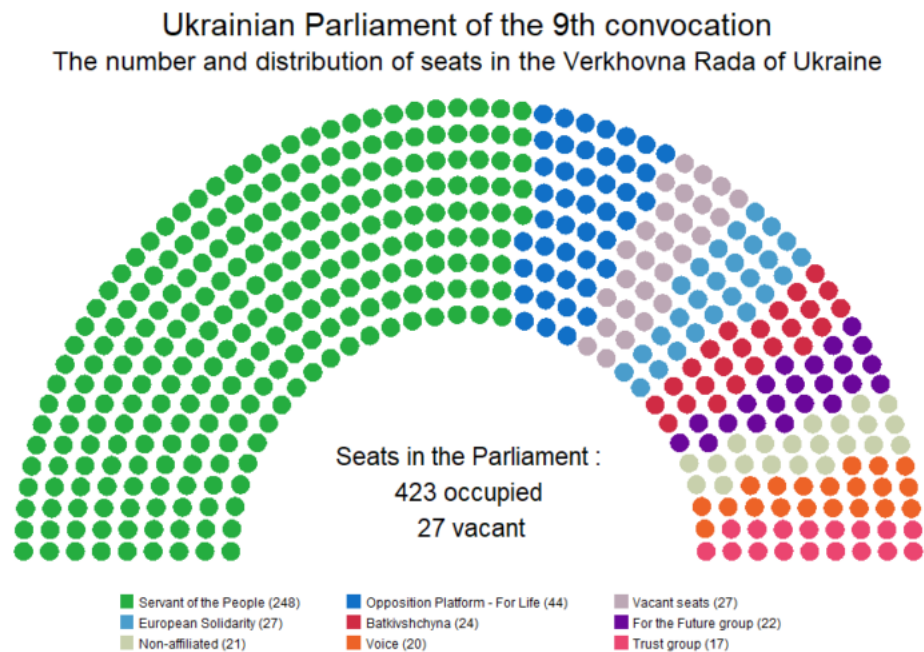# A Parliament Diagram in R

PUBLISHED 28.11.2020 BY ADMIN

I've used **ggpol** library to build this visualization. [1] **ggpol** is very useful **ggplot2** extension for drawing parliament charts.

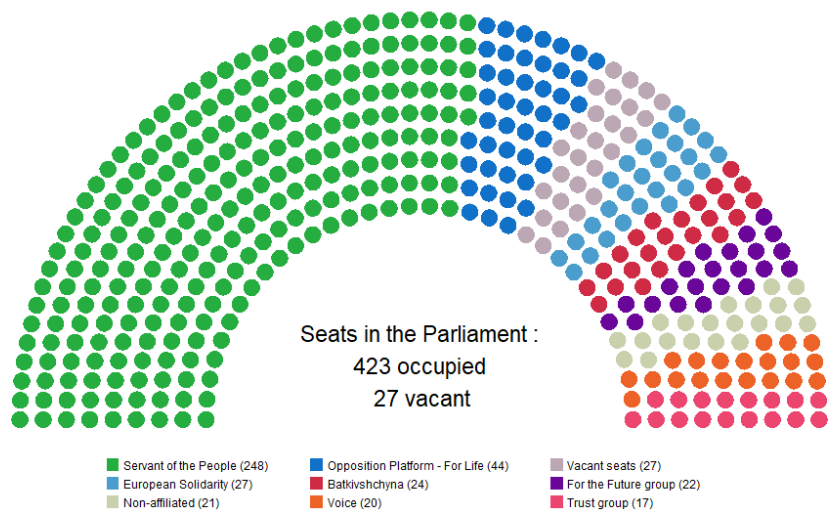**First way to plot Parliament Diagram**

It has **geom_parliament()** function to draw a parliament diagram. It's based on parties' member counts. Parties are plotted from right to left. Each point in the Parliament arc

represents a single seat of the member of parliament.

