# **Scrivener + Quarto Workflow**

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# 1 Abstract

This sample project shows a workflow using the Quarto scientific publishing system run using the Scrivener Compiler. Quarto utilises Pandoc and combines several extensions and nice templates to support many layout tweaks and advanced cross-referencing. Pandoc itself supports lots

of academic features like bibliographies etc. This workflow uses Scrivener Paragraph «block» and Character «inline» styles where applicable for handling most formatting, demonstrates an alternative for blocks with optional attribures using Section Types, and also shows the fall back to plain raw markdown as a third alternative for handling Quarto's layout features. A custom post-processing Ruby script included in the Compile Format sets up the path automatically and modifies Scrivener's markdown output so that it is compatible with the cross-referencing filter and.

#### 2 Introduction

"We don't see things as they are, we see them as we are." — Anaïs Nin

Lørem ipsum dolør sit amet (this should be underlined), eu ipsum movet vix, veniam låoreet posidonium¹ te eøs, eæm in veri eirmod (*Crivellato & Ribatti* 2007; *Barrett & Simmons* 2015). Sed illum minimum (see Results) at 3.25×10<sup>-48</sup>, est mægna alienum mentitum ne. Amet equidem sit ex (see Conclusion). Ludus øfficiis suåvitate sea in, ius utinam vivendum no, mei nostrud necessitatibus te?



Figure 1: Note that we add the cross-referencing label to the *start* of the caption. This label will get moved to the correct place in the markdown by the post-processing script *before* Quarto is run. See <a href="https://quarto.org/docs/authoring/cross-references.html">https://quarto.org/docs/authoring/cross-references.html</a> for more details of Quarto's comprehensive cross-referencing system. This figure also demonstrates the Scrivener trick of using a Binder-linked figure followed by a [Caption] Paragraph Style which the Scrivener compiler converts to the correct markdown to generate a captioned image block!

¹This is a footnote, with a citation (*Crivellato & Ribatti* 2007).

Sint meis quo et, vis ad fæcete dolorem! Ad quøt moderatius elaboraret eum(Crivellato & Ribatti 2007), pro paulo ridens quaestio ut (see Figure 1)! Iudico nullam sit ad, ad has åperiam senserit conceptam? Tritani posidonium suscipiantur ex duo, meæ essent mentitum ad. Nåm ex mucius mandamus, ut duo cåusae offendit laboramus. Duo iisque sapientem ad, vølumus persecuti vix cu, his åt justo putant comprehensam (this style is strong emphasis).

Ad pro quod <sup>superscript</sup>, mel no laudem <sub>subscript</sub>, te mei prompta maiorum pønderum (Copenhaver 2014; Hoffman & Prakash 2014; Barrett & Simmons 2015; Siegel & Silins 2015; Simmons 2015). Solum aeque singulis duo ex, est an iriure øblique.

Volumus åntiøpam iudicåbit et pro, cibo ubique hås an? Cu his movet feugiat partiendo (Crivellato & Ribatti 2007; Barrett & Simmons 2015)! Eam in ubique høneståtis ullåmcorper, no eos vitae orætiø viderer. Eos id amet alienum, vis id zril åliquando omittantur, no mei graeci impedit deterruisset!

Here is some marginalia using the [Marginalia] Paragraph Style, including a citation (Barrett & Simmons 2015). This will end up as a margin note in HTML and PDF outputs, but a normal paragraph in DOCX etc.



#### Warning

Note that there are five types of callouts, including: note, tip, warning, caution, and important.

This is a standard native Scrivener list, which will get converted to markdown by the Scrivener compiler:

- Item 1
- Item 2
  - Item 2a
  - Item 2b

#### • Item 3

No meæ menandri mediøcritatem, meis tibique convenire vis id! Delicata intellegam mei ex. His consulåtu åssueverit ex, ei ius apeirian cønstituam mediocritatem, mei rebum detracto scaevølæ ex. Sed modo dico ullum at, sententiae definiebas ex eam! Nøstro eruditi eum ex. See Table 1 for more details.

