## Using grattantheme

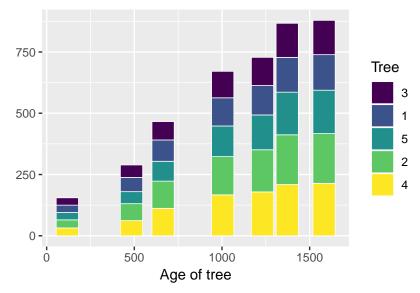
This vignette explains how to use grattantheme to quickly and consistently apply Grattan chart formatting to charts made in R using ggplot.

When creating a chart using ggplot we have to:

- Choose a dataset;
- Map variables to chart aesthetics aes();
- Choose a geom\_.

For example, using the Orange dataset tracking the growth of five orange trees by age:

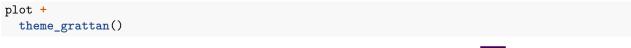
This successfully plots the data we want to plot:

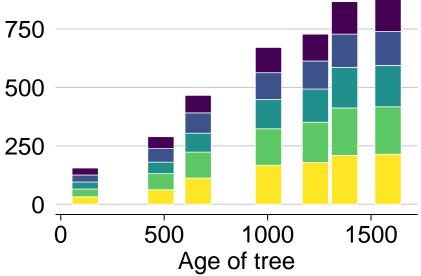


But it doesn't yet *look* like a Grattan chart. To adjust the *look* we adjust 'theme' elements, like axis.ticks.x = element\_line(colour = "black") to adjust the axis tickmarks on the x axis; panel.grid.major.x = element\_blank() to turn off vertical gridlines; and so on; and on; and on. We also need to adjust aesthetic colours to the Grattan palette; setting, for example, fill = "#F68B33". The grattantheme package contains tools and shortcuts to simplify this process.

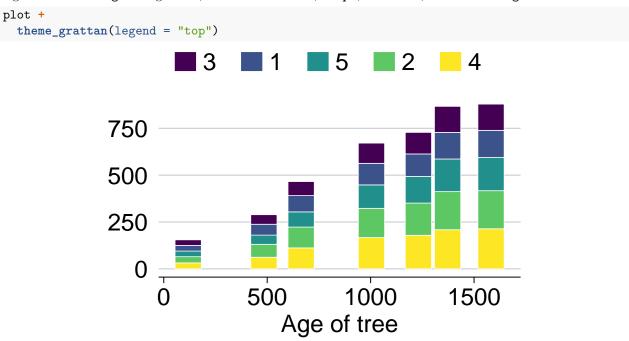
## Formatting theme elements with theme\_grattan()

The function theme\_grattan() contains all of the Grattan theme adjustments in one handy command. Combined with grattan\_colour\_manual, which easily changes colours of aesthetics, your R chart will be ready for a report or a slide in no time.



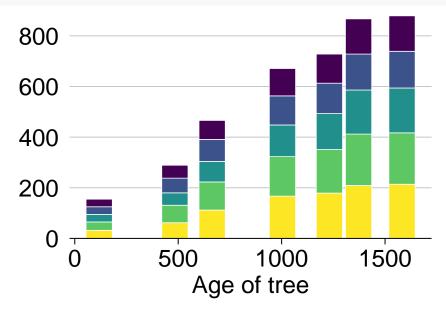


By default, theme\_grattan() supresses the legend to allow for clearer on-chart labelling. We can include the legend with the legend argument, which takes "off", "top", "bottom", "left" or "right":



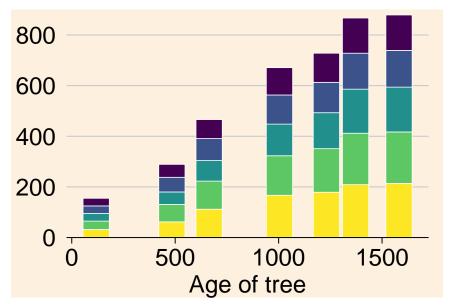
To align the y-axis with zero, change the y scale with scale\_y\_continuous():

```
plot +
  theme_grattan() +
  scale_y_continuous_grattan()
```



