

# Package ‘ggparliament’

September 30, 2018

**Type** Package

**Title** Parliament Plots

**Description** Simple parliament plots using 'ggplot2'. Visualize election results as points in the architectural layout of the legislative chamber.

**Depends** R (>= 2.10)

**License** MIT + file LICENSE

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**URL** <https://github.com/robwhickman/ggparliament>

**BugReports** <https://github.com/robwhickman/ggparliament/issues>

**LazyData** true

**Imports** ggplot2, dplyr, rlang

**Suggests** tidyrr, magrittr, knitr, testthat, rmarkdown, purrr, ggrepel,  
scales

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'helper\_funcs.R' 'parliament\_data.R' 'draw\_partylabels.R'  
'draw\_totalseats.R' 'geom\_parliament\_seats.R'  
'geom\_emphasize\_parliamentarians.R' 'geom\_parliament\_bar.R'  
'geom\_highlight\_government.R' 'geom\_overhang\_seats.R'  
'theme\_ggparliament.R'

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## R topics documented:

ggparliament-package . . . . .	2
calc_coordinates . . . . .	2
draw_majoritythreshold . . . . .	3
draw_partylabels . . . . .	4
draw_totalseats . . . . .	5
election_data . . . . .	6
GeomParliamentSeats . . . . .	6
geom_emphasize_parliamentarians . . . . .	7
geom_highlight_government . . . . .	8
geom_overhang_seats . . . . .	9
geom_parliament_bar . . . . .	10
geom_parliament_seats . . . . .	10
parliament_data . . . . .	11
theme_ggparliament . . . . .	12

<b>Index</b>	<b>14</b>
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ggparliament-package	<i>ggparliament</i>
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### Description

ggparliament

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calc_coordinates	<i>A function that calculates the coordinates of parliamentary seats in incomplete circular parliaments E.g. The US (semicircle) and Australian (horseshoe) shaped parliaments</i>
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### Description

A function that calculates the coordinates of parliamentary seats in incomplete circular parliaments  
E.g. The US (semicircle) and Australian (horseshoe) shaped parliaments

### Usage

```
calc_coordinates(N, M, limits, segment = 0.5)
```

### Arguments

N	the total of number of seats
M	the number of rows in parliament
limits	the limits to seq the radii between- controls the 'shape' of the parliament
segment	the percentage of a full circle for the final plot- defaults to 0.5 (a semicircle)

**Author(s)**

Zoe Meers, Rob Hickman

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draw\_majoritythreshold

*Draw majority threshold*

---

**Description**

Draw majority threshold

**Usage**

```
draw_majoritythreshold(n = NULL, label = TRUE, type = c("horseshoe",
  "semicircle", "opposing_benches"), linecolour = "black",
  linesize = 1, linetype = 2, linealpha = 1)
```

**Arguments**

n	The number of seats required for a majority
label	A logical variable for labelling majority threshold. Defaults to TRUE.
type	Type of parliament (horseshoe, semicircle,opposing benches)
linecolour	The colour of the majority line. Defaults to gray.
linesize	The size of the line. Defaults to 1.
linetype	The style of the line. Defaults to 2, or a dashed line.
linealpha	Set the transparency of the line. Defaults to 1.

**Author(s)**

Zoe Meers

**Examples**

```
data <- election_data[
  election_data$country == "USA" &
  election_data$house == "Representatives" &
  election_data$year == "2016",
]
usa_data <- parliament_data(
  election_data = data,
  type = "semicircle",
  party_seats = data$seats,
  parl_rows = 8
)
ggplot2::ggplot(usa_data, ggplot2::aes(x, y, colour = party_long)) +
  geom_parliament_seats() +
```

```
draw_majoritythreshold(
  n = 218,
  label = TRUE,
  type = 'semicircle'
) +
theme_ggparliament()
```

---

draw_partylabels	<i>Draw labels for political parties and seats per party</i>
------------------	--

---

### Description

Draw labels for political parties and seats per party

### Usage

```
draw_partylabels(type = c("semicircle", "horseshoe"), names = TRUE,
  seats = TRUE, party_names = party_names,
  party_colours = party_colours, party_seats = party_seats)
```

### Arguments

type	Define type. Currently only supports semicircle and horseshoe style parliaments.
names	If TRUE, finds party names from data. Defaults to TRUE.
seats	If TRUE, finds party seats from data. Defaults to TRUE.
party_names	A column containing party names.
party_colours	A column containing party colours.
party_seats	A column containing party seats.

