

## ggplot Part III

Workshop on Plotting in R

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NBIS, SciLifeLab

# Contents

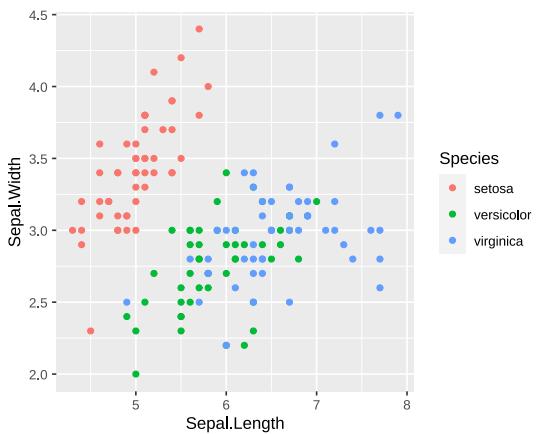
- Scales - axis
- Coordinate Systems
- Theme
- Theme - Legend
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# Scales • Axes

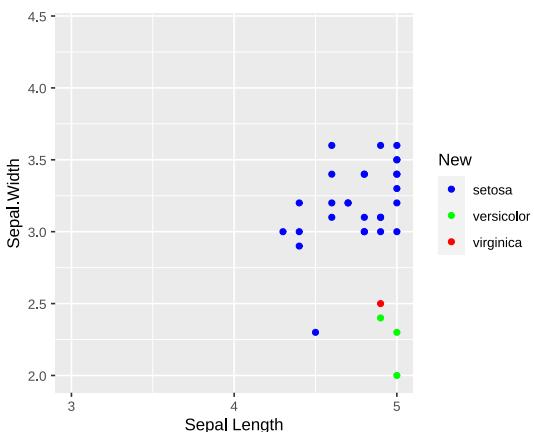
- scales: x, y
- syntax: `scale_<axis>_<type>`
- arguments: name, limits, breaks, labels

```
p <- ggplot(iris)+  
  geom_point(aes(x=Sepal.Length,  
                 y=Sepal.Width,  
                 color=Species))
```

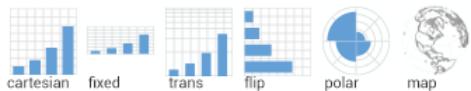
p



```
p + scale_color_manual(name="New",  
                        values=c("blue","green","red"))+  
  scale_x_continuous(name="Sepal Length",  
                     breaks=seq(1,8),limits=c(3,5))
```



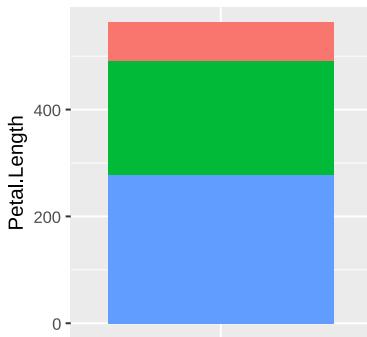
# Coordinate Systems



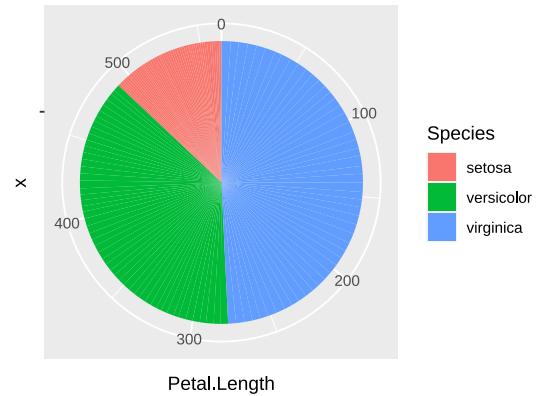
- `coord_cartesian(xlim=c(2,8))` for zooming in
- `coord_map` for controlling limits on maps
- `coord_polar`

```
p <- ggplot(iris,aes(x="",y=Petal.Length,fi p+coord_polar("y",start=0)
```

```
p
```



