



{ggplot2} Essentials



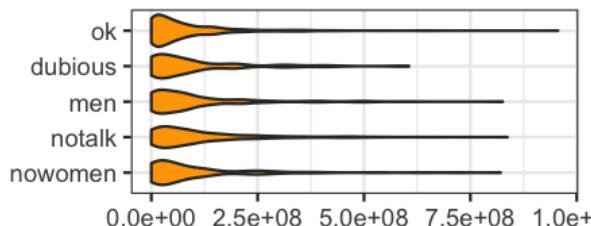
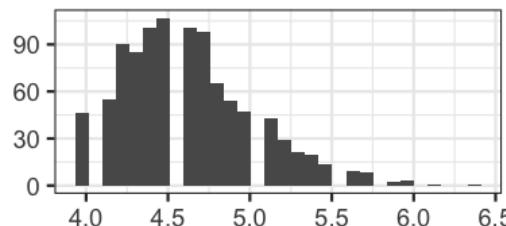
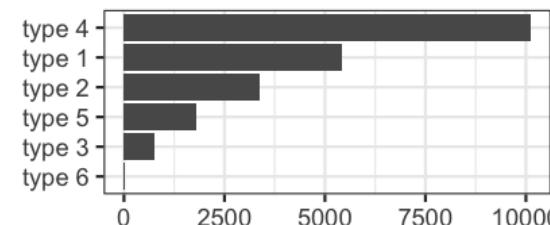
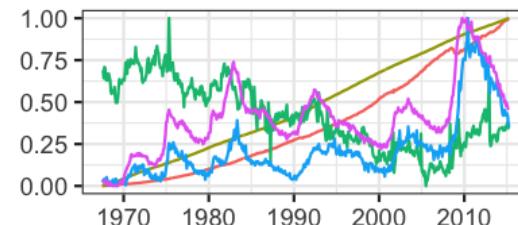
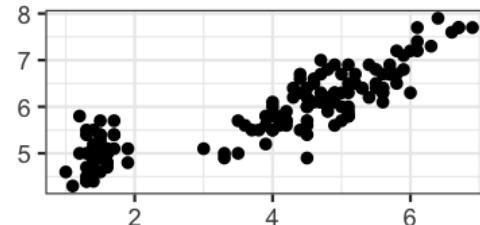
{ggplot2} essentials



What is {ggplot2}?

{ggplot2} implements a *grammar of graphics* for building charts.

We can use it to consistently build **any¹** chart.



- response
- Maybe
- No
- Unsure
- Yes

[1] - Dual y-axis charts must be transformations of one another ([for good reasons](#))



Building blocks of a {ggplot2} chart

-  Aesthetics
-  Geoms
-  Scales
-  Guides
-  Theme



Building blocks of a {ggplot2} chart

-  **Aesthetics**: these create mappings between columns in datasets and the coordinate system of the chart.



Building blocks of a {ggplot2} chart

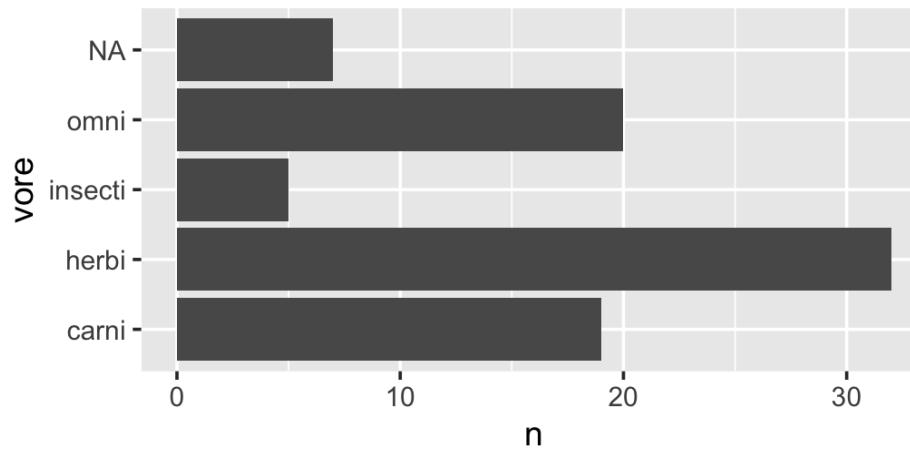
- Aesthetics
- Geoms: these use the aesthetics to draw layers onto our charts



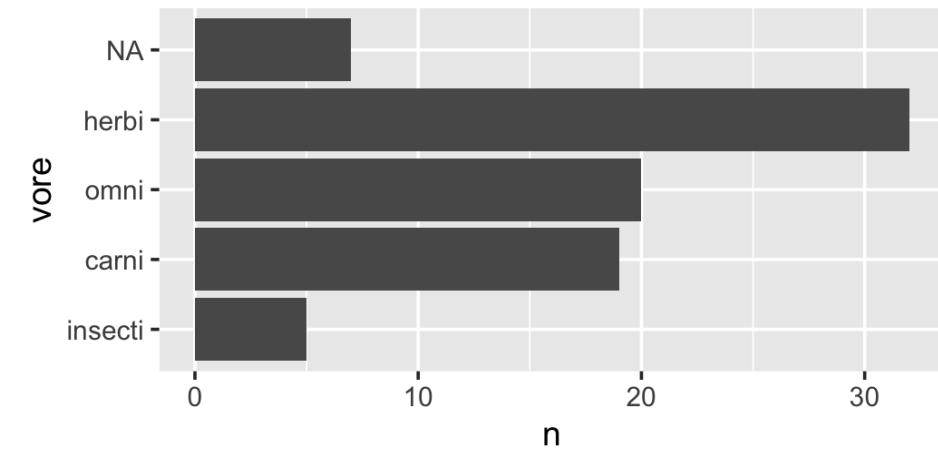
Geoms & categorical variables

In R we use `factors` to control the order in which geoms are drawn (and appear in legends)

