Package 'ggscribe'

May 8, 2026

Title Publication-Quality 'ggplot2' Annotation

Version 0.1.1

Description Annotation helper functions for publication-quality 'ggplot2' visualisation. These functions make it easier to annotate plots in a way that stays consistent with the set theme.

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URL https://github.com/davidhodge931/ggscribe, https://davidhodge931.github.io/ggscribe/

BugReports https://github.com/davidhodge931/ggscribe/issues

Depends R (>= 4.1.0)

Imports farver, ggplot2 (>= 4.0.0), glue, grid, rlang, scales

Encoding UTF-8

Language en-GB

RoxygenNote 7.3.3

Suggests blends, dplyr, flexoki, ggrefine, ggwidth, jumble, knitr, rmarkdown, spelling, stringr

Config/testthat/edition 3

NeedsCompilation no

Author David Hodge [aut, cre, cph] (ORCID: <https://orcid.org/0000-0002-3868-7501>)

Maintainer David Hodge <davidhodge931@gmail.com>

Repository CRAN

Date/Publication 2026-05-04 12:50:15 UTC

Contents

`aes_contrast` *A mapped aesthetic for text colour on fill*

Description

Modifies a mapped colour (or fill) aesthetic for contrast against the fill (or colour) aesthetic.

Function can be spliced into ggplot2::aes with rlang::!!!.

Usage

```
aes_contrast(..., dark = NULL, light = NULL, aesthetic = "colour")
```

Arguments

`...`	Require named arguments (and support trailing commas).
`dark`	A dark colour. If NULL, derived from theme text or panel background.
`light`	A light colour. If NULL, derived from theme text or panel background.
`aesthetic`	The aesthetic to be modified for contrast. Either "colour" (default) or "fill".

Value

A ggplot2 aesthetic in ggplot2::aes.

See Also

`splice`

Examples

```
library(ggplot2)
library(dplyr)
library(stringr)

set_theme(
 ggrefine::theme_light(
    panel_heights = rep(unit(50, "mm"), 100),
    panel_widths = rep(unit(75, "mm"), 100),
 )
```

```
)

ggwidth::set_equiwidth(equiwidth = 1.75)

mtcars |>
  count(cyl, am) |>
  mutate(
    am = if_else(am == 0, "Automatic", "Manual"),
    cyl = as.factor(cyl)
  ) |>
  ggplot(aes(x = am, y = n, colour = cyl, fill = cyl, label = n)) +
  geom_col(
    position = position_dodge2(preserve = "single", padding = 0.05),
    width = ggwidth::get_width(n = 2, n_dodge = 3),
  ) +
  scale_fill_discrete(palette = jumble::jumble) +
  scale_colour_discrete(palette = blends::multiply(jumble::jumble)) +
  geom_text(
    mapping = ggscribe::aes_contrast(), # or aes(!!!ggscribe::aes_contrast()),
    position = position_dodge2(
      width = ggwidth::get_width(n = 2, n_dodge = 3),
      padding = 0.05,
      preserve = "single"),
    vjust = 1.33,
    show.legend = FALSE,
  ) +
  scale_y_continuous(expand = expansion(c(0, 0.05))) +
  ggrefine::modern(x_type = "discrete")

mtcars |>
  count(cyl, am) |>
  mutate(
    am = if_else(am == 0, "automatic", "manual"),
    am = stringr::str_to_sentence(am),
    cyl = as.factor(cyl)
  ) |>
  ggplot(aes(y = am, x = n, colour = cyl, fill = cyl, label = n)) +
  geom_col(
    position = position_dodge2(preserve = "single", padding = 0.05),
    width = ggwidth::get_width(n = 2, n_dodge = 3, orientation = "y"),
  ) +
  scale_fill_discrete(palette = jumble::jumble) +
  scale_colour_discrete(palette = blends::multiply(jumble::jumble)) +
  geom_text(
    mapping = ggscribe::aes_contrast(), # or aes(!!!ggscribe::aes_contrast()),
    position = position_dodge2(
      width = ggwidth::get_width(n = 2, n_dodge = 3, orientation = "y"),
      preserve = "single",
      padding = 0.05,
    ),
    hjust = 1.25,
    show.legend = FALSE,
  ) +
```

```
  scale_x_continuous(expand = expansion(c(0, 0.05))) +
  ggrefine::modern(y_type = "discrete")
```

`axis_bracket` *Annotate an axis bracket*

Description

Draws a bracket spanning `min(breaks)` to `max(breaks)` along an axis edge or at a floating data position. The bar uses the same rendering path as `axis_line()`; the caps use the same path as `axis_ticks()`. Requires `coord_cartesian(clip = "off")`.

