

Data visualizations can be generalized as consisting of three parts

Data

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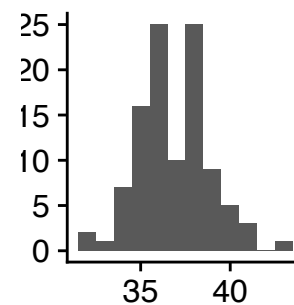
Geometric Mapping

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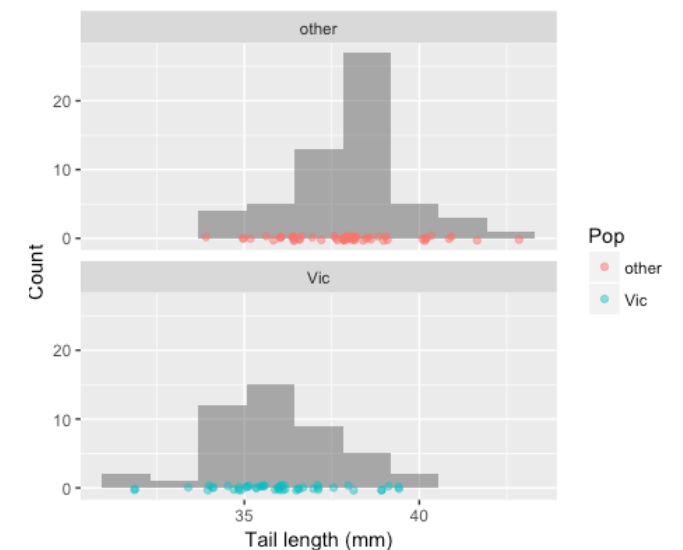
Aesthetic Properties of the Geometric Mapping

##	Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
## 1	5.1	3.5	1.4	0.2	setosa
## 2	4.9	3.0	1.4	0.2	setosa
## 3	4.7	3.2	1.3	0.2	setosa
## 4	4.6	3.1	1.5	0.2	setosa
## 5	5.0	3.6	1.4	0.2	setosa
## 6	5.4	3.9	1.7	0.4	setosa