### Author(s)

Zoe Meers

### Examples

```
data <- election_data[
  election_data$country == "USA" &
  election_data$house == "Representatives" &
  election_data$year == "2016",
]
usa_data <- parliament_data(
  election_data = data,
  type = "semicircle",
  party_seats = data$seats,
  parl_rows = 8
)
```

```

ggplot2::ggplot(usa_data, ggplot2::aes(x, y, colour = party_long)) +
  geom_parliament_seats() +
  draw_partylabels(
    type = "semicircle",
    party_names = party_long,
    party_seats = seats,
    party_colours = colour
  ) +
  ggplot2::scale_colour_manual(
    values = usa_data$colour,
    limits = usa_data$party_long) +
  theme_ggparliament()

```

---

draw_totalseats	<i>Draw total number of seats in the middle of the parliament</i>
-----------------	---

---

## Description

Draw total number of seats in the middle of the parliament

## Usage

```

draw_totalseats(n = NULL, size = 12, colour = "black",
  type = c("horseshoe", "semicircle", "opposing_benches", "circle",
    "classroom"))

```

## Arguments

n	The number of total seats in the legislature.
size	Size of font
colour	colour of label
type	Type of parliament (horseshoe, semicircle, circle, opposing benches, classroom)

## Author(s)

Zoe Meers

## Examples

```

data <- election_data[
  election_data$country == "USA" &
  election_data$house == "Representatives" &
  election_data$year == "2016",
]
usa_data <- parliament_data(
  election_data = data,
  type = "semicircle",
  party_seats = data$seats,

```

```

    parl_rows = 8
  )
  ggplot2::ggplot(usa_data, ggplot2::aes(x, y, colour = party_long)) +
    geom_parliament_seats() +
    draw_totalseats(n = 435, type = 'semicircle') +
    theme_ggparliament()

```

---

election_data	<i>Election data from 5 countries</i>
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---

### Description

A dataset containing the results of 3 elections for parliamentary houses from Russia, Australia, Germany, UK and USA. The variables are as follows:

### Usage

```
data(election_data)
```

### Format

A data frame with 167 rows and 8 variables

### Details

- year. The year of the election (1990-2017)
- country. The country the election took place within (Russia, Australia, Germany, UK, USA)
- house. The parliamentary house of the election
- party\_long. The full name of a party which had elected representatives
- party\_short. The abbreviated name of a party which had elected representatives
- seats. The number of seats won by each party
- government. Whether or not that party was a part of the government following the election (1, NA)
- colour. A hex code indicating the colours of each party

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GeomParliamentSeats	<i>ggplot2-ggproto</i>
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---

### Description

```
ggplot2-ggproto
```

---

geom\_emphasize\_parliamentarians

*Emphasize certain parliamentarians (for example, female members of parliament) by increasing transparency on the remaining observations.*

---

## Description

Emphasize certain parliamentarians (for example, female members of parliament) by increasing transparency on the remaining observations.

## Usage

```
geom_emphasize_parliamentarians(expr)
```

## Arguments

expr            The observation that you wish to emphasize

## Author(s)

Zoe Meers

## Examples

```
data <- election_data[
  election_data$country == "USA" &
  election_data$house == "Representatives" &
  election_data$year == "2016",
]
usa_data <- parliament_data(
  election_data = data,
  type = "semicircle",
  party_seats = data$seats,
  parl_rows = 8
)

women_in_congress <- c(1, 0, 0, 1)
number_of_women <- c(23, 218, 133, 61)

usa_data$women <- rep(women_in_congress, number_of_women)

ggplot2::ggplot(usa_data, ggplot2::aes(x, y, colour=party_long)) +
  geom_parliament_seats() +
  geom_emphasize_parliamentarians(women == 1) +
  theme_ggparliament(legend = FALSE) +
  ggplot2::scale_colour_manual(values = usa_data$colour, limits = usa_data$party_long) +
  ggplot2::labs(title = "Women in Congress")
```

---

geom\_highlight\_government

*Highlight governments or parties in control of the legislature by encircling the points.*

---

## Description

Highlight governments or parties in control of the legislature by encircling the points.

