Marginalia

Write into the margins!

1 Setup

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

```
#import "@preview/marginalia:0.2.1" as marginalia: note, notefigure, wideblock

#show: marginalia.setup.with(
    // inner: ( far: 5mm, width: 15mm, sep: 5mm ),
    // outer: ( far: 5mm, width: 15mm, sep: 5mm ),
    // top: 2.5cm,
    // bottom: 2.5cm,
    // book: false,
    // clearance: 12pt,
```

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

If <u>book</u> is false, inner and outer correspond to the left and right margins respectively. If book is true, the margins swap sides on even and odd pages. Notes are placed in the outside margin by default.

See the appendix for a more detailed explanation of the setup() function and its options.

Additionally, I recommend using typst's partial function application feature to customize other aspects of the notes consistently:

```
#let note = note.with(/* options here */)
#let notefigure = notefigure.with(/* same options here */)
```

2 Margin-Notes

Reversed.

This note was given 15pt dy. By default, the <code>#note[]</code> command places a note to the right/outer margin, like so:o. By giving the argument <code>side</code>: "inner", we obtain a note on the inner (left) margin. If <code>setup_book</code> is <code>true</code>, the side will of course be adjusted automatically. It is also possible to pass <code>side</code>: "left" or <code>side</code>: "right" if you want a fixed side even in books.

If \diamond 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, unless configured otherwise via the shift parameter of note[].

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 You can also skip the configuration step if you're happy with these defaults, but 15mm is not a lot to write in.

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.

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Notes will shift vertically to avoid other notes, wideblocks, and the top page margin. It will attempt to move one 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 must assist by manually setting dy such that their initial position is below the wideblock.

Margin notes also fault, they are placed order as they appear work from within aligned with their anin the text, set keepmost containers such chor. To force the order: true on all as #block[]s or notes to appear in the notes whose relative #column[]s.o By demargin in the same order is important.

2.1 Markers

The margin notes are decorated with little symbols, which by default hang into the gap. If this is not desired, set flush-numbering: true on the note.

Setting the argument <u>numbering</u>: <u>none</u>, we obtain notes without icon/number:

To change the markers, you can override the <u>numbering</u> function which is used to generate the markers.

Advanced Markers

If a different style is deisred for the marker in the text and in the margins, you can use the <u>anchor-numbering</u> parameter to control the intext marker:¹⁷

```
#note(
  numbering: (.., i) ⇒ text(font: "Inria Sans")[#i#h(0.5em - 2pt)],
  anchor-numbering: (.., i) ⇒ super[#i],
)[...]
```

Note that doing this implies <u>flush-numbering</u>: true. This is based on the assumption that if you have set two different numbering functions, you want to handle the placement yourself. Non-flush numbers, which are placed, complicate this.

This can also be used to create notes that have an anchor, but no numbering in the note itself. 18

2.2 Styling

Both <u>note()</u> and <u>notefigure()</u> accept <u>text-style</u>, <u>par-style</u>, and <u>block-style</u> parameters:

- text-style: (size: 5pt, font: ("Iosevka Extended")) gives •
- par-style: (spacing: 20pt, leading: -2pt) gives ♡

The default options here are meant to be as close as possible to the stock footnote style given 11pt text. For other text sizes, set the <u>text-style</u> size to 0.85 times your body text size if you want to match the stock footnotes.

block-style

To style the block containing the note body, use the <u>block-style</u> parameter.

Note from second column.

Lorem ipsum dolor sit.

 Like so. The lorem-ipsum note was also placed with keep-order.

This note has flush numbering.

 Unnumbered notes "avoid" being shifted if possible, preferring to shift other notes up.

Like this.

17 The -2pt in the #h() is there because #note() inserts a 2pt space.

Like this one.

18 (the <u>notecounter</u> is unaffected by the previous note, as it has <u>numbering</u>: <u>none</u>)

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

 Lorem ipsum dolor sit amet consectetur adipiscing elit, sed do.

Lorem ipsum dolor sit.

