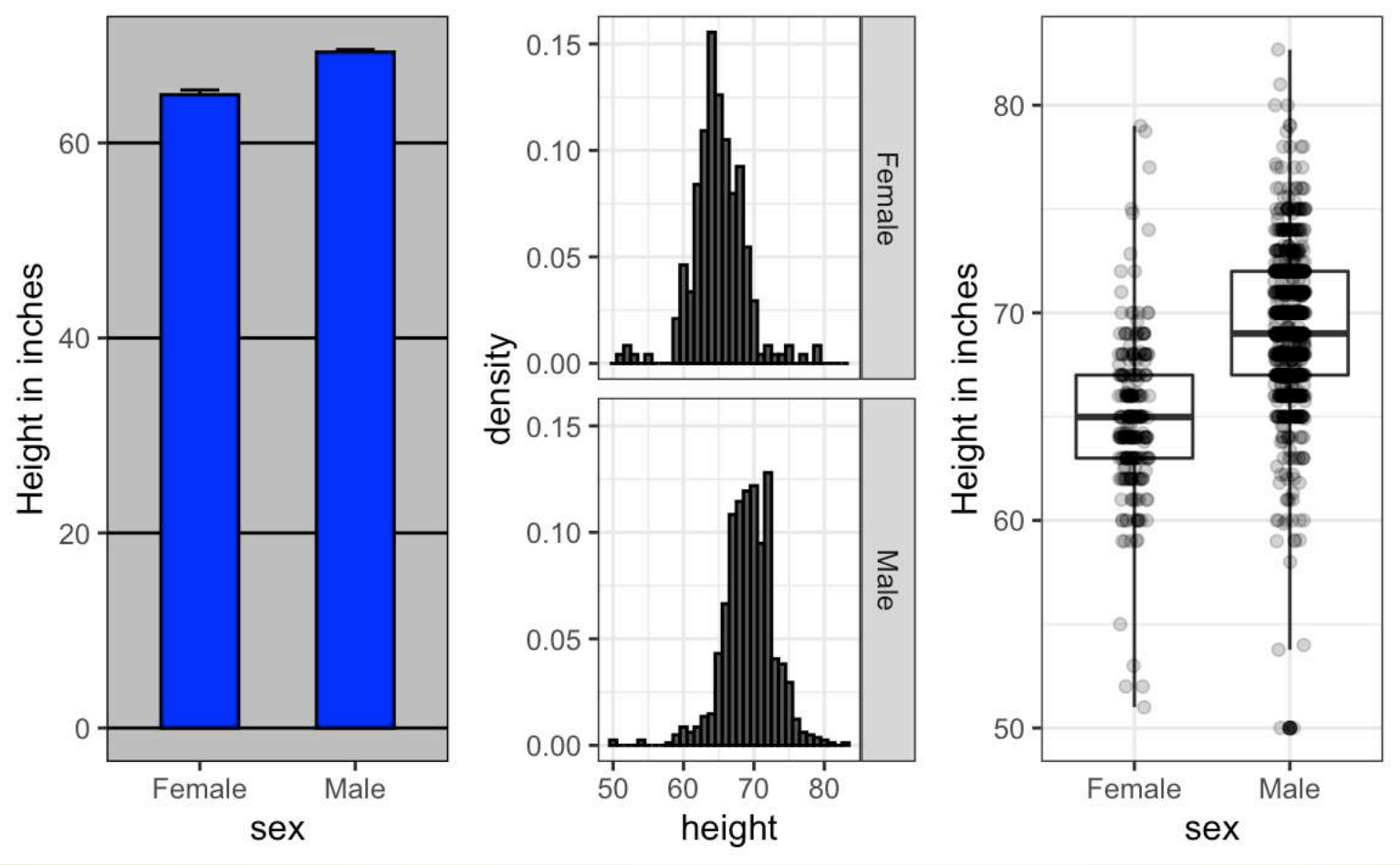

matplotlib: pybeeswarm

