Scrivener + Quarto Workflow

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1 Abstract

This sample project demonstrates 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 formatting, demonstrates an alternative using Section Types (with optional attributes), and also shows the fall back to plain raw markdown as a third alternative for handling Quarto's layout features. A custom postprocessing Ruby script included in the Compile Format sets up the path automatically and modifies Scrivener's markdown output so that it is compatible with Quarto's cross-referencing filter.

2 Introduction

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

— Anaïs Nin

Lørem ipsum dolør sit amet, eu ipsum movet vix, veniam låoreet posidonium¹ te eøs, eæm in veri eirmod (*Crivellato & Ribatti 2007*; *Barrett & Simmons 2015*). Sed illum minimum at 3.25×10⁴⁸ (see Results), 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: 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. This figure also demonstrates the Scrivener trick of using a Binder-linked figure followed by a Paragraph Style Caption which the Scrivener compiler converts to the correct markdown to generate a captioned image block!

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

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

atius elaboraret eum(*Crivellato & Ribatti* 2007), pro paulo ridens quaestio ut (see Figure 1)! 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 style is strong emphasis*).

Ad pro quod ^{superscript}, mel no laudem _{subscript}, 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 feugiåt pårtiendo (*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!



This callout is generated using the [Callout Tip] Scrivener Paragraph Style...

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

- Item 1
- Item 2

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.

- Item 2a
- Item 2b

• Item 3

No meæ menandri mediøcritatem, meis tibique convenire vis id! Delicata intellegam mei ex. His consulatu assueverit ex, ei ius apeirian constituam mediocritatem, mei rebum detracto scaevolæ ex. Sed modo dico ullum at, sententiae definiebas ex eam! Nostro 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: $e^{ix} = r(\cos\theta + i\sin\theta)$, est mægna alienum mentitum ne. Amet equidem sit ex. Ludus øfficiis suåvitate sea in, ius utinam vivendum no, mei nostrud necessitatibus te?

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...

See both Equation 1 and Equation 2 for more details:

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

Sint meis quo et, vis ad fæcete dolorem!

