

Anatomy of a block

Gutenberg design patterns

Tammie Lister: @karmatosed

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Hello

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Tammie Lister : @karmatosed

I am the design lead for phase one of Gutenberg, the editor and today going to be taking a deep dive into what really makes a block.

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Not a technical talk or workshop

This talk isn't also just for designers. This is for anyone that want to understand more the design behind Gutenberg. It's also going to hopefully be useful for those wanting to make blocks and create using Gutenberg.

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Questions at the end, this is going to be fast...

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Link at the end of resources

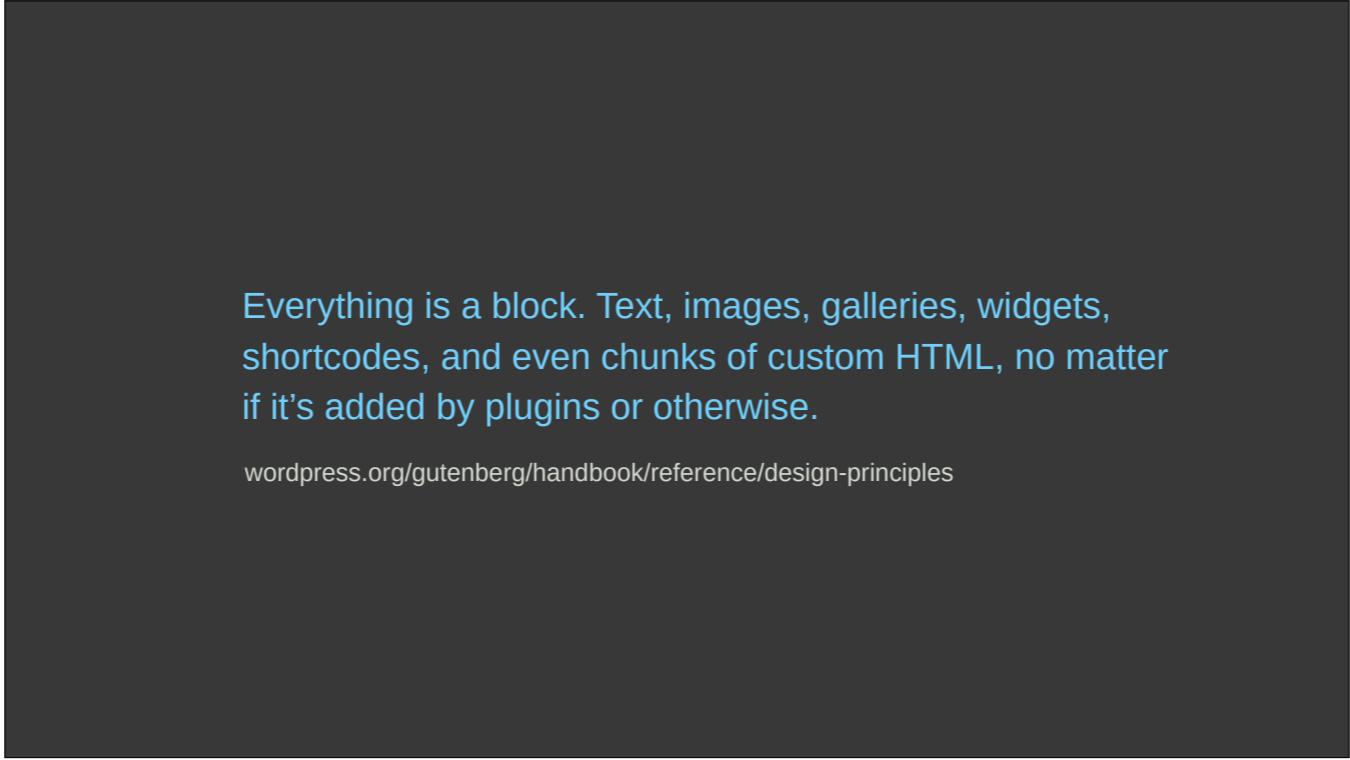
I would also like to say that these screenshots were valid as of a week ago.

Gutenberg is a project still being worked on and likely things may change before release - some may even look different if you tested today. The principles and patterns though I am saying about are foundations, it's just some aspects may get iterated on.