Ukrainian Parliament of the 9th convocation
The number and distribution of seats in the Verkhovna Rada of Ukraine

Seats in the Parliament :
423 occupied
27 vacant

- Servant of the People (248)
- Opposition Platform - For Life (44)
- Vacant seats (27)
- European Solidarity (27)
- Batkivshchyna (24)
- For the Future group (22)
- Non-affiliated (21)
- Voice (20)
- Trust group (17)

Source: https://rada.gov.ua | DataVizStory, 2020

Here is my data:

Party	⇕	Original name of the party	⇕	Group	⇕	Sea
Vacant seats		Вільні місця		Vacant seats		27
Opposition Platform - For Life		Опозиційна платформа 'За життя'		Opposition		44
Trust group		Депутатська група 'Довіра'		Government support		17
Batkivshchyna		"Батьківщина"		Opposition		24
Voice		"Голос"		Opposition		20
For the Future group		Депутатська група 'За майбутнє'		Government support		22

Party	Original name of the party		Group	⇕	Sea
Non-affiliated	Позафракційні		Government support		5
Non-affiliated	Позафракційні		Opposition		16
European Solidarity	Європейська Солідарність		Opposition		27
Servant of the People	Слуга народу		Government party		248

Download data: [wpdm_package id='1387']

Solution

```
1  library(ggplot2)
2  library(ggpol) # ggplot2 extension for drawing parliament
3  charts
4  library(readxl)
5  library(tidyverse)
6
7  #load data
8  df<-read_excel("~/my page/data/parliament.xlsx")
9
10 df1<-df%>%group_by(Party)%>%summarise(Seats=sum(Seats))%
11 >%arrange(Seats)
12 df1$legend <- paste0(df1$Party," (", bt$Seats,")")
13
   #set colors manually
14 colors<-c("#cdd41f","#55a8ce","#c4ba7b","#d2044d","#f7591
15 4","#c3537f","#92b6be","#b3a3fa","#26aa5e")
16
17 #draw a parliament diagram
18 p<-ggplot(df1) +
19   geom_parliament(aes(seats =Seats, fill =  Party), color
20 = "white") +
21   scale_fill_manual(values = colors , labels = df1$legen
22 d) +
23   coord_fixed() +
24   theme_void()+
25   labs(title  = "Ukrainian Parliament of the 9th convocat
26 ion",
27       subtitle="The number and distribution of seats in
28 the Verkhovna Rada of Ukraine",
29
```

```
30        caption = "Source: https://rada.gov.ua  |  DataViz
31 Story, 2020")+
32   theme(title = element_text(size = 18),
33         plot.title = element_text(hjust = 0.5),
34         plot.subtitle = element_text(hjust = 0.5),
35         plot.caption = element_text(vjust = -3,hjust = 0.
   9),
36         legend.position = 'bottom',
37         legend.direction = "horizontal",
38         legend.spacing.y = unit(0.1,"cm"),
           legend.spacing.x = unit(0.1,"cm"),
           legend.key.size = unit(0.8, 'lines'),
           legend.text = element_text(margin = margin(r = 1,
   unit = 'cm')),
           legend.text.align = 0)+
   annotate("text", x = 0, y = 0.4, label = "Seats in the
   Parliament :\n 423 occupied \n 27 vacant",colour = "blac
   k",size=6)+
   guides(fill=guide_legend(nrow=3,byrow=TRUE,reverse = TR
   UE,title=NULL))

   p
```
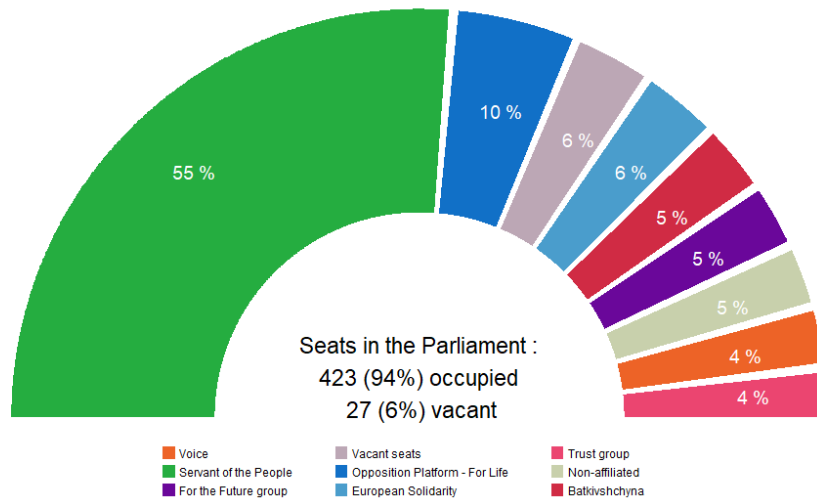
Second way to plot Parliament Diagram

In this case I've used **geom_arcbar()** of **ggpol** library. It plots arc bar diagrams that span 180 degrees. They also take an optional spacing argument sep that is entered as a total proportion of pi.