Page 3 of 14 MARGINALIA 0.2.1 16. June 2025 block-style: (stroke: (top: (thickness: 0.5pt, dash: "dotted")), outset: (top: 6pt /* clearance is 12pt */), width: 100%) gives: This is a note with a dotted stroke above. block-style: (fill: oklch(90%, 0.06, 140deg), outset: (left: 10pt, rest: So is this. 4pt), width: 100%, radius: 4pt) gives: This is a note with block-style: (fill: oklch(90%, 0.06, 140deg), inset: (x: 4pt), outset: a green background and (y: 4pt), width: 100%, radius: 4pt) gives: flush-numbering: true. For more advanced use-cases, you can also pass a function as the block-So is this. style. It will be called with one argument, either "left" of "right", This is a note with an outset depending on the side the note will be placed on. Inside the function, green background. context is avaliable.◇■ ■ Purple 2 So is this. #let block-style = (side) \Rightarrow { Purple if side == "left" { (stroke: (left: none, rest: 0.5pt + purple), outset: (left: marginalia.get-left().far, rest: 4pt)) } else { (stroke: (right: none, rest: 0.5pt + purple), outset: (right: marginalia.getright().far, left: 9pt, rest: 4pt)) } } #note(block-style: block-style)[Purple] #note(side: "inner", block-style: block-style)[Purple 2] △ Unless they are given a dy argument moving them above the 3 Wide Blocks block. The command #wideblock[] can be used to wrap content in a wide block which spans into the marginnote-column. Note: when using an asyymetric page layout with setup.book: true, wideblocks which span across pagebreaks are messy, because there is no way for the wideblock to detect the pagebreak and adjust ist position after it. ▲ Wow! It is possible to use notes in a wide block: u.a. They will automatically shift downwards to avoid colliding with the wideblock. #wideblock(side: "inner")[...]: The <u>side</u> option allows extending the block into the inside □ Voila. margin instead. This is analogous to the side option on notes and notefigures and allows placing notes in their usual column. In this manual, an inner wideblock is used to set the appendix to make it take up fewer Notes above a #wideblock[] will pages. This is also why the appendix is no longer using setup.book: true. shift upwards if necessary. #wideblock(side: "both")[...]: Additionally, wideblocks can extend on both sides, for extra wide content. This is especially useful for figures, more on that below.

4 Figures

4.1 Notefigures

For small figures, you can place them in the margin with #notefigure(). It accepts all arguments #figure() takes (except placement and scope), plus all arguments <u>#note[]</u> takes (except <u>align-baseline</u>). However, by default it has no marker, and to get a marker like other notes, you must pass Figure 1: A notefigure.

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▽ Figure 2: A marked notefigure.

• Figure 3: Aligned to top of figure with dy: Opt.

32 Figure 5: Figure with custom numbering

NB: show-caption expects a function with two arguments, check the docs.

Figure 6: A figure.

numbering: marginalia.note-numbering, and it will get a marker like other notes:♥

Additionally, the dy argument now takes a relative length, where 100% is the distance between the top of the figure content and the first baseline of the caption. By default, figures have a dy of 0pt - 100%, which results in the caption being aligned horizontally to the text.

A label can be attached to the figure using the <u>label</u> argument, as was done here for Figure 2. (Sadly, it is not possible to attach labels normally.)

Notefigures can also be given <u>side</u>, <u>text-style</u>, <u>par-style</u>, and <u>block-style</u> parameters, – like <u>#note[]</u> – as is demonstrated in Figure 4. Furthermore, the numbering, anchor-numbering, and flush-numbering parameters work as expected.³²

Note that #show figure.caption: /**/ rules are ignored for #notefigure[]s, use the show-caption parameter instead.

4.2 Large Figures

For larger figures, use the following set and show rules if you want topaligned captions:

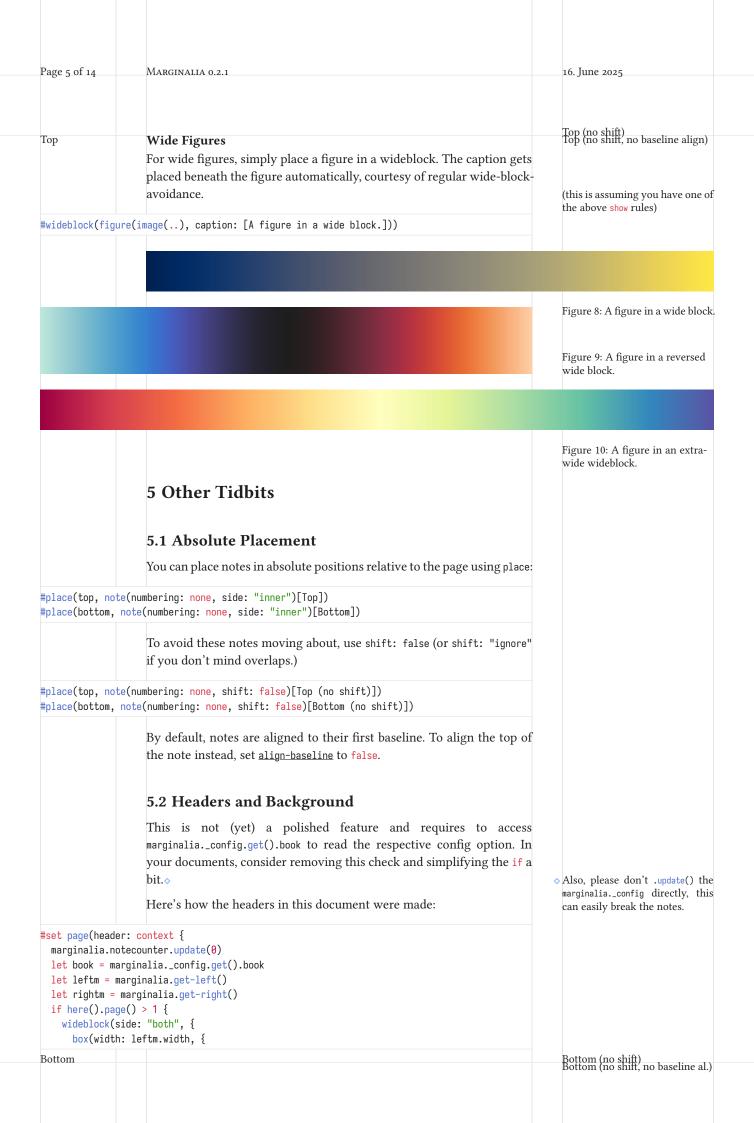
```
#set figure(gap: 0pt) // neccessary in both cases
#set figure.caption(position: top)
#show figure.caption.where(position: top): note.with(numbering: none, align-baseline: false)
```

Figure 4: Styled figure.

If you want bottom-aligned captions, it gets a bit more complicated, as there isn't a way (yet) to align a #note[] with it's bottom edge, so we need to measure the caption:

```
#set figure(gap: 0pt) // neccessary in both cases
#set figure.caption(position: bottom) // (this is the default)
#show figure.caption.where(position: bottom): it ⇒ context {
    let text-style= (/* your text-style here */:)
    let par-style= (/* your par-style here */:)
    let height = measure(
        width: marginalia._config.get().outer.width,
        { // we need to set the style here to simulate measuring the note
            set text(size: 9.35pt, style: "normal", weight: "regular", ..text-style)
            set par(spacing: 1.2em, leading: 0.5em, hanging-indent: 0pt, ..par-style)
            it
        },
        ).height
        note(numbering: none, anchor-numbering: none, dy: -height, align-baseline: false, shift:
"avoid", keep-order: true, text-style: text-style, par-style: par-style, it)
}
```

Figure 7: A figure.



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```
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(/**/)
        ] else [
          Page
          #counter(page).display("1 of 1", both: true)
     })
   })
 }
})
```

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. 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(top, dy: marginalia._config.get().top,
       line(length: 100%, stroke: luma(90%)))
 place(top, dy: marginalia._config.get().top - page.header-ascent,
       line(length: 100%, stroke: luma(90%)))
 place(bottom, dy: -marginalia._config.get().bottom,
       line(length: 100%, stroke: luma(90%)))
 place(dx: leftm.far,
        rect(width: leftm.width, height: 100%, stroke: (x: luma(90%))))
 place(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%))))
})
```

