Nice place you have here
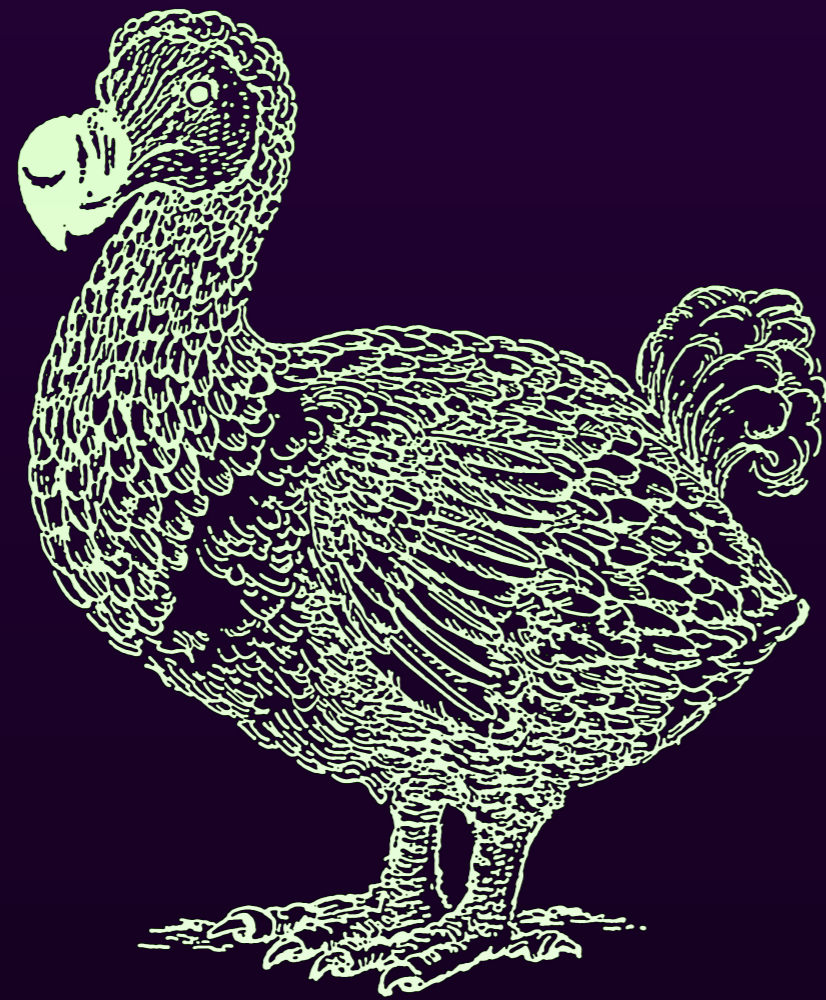
Approaches to creative image and caption placement with floats,
layers, makeups and postponing.
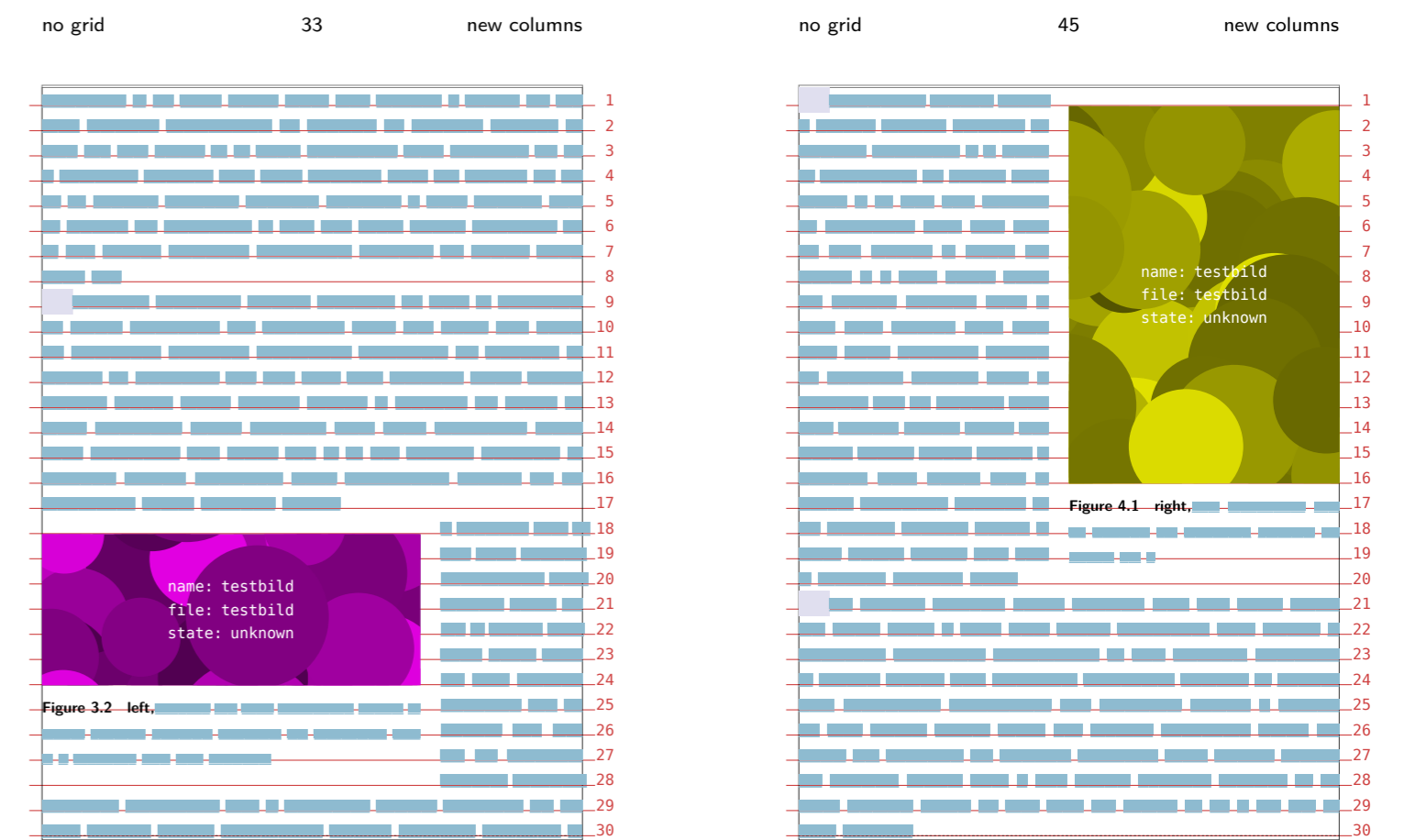
Henning Hraban Ramm © context meeting 2019

