# Visualizing data

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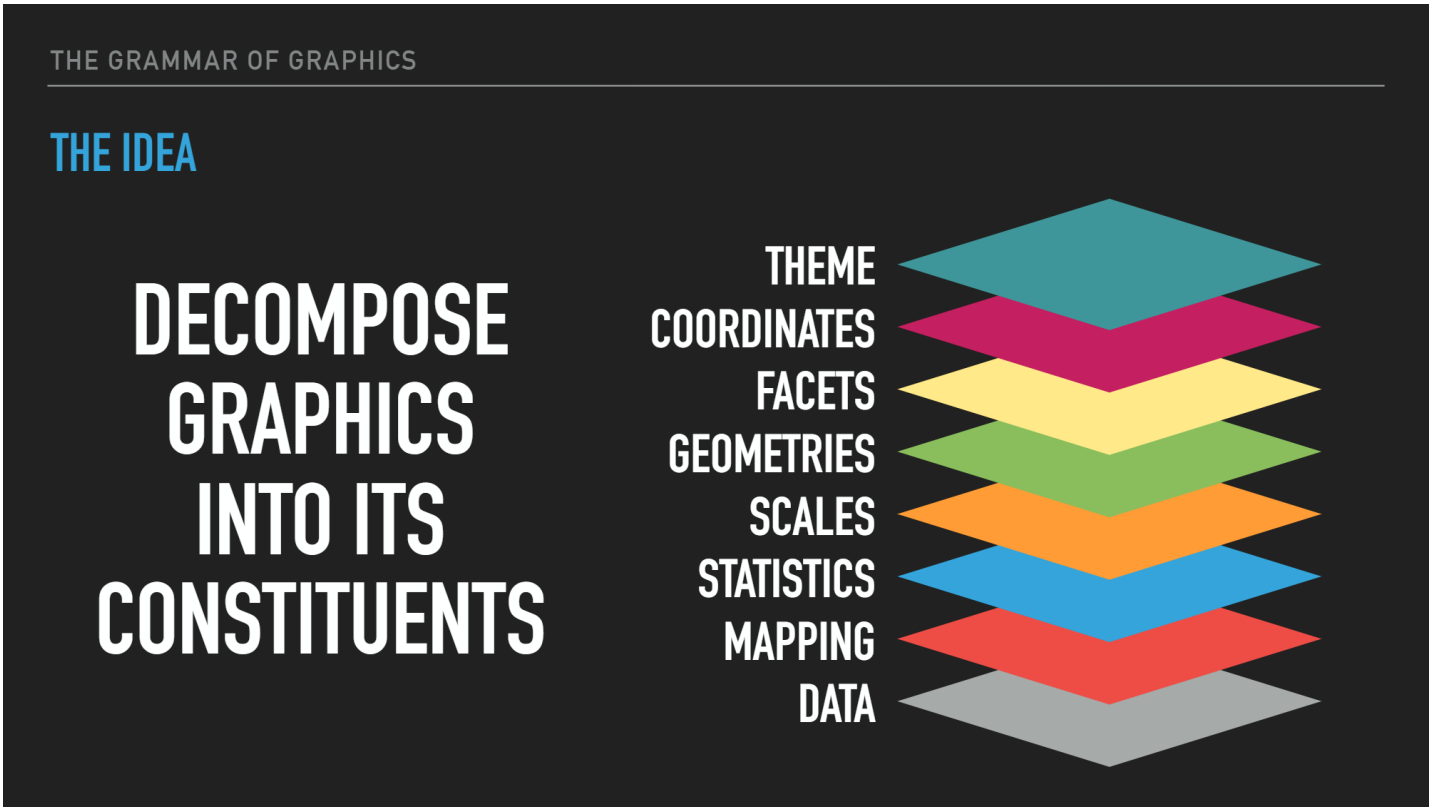
# Components