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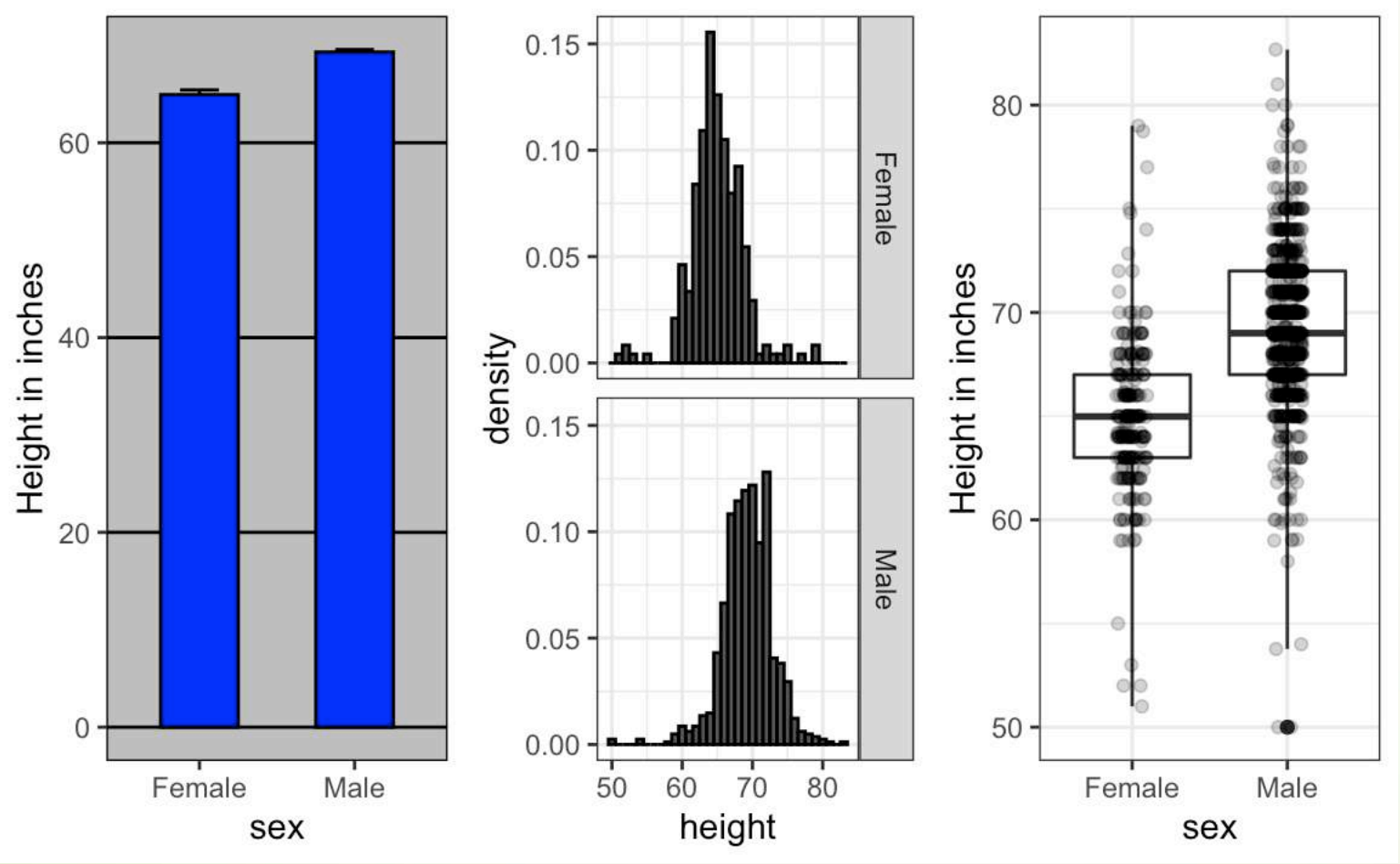