Usage

```
axis_bracket(
  ...,
  position = NULL,
  xintercept = NULL,
  yintercept = NULL,
  breaks,
  colour = NULL,
  linewidth = NULL,
  linetype = NULL,
  length = ggplot2::rel(1)
)
```

Arguments

`...`	Not used. Forces named arguments.
`position`	One of `"top"`, `"bottom"`, `"left"`, or `"right"`. Inferred from `xintercept` or `yintercept` if not provided.
`xintercept`	For `"left"`/`"right"` axes: float the bracket to this x position in data coordinates instead of the panel edge.
`yintercept`	For `"top"`/`"bottom"` axes: float the bracket to this y position in data coordinates instead of the panel edge.
`breaks`	A numeric vector of length >= 2. The bar spans `min(breaks)` to `max(breaks)`; caps are drawn at every break value.
`colour`	Inherits from `axis.ticks` in the set theme (falling back through `axis.line` and `line`).
`linewidth`	Inherits from `axis.ticks` in the set theme. Supports `rel()`.
`linetype`	Inherits from `axis.ticks` in the set theme.
`length`	Length of the bracket caps as a grid unit. Supports `rel()`. Negative values flip the cap direction. Defaults to `rel(1)` (outward at theme tick length).

Value

A list of ggplot2 annotation layers.

See Also

axis_line(), axis_ticks(), axis_text(), reference_line(), panel_shade(), sec_axis_text()

Examples

```
library(ggplot2)
library(dplyr)

set_theme(
  ggrefine::theme_grey(
    panel_heights = rep(unit(50, "mm"), 100),
    panel_widths = rep(unit(75, "mm"), 100),
  )
)

mtcars |>
  ggplot(aes(x = wt, y = mpg, colour = as.factor(gear), fill = as.factor(gear))) +
 scale_colour_discrete(palette = blends::multiply(get_theme()$palette.colour.discrete)) +
  #clip = "off" is required for axis_text, axis_ticks and axis_bracket
  coord_cartesian(clip = "off") +
  #reference lines and shade
  ggscribe::reference_line(xintercept = 2.4) +
  ggscribe::reference_line(yintercept = 12)  +
  ggscribe::panel_shade(
    xmin = 4,
    xmax = 5,
  ) +
  #top axis
  scale_x_continuous(
    sec.axis = ggscribe::sec_axis_text(
      breaks = c(mean(c(4, 5))),
      labels = c("Range"),
      guide = ggscribe::guide_sec_axis_text(
        angle = 90,
      )
    )
  ) +
  ggscribe::axis_bracket(
    position = "top",
    breaks = c(4, 5),
  ) +
  ggscribe::axis_text(
    position = "top",
    breaks = c(2.4),
    labels = c("Threshold"),
  ) +
  #right axis
  ggscribe::axis_text(
```

```
  position = "right",
  breaks = 12,
  labels = "Threshold",
) +
#'geom
geom_point() +
#annotations fit plot
theme(plot.background = element_rect(colour = "grey92"))
```

`axis_line` *Annotate an axis line*

Description

Draws a line along an axis edge, with style defaults taken from the `axis.line` element of the set theme. Requires `coord_cartesian(clip = "off")`.

Usage

```
axis_line(
  ...,
  position = NULL,
  xintercept = NULL,
  yintercept = NULL,
  colour = NULL,
  linewidth = NULL,
  linetype = NULL
)
```

Arguments

`...`	Not used. Forces named arguments.
`position`	One of `"top"`, `"bottom"`, `"left"`, or `"right"`. Inferred from `xintercept` or `yintercept` if not provided.
`xintercept`	For `"left"`/`"right"` axes: float the axis to this x position in data coordinates instead of the panel edge.
`yintercept`	For `"top"`/`"bottom"` axes: float the axis to this y position in data coordinates instead of the panel edge.
`colour`	Inherits from `axis.line` in the set theme.
`linewidth`	Inherits from `axis.line` in the set theme. Supports `rel()`.
`linetype`	Inherits from `axis.line` in the set theme.