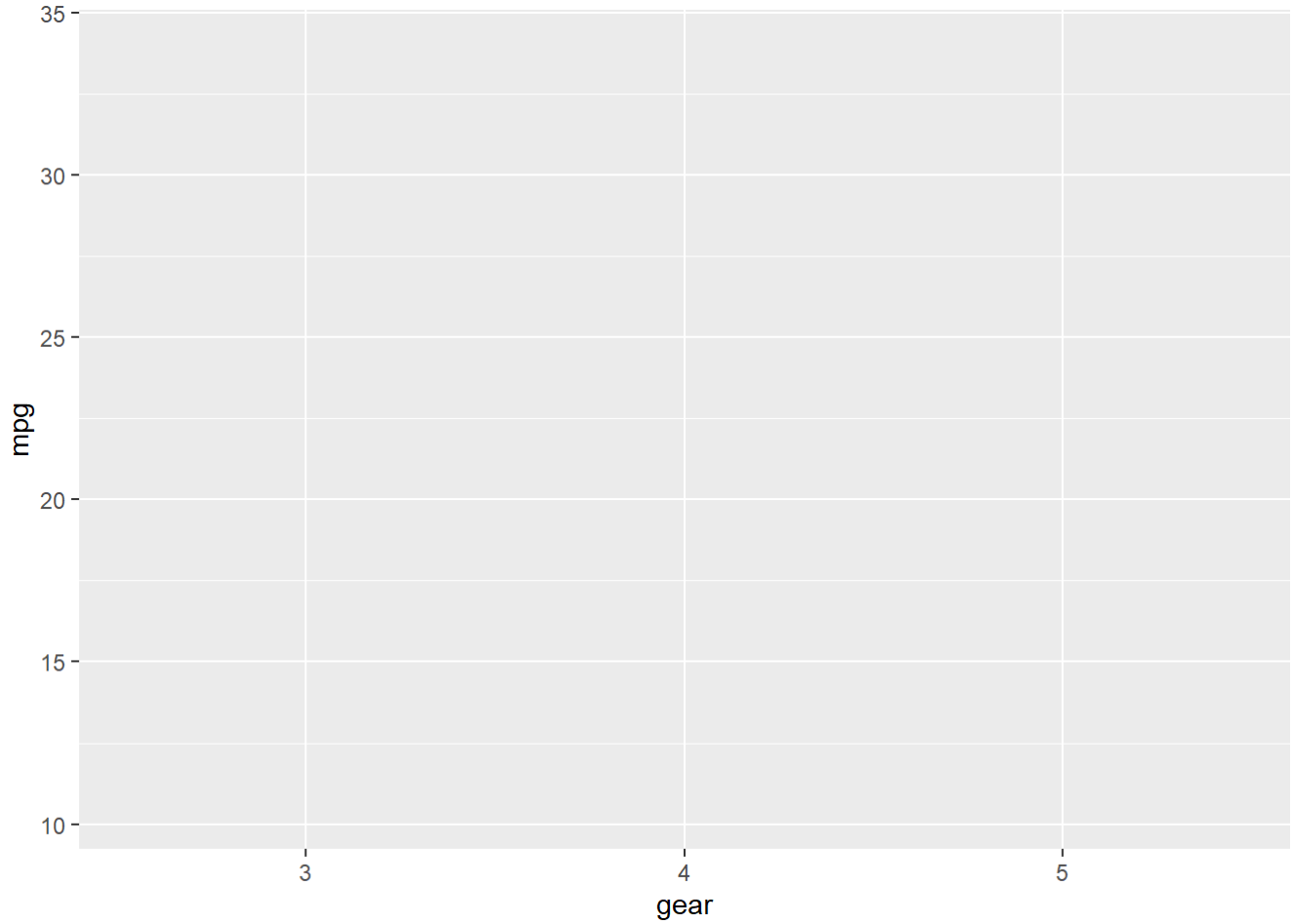

https://github.com/thomasp85/ggplot2_workshop/blob/master/presentation.pdf (https://github.com/thomasp85/ggplot2_workshop/blob/master/presentation.pdf)

# Data

```
##    mpg cyl disp  hp drat    wt  qsec vs am gear carb
## 1 21.0   6  160 110 3.90 2.620 16.46  0  1    4    4
## 2 21.0   6  160 110 3.90 2.875 17.02  0  1    4    4
## 3 22.8   4  108  93 3.85 2.320 18.61  1  1    4    1
## 4 21.4   6  258 110 3.08 3.215 19.44  1  0    3    1
## 5 18.7   8  360 175 3.15 3.440 17.02  0  0    3    2
## 6 18.1   6  225 105 2.76 3.460 20.22  1  0    3    1
```

