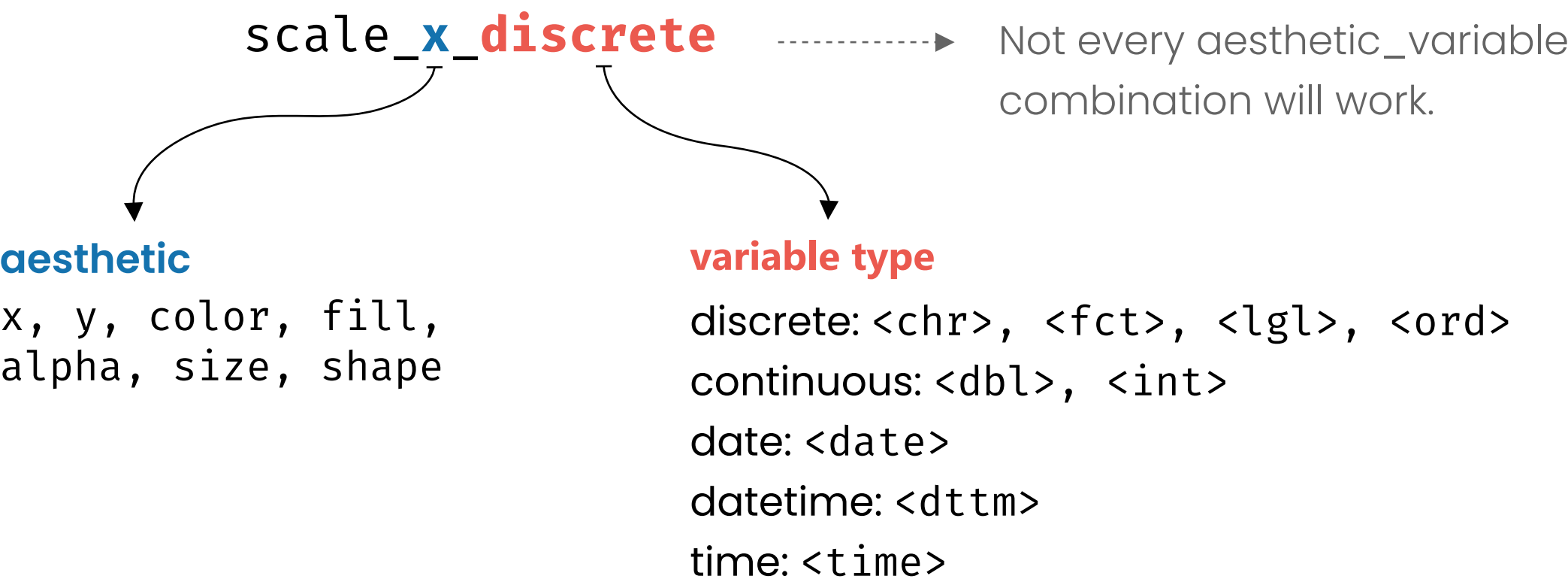# SCALES IN GGPLOT2

Use this cheat sheet to get an overview of the many scales in ggplot2.

Variable scales

Find the variable and the aesthetic the variable is mapped to

```
scale_x_discrete
```
········▶ Not every aesthetic_variable combination will work.

aesthetic
x, y, color, fill, alpha, size, shape

variable type
discrete: <chr>, <fct>, <lgl>, <ord>
continuous: <dbl>, <int>
date: <date>
datetime: <dttm>
time: <time>

Shortcut scales

Shortcuts for the aesthetics alpha, linetype, size, radius and shape

discrete:
<chr>, <fct>, <lgl>, <ord>

```
scale_alpha
scale_linetype
scale_size
scale_radius
```

continuous:
<dbl>, <int>

```
scale_shape
```

Named scales

Use color-blind friendly and print-friendly colors and manipulate the scale of axes or of points

Manipulate the color and fill aesthetic

```
scale_fill_fermenter      scale_color_fermenter
scale_fill_distiller      scale_color_distiller
scale_fill_brewer         scale_color_brewer
scale_fill_gradient       scale_color_gradient
scale_fill_gradient2      scale_color_gradient2
scale_fill_gradientn      scale_color_gradientn
scale_fill_hue            scale_color_viridis_c
scale_fill_viridis_c      scale_color_viridis_d
scale_fill_viridis_b      scale_color_hue
scale_fill_viridis_d      scale_color_grey
scale_fill_grey
```

Transform the axes with various functions

```
scale_x_log10
scale_x_reverse
scale_x_sqrt
scale_y_log10
scale_y_reverse
scale_y_sqrt
```

Ensures that 0 values have a size of 0 in points

```
scale_size_area
```

Binned scales

Create a binned version from a continuous variable

```
scale_color_binned       scale_size_binned
scale_color_steps        scale_size_binned_area
scale_color_steps2       scale_alpha_binned
scale_color_stepsn       scale_shape_binned
scale_fill_steps         scale_x_binned
scale_fill_steps2        scale_y_binned
scale_fill_stepsn
```

Manual scales

Manually define the values of a discrete scale. For each manual scale you must provide the values argument

```
scale_alpha_manual       scale_linetype_manual
scale_color_manual       scale_shape_manual
scale_fill_manual        scale_size_manual
```