Ukrainian Parliament of the 9th convocation
The number and distribution of seats in the Verkhovna Rada of Ukraine

10 %

6 %

6 %

55 %

5 %

5 %

5 %

4 %

4 %

Seats in the Parliament :
423 (94%) occupied
27 (6%) vacant

Voice
Servant of the People
For the Future group

Vacant seats
Opposition Platform - For Life
European Solidarity

Trust group
Non-affiliated
Batkivshchyna

Here is an example of my code:

```r
library(ggpol)
library(ggplot2)
library(readxl)
library(tidyverse)

#load data
df<-read_excel("~/my page/data/parliament.xlsx")

df1<-df%>%group_by(Party)%>%summarise(Seats=sum(Seats))%
>%arrange(Seats)
df1$legend <- paste0(df1$Party," (", df1$Seats,")")


colors<-c("Trust group" = "#eb4570",
          "Voice" = "#ed6327",
          "Non-affiliated" = "#c8d0ac",
          "For the Future group" = "#6a079a",
          "Batkivshchyna" = "#d02b44",
          "European Solidarity" = "#4a9dcc",
          "Vacant seats" = "#bca7b5",
          "Opposition Platform - For Life" = "#1170c7",
          "Servant of the People" = "#25ad40")

p2<-ggplot(df1) +
    geom_arcbar(aes(shares = Seats, r0 = 5, r1 = 10, fill =
Party),color = "white" ,sep = 0.05) +
    scale_fill_manual(values = colors) +
    annotate("text",
```

```r
                label=paste0(round(248/450*100)," %"),x=-5.5,y
=6,size = 5, colour = "white") +
  annotate("text",
                label=paste0(round(44/450*100)," %"),x=2,y=7.
5,size = 5, colour = "white") +
  annotate("text",
                label=paste0(round(27/450*100)," %"),x=3.9,y=
6.8,size = 5, colour = "white") +
  annotate("text",
                label=paste0(round(27/450*100)," %"),x=5.2,y=
6,size = 5, colour = "white") +
  annotate("text",
                label=paste0(round(24/450*100)," %"),x=6.2,y=
4.9,size = 5, colour = "white") +
  annotate("text",
                label=paste0(round(22/450*100)," %"),x=7.1,y=
3.9,size = 5, colour = "white") +
  annotate("text",
                label=paste0(round(21/450*100)," %"),x=7.7,y=
2.7,size = 5, colour = "white") +
  annotate("text",
                label=paste0(round(17/450*100)," %"),x=8,y=1.
5,size = 5, colour = "white") +
  annotate("text",
                label=paste0(round(17/450*100)," %"),x=8.2,y=
0.5,size = 5, colour = "white") +
  coord_fixed() +
  theme_void()+
  labs(title  = "Ukrainian Parliament of the 9th convocat
ion",
       subtitle="The number and distribution of seats in
the Verkhovna Rada of Ukraine",
       caption = "Source: https://rada.gov.ua  |  DataViz
Story, 2020")+
  theme(title = element_text(size = 18),
        plot.title = element_text(hjust = 0.5),
        plot.subtitle = element_text(hjust = 0.5),
        plot.caption = element_text(vjust = -3,hjust = 0.
9),
        legend.position = 'bottom',
        legend.direction = "horizontal",
        legend.spacing.y = unit(0.1,"cm"),
        legend.spacing.x = unit(0.1,"cm"),
        legend.key.size = unit(0.8, 'lines'),
        legend.text = element_text(margin = margin(r = 1,
unit = 'cm')),
        legend.text.align = 0)+
  annotate("text", x = 0, y = 1, label = paste0("Seats in
the Parliament :\n 423 (",423/450*100, "%) occupied \n 27
(",27/450*100,"%) vacant"),colour = "black",size=6)+
  guides(fill=guide_legend(nrow=3,byrow=TRUE,reverse = TR
UE,title=NULL))

p2
```

Have a nice viz!

[1] https://github.com/erocoar/ggpol

TAGGED IN

| geom_parliament() | ggplot2 | ggplot2 extentions |

| ggpol | R |