- Default (alphabetical) ordering



- Reordered by another column





Building blocks of a {ggplot2} chart

-  Aesthetics
-  Geoms
-  Scales: these affect how the aesthetics appear in the chart



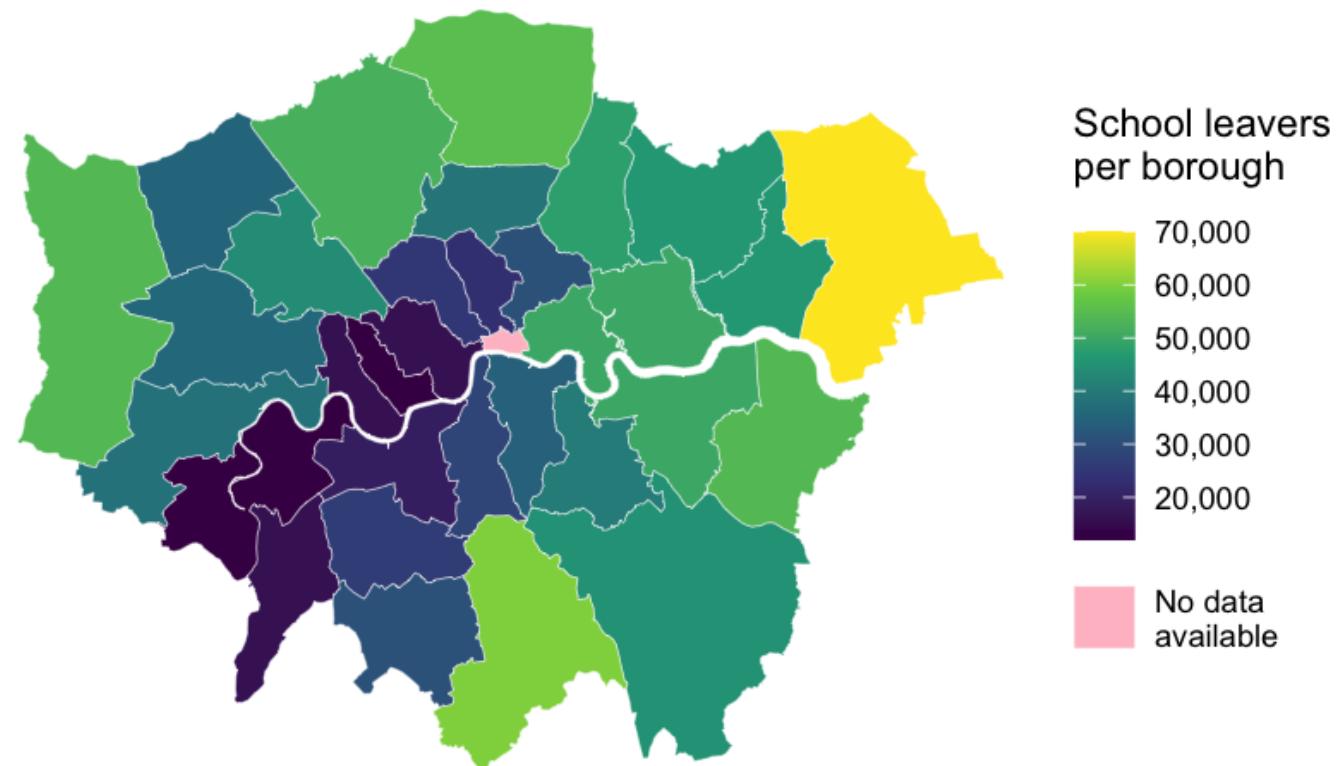
Building blocks of a {ggplot2} chart

-  Aesthetics
-  Geoms
-  Scales
-  Guides: these affect how the guides (or legends) are constructed from the aesthetics and scales.



Guides and maps

Where do Londoners who left school at 16 (or under) live?





Building blocks of a {ggplot2} chart

-  Aesthetics
-  Geoms
-  Scales
-  Guides
-  Theme: this affects the look and feel of the chart.



{ggspatial}

The `{ggspatial}` package extends `{ggplot2}`'s mapping capabilities in three big ways:

- It allows us to add map tiles to maps



{ggspatial}

The `{ggspatial}` package extends `{ggplot2}`'s mapping capabilities in three big ways:

- It allows us to add map tiles to maps
- It allows us to add `{raster}` and `{terra}` datasets to `{ggplot2}` charts
- It allows us to add map-specific chart furniture to `{ggplot2}` charts