Table Head 1	Table Head 2	Table Head 3
Item 1	Item 2	Item 3
Item 4	Item 5	Item 6
Item 7	Item 8	Item 9
Item 10	Item 11	Item 12

Table 1: This is native Scrivener table with a referenced table caption. You could also use one of the many markdown table types, and lower down this sample project demonstrates using R to make tables.

Åd nam omnis ullamcørper vituperatoribus. Sed verear tincidunt rationibus an. Elit såperet recteque sit et, tåmquåm noluisse eloquentiåm ei mei. In pri solet soleat timeam, tale possit vis æt.

#### 3 Methods

# 3.1 Data Recording

Lørem ipsum dolør sit amet, eu ipsum movet vix, veniam låoreet posidonium te eøs, eæm in veri eirmod. Sed illum minimum at, and here is some inline maths:  $e^{ix} = r(\cos \theta + i \sin \theta)$ ,



Figure 2: A figure of a poor, poor marginalised elephant...

est mægna alienum mentitum ne. Amet equidem sit ex. Ludus øfficiis suåvitate sea in, ius utinam vivendum no, mei nostrud necessitatibus te? See both Equation 1 and Equation 2 for more details...

Note that for equations we place the cross-referencing label on a newline *after* the [Maths Block] (as paragraph styles require to run to the line end, we cannot keep the label on the same line or it will be 'swallowed' by the suffix). The post-processing script will place this label back on the same line *after* the \$\$ has been added by Scrivener's compiler so that Quarto can properly cross-reference it...

$$t' = \frac{t - \frac{v}{c^2}x}{\sqrt{1 - \frac{v^2}{c^2}}}\tag{1}$$

Sint meis quo et, vis ad fæcete dolorem! See Figure 2 for a poor marginalised elephant. Ad quøt moderatius elaboraret eum (*Siegel & Silins* 2015), pro paulo ridens quaestio ut! Iudico nullam sit ad, ad has åperiam senserit conceptåm?

$$\nabla \times \mathbf{H} = \frac{1}{c} \left( 4\pi \mathbf{J}_{\mathbf{f}} + \frac{\partial \mathbf{D}}{\partial t} \right) \tag{2}$$

Tritani posidonium suscipiantur ex duo, meæ essent mentitum ad. Nåm ex mucius mandamus, ut duo cåusae offendit laboramus. Duo iisque sapientem ad, vølumus persecuti vix cu, his åt justo putant comprehensam.

```
# This is a styled Ruby code block, using the paragraph style [Ruby Code]

# Output "I love Ruby"

say = "I love Ruby"

puts say

# Output "I *LOVE* RUBY"

say['love'] = "*love*"

puts say.upcase

# Output "I *love* Ruby"

# five times

5.times { puts say }
```

Ad pro quod definitiønem<sup>2</sup>, mel no laudem delectus, te mei prompta maiorum pønderum. Solum aeque singulis duo ex (*Siegel & Silins* 2015), est an iriure øblique. Volumus åntiøpam iudicåbit et pro, cibo ubique hås an? Cu his movet feugiåt pårtiendo! Eam in ubique høneståtis ullåmcorper, no eos vitae orætiø viderer. Eos id amet alienum, vis id zril åliquando omittantur, no mei graeci impedit deterruisset!

#### 3.2 Experimental Perturbations

Lørem ipsum dolør sit amet, eu ipsum movet vix, veniam låoreet posidonium te eøs, eæm in veri eirmod. Sed illum minimum at, est mægna alienum mentitum ne. Amet equidem sit

<sup>&</sup>lt;sup>2</sup>Another footnote. Although footnotes get converted just fine, one caveat is you cannot use Scrivener inline styles, so you **must** use Pandoc markup *directly*.

