High quality plots in GGPLOT

Lets try some of the basic plotting and compare it to ggplot

```
roadkill <- read.table('RoadKills.txt', header = T)
```

earlier we did a model on number of road kills against the open space around it.

```
plot(roadkill$BufoCalamita ~ roadkill$OPEN.L)


#here we are making a new sequence of possible OPEN L values
pred <- expand.grid(OPEN.L = seq(0,100, by = 1))
#we are then using a model to get predicted values for them
pred$fit <- predict(glm1, newdata= pred, type='response')
#and using those to plot a line
lines(fit ~ OPEN.L, data = pred)
```

This is the plot we made earlier, but how about we try and make it a bit nicer with ggplot

first we need the package

```
library(ggplot2)
```

now we need to create a ggplot object

```
roadplot <- ggplot(data = roadkill, aes(x = OPEN.L, y = BufoCalamita))
```

so this created a new plot object where we have specified the data and the aesthetics.

```
roadplot
```

well this is a blank plot, not much use we have to specify what we want to add to it

```
roadplot <- ggplot(data = roadkill, aes(x = OPEN.L, y = BufoCalamita))+
 geom_point()
roadplot
```

how about we add a line

```
roadplot <- ggplot(data = roadkill, aes(x = OPEN.L, y = BufoCalamita))+
 geom_point()+
 geom_line(data = pred, aes(OPEN.L, fit))
roadplot
```

Well it is maybe a bit neater that our other plot but now we have the basics lets make it pretty

```
roadplot <- ggplot(data = roadkill, aes(x = OPEN.L, y = BufoCalamita))+
 geom_point(pch = 21, size = 3)+
 geom_line(data = pred, aes(OPEN.L, fit), colour = 'red')+
 # how about we add a theme, there are some nice ones, but a good plot is simple
 theme_bw()+
 #lets add some more specific labels
 xlab('Open Land (m)')+
 ylab('Number of Bufo Calamita killed on roads')


roadplot
```

we can even cheat to make it look better without our big outliers

```
roadplot <- ggplot(data = roadkill, aes(x = OPEN.L, y = BufoCalamita))+
 geom_point(pch = 21, size = 3)+
 geom_line(data = pred, aes(OPEN.L, fit), colour = 'red')+
```

```
#  how about we add a theme, there are some nice ones, but a good plot is simple
  theme_bw()+
 # lets add some more specific labels
  xlab('Open Land (m)')+
  ylab('Number of Bufo Calamita killed on roads')+
#this is a limit on the y axis from 0 to 20 cutting out a few outliers
  ylim(c(0,20))
roadplot
```

```
mammaldata <- read.csv('MammalData.csv')
```

lets try and make a barplot from our mammal data

```
mammalplot <- ggplot(data = mammaldata)+
  #We need to use a bar plot, this time we are going to specify the aes inside of the
  #geom_bar, we can also set it to be the mean of all the meanCvalues for that order
  geom_bar( aes(x = Order, y = meanCvalue, fill = mammaldata$Order), stat = 'summary', fun.y = 'mean')+
  theme_bw()
```

well the labels don't quite fit, lets try something fancy

```
mammalplot <- ggplot(data = mammaldata)+
  geom_bar( aes(x = Order, y = meanCvalue, fill = mammaldata$Order), stat = 'summary', fun.y = 'mean')+
  theme_bw()+
  #we use this to flip it on it's side which fits stuff much better
  coord_flip()
```

doesn't that look good.