Without grids or columns, floats are usable.

location	works?
top	reliable
bottom	unreliable
left/right	reliable

- Location modifiers `high/low/fit` work only for `left/right`.

Figure 1.1 top.

Figure 2.2 bottom.

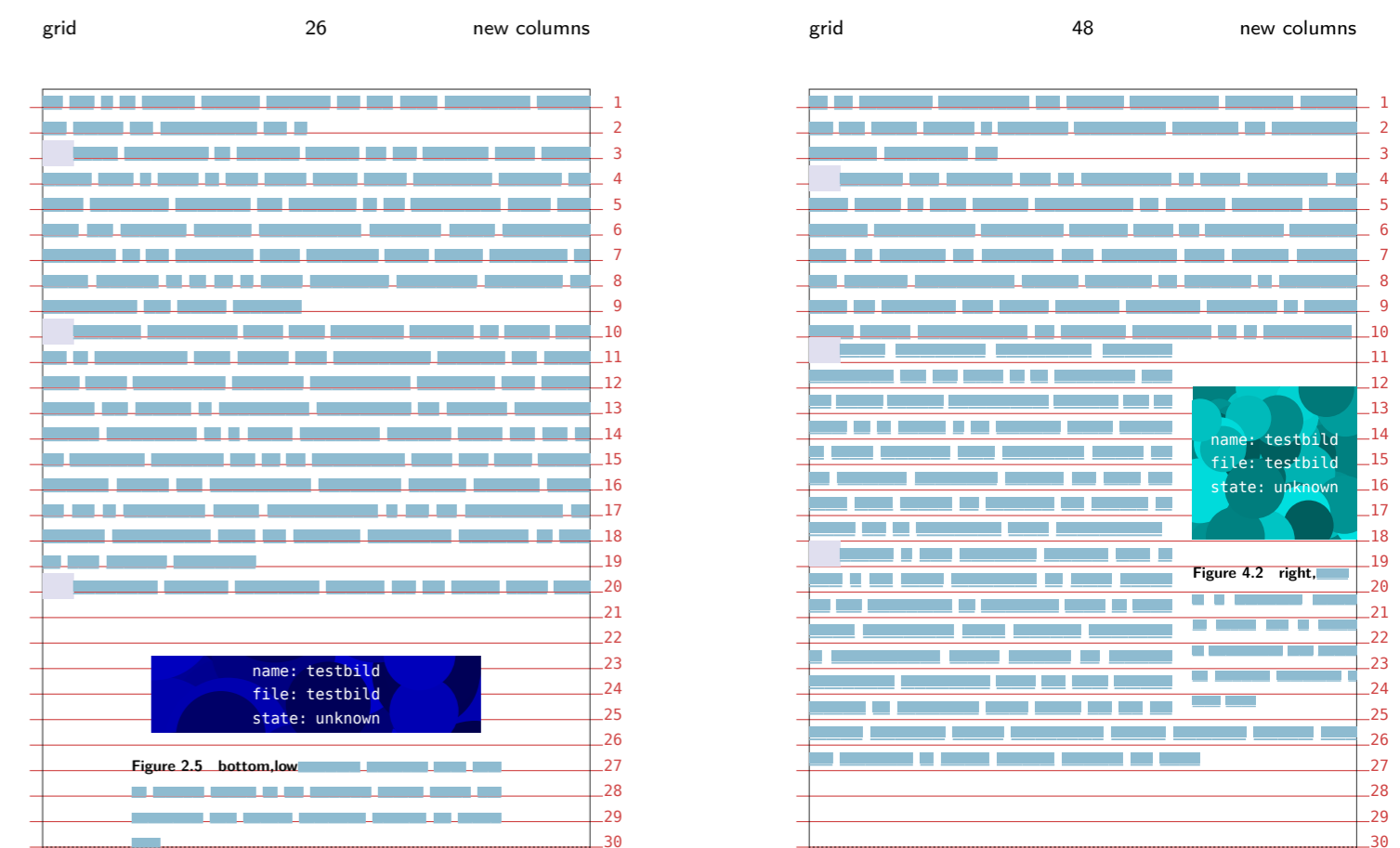Figure 3.2 left.