Value

A list of ggplot2 annotation layers.

See Also

axis_ticks(), axis_text(), axis_bracket(), reference_line(), panel_shade(), sec_axis_text()

---

axis_text *Annotate axis text*

Description

Draws text labels at specified break positions along an axis, with style defaults taken from the axis.text element of the set theme. Requires coord_cartesian(clip = "off").

Usage

```
axis_text(
  ...,
  position = NULL,
  xintercept = NULL,
  yintercept = NULL,
  breaks,
  labels = NULL,
  colour = NULL,
  size = NULL,
  family = NULL,
  hjust = NULL,
  vjust = NULL,
  angle = 0,
  length = ggplot2::rel(1)
)
```

Arguments

...	Not used. Forces named arguments.
position	One of "top", "bottom", "left", or "right". Inferred from xintercept or yintercept if not provided.
xintercept	For "left"/"right" axes: float the axis to this x position in data coordinates instead of the panel edge.
yintercept	For "top"/"bottom" axes: float the axis to this y position in data coordinates instead of the panel edge.
breaks	A numeric vector of break positions.
labels	One of: • NULL (default) to use break values as labels • A character vector the same length as breaks • A function taking break values and returning labels
colour	Inherits from axis.text in the set theme.

`size`	Inherits from `axis.text` in the set theme.
`family`	Inherits from `axis.text` in the set theme.
`hjust, vjust`	Justification. Auto-calculated from `position` if `NULL`.
`angle`	Text rotation angle. Defaults to `0`.
`length`	Offset from the axis edge including tick length and margin. Supports `rel()`. Negative values place labels inside the panel. Defaults to `rel(1)` (theme tick length + text margin).

Value

A list of ggplot2 annotation layers.

See Also

`axis_line()`, `axis_ticks()`, `axis_bracket()`, `reference_line()`, `panel_shade()`, `sec_axis_text()`

Examples

```
library(ggplot2)
library(dplyr)

set_theme(
  ggrefine::theme_grey(
    panel_heights = rep(unit(50, "mm"), 100),
    panel_widths = rep(unit(75, "mm"), 100),
  )
)

mtcars |>
  ggplot(aes(x = wt, y = mpg, colour = as.factor(gear), fill = as.factor(gear))) +
 scale_colour_discrete(palette = blends::multiply(get_theme()$palette.colour.discrete)) +
  #clip = "off" is required for axis_text, axis_ticks and axis_bracket
  coord_cartesian(clip = "off") +
  #reference lines and shade
  ggscribe::reference_line(xintercept = 2.4) +
  ggscribe::reference_line(yintercept = 12)  +
  ggscribe::panel_shade(
    xmin = 4,
    xmax = 5,
  ) +
  #top axis
  scale_x_continuous(
    sec.axis = ggscribe::sec_axis_text(
      breaks = c(mean(c(4, 5))),
      labels = c("Range"),
      guide = ggscribe::guide_sec_axis_text(
        angle = 90,
      )
    )
  ) +
  ggscribe::axis_bracket(
```

```
  position = "top",
  breaks = c(4, 5),
) +
ggscribe::axis_text(
  position = "top",
  breaks = c(2.4),
  labels = c("Threshold"),
) +
#right axis
ggscribe::axis_text(
  position = "right",
  breaks = 12,
  labels = "Threshold",
) +
#'geom
geom_point() +
#annotations fit plot
theme(plot.background = element_rect(colour = "grey92"))
```

`axis_ticks` *Annotate axis ticks*

Description

Draws axis ticks at specified break positions, with style defaults taken from the `axis.ticks` element of the set theme. Requires `coord_cartesian(clip = "off")`.