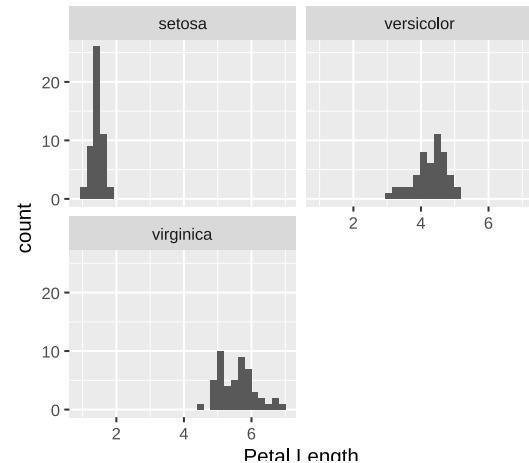
Species  
setosa  
versicolor  
virginica



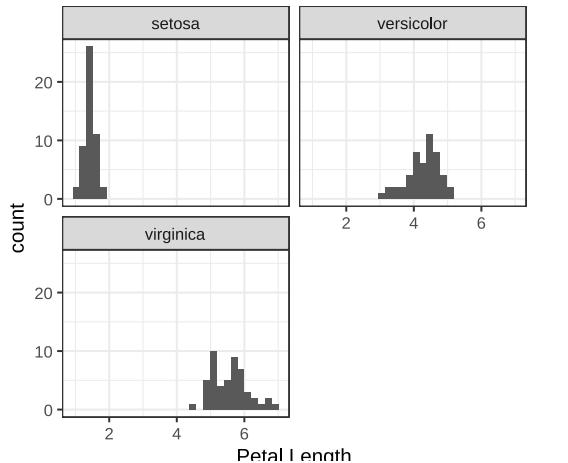
# Theme

- Modify non-data plot elements/appearance
- Axis labels, panel colors, legend appearance etc
- Save a particular appearance for reuse
- `?theme`

```
ggplot(iris,aes(Petal.Length))+  
  geom_histogram()  
  facet_wrap(~Species,nrow=2)+  
  theme_grey()
```



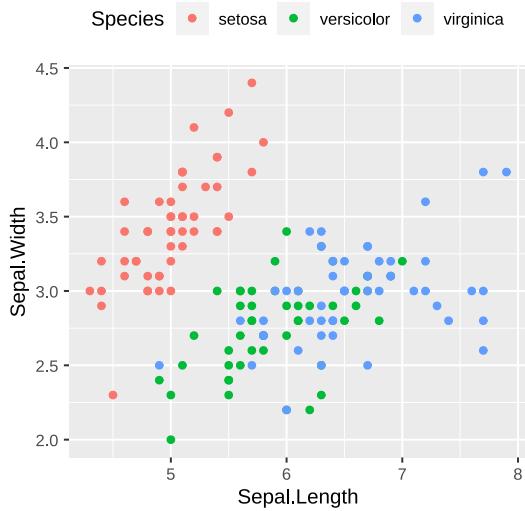
```
ggplot(iris,aes(Petal.Length))+  
  geom_histogram()  
  facet_wrap(~Species,nrow=2)+  
  theme_bw()
```



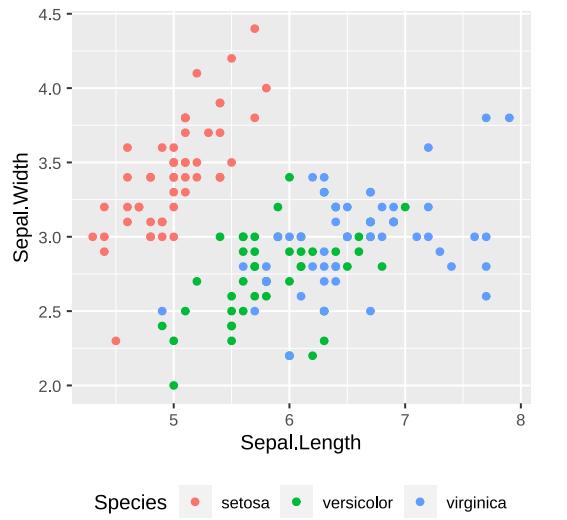
# Theme • Legend

```
p <- ggplot(iris)+  
  geom_point(aes(x=Sepal.Length,  
                 y=Sepal.Width,  
                 color=Species))
```

```
p + theme(legend.position="top")
```



