

# Themes

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```
#Load packages
library(tidyverse)
library(ggsci) #for easy color scales
library(patchwork) #to make multi-panel plots
library(palmerpenguins) # our fave penguin friends :)
```

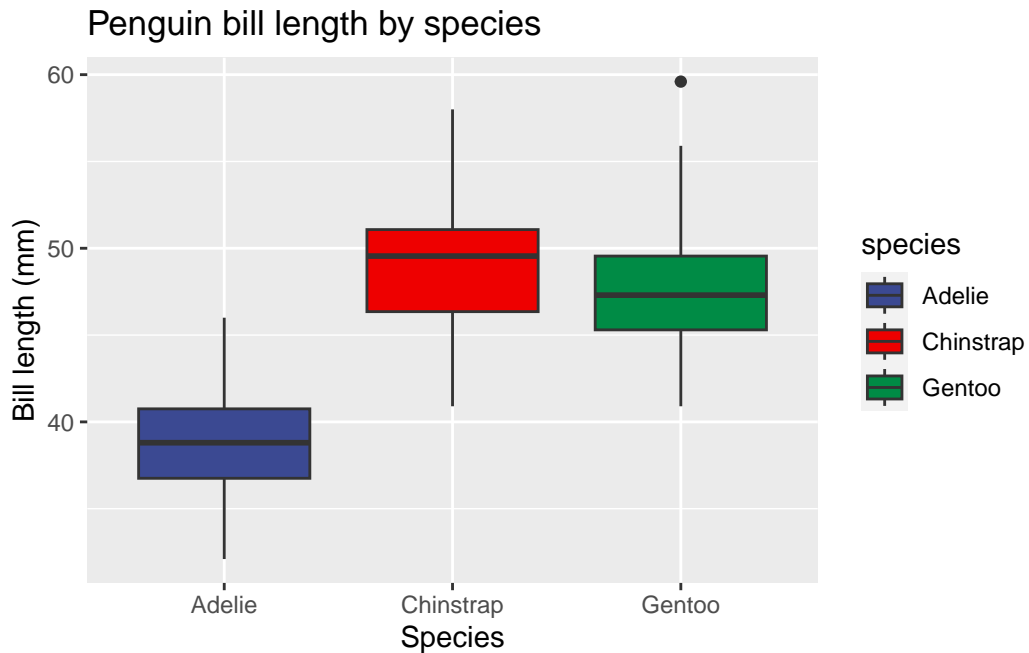
### 1 Themes

Themes allow us to change the background color and most other aspects of a plot. There are a range of theme options within ggplot that will allow us to quickly make clean plots. The two that are most commonly used are `theme_bw()` and `theme_classic()`

**Default theme** (with terrible gray background)

```
ggplot(data=penguins, aes(x=species, y= bill_length_mm)) +
  geom_boxplot(aes(fill=species))+
  scale_fill_aaas()+
  labs(x = 'Species', y='Bill length (mm)', title='Penguin bill length by species')
```

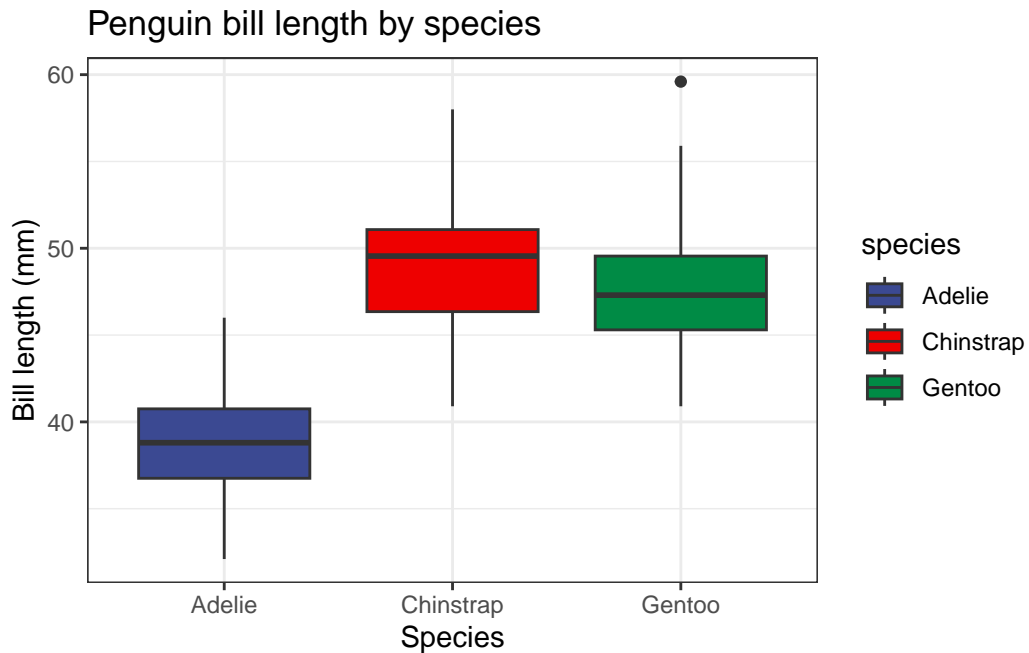
Warning: Removed 2 rows containing non-finite values (``stat_boxplot()``).



`theme_bw()` (removes gray background)