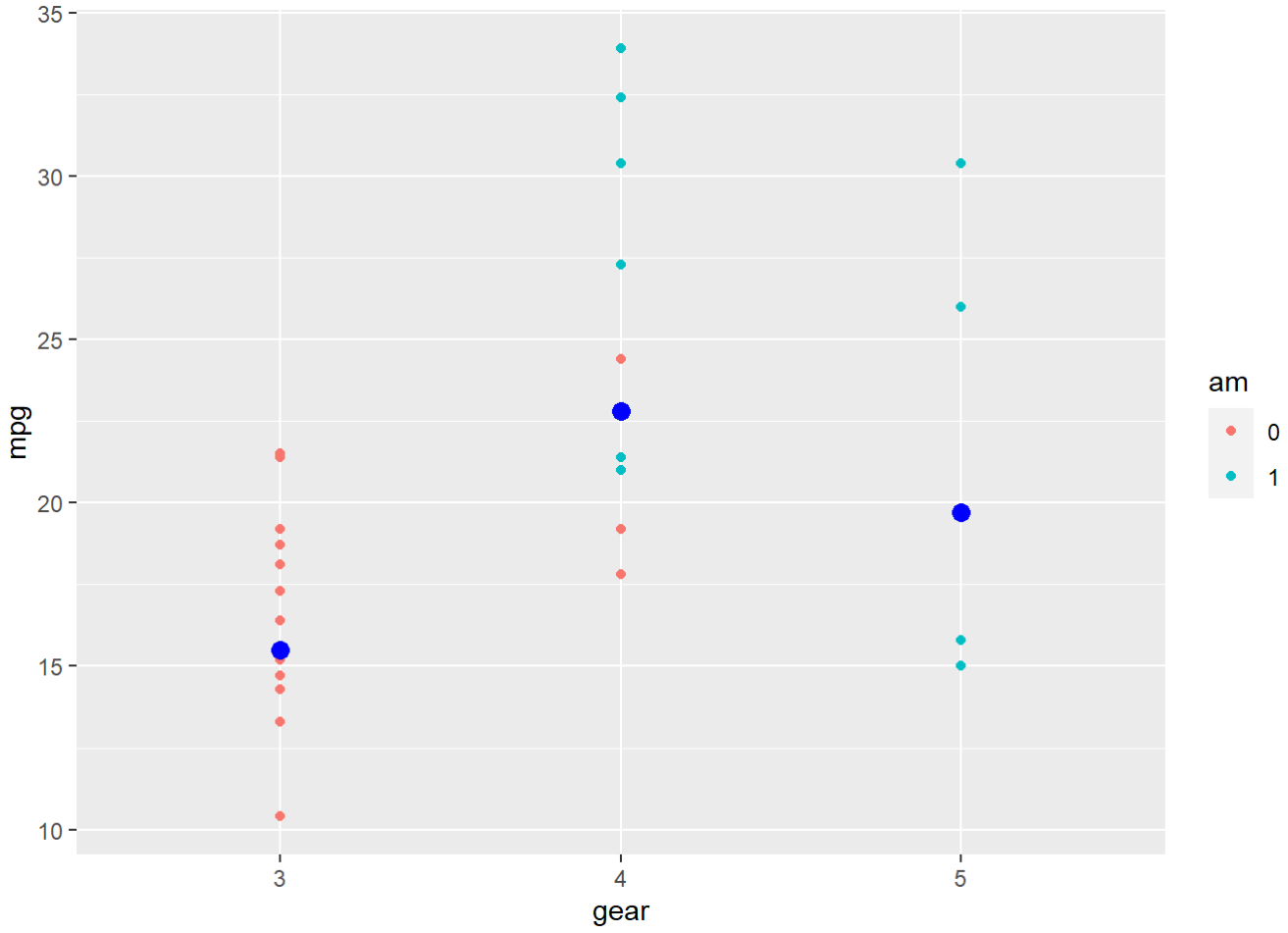
# Mapping

```
ggplot(data = df, aes(x = gear, y = mpg, color = am))
```