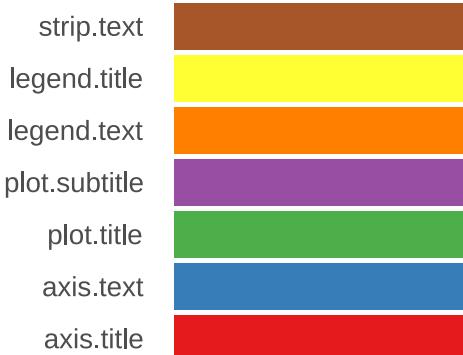
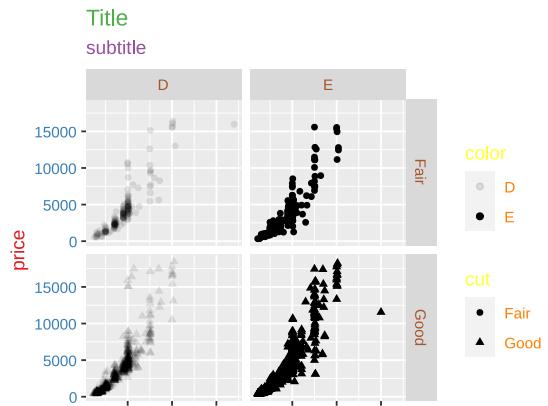
```
p + theme(legend.position="bottom")
```



# Theme • Text

```
element_text(family=NULL, face=NULL, color=NULL, size=NULL, hjust=NULL,  
vjust=NULL, angle=NULL, lineheight=NULL, margin = NULL)
```

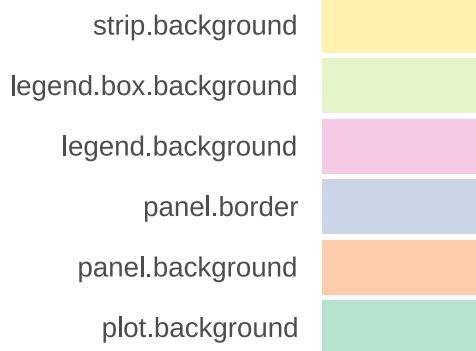
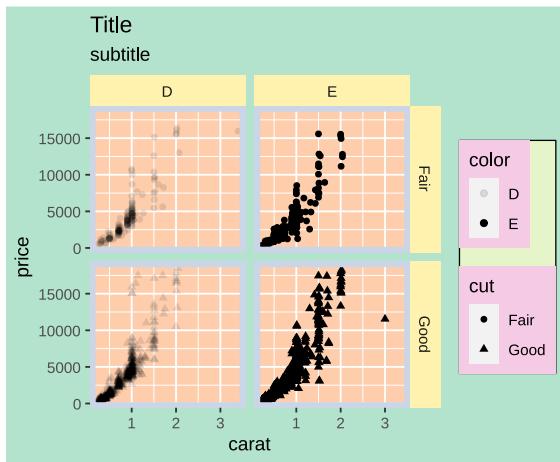
```
p <- p + theme(  
  axis.title=element_text(color="#e41a1c"),  
  axis.text=element_text(color="#377eb8"),  
  plot.title=element_text(color="#4daf4a"),  
  plot.subtitle=element_text(color="#984ea3"),  
  legend.text=element_text(color="#ff7f00"),  
  legend.title=element_text(color="#fffff33"),  
  strip.text=element_text(color="#a65628")  
)
```

