Marginalia

Write into the margins!

1 Setup

Put something akin to the following at the start of your .typ file:

```
#import "@preview/marginalia:0.1.2" as marginalia: note, wideblock
#let config = (
    // inner: ( far: 5mm, width: 15mm, sep: 5mm ),
    // outer: ( far: 5mm, width: 15mm, sep: 5mm ),
    // top: 2.5cm,
    // bottom: 2.5cm,
    // book: false,
    // clearance: 8pt,
    // flush-numbers: false,
    // numbering: /* numbering-function */,
)
#marginalia.configure(..config)
#set page(
    // setup margins:
    ..marginalia.page-setup(..config),
    /* other page setup */
)
```

Where you can then customize config to your preferences. Shown here (as comments) are the default values taken if the corresponding keys are unset.

See the appendix for a more detailed explanation of the configure() and page-setup() functions.

2 Margin-Notes

By default, the #note[...] command places a note to the right/
outer margin, like so:

By giving the argument reverse: true,
we obtain a note on the left/inner margin.
If config.book = true, the side will of course be adjusted automatically.

If • we ⋄ place ■ multiple □ notes ▲ in △ one • line, ⋄ they automatically adjust their positions. Additionally, a dy argument can be passed to shift their initial position by that amount vertically. They may still get shifted around.

Notes will shift downwards to avoid previous notes, containing wideblocks, and the top page margin. Notes will shift upwards to avoid later notes and wideblocks, and the bottom page margin. However, if there is not enough space between wideblocks and/or the margins, there will be collisions. It will attempt to move aone note below a wide-block if there is not enough space above, but if there are multiple notes that would need to be rearranged you

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e e

This is a note.

They can contain any content, and will wrap within the note column.

- Note 1
- Note 2
- Note 3
- □ Note 4
- ▲ Note 5
- △ This note was given 15pt dy, but it was shifted more than that to avoid Notes 1–5.
- This note was given 10cm dy and was shifted less than that to stay on the page.

• Reversed.

This note was given 15pt dy. 10. March 2025 MARGINALIA Page 2 of 12

Note from second column

- Lorem ipsum dolor sit.
- Like so. The lorem-ipsum note was also placed with keep-order.
- Unnumbered notes "avoid" being shifted if possible, preferring to shift other notes up.

Like this.

Unless they are given a dy argument moving them above the block. must assist by manually setting dy such that their initial position is below the wideblock.

Margin notes also Blah blah. To force use #note(keepwork from within true)[]. the notes to appear order: most containers in the margin in the for all notes whose such as blocks or same order as they relative order is im-#column()s. appear in the text, portant.

2.1 Markers

The margin notes are decorated with little symbols, which by default hang into the gap. If this is not desired, set the configuration option flush-numbers: true. Setting the argument numbered: false, we obtain notes without icon/number:

To change the markers, you can override config.numberingfunction which is used to generate the markers.

3 Wide Blocks

The command <code>#wideblock[...]</code> can be used to wrap content in a wide block which spans into the margin-note-column. It is possible to use notes in a wide block:

They will automatically shift downwards to avoid colliding with the wideblock.

□ Wow!

■ Voila

Notes above a wideblock will shift

#wideblock(reverse: true)[...]: The reverse option makes the block extend to the inside margin instead.

This is analogous to the reverse option on notes.

#wideblock(double: true)[...]: The double option makes it extend both ways. Note that setting both reverse: true and double: true is disallowed and will panic.



Figure 1: A notefigure.



△ Figure 2: A marked notefigure.



Figure 3: Aligned to top of figure with

4 Figures

For small figures, you can place them in the margin with marginalia.notefigure. It accepts all arguments figure takes (except placement and scope), plus all arguments note takes. However, by default it has no marker, and to get a marker like other notes, you must pass numbered: true, it will get a marker like other notes:

Additionally, the dy argument now takes a relative length, where 100% is the height of the figure content + gap, but without the caption. By default, figures have a dy of 0pt - 100%, which results in the caption being aligned horizontally to the text. \(\text{\texts} \)

A label can be attached to the figure using the label argument.

For larger figures, use the following set and show rules:

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Figure 4: A figure.

For wide figures, simply place a figure in a wideblock. The Caption gets placed beneath the figure automatically, courtesy of regular wide-block-avoidance.

```
#wideblock[#figure(
   image(...),
   caption: [A figure in a wide block.]
)1
```

Figure 5: A figure in a wide block.

Figure 6: A figure in a reversed wide block.