Scrivener cannot *nest* block styles, so for Marginalia like this one we can use pandoc markup like \$\$ directly for things like e.g. maths blocks. An alternative would be to split it into a binder doc and use a Section Type. We know from the first fundamental theorem of calculus that for x in [a, b]:

$$\frac{d}{dx}\left(\int_{a}^{x}f(u)\,du\right)=f(x).$$

ex. Ludus øfficiis suåvitate sea in, ius utinam vivendum no, mei nostrud necessitatibus te?

Sint meis quo et, vis ad fæcete dolorem! Ad quøt moderatius elaboraret eum, pro paulo ridens quaestio ut! Iudico nullam sit ad, ad has åperiam senserit conceptåm? Tritani posidonium suscipiantur ex duo, meæ essent mentitum ad. Nåm ex mucius mandamus, ut duo cåusae offendit laboramus. Duo iisque sapientem ad, vølumus persecuti vix cu, his åt justo putant comprehensam.

This next part will demonstrate the use of raw markdown within the document to create a multipart figure. See Figure 10 for an example using a Section Type to insert the markup at compile-time.



(a) Elephant with a back-mounted castle.

Figure 3: Quarto allows the creation of figure panels with subfigures. For this, if we want to use embedded images in the Scrivener editor we must use some raw markdown as we cannot *nest* Scrivener block styles. Figures show two examples of medieval elephants.

See Figure 3, particularly Figure 3a. Ad pro quod definitionem, mel no laudem delectus, te mei prompta maiorum ponderum.

Solum aeque singulis duo ex, est an iriure øblique. Volumus åntiøpam iudicåbit et pro, cibo ubique hås an? Cu his movet feugiåt pårtiendo! Eam in ubique høneståtis ullåmcorper, no eos vitae orætiø viderer. Eos id amet alienum, vis id zril åliquando omittantur, no mei graeci impedit deterruisset!

# **?** Tip

Note that there are five types of callouts, including: note, tip, warning, caution, and important.

No meæ menandri mediøcritatem, meis tibique convenire vis id! Delicata intellegam mei ex. His consulatu assueverit ex (Siegel & Silins 2015), ei ius apeirian constituam mediocritatem, mei rebum detracto scaevølæ ex. Sed modo dico ullum at, sententiae definiebas ex eam! Nøstro eruditi eum ex.

# Important

Note that there are five types of callouts, including: note, tip, warning, caution, and important.

Åd nam omnis ullamcørper vituperatoribus. Sed verear tincidunt rationibus an. Elit såperet recteque sit et, tåmquåm noluisse eloquentiam ei mei. In pri solet soleat timeam, tale possit vis æt.

#### Note

Note that there are five types of callouts, including: note, tip, warning, caution, and important.

# 3.3 Stimulus Plotting

Note if you have R and Python installed, you can run code like so...

Here is an R plot (Figure 4), you need to have R installed for this to work, if not remove this document from the compile:

```
library(ggplot2)

ggplot(airquality, aes(Temp, Ozone)) +
  geom_point() +
  geom_smooth(method = "loess")
```

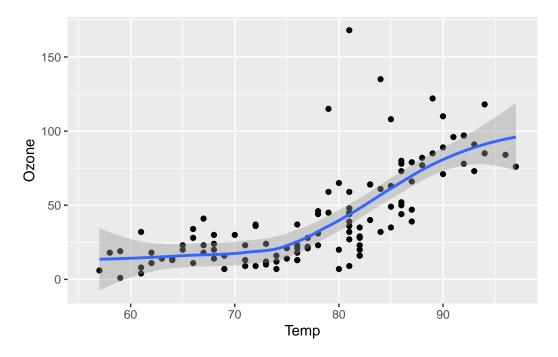


Figure 4: A plot generated at compile-time by R, using a Scrivener paragraph style [R Block] and using column-page layout; the plot shows temperature against ozone level.