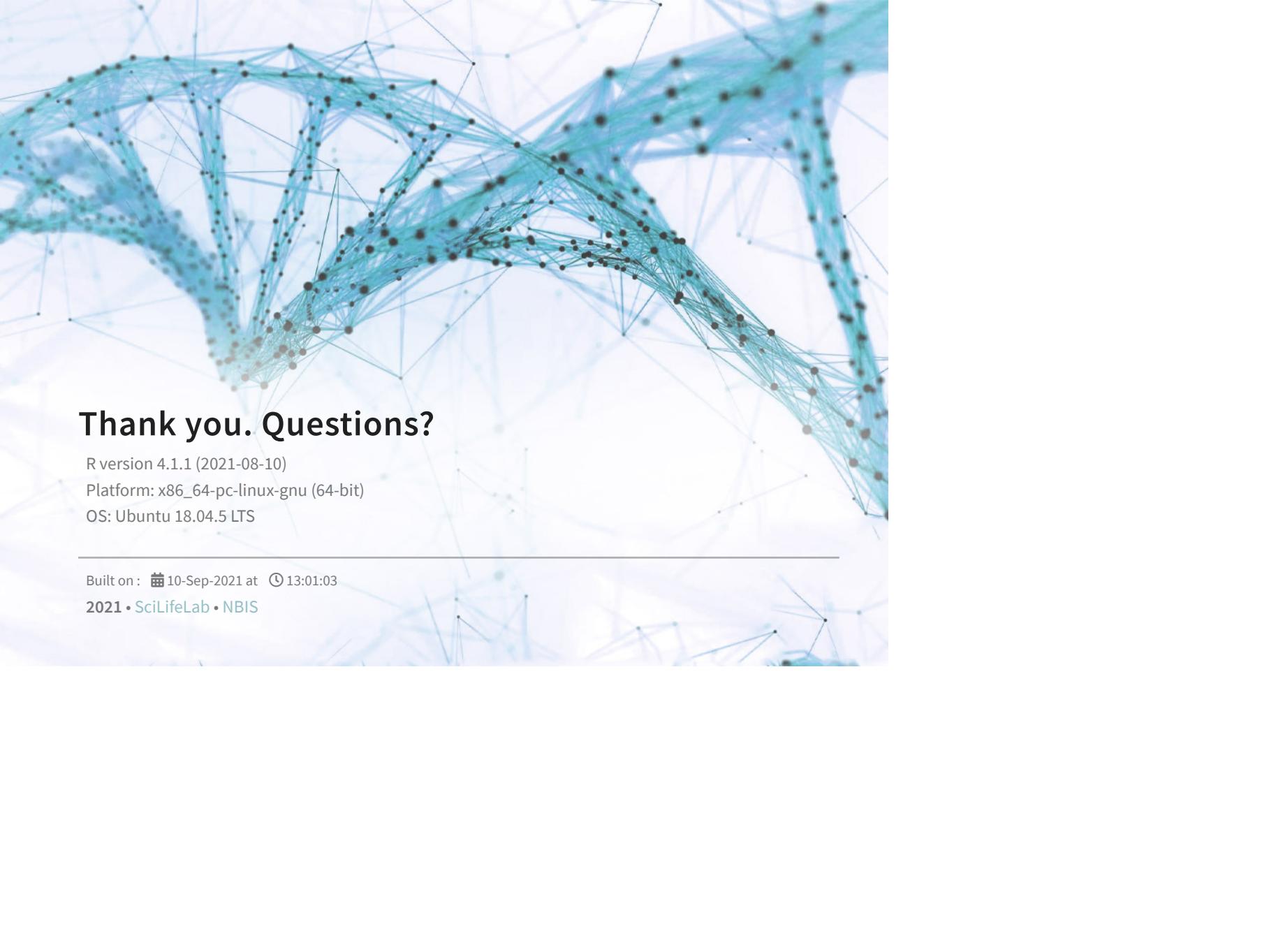


# Theme • Rect

```
element_rect(fill=NULL,color=NULL,size=NULL,linetype=NULL)
```

```
p <- p + theme(  
  plot.background=element_rect(fill="#b3e2cd"),  
  panel.background=element_rect(fill="#fdcdac"),  
  panel.border=element_rect(fill=NA,color="#cbd5e8",size=3),  
  legend.background=element_rect(fill="#f4cae4"),  
  legend.box.background=element_rect(fill="#e6f5c9"),  
  strip.background=element_rect(fill="#fff2ae"))  
)
```



A complex, abstract network graph serves as the background for the entire slide. It consists of numerous small, dark brown dots representing nodes, connected by a dense web of thin, translucent blue lines representing edges. The graph is highly interconnected, forming several large, irregular clusters and many smaller, isolated nodes.

# Thank you. Questions?

R version 4.1.1 (2021-08-10)

Platform: x86\_64-pc-linux-gnu (64-bit)

OS: Ubuntu 18.04.5 LTS

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Built on : 📁 10-Sep-2021 at ⏱ 13:01:03

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