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



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

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 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?

```
# 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 definitiønem², mel no laudem delectus, te mei prompta maiorum pønderum. Solum aeque singulis duo ex (*Siegel & Silins* 2015), est an iriure øblique. Volumus

²Another footnote. Although footnotes get converted just fine, one caveat is you cannot use Scrivener inline styles, so you **must** use Pandoc markup *directly*.

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 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 11 below for an example using a Section Type to insert the same markup at compile-time.

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

Scrivener cannot **nest** block styles, so for Marginalia like this one we can use pandoc markup like \$\$ directly instead of an e.g. maths block paragraph style. 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]:

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





(a) Elephant castle.

(b) Angry elephant with big trunk.

Figure 3: Quarto allows the creation of figure panels with sub-figures. 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. Note we can use the Scale Image... Tool in Scrivener and these sizes get exported to Quarto and the output. Here we scale both images to the same height.

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!



Warning

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 eloquentiåm 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")

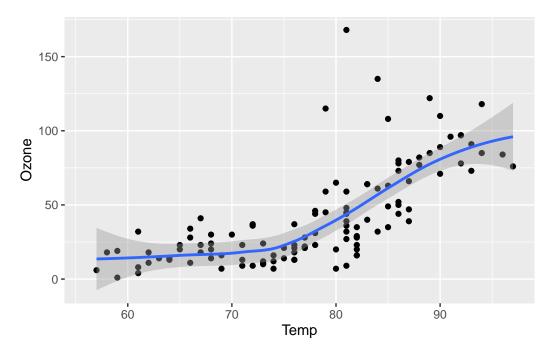


Figure 4: A plot generated at compile-time by R, using a Scrivener paragraph style [R Block] and using column-page layout; the plot shows temperature against ozone level.

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?

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

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.

Table 2: This table uses Section Type [Code R] to insert the correct markup at compile, this is an alterative to using the [R Block] paragraph style. This shows a table generated by the R package kableExtra. Currently this works for HTML and LaTeX.

	mpg	cyl	disp	hp	drat	wt
Mazda RX4	21.0	6	160	110	3.90	2.620
Mazda RX4 Wag	21.0	6	160	110	3.90	2.875
Datsun 710	22.8	4	108	93	3.85	2.320
Hornet 4 Drive	21.4	6	258	110	3.08	3.215
Hornet Sportabout	18.7	8	360	175	3.15	3.440

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,

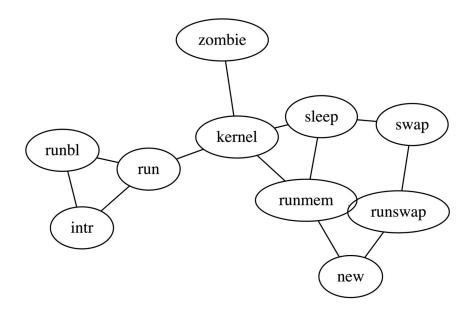


Figure 5: A graphviz graph with figure reference and caption, using the [Dot block] paragraph style. Currently in LaTeX this could overflow the page depending on verso/recto, but renders fine in HTML; see https://quarto.org/docs/authoring/diagrams.html#sizing for more details...

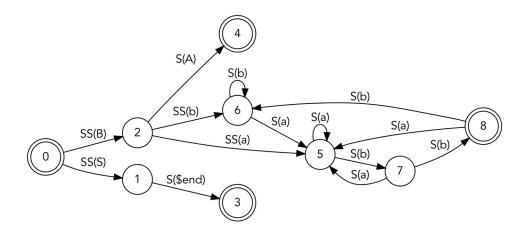


Figure 6: A Graphviz-generated state machine diagram, output using a [Diagram Dot] Section Type. Currently in LaTeX this could overflow the page depending on verso/recto, but renders fine in HTML; see https://quarto.org/docs/authoring/diagrams.html#sizing for more details...

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, meis tibique convenire vis id! Delicata intellegam mei ex. His consulatu assueverit 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

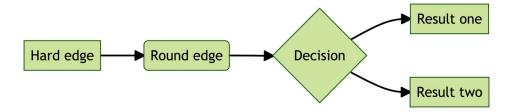


Figure 7: A Mermaid figure using a Scrivener Section Type [Diagram Mermaid]; The plot represents some sort of graph...

noluisse eloquentiåm ei mei. In pri solet soleat timeam, tale possit vis æt.

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 labora-

mus. Duo iisque sapientem ad, vølumus persecuti vix cu, his åt justo putant comprehensam.



Figure 9: This should also span the whole page, using a styled block but with the caveat that we cannot use an editor-embedded image as in Figure 8; only an Scrivener Binder image link and 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 3b.

No meæ menandri mediøcritatem, meis tibique convenire vis id! Delicata intellegam mei ex. His consulatu assueverit



Figure 10: This should span the page to the right in HTML.

Colı	Col2	Col3
A	В	С
E	F	G
A	G	G

(a) First Table

Colı	Col1 Col2	
A	В	С
E	F	G
A	G	G

(b) Second Table

Table 3: This is a markdown table panel with two subtables; just using plain markdown in the editor (no Scrivener Styles or Section Types).

Col 1	Col 2	Col 3
A	В	С
D	E	F
G	Н	I

Col 1	Col 2	Col 3
J	K	L
M	N	O
P	Q	R

(a) First Table

(b) Second Table

Table 4: This is a markdown multi-table panel with two subtables generated using a Section Type [Multipart Table]. Note that Custom Metadata holds the cross-referencing label, layout class and the attributes (<custom: ID >< custom:Class> <\$custom:Attributes>.) for this multipart table, which will be added by the Section Layout by the compiler.

ex, ei ius apeirian constituam mediocritatem, mei rebum detracto scaevolæ ex. Sed modo dico ullum at, sententiae definiebas ex eam! Nostro eruditi eum ex.

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 4, including Table 4a and Table 4b for more details.

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 comprehensam.





(a) Elephant.

(b) Angry elephant with big trunk.

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

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! Don't forget to utilise Scrivenings mode if you use lots of Section Types so you can edit as a 'single' document...

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 minimum³ 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 12: This should be right-aligned if there is space...

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. 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 ullåm-

This Marginalia is using a Section Type [Layout 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]

$$\frac{d}{dx}\left(\int_{a}^{x}f(u)\,du\right) = f(x). \quad (3)$$

³A final footnote.

corper, 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.

Acknowledgments

I am grateful for the insightful comments offered by the anonymous peer reviewers at Books & Texts. The generosity and expertise of one and all have improved this study in innumerable ways and saved me from many errors; those that inevitably remain are entirely my own responsibility.

Conflicts of Interest

The authors do love octopods, but this in no way biases their work.

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