5 Headers and Background

This is not (yet) a polished feature and requires to access marginalia._config.get().book to read the respective config option. In your documents, consider removing this check and simplifying the if a bit.•

Here's how the headers in this document were made:

```
#set page(header: context {
 marginalia.notecounter.update(0)
 let book = marginalia._config.get().book
 let leftm = marginalia.get-left()
 let rightm = marginalia.get-right()
 if here().page() > 1 {
   wideblock(double: true, {
     box(width: leftm.width, {
       if not (book) or calc.odd(here().page()) [
         #counter(page).display("1 of 1", both: true)
          #datetime.today().display(/**/)
     h(leftm.sep)
     box(width: 1fr, smallcaps[Marginalia])
     h(rightm.sep)
     box(width: rightm.width, {
       if not (book) or calc.odd(here().page()) [
         #datetime.today().display(/**/)
          #counter(page).display("1 of 1", both: true)
     })
   })
```

Figure 7: A figure in a double-wide block.

 Also, please don't .update() the marginalia._config directly, this can easily break the notes. 10. March 2025 MARGINALIA Page 4 of 12

 Not that you should copy them, they're mostly here to showcase the columns and help me verify that everything gets placed in the right spot. } })

- This can happen for example with outlines which barely fit/don't fit onto the page.
- TODO: OUTDATED In this manual, for example, it works here, but not on the first page.

And here's the code for the lines in the background:

```
#set page(background: context {
 let leftm = marginalia.get-left()
  let rightm = marginalia.get-right()
 place(
   dx: leftm.far,
   rect(width: leftm.width, height: 100%,
     stroke: (x: luma(90%))))
   dx: leftm.far + leftm.width + leftm.sep,
   rect(width: 10pt, height: 100%,
     stroke: (left: luma(90%))))
 place(right,
   dx: -rightm.far,
    rect(width: rightm.width, height: 100%,
     stroke: (x: luma(90%))))
 place(right,
   dx: -rightm.far - rightm.width - rightm.sep,
    rect(width: 10pt, height: 100%,
      stroke: (right: luma(90%))))
```

6 Trobleshooting / Known Bugs

- If the document needs multiple passes to figure out pagebreaks, it can break the note positioning.
 - This can usually be resolved by placing a #pagebreak() or #pagebreak(weak: true) in an appropriat location.
- Nested notes may or may not work. In all cases, they seem to lead to a "layout did not converge within 5 attempts" warning, so it is probably best to avoid them if possible.
- If you encounter anything else which looks like a big to you, please <u>create an "issue" on Github</u> if noone else has done so already.

7 Thanks

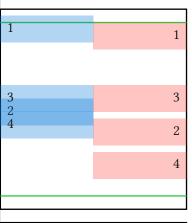
Many thanks go to Nathan Jessurun for their <u>drafting</u> package, which has served as a starting point and was very helpful in figuring out how to position margin-notes.

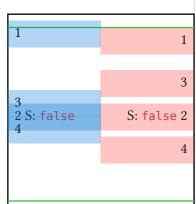
The wideblock functionality was inspired by the one provided in the <u>tufte-memo</u> template.

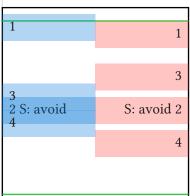
Also shout-out to <u>tidy</u>, which was used to produce the appendix.

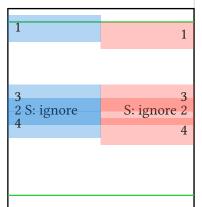
8 Testing

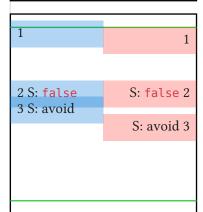
Ignore this page.











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A Detailed Documentation of all Exported Symbols

```
    configure()
```

- get-left()
- get-right()
- note()
- note-numbering()
- notefigure()
- page-setup()
- wideblock()

Variables:

- notecounter
- note-markers
- note-markers-alternating

A.1 configure

This will update the marginalia config with the provided config options.

The default values for the margins have been chosen such that they match the default typst margins for a4. It is strongly recommended to change at least one of either inner or outer to be wide enough to actually contain text.

Parameters

```
configure(
  inner: dictionary,
  outer: dictionary,
  top: length,
  bottom: length,
  book: boolean,
  clearance: length,
  flush-numbers: boolean,
  numbering: function string
)
```

inner dictionary

Inside/left margins.

- far: Distance between edge of page and margin (note) column.
- width: Width of the margin column.
- sep: Distance between margin column and main text column.

The page inside/left margin should equal far + width + sep.

If partial dictionary is given, it will be filled up with defaults.

```
Default: (far: 5mm, width: 15mm, sep: 5mm)
```

```
outer dictionary
```

Outside/right margins. Analogous to inner.

```
Default: (far: 5mm, width: 15mm, sep: 5mm)
```

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top length

Top margin.