matplotlib: pybeeswarm

```
from beeswarm import *
import matplotlib.pyplot as plt
import numpy as np
d1 = np.random.uniform(low=-3, high=3, size=100)
d2 = np.random.normal(size=100)
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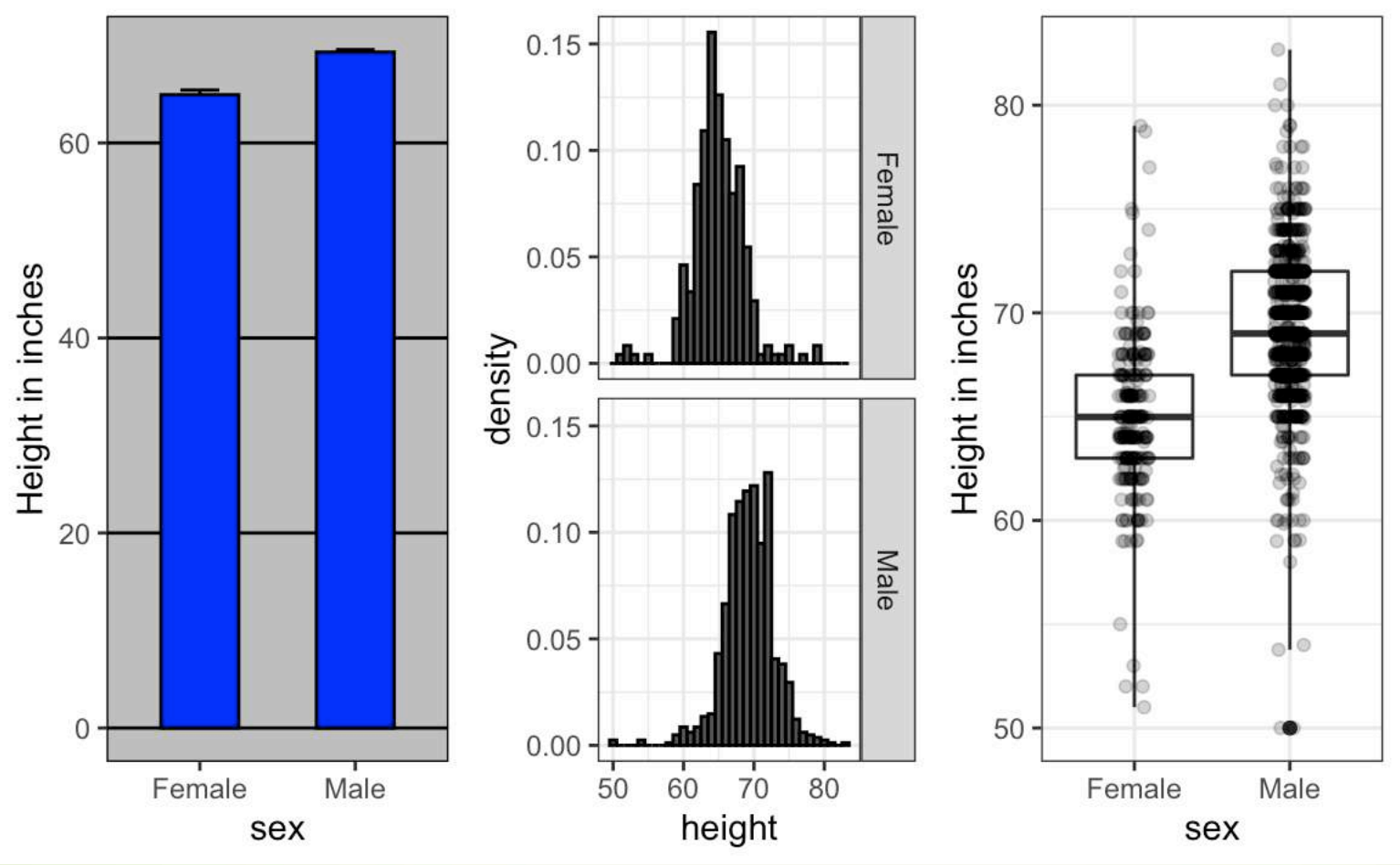

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```
bs, ax = beeswarm([d1,d2], method="swarm", labels=["sample 1", "sample 2"], col=["blue","red"])
```

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- **(iv) Consider transformations**