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The vision of Gutenberg

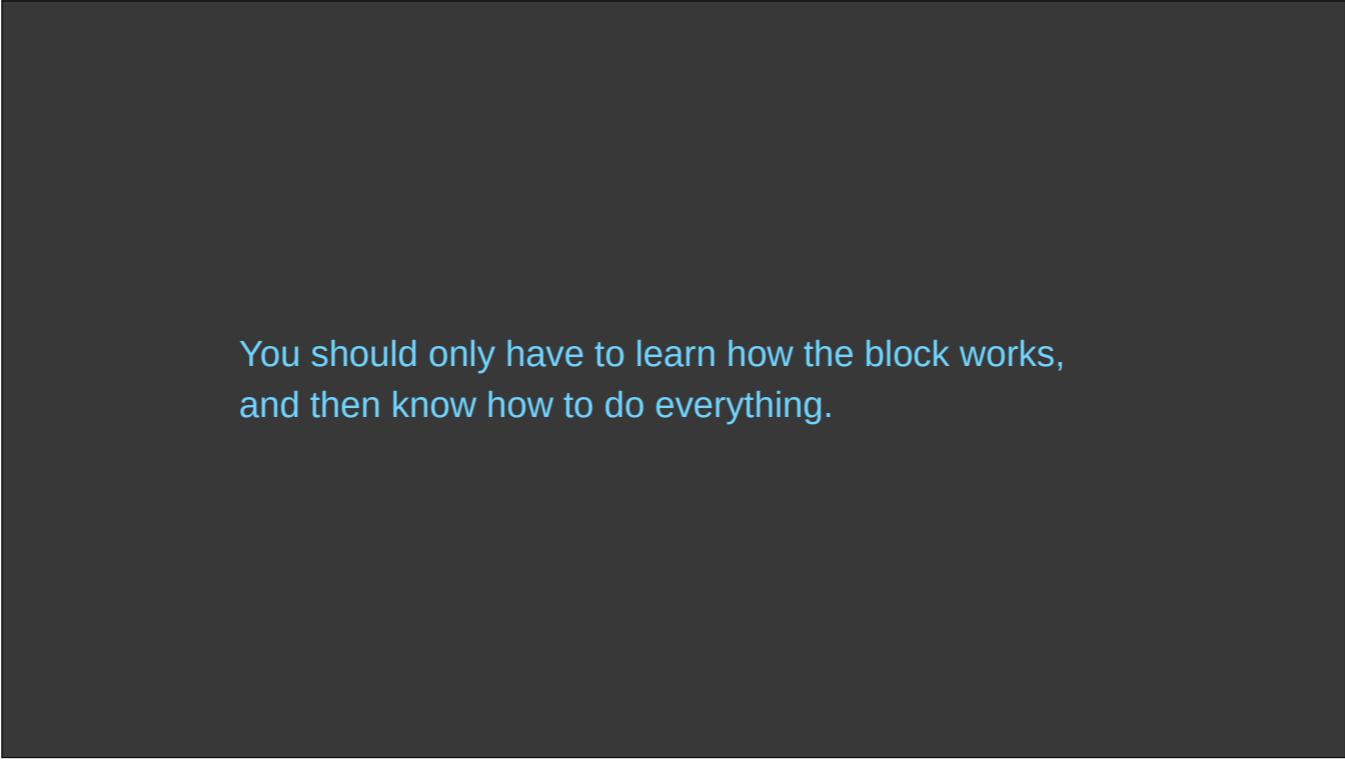
Starting with vision then going in. What is the design vision of Gutenberg?