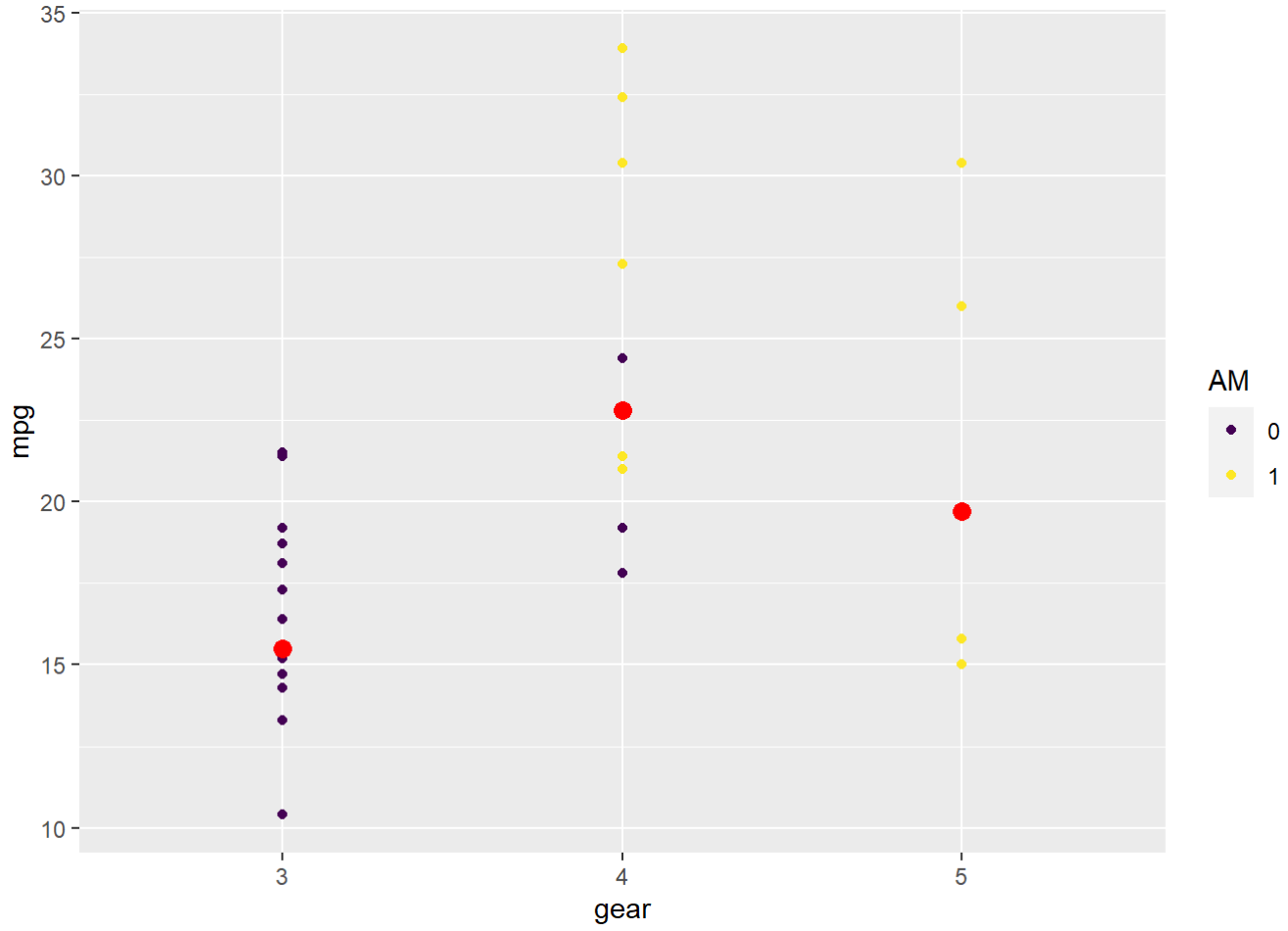

# Geometry ans Stats

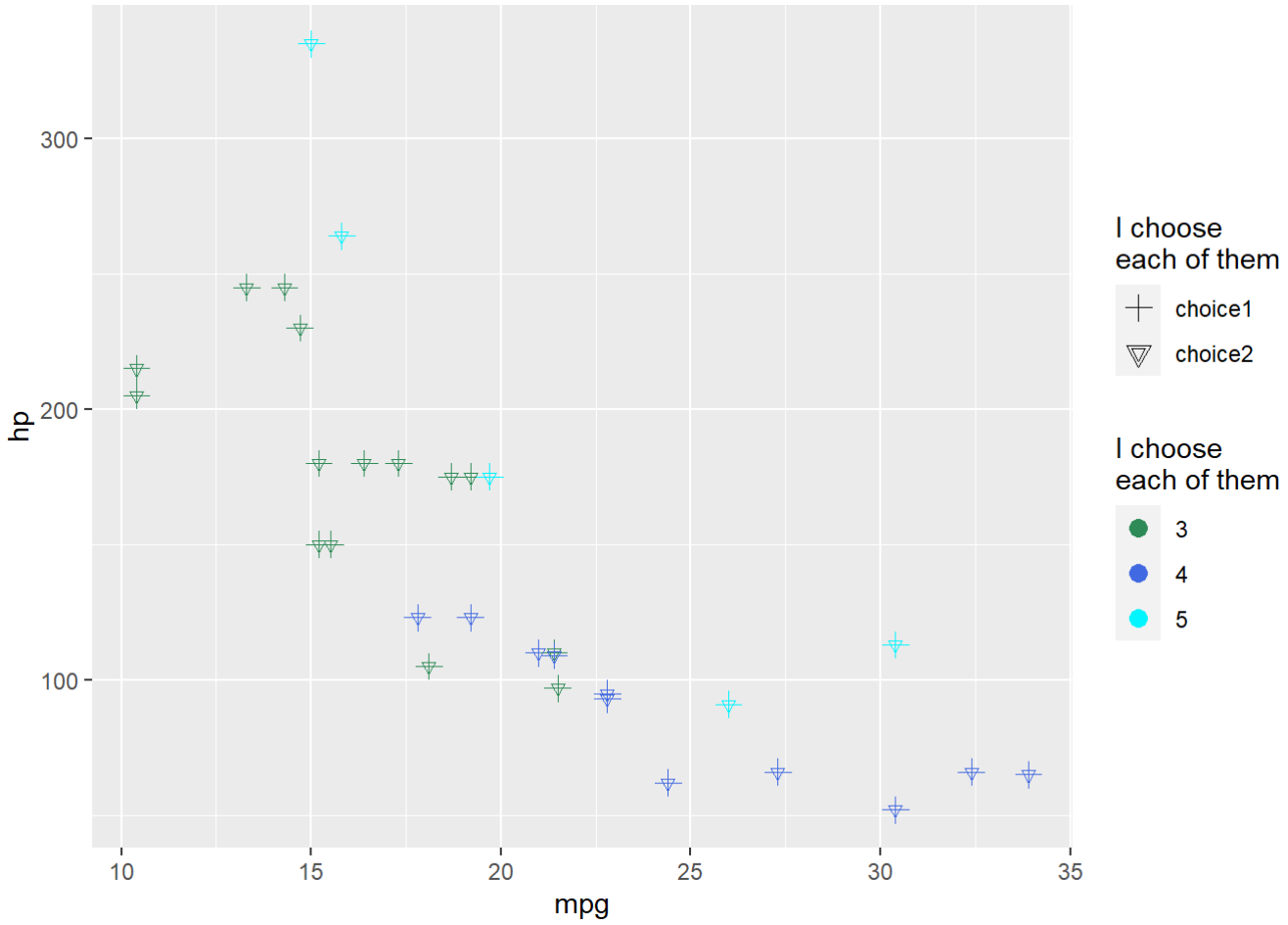
```
df %>%
  ggplot(aes(gear, mpg, color = am)) +
  geom_point() +
  stat_summary(geom = "point", fun = "median", colour = "blue", size = 3)
```