Usage

```
axis_ticks(
  ...,
  position = NULL,
  xintercept = NULL,
  yintercept = NULL,
  breaks,
  minor = FALSE,
  colour = NULL,
  linewidth = NULL,
  length = ggplot2::rel(1)
)
```

Arguments

`...`	Not used. Forces named arguments.
`position`	One of `"top"`, `"bottom"`, `"left"`, or `"right"`. Inferred from `xintercept` or `yintercept` if not provided.
`xintercept`	For `"left"`/`"right"` axes: float the axis to this x position in data coordinates instead of the panel edge.

yintercept	For "top"/"bottom" axes: float the axis to this y position in data coordinates instead of the panel edge.
breaks	A numeric vector of break positions.
minor	Logical. If TRUE, uses minor tick theme defaults. Defaults to FALSE.
colour	Inherits from axis.ticks in the set theme.
linewidth	Inherits from axis.ticks in the set theme. Supports rel().
length	Total tick length as a grid unit. Supports rel(). Negative values flip the tick direction (inward). Defaults to rel(1) (outward at theme tick length).

Value

A list of ggplot2 annotation layers.

See Also

axis_line(), axis_text(), axis_bracket(), reference_line(), panel_shade(), sec_axis_text()

---

guide_sec_axis_text *Guide optimised for secondary axis text annotations*

Description

A wrapper around ggplot2::guide_axis() that defaults to using theme_sec_axis_text(). This guide is designed to strip away standard axis furniture (like lines and ticks) while preserving text, making it ideal for secondary axes used as margin labels.

Usage

```
guide_sec_axis_text(..., theme = theme_sec_axis_text())
```

Arguments

...	Additional arguments passed to ggplot2::guide_axis(), such as title, check.overlap, or angle.
theme	A theme object to style the guide. Defaults to theme_sec_axis_text(), which suppresses ticks and lines.

Value

A guide object to be used in a scale's guide argument or within sec_axis_text().

See Also

sec_axis_text(), theme_sec_axis_text()

Examples

```
library(ggplot2)
library(dplyr)

set_theme(
  ggrefine::theme_grey(
    panel_heights = rep(unit(50, "mm"), 100),
    panel_widths = rep(unit(75, "mm"), 100),
  )
)

mtcars |>
  ggplot(aes(x = wt, y = mpg, colour = as.factor(gear), fill = as.factor(gear))) +
 scale_colour_discrete(palette = blends::multiply(get_theme()$palette.colour.discrete)) +
  #clip = "off" is required for axis_text, axis_ticks and axis_bracket
  coord_cartesian(clip = "off") +
  #reference lines and shade
  ggscribe::reference_line(xintercept = 2.4) +
  ggscribe::reference_line(yintercept = 12)  +
  ggscribe::panel_shade(
    xmin = 4,
    xmax = 5,
  ) +
  #top axis
  scale_x_continuous(
    sec.axis = ggscribe::sec_axis_text(
      breaks = c(mean(c(4, 5))),
      labels = c("Range"),
      guide = ggscribe::guide_sec_axis_text(
        angle = 90,
      )
    )
  ) +
  ggscribe::axis_bracket(
    position = "top",
    breaks = c(4, 5),
  ) +
  ggscribe::axis_text(
    position = "top",
    breaks = c(2.4),
    labels = c("Threshold"),
  ) +
  #right axis
  ggscribe::axis_text(
    position = "right",
    breaks = 12,
    labels = "Threshold",
  ) +
  #'geom
  geom_point() +
  #annotations fit plot
  theme(plot.background = element_rect(colour = "grey92"))
```

panel_shade *Annotate a shaded panel region*

Description

Draws a filled rectangle over the panel with colour defaults taken from the set theme. Defaults to a subtle overlay across the full panel, with the fill automatically adapting to light or dark panel backgrounds. Should be placed before geom layers.

Usage

```
panel_shade(
  ...,
  xmin = -Inf,
  xmax = Inf,
  ymin = -Inf,
  ymax = Inf,
  fill = "#878580",
  alpha = 0.25,
  colour = "transparent",
  linewidth = NULL,
  linetype = NULL
)
```

Arguments

`...`	Not used. Allows trailing commas and named-argument style calls.
`xmin`, `xmax`	Left and right edges of the rectangle. Defaults to `-Inf` and `Inf`. Use `I()` for normalized coordinates (0-1).
`ymin`, `ymax`	Bottom and top edges of the rectangle. Defaults to `-Inf` and `Inf`. Use `I()` for normalized coordinates (0-1).
`fill`	Fill colour. Defaults to a neutral grey.
`alpha`	Opacity of the rectangle. Defaults to `0.25`.
`colour`	Border colour. Defaults to `"transparent"`.
`linewidth`	Inherits from `panel.border` in the set theme. Supports `rel()`.
`linetype`	Border linetype. Defaults to `1`.