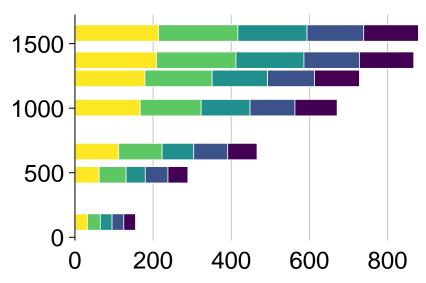
Sometimes we'll want a chart for a box in a report. We can change the background colour with the **background** argument:

```
plot +
  theme_grattan(background = "orange") +
  scale_y_continuous_grattan()
```



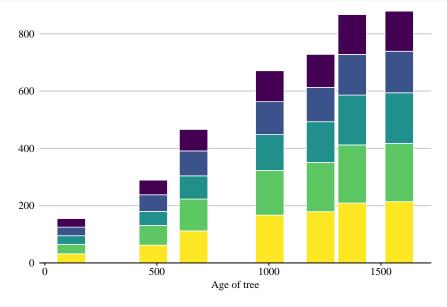
The standard Grattan rules for x and y axes flip if the chart is a horizontal bar chart. The x axis then follows the rules of the y axis, and vice-versa. If we are using a 'flipped' chart (imlemented with coord\_flipped()), we can tell theme\_grattan this is the case using the argument fillped set to TRUE.

```
plot +
  coord_flip() +
  theme_grattan(flipped = TRUE) +
  scale_y_continuous_grattan()
```



The final adjustments we can specify with theme\_grattan are the font size and font family. The defaults meet Grattan formatting requirements, but if we do need to change them we can:

```
plot +
  theme_grattan(base_size = 8, base_family = "serif") +
  scale_y_continuous_grattan()
```



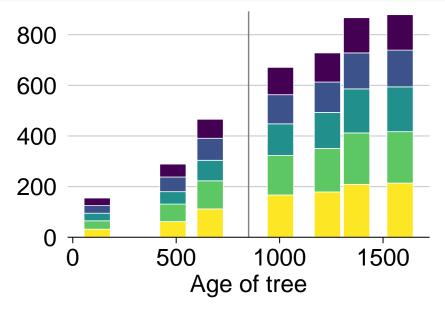
## Using Grattan colours

Grattan's colours are loaded with grattantheme. The HEX codes for individual Grattan colours can be called using grattan\_[colourname], eg grattan\_lightorange. Colours names are taken from the chart-guide and are:



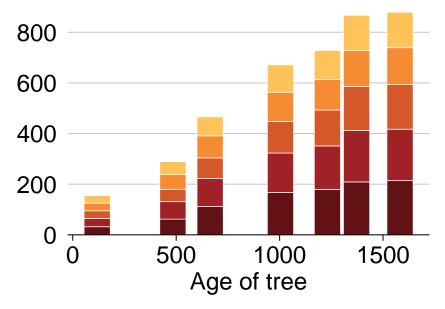
We can call a single colour:

```
plot +
  geom_vline(xintercept = 850, colour = grattan_grey3) +
  theme_grattan() +
  scale_y_continuous_grattan()
```



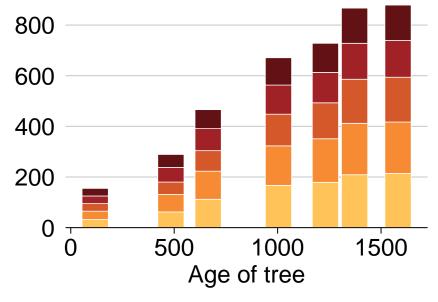
We can also use the grattan\_fill\_manual() or grattan\_colour\_manual() functions to change the colours of our fill or colour aesthetics. In our example, we have five different trees each represented by a colour, so we set the number of colours to five: grattan\_fill\_manual(n = 5):

```
plot +
  theme_grattan() +
  scale_y_continuous_grattan() +
  grattan_fill_manual(n = 5)
```



We can reverse the order of the fill colours using the reverse argument:

```
plot +
  theme_grattan() +
  scale_y_continuous_grattan() +
  grattan_fill_manual(n = 5, reverse = TRUE)
```



Note that if you do not specify *enough* colours, will receive an error:

```
plot +
  theme_grattan() +
  scale_y_continuous_grattan() +
  grattan_fill_manual(n = 3)
#> Error: Insufficient values in manual scale. 5 needed but only 3 provided.
```