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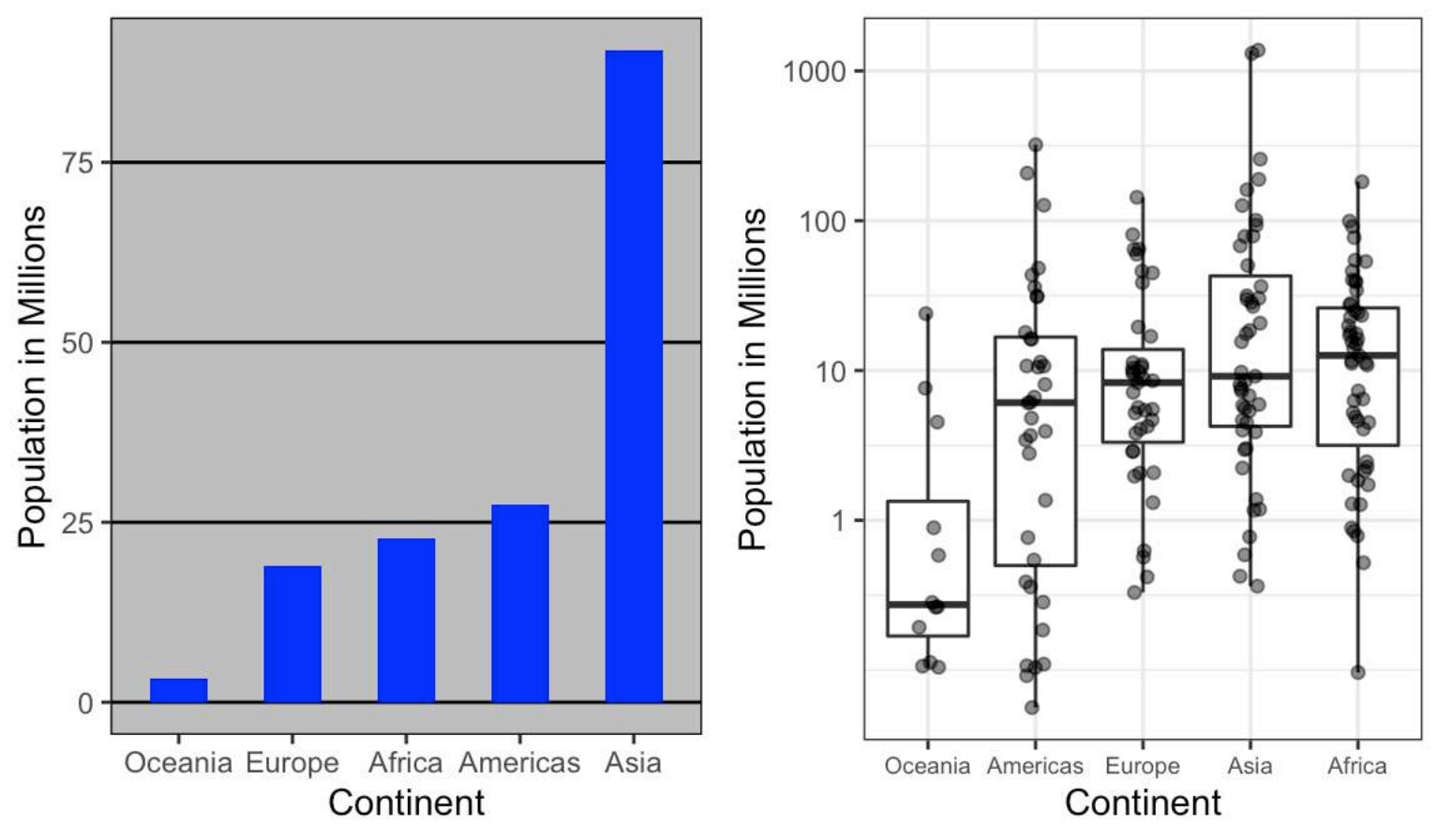

Principles of Data Visualization: **5. Think of the color blind**

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- **Seaborn color pallettes**
- Color Brewer website provides some guidance on **which palettes are color blind safe.**
- Seaborn choose_colorbrewer_palette: interactive widget to browse options and tweak parameters; must be used in a Jupyter notebook
- Example code to understand how the the seaborn color palettes compare for different type of colorblindness (e.g., deuteranopia, protan)
- There is a variety of kinds of color blindness, but the **most common** variant leads to **difficulty distinguishing reds and greens**.
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*Example code: color_pal = sns.color_palette("**colorblind**", 6).as_hex()*