Figure 4.1 right.

- Pictures `top/bottom` are not on grid lines, while captions are.

- Placement often one line too low; with linecorrection one line lower.

- Linecorrection is only meant for headers, formulae and similar stuff, but...

- ⚠ Without linecorrection, caption collides with text; 'hanging' from grid lines.

- 🐞 `left/right` destroys grid placing of surrounding text.

- ⚠ Linecorrection without grid causes images to be left aligned; left/right placement doesn't work. (I expected lc to do nothing outside of grid mode.)
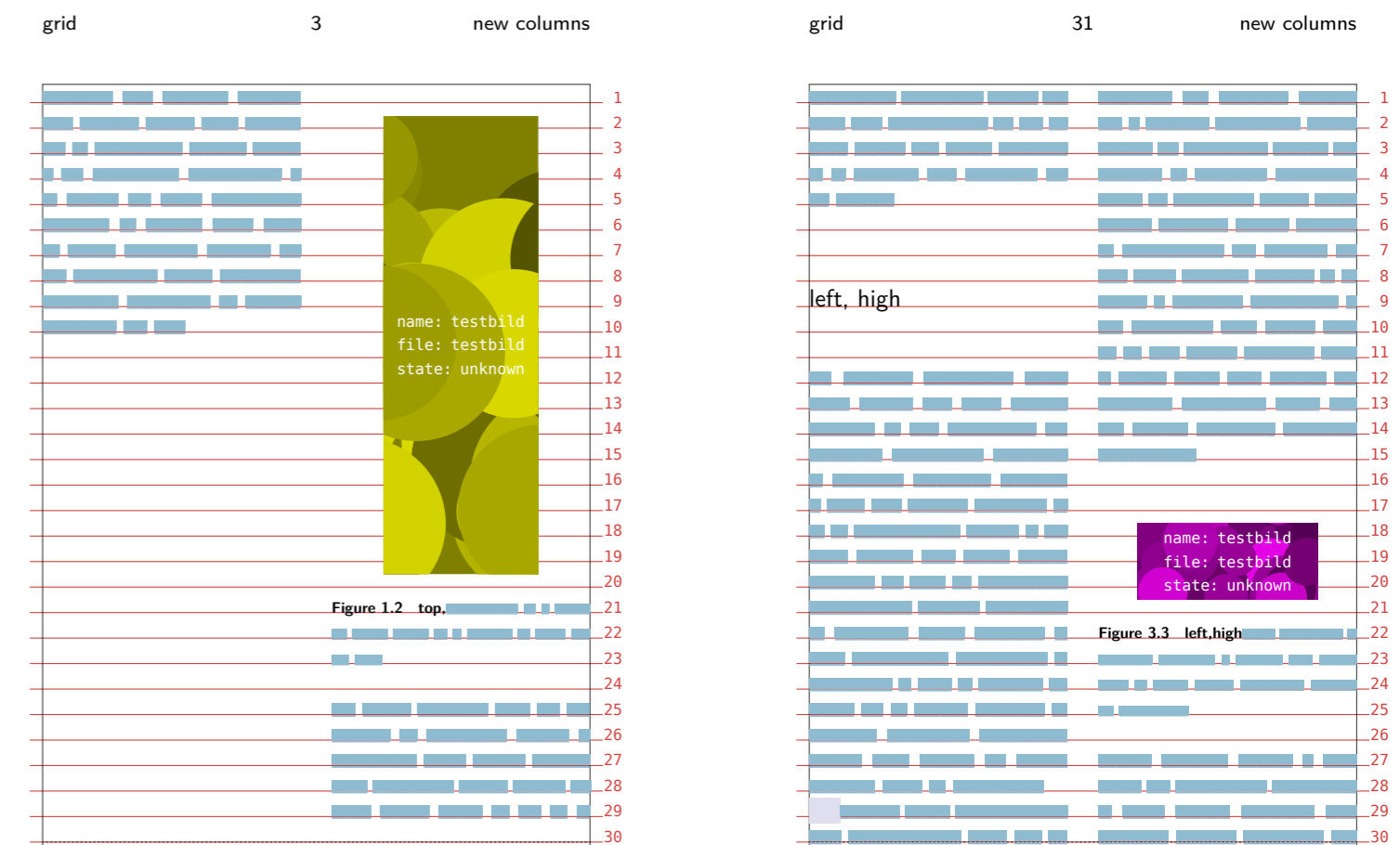
- ⚠ Linecorrection *around* `\placefloat` destroys placement.