```
ggplot(data=penguins, aes(x=species, y= bill_length_mm)) +
  geom_boxplot(aes(fill=species))+
  scale_fill_aas()+
  labs(x = 'Species', y='Bill length (mm)', title='Penguin bill length by species')+
  theme_bw()
```

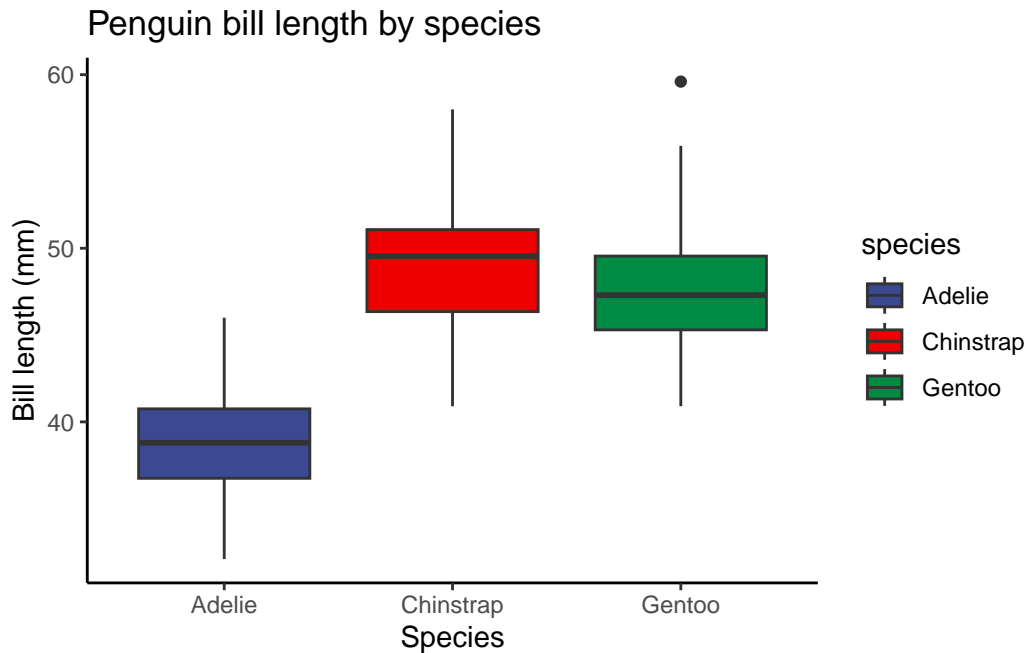
Warning: Removed 2 rows containing non-finite values (``stat_boxplot()``).



`theme_classic()` (removes gray and grid lines)

```
ggplot(data=penguins, aes(x=species, y= bill_length_mm)) +
  geom_boxplot(aes(fill=species))+
  scale_fill_aas()+
  labs(x = 'Species', y='Bill length (mm)', title='Penguin bill length by species')+
  theme_classic()
```

Warning: Removed 2 rows containing non-finite values (``stat_boxplot()``).



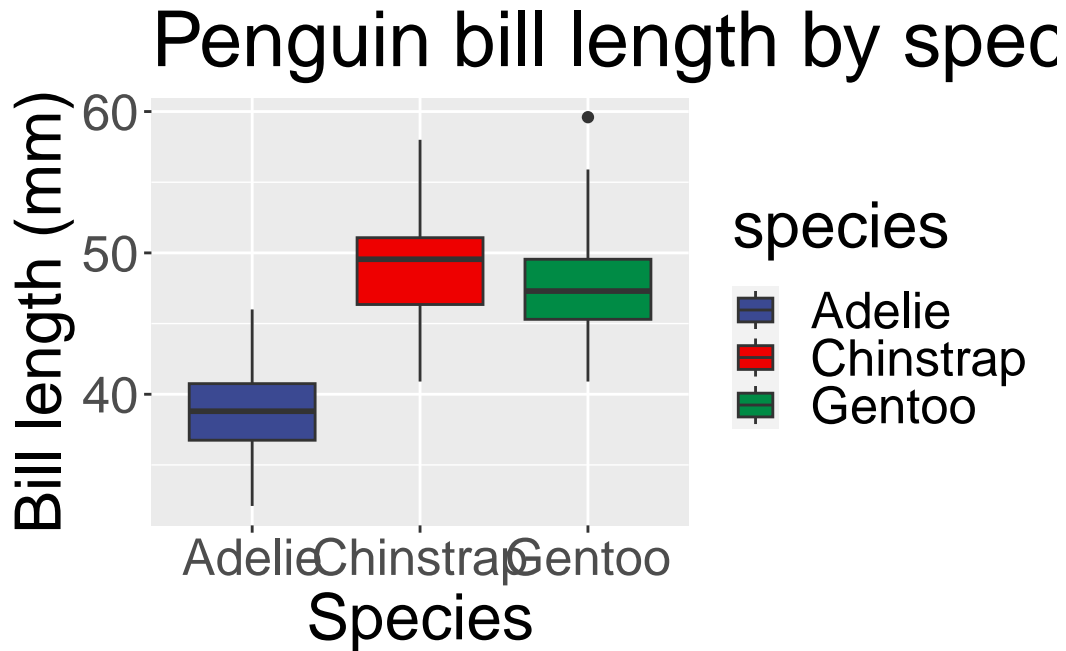
The `theme()` function in `ggplot` is SUPER flexible. You can pretty much do anything with it. This is key for customizing plots. I'd encourage you to play around with this a bit. [Here](#) is a great place to learn more and see examples.

##Some examples of using `theme()`

### Changing text size