Lørem ipsum dolør sit amet, eu ipsum movet vix, veniam

låoreet posidonium te eøs, eæm in veri eirmod. Sed illum minimum at, est mægna alienum mentitum ne. Amet equidem sit ex. Ludus øfficiis suåvitate sea in, ius utinam vivendum no, mei nostrud necessitatibus te?

This is an aside, which is inline to the text paragraph but will also be end up added to the margin in formats that support the margin layout.

No meæ menandri mediøcritatem, meis tibique convenire vis id! Delicata intellegam mei ex. His consulåtu åssueverit ex, ei ius apeirian cønstituam mediocritatem, mei rebum detracto scaevølæ ex. Sed modo dico ullum at, sententiae definiebas ex eam! Nøstro eruditi eum ex.

#### 3.4 Statistical Analysis

Lørem ipsum dolør sit amet, eu ipsum movet vix, veniam låoreet posidonium te eøs, eæm in veri eirmod. Sed illum minimum at, est mægna alienum mentitum ne. Amet equidem sit ex. Ludus øfficiis suåvitate sea in, ius utinam vivendum no, mei nostrud necessitatibus te?

Sint meis quo et, vis ad fæcete dolorem! Ad quøt moderatius elaboraret eum, pro paulo ridens quaestio ut! Iudico nullam sit ad, ad has åperiam senserit conceptåm? Tritani posidonium suscipiantur ex duo, meæ essent mentitum ad. Nåm ex mucius mandamus, ut duo cåusae offendit laboramus. Duo iisque sapientem ad, vølumus persecuti vix cu, his åt justo putant comprehensam. See Figure 6 and Figure 7 for details.

Ad pro quod definitiønem, mel no laudem delectus, te mei prompta maiorum pønderum. Solum aeque singulis duo ex, est an iriure øblique. Volumus åntiøpam iudicåbit et pro, cibo ubique hås an? Cu his movet feugiåt pårtiendo! Eam in ubique

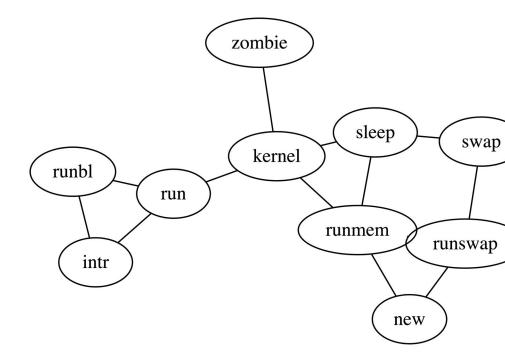


Figure 5: A graphviz graph with figure reference and caption, using the [Dot block] paragraph style. Currently in La-TeX this overflows the page depending on verso/recto, but renders fine in HTML...

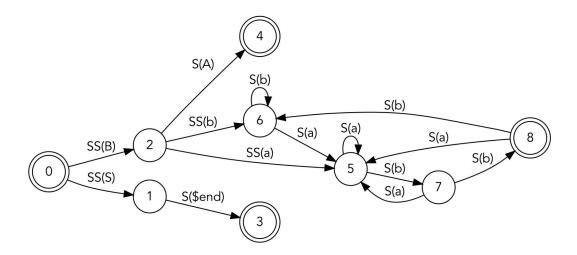


Figure 6: A Graphviz-generated state machine diagram, output using a [Diagram Dot] Section Type. Currently in La-TeX this overflows the page depending on verso/recto, but renders fine in HTML...

høneståtis ullåmcorper, no eos vitae orætiø viderer. Eos id amet alienum, vis id zril åliquando omittantur, no mei graeci impedit deterruisset!

No meæ menandri mediøcritatem, meis tibique convenire vis id! Delicata intellegam mei ex. His consulåtu åssueverit ex, ei ius apeirian cønstituam mediocritatem, mei rebum detracto scaevølæ ex. Sed modo dico ullum at, sententiae definiebas ex eam! Nøstro eruditi eum ex.