Default: 2.5cm

bottom 1

length

Bottom margin.

Default: 2.5cm

book boolean

If true, will use inside/outside margins, alternating on each page. If false, will use left/right margins with all pages the same.

Default: false

clearance length

Minimal vertical distance between notes and to wide blocks.

Default: 8pt

flush-numbers boolean

Disallow note icons hanging into the whitespace.

Default: false

numbering function or string

Function or numbering-string to generate the note markers from the notecounter.

Default: note-numbering

A.2 get-left

Returns a dictionary with the keys far, width, sep containing the respective widths of the left margin on the current page. (On both even and odd pages.)

Requires context.

Parameters

```
get-left() -> dictionary
```

Mostly internal.

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A.3 get-right

Returns a dictionary with the keys far, width, sep containing the respective widths of the right margin on the current page. (On both even and odd pages.)

Mostly internal.

Requires context.

```
Parameters
```

```
get-right() -> dictionary
```

A.4 note

Create a marginnote. Will adjust it's position downwards to avoid previously placed notes, and upwards to avoid extending past the bottom margin.

Parameters

```
note(
  numbered: boolean,
  reverse: boolean,
  dy: length,
  keep-order: boolean,
  shift: boolean auto "avoid" "ignore",
  body: content
)
```

numbered boolean

Whether to put a mark.

Default: true

reverse boolean

Whether to put it in the opposite (inner/left) margin.

Default: false

dy length

Inital vertical offset of the note. Note may get shifted still to avoid other notes.

Default: Opt

keep-order boolean

Notes with keep-order: true are not re-ordered relative to one another.

Default: false

```
shift boolean or auto or "avoid" or "ignore"
```

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Whether the note may get shifted around to avoid other notes.

- true: The note may shift to avoid other notes, wide-blocks and the top/bottom margins.
- false: The note is placed exactly where it appears, and other notes may shift to avoid it.
- "avoid": The note is only shifted if shifting other notes is not sufficent to avoid a collision.
- "ignore": Like false, but other notes do not try to avoid it.
- auto: true if numbered, "avoid" otherwise.

Default: auto

A.5 note-numbering

Format note marker

Parameters

```
note-numbering(
  markers: array(string),
  repeat: boolean,
    ..,
  number: int
) -> content
```

markers

array(string)

```
#for i in array.range(1,15) [
    #note-numbering(markers: note-
markers, i)
]\
#for i in array.range(1,15) [
    #note-numbering(markers: note-
markers-alternating, i)
]
```



Default: note-markers-alternating

repeat

boolean

Whether to (true) loop over the icons, or (false) continue with numbers after icons run out.

```
#for i in array.range(1,15) [
    #note-numbering(repeat: true, i)
]\
#for i in array.range(1,15) [
    #note-numbering(repeat: false, i)
]
```

Default: true

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A.6 notefigure

Creates a figure in the margin.

```
Parameters
```

```
notefigure(
   content: content,
   reverse: boolean,
   dy: relative length,
   numbered: boolean,
   gap: length,
   label: none label,
   ...figureargs: arguments
) -> content
```

content content

The figure content, e.g. an image. Pass-through to #figure(), but used to adjust the vertical position.

```
reverse boolean
```

Put the notefigure in the opposite margin.

Default: false

```
dy relative length
```

How much to shift the note. 100% corresponds to the height of content + gap.

Default: Opt - 100%

```
numbered boolean
```

Whether to put a mark.

Default: false

```
gap length
```

Pass-through to #figure(), but used to adjust the vertical position.

Default: 0.55em

```
label none or label
```

A label to attach to the figure.

Default: none

```
..figureargs arguments
```

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```
Pass-through to #figure().
```

A.7 page-setup

Page setup helper

This will generate a dictionary (margin: ...) compatible with the passed config. This can then be spread into the page setup like so:

```
#set page( ..page-setup(..config) )
```

Takes the same options as configure().

Parameters

```
page-setup(..config: dictionary) -> dictionary
..config dictionary
```

Missing entries are filled with package defaults. Note: missing entries are *not* taken from the current marginalia config, as this would require context.

A.8 wideblock

double

boolean

Creates a block that extends into the outside/right margin.

Note: This does not handle page-breaks sensibly. If config.book = false, this is not a problem, as then the margins on all pages are the same. However, when using alternating page margins, a multi-page wideblock will not work properly. To be able to set this appendix in a many-page wideblock, this code was used:

```
#configure(..config, book: false)
#set page(..page-setup(..config, book: false))
#wideblock(reverse: true)[...]

Parameters
wideblock(
    reverse: boolean,
    double: boolean,
    body: content
) -> content

Teverse boolean

Whether to extend into the inside/left margin instead.

Default: false
```