New columns

- New columns are always in grid mode, i.e. linecorrection is necessary.

- Locations don't work – it's always like `here`. Page breaking is strange.

- Pictures that are wider than one column get partly forgotten (`\placefloats` doesn't help), partly flushed at the end of a chapter, still placed centered to one column.

Old columns

- Old columns don't enforce grid mode.

- Locations `top`/`down` work as in single column mode (i.e. `bottom` only sometimes); `left`/`right` don't work.

- Sometimes float and caption shifted to the left.

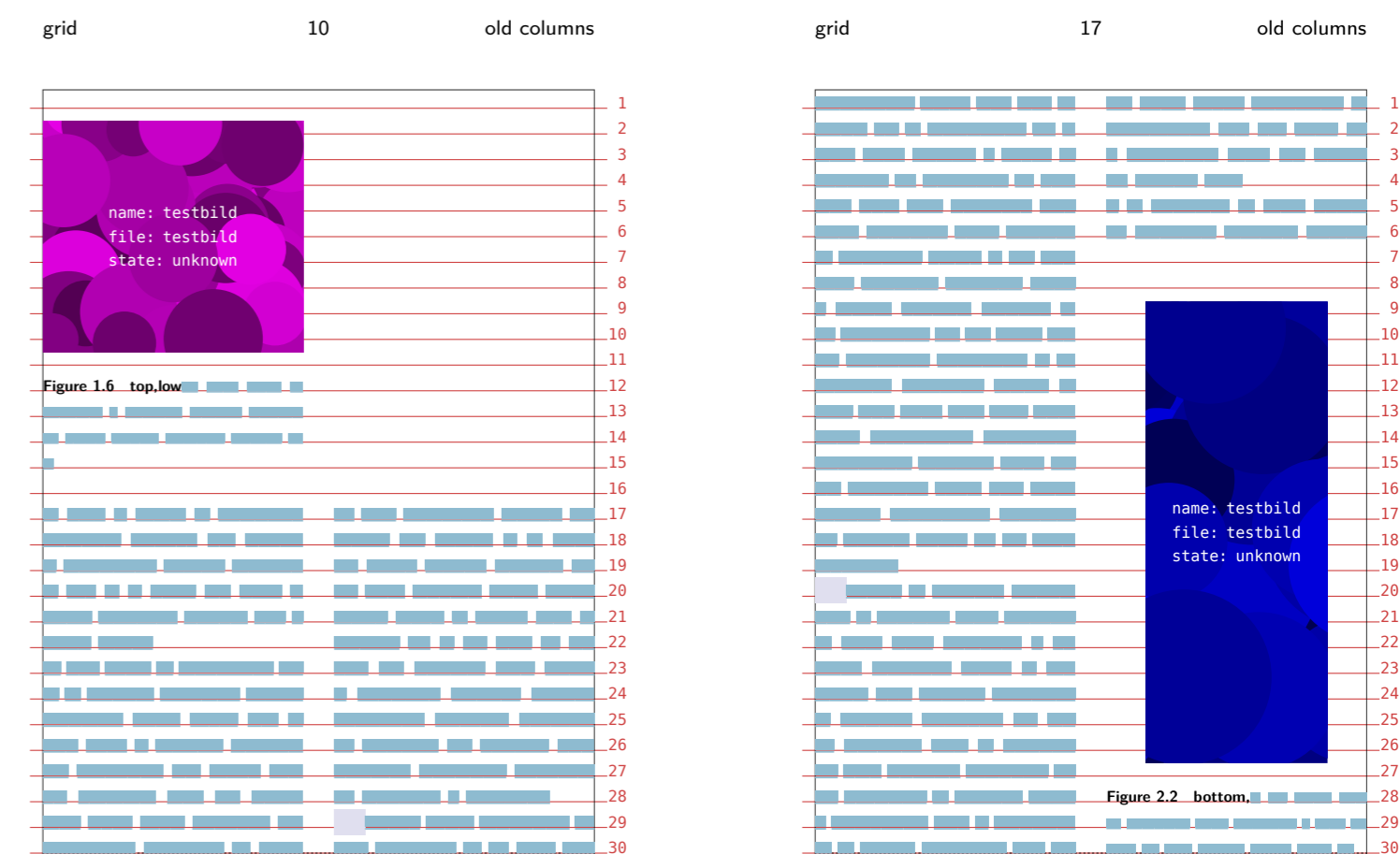- Wide floats get placed at the top of the next page, as documented.