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	6 Troubleshooting / Known Bugs		
	 If the document needs multiple passes to figure out page-breaks, it can break the note positioning. This can usually be resolved by placing a #pagebreak() or #pagebreak(weak: true) in an appropriate location. 	This can happen for example with outlines which barely fit/ don't fit onto the page.	
	 Relatedly, everything breaks if you try to use pages with width or height set to auto, as this package needs to know the actual measure- ments of the page to figure out where to place stuff. 		
Notes on the other side are	 Nested notes may or may not work. In nearly 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. Just use multiple paragraphs in one note, or place multiple notes in 	▲ In this manual, for example, it works fine (with warnings) here, △ but not on the first page. ❖ △ Probably because there aren't	
usually fine though.	the main text instead. If really neccessary, use shift: "ignore" on the nested notes and manually set dy.	many other notes around.	
	 If book is true, wideblocks that break across pages are broken. Sadly there doesn't seem to be a way to detect and react to page-breaks from within a block, so I don't know how to fix this. 		
	• If you encounter anything else which looks like a bug to you, please create an "issue" on GitHub if no-one 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.		
	(This project is not affiliated with https://marginalia-search.com/ , but that is also a cool project.)		

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A Detailed Documentation of all Exported Symbols

Breaking Changes

0.2.1

• The functions configure() and page-setup() have been combined into one setup() function.

A.1 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
```

A.2 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.)

Requires context.

Parameters

```
get-right() → dictionary
```

A.3 note

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

Breaking Changes

0.1.5

- reverse has been replaced with note.side.
 - → use `side: "inner"` instead of `reverse: true`
- numbered has been replaced with note.numbering.
 - → use `numbering: "none"` instead of `numbered: false`

Parameters

```
note(
numbering: none function string,
anchor-numbering: none auto function string,
flush-numbering: auto boolean,
side: auto "outer" "inner" "left" "right",
dy: length,
align-baseline: boolean,
keep-order: boolean,
shift: boolean auto "avoid" "ignore",
text-style: dictionary,
par-style: dictionary,
block-style: dictionary function,
(body): content
```

Functions:

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

Variables:

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

Mostly internal.

Mostly internal.

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Function or numbering-string to generate the note markers from the notecounter. If none, will not step the <u>notecounter</u>.

Examples:

- (..i) ⇒ super(numbering("1", ..i)) for superscript numbers
- (..i) ⇒ super(numbering("a", ..i)) for superscript letters
- marginalia.note-numbering.with(repeat: false, markers: ()) for small blue numbers

```
anchor-numbering: auto none or auto or function or string
```

Used to generate the marker for the anchor (i.e. the one in the surrounding text)

• If auto, will use the given note.numbering.

```
flush-numbering: auto auto or boolean
```

Disallow note markers hanging into the whitespace.

• If auto, acts like false if note anchor-numbering is auto.

```
side: auto or "outer" or "inner" or "left" or "right"
```

Which side to place the note. auto defaults to "outer". In non-book documents, "outer"/"inner" are equivalent to "right"/"left" respectively.

```
dy: Opt length
```

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

```
align-baseline: true boolean
```

Whether to align the baselines or not.

• If false, the top of the note is aligned with the main-text baseline.

```
keep-order: false boolean
```

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

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

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.
 E.g. if it would collide with a wideblock or a note with shift: false.
- "ignore": Like false, but other notes do not try to avoid it.
- auto: true if numbered, "avoid" otherwise.

```
text-style: (size: 9.35pt, style: "normal", weight: "regular") dictionary
```

Will be used to set the text style.

```
par-style: (spacing: 1.2em, leading: 0.5em, hanging-indent: 0pt) dictionary
```

Will be used to set the par style.

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```
block-style: (width: 100%) dictionary or function
```

Will be passed to the block containing the note body. If this is a function, it will be called with "left" or "right" as its argument, and the result is passed to the block.