## Usage

```
geom_highlight_government(expr, colour, size, shape, stroke)
```

## Arguments

expr	Expr refers to the observation that you wish to highlight.
colour	Colour of the highlight
size	Size of highlighter
shape	Shape of highlight
stroke	Size of stroke shape

## Author(s)

Zoe Meers

## Source

<https://yutani.rbind.io/post/2017-11-07-ggplot-add/>

## Examples

```
data <- election_data[
  election_data$country == "USA" &
  election_data$house == "Representatives" &
  election_data$year == "2016",
]
usa_data <- parliament_data(
  election_data = data,
  type = "semicircle",
  party_seats = data$seats,
  parl_rows = 8
)
ggplot2::ggplot(usa_data, ggplot2::aes(x, y, colour = party_long)) +
  geom_parliament_seats() +
  geom_highlight_government(government == 1) +
  theme_ggparliament()
```



---

geom\_overhang\_seats *Draw overhang seats in mixed-member proportional (MMP) electoral systems*

---

## Description

Draw overhang seats in mixed-member proportional (MMP) electoral systems

## Usage

```
geom_overhang_seats(expr)
```

## Arguments

expr                   Expr refers to the designated overhang seats.

## Author(s)

Zoe Meers

## Examples

```
germany <- data.frame(
  year = 2013,
  seats = c(64, 63, 311, 193),
  government = c(0, 0, 1, 1),
  colour = c("#BE3075", "#64A12D", "#000000", "#EB001F"),
  party = c("The Left",
    "Alliance 90/The Greens",
    "Christian Democratic Union",
    "Social Democratic Party")
)
german_data <- parliament_data(
  election_data = germany,
  parl_rows = 11,
  party_seats = germany$seats,
  type = "semicircle"
)
german_data$overhang_seats <- rep(
  c(1, 0, 1, 0, 1, 0, 1, 0),
  c(16, 295, 11, 182, 3, 61, 3, 60)
)
ggplot2::ggplot(german_data, ggplot2::aes(x, y, colour = party)) +
  geom_parliament_seats() +
  geom_overhang_seats(overhang_seats == 1) +
  theme_ggparliament() +
  ggplot2::scale_colour_manual(values = as.character(german_data$colour),
  limits = as.character(german_data$party))
```

---

geom\_parliament\_bar *Add a bar showing proportion of seats by party in parliament*

---

### Description

Add a bar showing proportion of seats by party in parliament

### Usage

```
geom_parliament_bar(colour = colour, party = party, label = TRUE)
```

### Arguments

colour	The colours associated with each political party.
party	The party name variable in your data frame.
label	If label = TRUE, print the percentage above the bar.

### Author(s)

Zoe Meers

### Examples

```
data <- election_data[election_data$country == "USA" &
  election_data$house == "Representatives" &
  election_data$year == "2016",]
usa_data <- parliament_data(election_data = data,
  type = "semicircle",
  party_seats = data$seats,
  parl_rows = 8)
ggplot2::ggplot(usa_data, ggplot2::aes(x, y, colour = party_long)) +
  geom_parliament_seats() +
  geom_parliament_bar(colour, party_long) +
  ggplot2::scale_colour_manual(values = usa_data$colour, limits = usa_data$party_long) +
  theme_ggparliament()
```

---

geom\_parliament\_seats *Parliament seats The parliament seats geom is used for plotting data from parliament\_data()*

---

### Description

Parliament seats The parliament seats geom is used for plotting data from parliament\_data()