```
ggplot(data=penguins, aes(x=species, y= bill_length_mm)) +
  geom_boxplot(aes(fill=species))+
  scale_fill_aas()+
  labs(x = 'Species', y='Bill length (mm)', title='Penguin bill length by species')+
  theme(text=element_text(size=24))
```

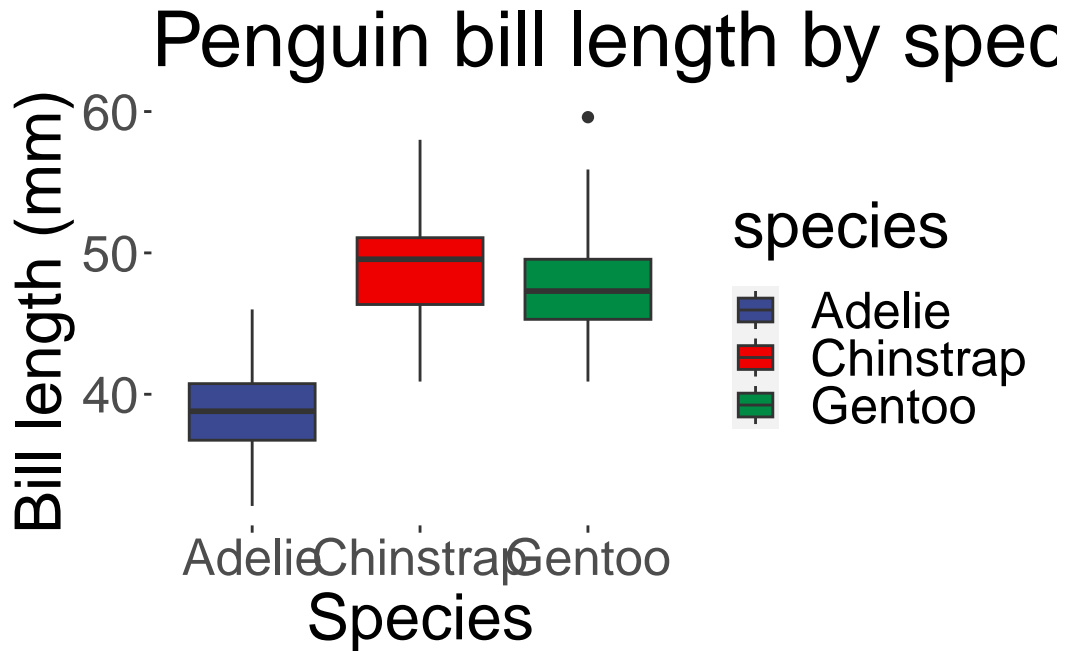
Warning: Removed 2 rows containing non-finite values (``stat_boxplot()``).



Remove the gray background

```
ggplot(data=penguins, aes(x=species, y= bill_length_mm)) +
  geom_boxplot(aes(fill=species))+
  scale_fill_aas()+
  labs(x = 'Species', y='Bill length (mm)', title='Penguin bill length by species')+
  theme(text=element_text(size=24), panel.background = element_rect(fill="white")) #can us
```

Warning: Removed 2 rows containing non-finite values (`stat\_boxplot()`).



Turn the X-Axis text

```
ggplot(data=penguins, aes(x=species, y= bill_length_mm)) +
  geom_boxplot(aes(fill=species))+
  scale_fill_aas()+
  labs(x = 'Species', y='Bill length (mm)', title='Penguin bill length by species')+
  theme(text=element_text(size=24), panel.background = element_rect(fill="white"), axis.te
```

Warning: Removed 2 rows containing non-finite values (`stat\_boxplot()`).