A.4 note-numbering

Format note marker

Parameters

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

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

repeat: true 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)
]
```



A.5 notefigure

Creates a figure in the margin.

Parameters numbering, anchor-numbering, flush-numbering, side, keep-order, shift, text-style, par-style, and block-style work the same as for note().

Breaking Changes

0.1.5

- reverse has been replaced with notefigure.side.
 - \rightarrow use `side: "inner"` instead of `reverse: true`
- numbered has been replaced with notefigure.numbering.
 - \rightarrow use `numbering: marginalia.note-numbering` instead of `numbered: true`

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```
Parameters
```

```
notefigure(
    numbering: none function string,
    anchor-numbering: none auto function string,
    flush-numbering: auto boolean,
    side: auto "outer" "inner" "left" "right",
    dy: relative length,
    keep-order: boolean,
    shift: boolean auto "avoid" "ignore",
    text-style: dictionary,
    par-style: dictionary,
    block-style: dictionary function,
    show-caption: function,
    gap: length,
    label: none label,
    (content): content,
    \langle ... figureargs \rangle: arguments
  ) → content
numbering: none
                 none or function or string
Same as note.numbering, but with different default value.
                        none or auto or function or string
anchor-numbering: auto
Used to generate the marker for the anchor (i.e. the one in the surrounding text)
• If auto, will use the given notefigure.numbering.
flush-numbering: auto
                       auto or boolean
Disallow note markers hanging into the whitespace.
• If auto, acts like false if note.anchor-numbering is auto.
             auto or "outer" or "inner" or "left" or "right"
side: auto
Which side to place the note. auto defaults to "outer". In non-book documents, "outer"/"inner"
are equivalent to "right"/"left" respectively.
dy: 0pt - 100%
                relative length
How much to shift the note. 100% corresponds to the height of content + gap + the first
baseline.
Thus dy: 0pt + 100% aligns the text and caption baselines.
text-style: (size: 9.35pt, style: "normal", weight: "regular")
                                                                 dictionary
Will be used to set the text style.
par-style: (spacing: 1.2em, leading: 0.5em, hanging-indent: 0pt)
                                                                    dictionary
Will be used to set the par style.
block-style: (width: 100%)
                            dictionary or function
Will be passed to the block containing the note body (this contains the entire figure). If this
```

Will be passed to the block containing the note body (this contains the entire figure). If this is a function, it will be called with "left" or "right" as its argument, and the result is passed to the block.

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```
show-caption: (number, caption) ⇒ {
   number
   caption.supplement
[ ]
   caption.counter.display(caption.numbering)
   caption.separator
   caption.body
} function
```

A function with two arguments, the number and the caption. Will be called as the caption show rule.

If notefigure.numbering is none, number will be none.

```
gap: 0.55em length
```

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

label: none or label A label to attach to the figure.

```
(content) content Positional
```

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

```
(..figureargs) arguments Positional Pass-through to #figure().
(E.g. caption)
```

A.6 setup

This will update the marginalia config and setup the page with the provided config options. (This means this will insert a pagebreak.)

```
Use as
```

```
#show: marginalia.setup.with(/* options here */)
```

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.

Breaking Changes

0.1.5

• numbering has been replaced with notefigure.numbering.

```
→ set `numbering: /**/` directly on your notes instead of via setup().
Use #let note = note.with(numbering: /**/) for consistency.
```

• flush-numbers has been replaced by note.flush-numbering.

```
\rightarrow set `flush-numbering: true` directly on your notes instead of via <u>setup()</u>. Use <u>#let note = note.with(flush-numbering: /**/)</u> for consistency.
```

0.2.1

This function does no longer apply the configuration partially, but will reset all unspecified options to the default. Additionally, it replaces the page-setup() function that was needed previously and is no longer called configure()

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```
Parameters
```

```
setup(
  inner: dictionary,
  outer: dictionary,
  top: length,
  bottom: length,
  book: boolean,
  clearance: length,
  (body): content
)
inner: (far: 5mm, width: 15mm, sep: 5mm) 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.

```
outer: (far: 5mm, width: 15mm, sep: 5mm) dictionary

Outside/right margins. Analogous to inner.

top: 2.5cm length Top margin.

bottom: 2.5cm length Bottom margin.
```

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

clearance: 12pt length Minimal vertical distance between notes and to wide blocks.

A.7 wideblock

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:

```
#show: marginalia.setup.with(..config, book: false)
#wideblock(side: "inner")[...]
```

Breaking Changes

0.1.5

• reverse and double have been replaced with wideblock.side.

```
→ use `side: "inner"` instead of `reverse: true`
→ use `side: "both"` instead of `double: true`
```