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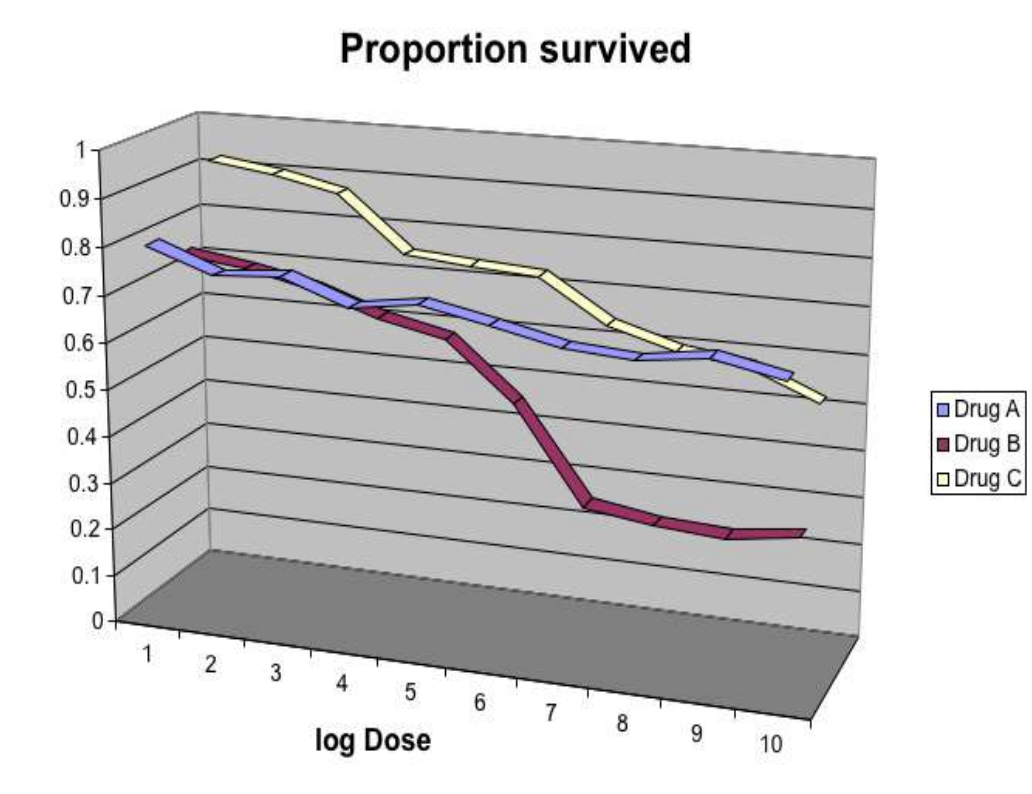

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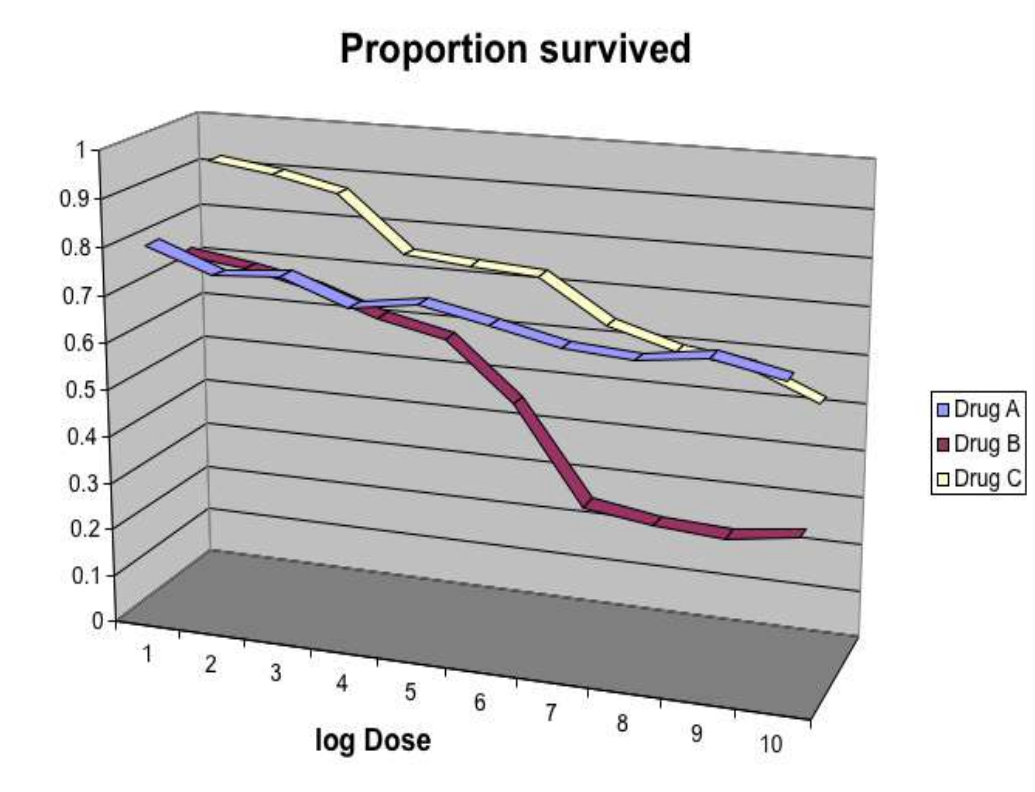