Value

A list containing an annotation layer.

Examples

```
library(ggplot2)
library(dplyr)

set_theme(
  ggrefine::theme_grey(
    panel_heights = rep(unit(50, "mm"), 100),
    panel_widths = rep(unit(75, "mm"), 100),
  )
)

mtcars |>
  ggplot(aes(x = wt, y = mpg, colour = as.factor(gear), fill = as.factor(gear))) +
 scale_colour_discrete(palette = blends::multiply(get_theme()$palette.colour.discrete)) +
  #clip = "off" is required for axis_text, axis_ticks and axis_bracket
  coord_cartesian(clip = "off") +
  #reference lines and shade
  ggscribe::reference_line(xintercept = 2.4) +
  ggscribe::reference_line(yintercept = 12)  +
  ggscribe::panel_shade(
    xmin = 4,
    xmax = 5,
  ) +
  #top axis
  scale_x_continuous(
    sec.axis = ggscribe::sec_axis_text(
      breaks = c(mean(c(4, 5))),
      labels = c("Range"),
      guide = ggscribe::guide_sec_axis_text(
        angle = 90,
      )
    )
  ) +
  ggscribe::axis_bracket(
    position = "top",
    breaks = c(4, 5),
  ) +
  ggscribe::axis_text(
    position = "top",
    breaks = c(2.4),
    labels = c("Threshold"),
  ) +
  #right axis
  ggscribe::axis_text(
    position = "right",
    breaks = 12,
    labels = "Threshold",
  ) +
  #'geom
  geom_point() +
  #annotations fit plot
  theme(plot.background = element_rect(colour = "grey92"))
```

`reference_line` *Annotate a reference line*

Description

Draws a reference line within the panel, with style defaults taken from the `axis.line` element of the set theme.

Usage

```
reference_line(
  ...,
  xintercept = NULL,
  yintercept = NULL,
  colour = NULL,
  linewidth = NULL,
  linetype = "dashed"
)
```

Arguments

`...`	Not used. Forces named arguments.
`xintercept`	Draw a vertical reference line at this x position.
`yintercept`	Draw a horizontal reference line at this y position.
`colour`	Inherits from `axis.line` in the set theme.
`linewidth`	Inherits from `axis.line` in the set theme. Supports `rel()`.
`linetype`	Defaults to `"dashed"`.

Value

A list of ggplot2 annotation layers.

See Also

`axis_line()`, `axis_ticks()`, `axis_text()`, `axis_bracket()`, `panel_shade()`, `sec_axis_text()`

Examples

```
library(ggplot2)
library(dplyr)

set_theme(
  ggrefine::theme_grey(
    panel_heights = rep(unit(50, "mm"), 100),
    panel_widths = rep(unit(75, "mm"), 100),
```

```
  )
)

mtcars |>
  ggplot(aes(x = wt, y = mpg, colour = as.factor(gear), fill = as.factor(gear))) +
 scale_colour_discrete(palette = blends::multiply(get_theme()$palette.colour.discrete)) +
  #clip = "off" is required for axis_text, axis_ticks and axis_bracket
  coord_cartesian(clip = "off") +
  #reference lines and shade
  ggscribe::reference_line(xintercept = 2.4) +
  ggscribe::reference_line(yintercept = 12)  +
  ggscribe::panel_shade(
    xmin = 4,
    xmax = 5,
  ) +
  #top axis
  scale_x_continuous(
    sec.axis = ggscribe::sec_axis_text(
      breaks = c(mean(c(4, 5))),
      labels = c("Range"),
      guide = ggscribe::guide_sec_axis_text(
        angle = 90,
      )
    )
  ) +
  ggscribe::axis_bracket(
    position = "top",
    breaks = c(4, 5),
  ) +
  ggscribe::axis_text(
    position = "top",
    breaks = c(2.4),
    labels = c("Threshold"),
  ) +
  #right axis
  ggscribe::axis_text(
    position = "right",
    breaks = 12,
    labels = "Threshold",
  ) +
  #'geom
  geom_point() +
  #annotations fit plot
  theme(plot.background = element_rect(colour = "grey92"))
```