# Scale

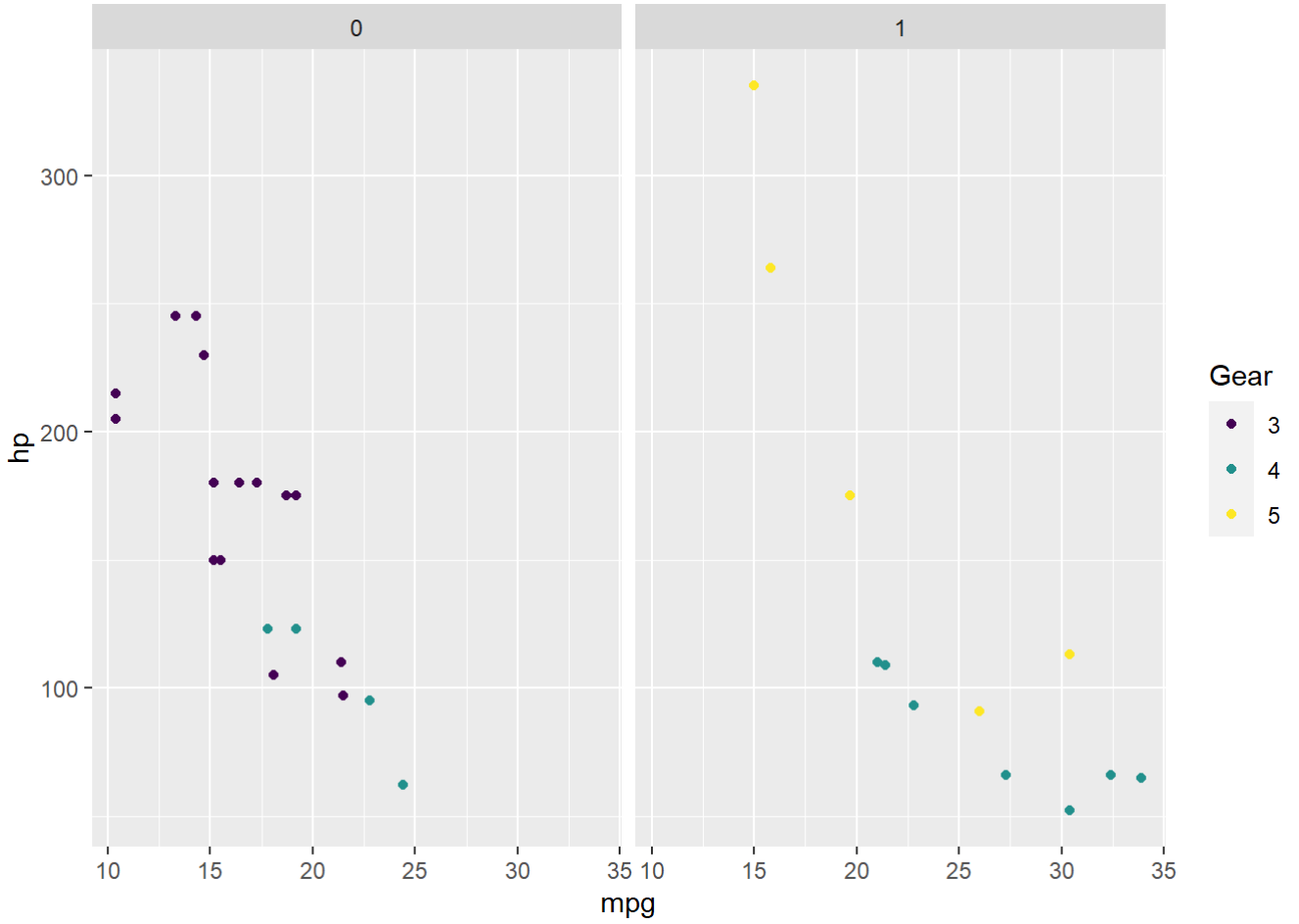
```
df %>%
  ggplot(aes(gear, mpg, color = am)) +
  geom_point() +
  stat_summary(geom = "point", fun = "median", colour = "red", size = 3) +
  scale_color_viridis_d(name = "AM")
```


35
30
25
20
15
10
mpg
3
4
5
gear
AM
0
1


300
200
100
hp
10
15
20
25
30
35
mpg
I choose each of them
choice1
choice2
I choose each of them
3
4
5