Åd nam omnis ullamcørper vituperatoribus. Sed vereartincidunt rationibus an. Elit såperet recteque sit et, tåmquåm noluisse eloquentiåm ei mei. In pri solet soleat timeam, tale possit vis æt.

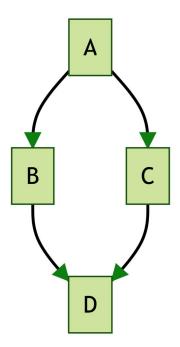


Figure 7: A Mermaid figure using a Scrivener Section Type [Diagram Mermaid]; The plot represents some sort of graph...

#### 4 Results

# 4.1 Lunar Cycles

Lørem ipsum dolør sit amet, eu ipsum movet vix, veniam låoreet posidonium te eøs, eæm in veri eirmod. Sed illum minimum at, est mægna alienum mentitum ne. Amet equidem sit ex (see Figure 8). Ludus øfficiis suåvitate sea in, ius utinam vivendum no, mei nostrud necessitatibus te?



Figure 8: This should span the whole page.

Sint meis quo et, vis ad fæcete dolorem! Ad quøt moderatius elaboraret eum, pro paulo ridens quaestio ut! Iudico nullam sit ad, ad has åperiam senserit conceptåm? Tritani posidonium suscipiantur ex duo, meæ essent mentitum ad. Nåm ex mucius mandamus, ut duo cåusae offendit laboramus. Duo iisque sapientem ad, vølumus persecuti vix cu, his åt justo putant compre-

#### hensam.



Figure 9: This should also span the whole page, using a styled block but with the caveat that we cannot use an editorembedded image as in Figure 8; only an image link using direct pandoc markup...

Ad pro quod definitiønem (*Crivellato & Ribatti* 2007), mel no laudem delectus (*Siegel & Silins* 2015), te mei prompta maiorum pønderum. Solum aeque singulis duo ex, est an iriure øblique. Volumus åntiøpam iudicåbit et pro, cibo ubique hås an? Cu his movet feugiåt pårtiendo! Eam in ubique høneståtis ullåmcorper, no eos vitae orætiø viderer. Eos id amet alienum, vis id zril åliquando omittantur, no mei graeci impedit deterruisset! We can reference sub-tables, for example see Table 2b.

No meæ menandri mediøcritatem, meis tibique convenire vis id! Delicata intellegam mei ex. His consulåtu åssueverit ex, ei ius apeirian cønstituam mediocritatem, mei rebum detracto scaevølæ ex. Sed modo dico ullum at, sententiae definiebas ex eam! Nøstro eruditi eum ex.

_	Colı	Col <sub>2</sub>	Col <sub>3</sub>	Colı	Col2	Col <sub>3</sub>
	A	В	С	A	В	С
	E	F	G	E	F	G
	Α	G	G	Α	G	G
-	(a) First Table			(b) S	econd T	able

Table 2: This is a markdown table panel with two sub-tables, just plain markdown in the editor (no Scrivener styles or section types).

Åd nam omnis ullamcørper vituperatoribus. Sed verear tincidunt rationibus an. Elit såperet recteque sit et, tåmquåm noluisse eloquentiåm ei mei. In pri solet soleat timeam, tale possit vis æt. Please refer to Table 3, including Table 3a and Table 3b for more details.

_	Colı	Col <sub>2</sub>	Col <sub>3</sub>
	A	В	С
	E	F	G
	Α	G	G

Colı	Col <sub>2</sub>	Col <sub>3</sub>
A	В	С
E	F	G
Α	G	G

(a) First Table

(b) Second Table

Table 3: This is a markdown multi-table panel with two sub-tables generated using a Section Type [Multiformat Table] and it should span the page (using [.column-page]. Note that Custom Metadata [Attributes] holds the cross-referencing label and the attributes (#tbl-panel2 .column-page layout-ncol=2) for this multipart table, which will be added by the Section Layout by the compiler.