`sec_axis_text` *Secondary axis optimised for text annotations*

Description

Secondary axis optimised for text annotations

Usage

```
sec_axis_text(
  breaks = ggplot2::waiver(),
  labels = ggplot2::derive(),
  name = NULL,
  guide = ggplot2::guide_axis(theme = theme_sec_axis_text()),
  ...
)
```

Arguments

breaks	One of: • NULL for no breaks • ggplot2::waiver() (default) to inherit breaks from the primary axis • A numeric vector of break positions • A function that takes the scale limits as input and returns break positions (e.g. \(x) mean(c(x[2], 32)))
labels	One of: • ggplot2::derive() (default) to derive labels from breaks • A character vector of labels, the same length as breaks • A function that takes break positions as input and returns labels
name	The name of the secondary axis. Use ggplot2::waiver() to derive the name from the primary axis, or NULL (default) for no name.
guide	A guide object used to render the axis. Defaults to guide_sec_axis_text(), which uses theme_sec_axis_text() to make transparent ticks and lines by default.
...	Additional arguments passed to ggplot2::dup_axis().

Value

A AxisSecondary object for use in the sec.axis argument of scale_x_continuous() or scale_y_continuous().

See Also

guide_sec_axis_text(), theme_sec_axis_text(), axis_text()

Examples

```
library(ggplot2)
library(dplyr)

set_theme(
  ggrefine::theme_grey(
    panel_heights = rep(unit(50, "mm"), 100),
    panel_widths = rep(unit(75, "mm"), 100),
  )
)
```

```
mtcars |>
  ggplot(aes(x = wt, y = mpg, colour = as.factor(gear), fill = as.factor(gear))) +
 scale_colour_discrete(palette = blends::multiply(get_theme()$palette.colour.discrete)) +
  #clip = "off" is required for axis_text, axis_ticks and axis_bracket
  coord_cartesian(clip = "off") +
  #reference lines and shade
  ggscribe::reference_line(xintercept = 2.4) +
  ggscribe::reference_line(yintercept = 12)  +
  ggscribe::panel_shade(
    xmin = 4,
    xmax = 5,
  ) +
  #top axis
  scale_x_continuous(
    sec.axis = ggscribe::sec_axis_text(
      breaks = c(mean(c(4, 5))),
      labels = c("Range"),
      guide = ggscribe::guide_sec_axis_text(
        angle = 90,
      )
    )
  ) +
  ggscribe::axis_bracket(
    position = "top",
    breaks = c(4, 5),
  ) +
  ggscribe::axis_text(
    position = "top",
    breaks = c(2.4),
    labels = c("Threshold"),
  ) +
  #right axis
  ggscribe::axis_text(
    position = "right",
    breaks = 12,
    labels = "Threshold",
  ) +
  #'geom
  geom_point() +
  #annotations fit plot
  theme(plot.background = element_rect(colour = "grey92"))
```

`theme_sec_axis_text` *Theme adjustments optimised for secondary axis text annotations*

Description

Theme adjustments optimised for secondary axis text annotations

Usage

```
theme_sec_axis_text(
  axis = NULL,
  axis_ticks_to = "transparent",
  axis_line_to = "transparent",
  axis_text_to = "keep",
  axis_title_to = "keep"
)
```

Arguments

axis	Character. "x", "y", or NULL (defaults to both).
axis_ticks_to	Action for ticks: "transparent", "blank", or "keep".
axis_line_to	Action for lines: "transparent", "blank", or "keep".
axis_text_to	Action for text: "transparent", "blank", or "keep".
axis_title_to	Action for titles: "transparent", "blank", or "keep".

Value

A ggplot2 theme object.

See Also

sec_axis_text(), guide_sec_axis_text()

axis_ticks(), axis_line(), axis_text(), reference_line()

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