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```
ggplot(data = <DATA>) + <GEOM_FUNCTION>(mapping = aes(<MAPPINGS>))
```

Example 1: Creating a histogram

Data

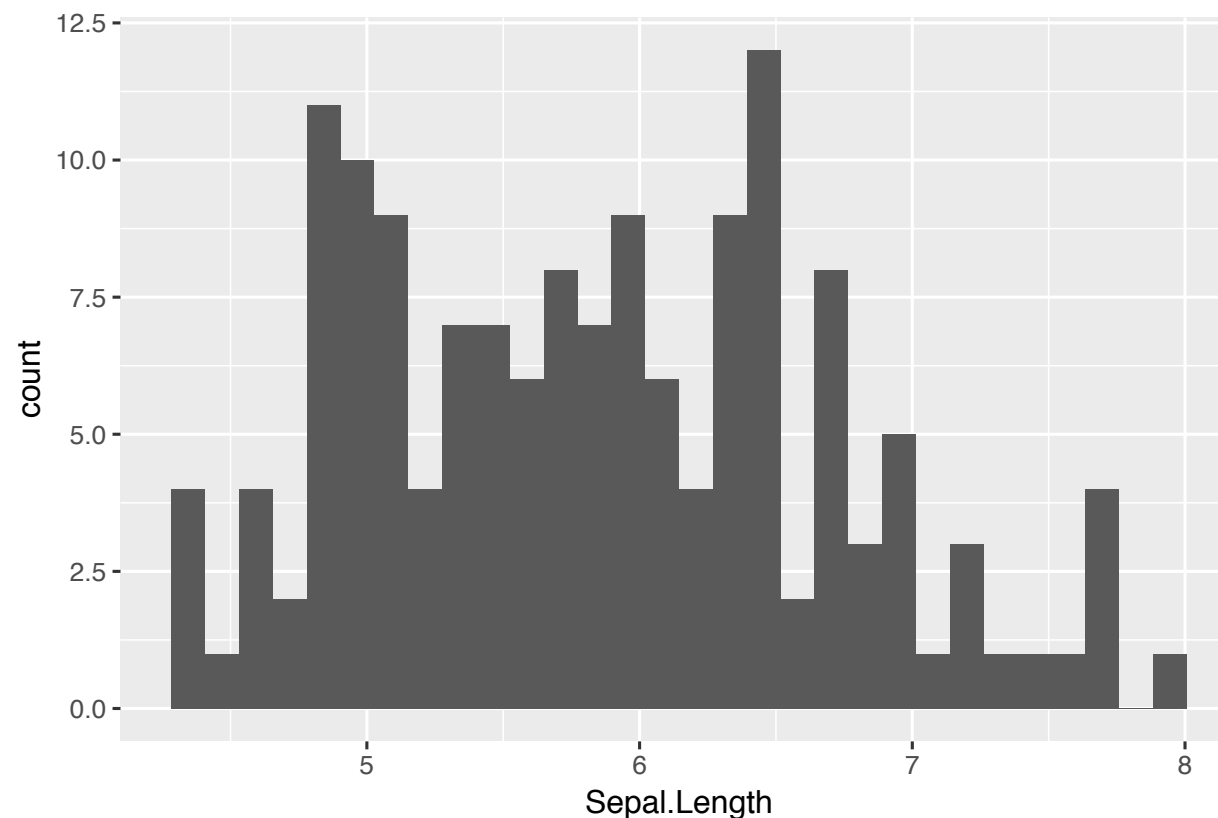
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**Geometric
Mapping**

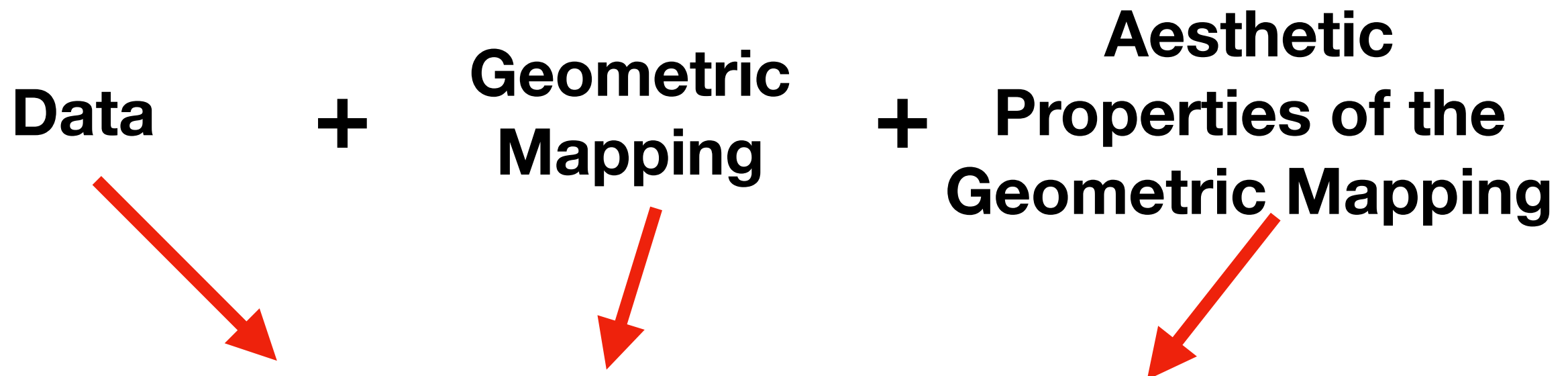
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**Aesthetic
Properties of the
Geometric Mapping**

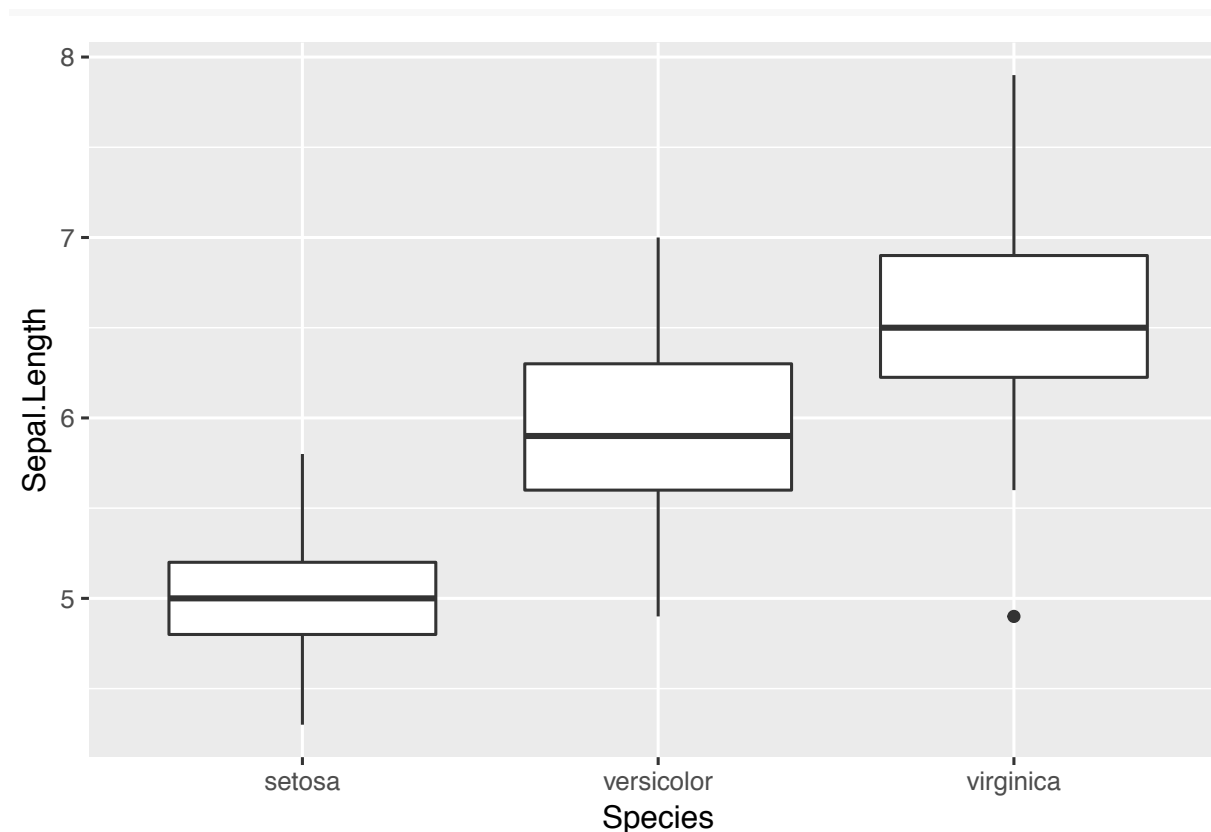
```
ggplot(data = iris) + geom_histogram(mapping = aes(x = Sepal.Length))
```



Example 2: Creating a Boxplot



```
ggplot(data = iris) + geom_boxplot(mapping = aes(x = Species,  
                                                  y = Sepal.Length))
```



Example 3: Combining Geometric Representations

Data + **Geometric Mapping** + **Aesthetic Properties of the Geometric Mapping**

```
ggplot(data = iris) + geom_boxplot(mapping = aes(x = Species,  
y = Sepal.Length)) +  
  geom_jitter(mapping = aes(x = Species,  
y = Sepal.Length,  
color = Species),  
width = 0.2)
```