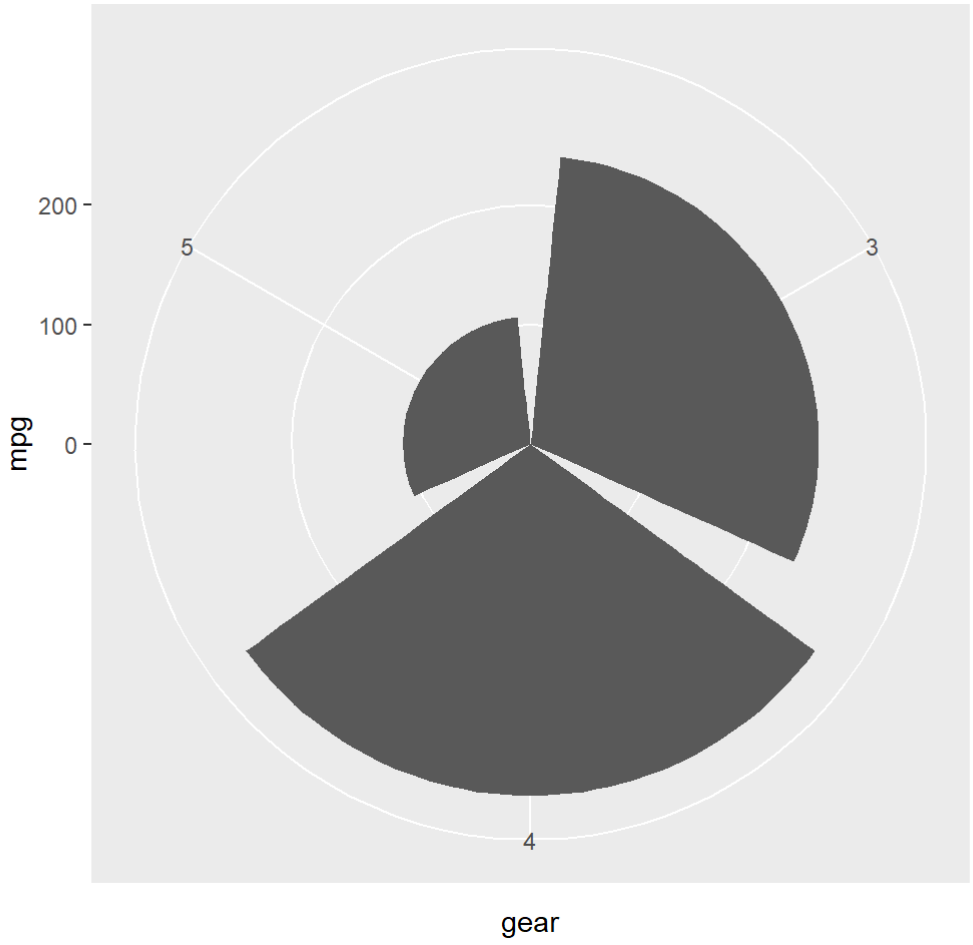
# Facet

```
df %>%
  ggplot(aes(mpg, hp, color = gear)) +
  geom_point() +
  scale_color_viridis_d(name = "Gear") +
  facet_wrap(~am)
```