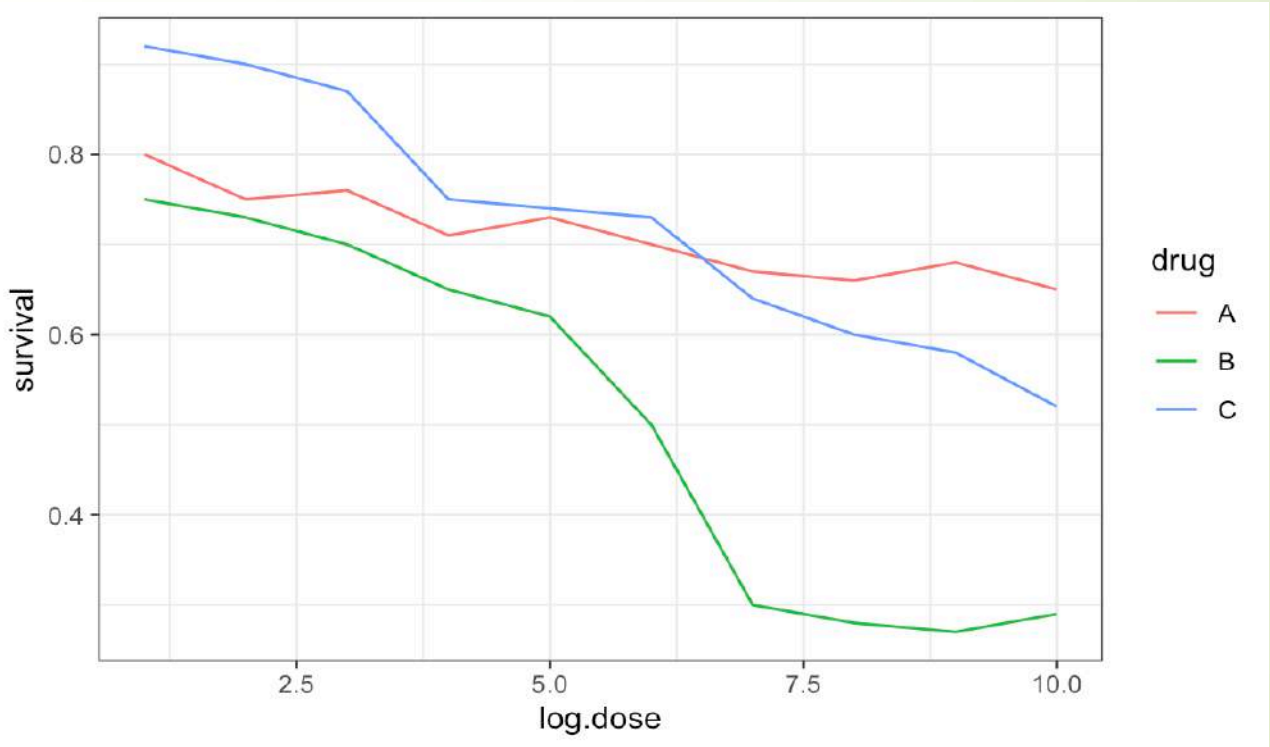

Principles of Data Visualization: **7. Avoid too many significant digits**

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state	year	Measles	Pertussis	Polio
California	1940	37.8826320	18.3397861	0.8266512
California	1950	13.9124205	4.7467350	1.9742639
California	1960	14.1386471	NA	0.2640419
California	1970	0.9767889	NA	NA
California	1980	0.3743467	0.0515466	NA

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state	year	Measles	Pertussis	Polio
California	1940	37.9	18.3	0.8
California	1950	13.9	4.7	2.0
California	1960	14.1	NA	0.3
California	1970	1.0	NA	NA
California	1980	0.4	0.1	NA

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state	disease	1940	1950	1960	1970	1980
California	Measles	37.9	13.9	14.1	1	0.4
California	Pertussis	18.3	4.7	NA	NA	0.1
California	Polio	0.8	2.0	0.3	NA	NA