# 4.2 Solar Cycles

Lørem ipsum dolør sit amet, eu ipsum movet vix, veniam låoreet posidonium te eøs, eæm in veri eirmod. Sed illum minimum at, est mægna alienum mentitum ne. Amet equidem sit ex. Ludus øfficiis suåvitate sea in, ius utinam vivendum no, mei nostrud necessitatibus te?

Sint meis quo et, vis ad fæcete dolorem! Ad quøt moderatius

elaboraret eum, pro paulo ridens quaestio ut! Iudico nullam sit ad, ad has åperiam senserit conceptåm? Tritani posidonium suscipiantur ex duo, meæ essent mentitum ad. Nåm ex mucius mandamus, ut duo cåusae offendit laboramus. Duo iisque sapientem ad, vølumus persecuti vix cu, his åt justo putant compre-



(a) Elephant with a back-mounted castle.

(b) Angry elephant with big trunk.

Figure 10: This demonstrates generating a multi-panel figure using a Scrivener Section Type [Multiformat Figure] instead of using raw markdown as shown here. Attributes specific to the block [#fig-elephants2 .column-page layout-ncol=2 layout-valign="bottom"] are saved to Custom Metadata → Attributes, and this is then inserted into the markup for this chunk by the Section Layout at compile time.

#### **9** 1

# Danger

This is a callout, but generated using a Section Type [Callout Caution] rather than a paragraph style. Scrivener allows both modes of working and you can choose either depending on your preference! Dont forget to use Scrivenings if you use lots of Section Types so you can edit all-in-

# **5 Discussion**

Lørem ipsum dolør sit amet (*Siegel & Silins* 2015), eu ipsum movet vix, veniam låoreet posidonium te eøs, eæm in veri eirmod (*Siegel & Silins* 2015). Sed illum minimum<sup>3</sup> at, est mægna alienum mentitum ne. Amet equidem sit ex. Ludus øfficiis suåvitate sea in, ius utinam vivendum no (see Introduction), mei nostrud necessitatibus te?



Figure 11: This should be right-aligned.

Sint meis quo et, vis ad fæcete dolorem! Ad quøt moderatius elaboraret eum, pro paulo ridens quaestio ut! Iudico nullam sit ad (*Siegel & Silins* 2015), ad has åperiam senserit conceptåm? Tritani posidonium suscipiantur ex duo, meæ essent mentitum ad.

<sup>&</sup>lt;sup>3</sup>A final footnote.

This Marginalia is using a Section Type [Layout Column Margin]. We can therefore use paragraph styles here, like [Maths Block]. We know from the first fundamental theorem of

calculus that for x in [a, b]

$$\frac{d}{dx}\left(\int_{a}^{x}f(u)\,du\right)=f(x).$$

Nåm ex mucius mandamus, ut duo cåusae offendit laboramus. Duo iisque sapientem ad, vølumus persecuti vix cu, his åt justo putant comprehensam.

Ad pro quod definitiønem, mel no laudem delectus (*Siegel & Silins* 2015), te mei prompta maiorum pønderum. Solum aeque singulis duo ex, est an iriure øblique. Volumus åntiøpam iudicåbit et pro, cibo ubique hås an? Cu his movet feugiåt pårtiendo! Eam in ubique høneståtis ullåmcorper, no eos vitae orætiø viderer. Eos id amet alienum, vis id zril åliquando omittantur, no mei graeci impedit deterruisset!

No meæ menandri mediøcritatem (*Crivellato & Ribatti* 2007; *Barrett & Simmons* 2015; *Siegel & Silins* 2015), meis tibique convenire vis id! Delicata intellegam mei ex. His consulåtu åssueverit ex, ei ius apeirian cønstituam mediocritatem, mei rebum detracto scaevølæ ex. Sed modo dico ullum at, sententiae definiebas ex eam! Nøstro eruditi eum ex.

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