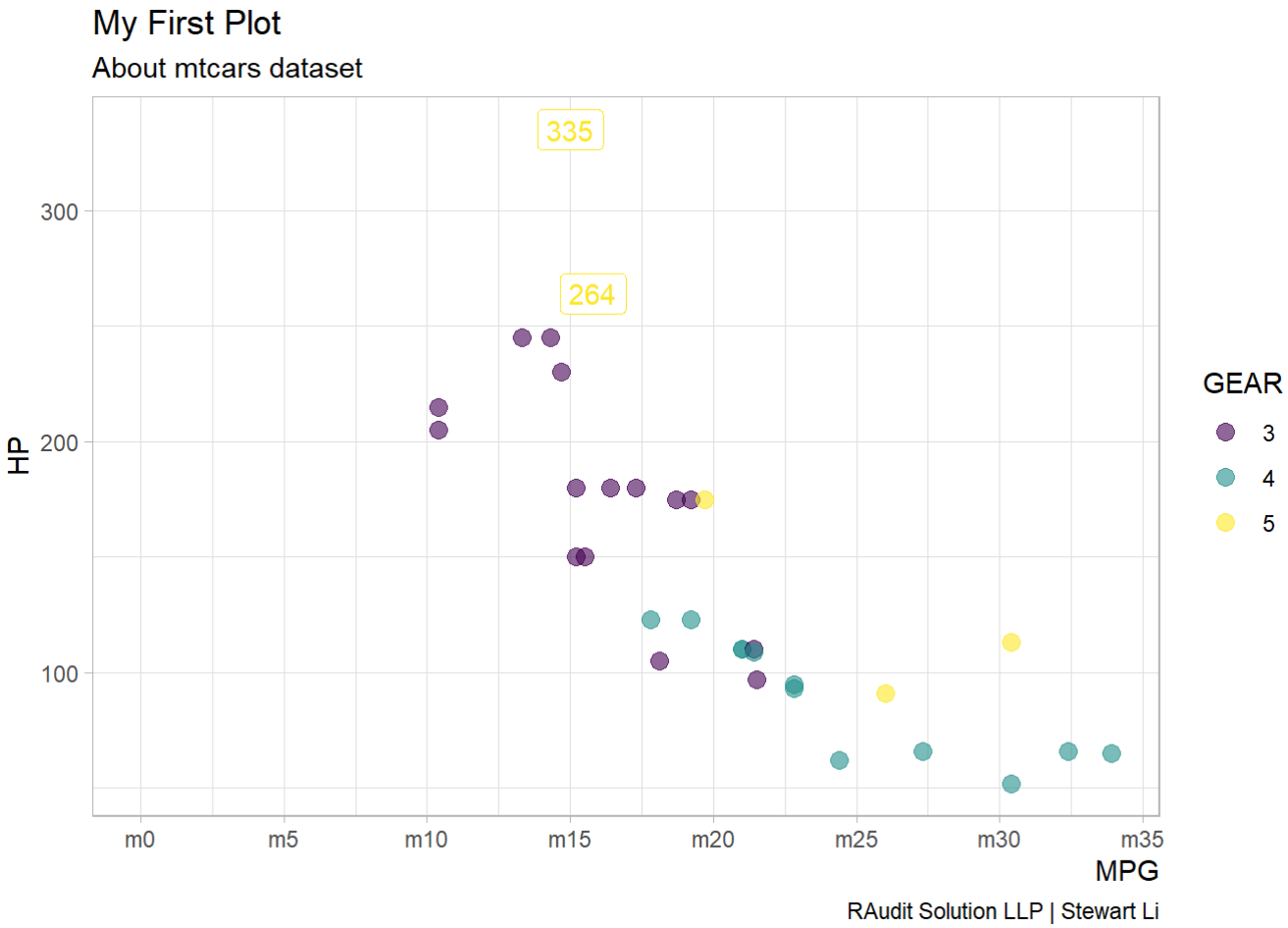

# Coordinate

```
df %>%
  ggplot(aes(gear, mpg)) +
  geom_col() +
  coord_polar()
```




# Theme

```
df %>%
  ggplot(aes(mpg, hp, color = gear)) +
  geom_point(size = 3, alpha = .6) +
  geom_label(data = df %>% filter(hp >= 250), aes(label = hp), show.legend = FALSE) +
  scale_color_viridis_d() +
  scale_x_continuous(breaks = seq(0, 35, 5),
                     labels = scales::number_format(accuracy = 1., prefix = "m")) +
  expand_limits(x = 0) + # xlim(0, range(df$mpg)[2])
  labs(title = "My First Plot",
       subtitle = "About mtcars dataset",
       caption = "RAudit Solution LLP | Stewart Li",
       x = "MPG",
       y = "HP",
       color = "GEAR") +
    theme_light() +
    theme(axis.title.x = element_text(hjust = 1))
```


My First Plot
About mtcars dataset
335
264
300
200
100
HP
m0
m5
m10
m15
m20
m25
m30
m35
MPG
GEAR
3
4
5
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# Practice

Highlight Those Points