**Usage**

```
geom_parliament_seats(mapping = NULL, data = NULL, stat = "identity",
  position = "identity", na.rm = FALSE, size = 3.5,
  show.legend = NA, inherit.aes = TRUE)
```

**Arguments**

mapping	Mapping the aesthetics (the x and y coordinates, as well as the colour of each political party).
data	The parliament_data data frame.
stat	"identity"
position	"identity"
na.rm	If 'FALSE', the default, missing values are removed with a warning. If 'TRUE', missing values are silently removed.
size	Size of the point
show.legend	If 'TRUE', print legend. If 'FALSE' do not print legend.
inherit.aes	Inherit aes from other ggplot2 functions.

**Author(s)**

Zoe Meers

**Examples**

```
data <- election_data[
  election_data$country == "USA" &
  election_data$house == "Representatives" &
  election_data$year == "2016",
]
usa_data <- parliament_data(
  election_data = data,
  type = "semicircle", party_seats = data$seats,
  parl_rows = 8
)
ggplot2::ggplot(usa_data, ggplot2::aes(x = x, y = y, colour = party_long)) +
  geom_parliament_seats() +
  theme_ggparliament()
```

---

parliament\_data

*A function that prepares data for parliamentary plots*


---

**Description**

A function that prepares data for parliamentary plots

**Usage**

```
parliament_data(election_data = NULL, parl_rows = NULL,  
  party_seats = election_data$seats, group = NULL, plot_order = NULL,  
  type = c("horseshoe", "semicircle", "circle", "classroom",  
  "opposing_benches"))
```

**Arguments**

election_data	aggregate election results
parl_rows	number of rows in parliament
party_seats	seats per party
group	grouping variable for separate chunks. e.g. opposing benches in UK parliament
plot_order	plot the data in a specified order
type	type of parliament (horseshoe, semicircle, circle, classroom, opposing benches)

**Author(s)**

Zoe Meers, Rob Hickman

**Examples**

```
data <- election_data[  
  election_data$country == "USA" &  
  election_data$house == "Representatives" &  
  election_data$year == "2016",]  
usa_data <- parliament_data(  
  election_data = data,  
  type = "semicircle",  
  party_seats = data$seats,  
  parl_rows = 8  
)
```

---

theme\_ggparliament     *A theme for ggparliament*

---

**Description**

Calls the ggparliament theme. A reconstructed opinionated theme\_void() ggplot2 theme.

**Usage**

```
theme_ggparliament(legend, background_colour, border)
```

**Arguments**

legend            If legend = 'TRUE', add legend to plot. Defaults to 'TRUE'.  
background\_colour            If background colour = 'TRUE', fill panel with a grey background. Defaults to 'FALSE'.  
border            If 'TRUE' add panel border. Defaults to 'FALSE'.

**Author(s)**

Zoe Meers

**Examples**

```
data <- election_data[
  election_data$country == "USA" &
  election_data$house == "Representatives" &
  election_data$year == "2016",
]
usa_data <- parliament_data(
  election_data = data,
  type = "semicircle",
  party_seats = data$seats,
  parl_rows = 8
)
ggplot2::ggplot(usa_data, ggplot2::aes(x, y, colour = party_long)) +
  geom_parliament_seats() +
  geom_highlight_government(government == 1) +
  theme_ggparliament(legend = TRUE, background_colour = TRUE, border = TRUE)
```

# Index

## \*Topic **datasets**

election\_data, 6

GeomParliamentSeats, 6

## \*Topic **package**

ggparliament-package, 2

calc\_coordinates, 2

draw\_majoritythreshold, 3

draw\_partylabels, 4

draw\_totalseats, 5

election\_data, 6

geom\_emphasize\_parliamentarians, 7

geom\_highlight\_government, 8

geom\_overhang\_seats, 9

geom\_parliament\_bar, 10

geom\_parliament\_seats, 10

GeomParliamentSeats, 6

ggparliament-package, 2

parliament\_data, 11

theme\_ggparliament, 12