#30DayChartChallenge
Day 1 - Part-To-Whole

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The Data

To visualize parts of a whole, I decided to utilize a database of minerals I found on Kaggle (https://www.kaggle.com/vinven7/comprehensive-database-of-minerals/tasks?taskId=3190&utm_medium=social&utm_source=twitter.com&utm_campaign=task+published).

```r
library(tidyverse)
library(lubridate)
library(extrafont)
library(showtext)
library(rmarkdown)
library(graphics)
library(png)
library(ggdark)
library(ragg)
library(ggimage)
library(grid)
```

Loading the Data and Exploring

```r
minerals = read.csv("minerals.csv")
#look at minerals with the most complex chemical compositions
#minerals %>% arrange(desc(count))
```

Data Visualization

Based both on its extensive chemical composition and the fact that it's one of my favorite minerals, I chose to visualize the composition of charoite.

```r
#get chemical composition of charoite
elements <- vector("character", length=9)
counts <- numeric(9)
charoite <- minerals[189,]
names <- colnames(minerals)
x = 1
for (i in 10:136){
  if (charoite[1,i] != 0){
    element <- names[i]
    amount <- as.numeric(charoite[1,i])
    elements[x] <- element
    counts[x] <- amount
```

```
    x = x+1
  }
}
```

```r
#add custom text
font_add(family = "marker", "PermanentMarker-Regular.ttf")
font_add(family = "montserrat", "Montserrat-Regular.ttf")
showtext.auto()

#load image (image source: wikipedia.org)
charoite_png <- readPNG("charoite.png")
#prep for plot
img <- rasterGrob(charoite_png, interpolate = TRUE)

#color matching chaorite
charoite_color = "#845b7b"

#create labels
elements[9] <- "Hydrated Water"     #changing from Hydrated.Water
pct <- round(counts/sum(counts)*100)
lbls <- paste(elements, pct, sep=" ")
lbls <- paste(lbls, "%", sep="")
df <- as.data.frame(lst(lbls, pct), col.names = c("lbls", "pct"))
```

```r
#create theme
plot_theme <- theme(
  # titles
  plot.title = element_text(family = "marker", size = 50, color = "white", hjust=0.8),
  plot.subtitle = element_text(family = "montserrat", size = 35, color = "white", hjust = 0.8),
  plot.caption = element_text(family = "marker", size = 28, color = "white", hjust = 1),

  # panel and plot background
  panel.grid.major = element_blank(),
  panel.grid.minor = element_blank(),
  panel.background = element_rect(fill = "black"),
  plot.background = element_rect(fill = "black"),

  # axis
  axis.title = element_blank(),
  axis.text = element_blank(),
  axis.ticks = element_blank(),
)

#create bar graph
charoite_plt <- ggplot(data=df, aes(x=lbls, y=pct)) +
  geom_bar(stat="identity", fill=charoite_color) + coord_flip() +
  geom_text(data = df, nudge_y = 5, aes(x=lbls, y=pct, label=lbls), family="montserrat", size=8) +
  #titles
  labs(
    title = "WHAT'S IN THIS ROCK?",
    subtitle = "chemical composition of charoite",
    caption = "Source: Kaggle | Moriah Taylor | Twitter: moriah_taylor58 | GitHub: moriahtaylor1"
  ) + xlab("") + ylab("") +
  #add image
```

```
  annotation_custom(img, xmin=6, xmax=10, ymin=35, ymax=55) +
  #theme
  plot_theme

#ggsave("charoite_plot.png",
      #plot = charoite_plt,
      #device = agg_png(width = 7, height = 5, units = "in", res = 300))
```