Floats in columns

New columnsets

- Grid mode is enforced.

- In new columnsets, float locations work like in old columns.

- 🐞 Floats appear left aligned in the column, but the caption is centered, but as wide as the column, i.e. there are collisions.

- Without linecorrection, there are even more collisions.

- Wide floats mostly work in new columnsets.

Old columnsets

- Grid mode is not enforced, but works well.

- Float placement works as documented (top/bottom ok, left/right no).

- Sometimes strange page/column breaking.

⚠ ATM old columnsets are recommended for best results!

Marginal floats

Images in margins.
Images wider than margin (text flow?)
Images with full text width plus margin
Use \starthanging?

Floats with bleed

```
\placefigure[top,leftpage,high][fig:ref]{Caption}{%
        \offset[
    topoffset=\dimexpr-\topspace -\headerheight -\Bleed
-1mm]\relax,
    leftoffset=-\Bleed]{%
  \externalfigure[myImage][width=\dimexpr\pagewidth +
\Bleed\relax]
        }%
}%
```

Not shown: Image size is calculated, image is clipped to fit.

🐞 Beware: Imposition (arranging) cuts the bleed!

Full page images

```
\definemakeup[fullpage][
  page=no,
  doublesided=no,
  headerstate=empty,
  footerstate=empty,
  pagestate=start,
]

\startpostponing[pagenumber]
  \startfullpagemakeup
    \setlayer[myLayer][x=-\Bleed,y=-\Bleed]{%
            \clip[
                  hoffset=0mm, voffset=0mm,
                  width=\maxWidth, % page width + bleed
                  height=\maxHeight, % page height + 2*bleed
            ]{%
    \externalfigure[myImage][height=\maxHeight]% or width=\maxWidth
            }%
      }
  \stopfullpagemakeup
\stoppostponing
```

Double page images

divide et impera...

Similar to single page images, but picture is clipped in two halves and placed separately in two single fullpage makeups, but in one postponing.

Captions within images

- \setupcaption has mighty options for captions of floats.

- Captions in full page images use \setlayer.

- e.g. shadow style: white text on shadow (use underline shadow instead of box)

- e.g. cutout style: white box (lines?) at image rim

- Pictures sit on grid lines and end at x-height.
- Pictures that are bigger than the text area but not full page size also must sit on the grid and might extend into the bleed.
- How to fit to grid/layout?
  - width is usually the leading measure
  - define fixed width or set of possible widths (layout grid)
  - define target resolution (default e.g. 150 dpi, min. 200 dpi for printing)
  - define a stretching tolerance
  - define a clipping side
  - calculate max size according to target resolution
  - warn if image resolution is too low (debug mode: typeset size/res information on image)
  - calculate max lines according to width
  - downsample big images according to target resolution
- Captions within pictures, in margin or in neighbour column...
- If captions use the same line height as the body text, they adhere to the grid. If they use a different line height, only the distance to the picture needs to be constant.