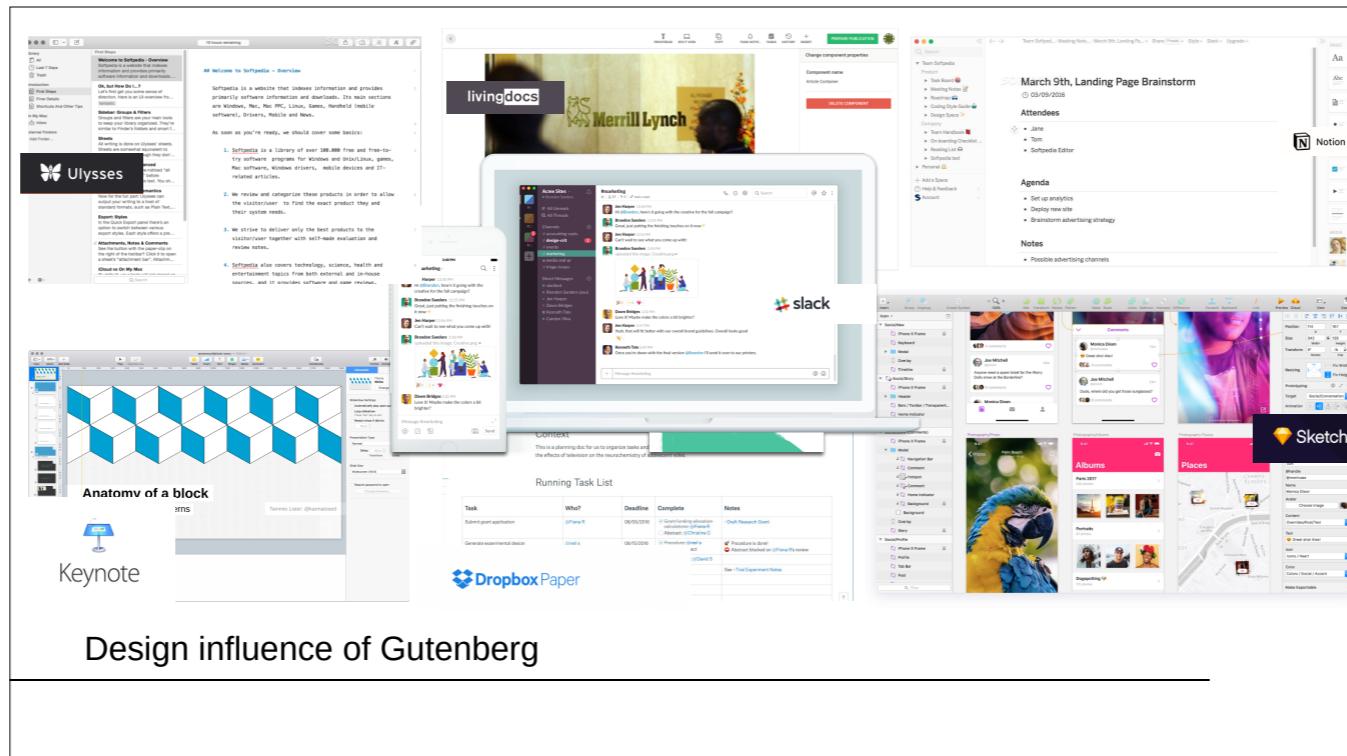
Everything is a block. Text, images, galleries, widgets, shortcodes, and even chunks of custom HTML, no matter if it's added by plugins or otherwise.

wordpress.org/gutenberg/handbook/reference/design-principles

This in short...



You should only have to learn how the block works,
and then know how to do everything.



Ulyssess, living docs, notion, sketch, keynote, dropbox paper, slack... apps and beyond all add up to the product that is Gutenberg today.

The image displays three separate application interfaces illustrating the use of dropdown menus:

- Left Panel:** A search interface for Slack commands. It shows a list of matching commands like '/archive', '/away', and '/remind'. Below the list is a Google search bar with the query 'wordpress is awesome'.
- Middle Panel:** The Gutenberg editor's block inserter. It features a search bar at the top, followed by sections for 'BASIC' (Text, Markdown, Quote, Image, Video), 'IMAGE LAYOUTS' (Poster, Card, Overlap, Collage, Stack), 'GALLERY' (Slideshow, Carousel, Grid, Stack), and 'SUMMARY' (Grid). A sidebar on the right contains publishing options and a category list.
- Right Panel:** A contact creation form titled 'New Contact'. It includes fields for Name (Peter Carlsson), Phone Number (212-665-8945), and Label (Mobile). A dropdown menu is open over the 'Label' field, listing options: Refresh, Settings, Send Feedback, Help, and Signout.

Existing design patterns in Gutenberg
material.io/design/components/menus.html#dropdown-menu

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The language of Gutenberg

Let's move a little into thinking about the design language of Gutenberg.

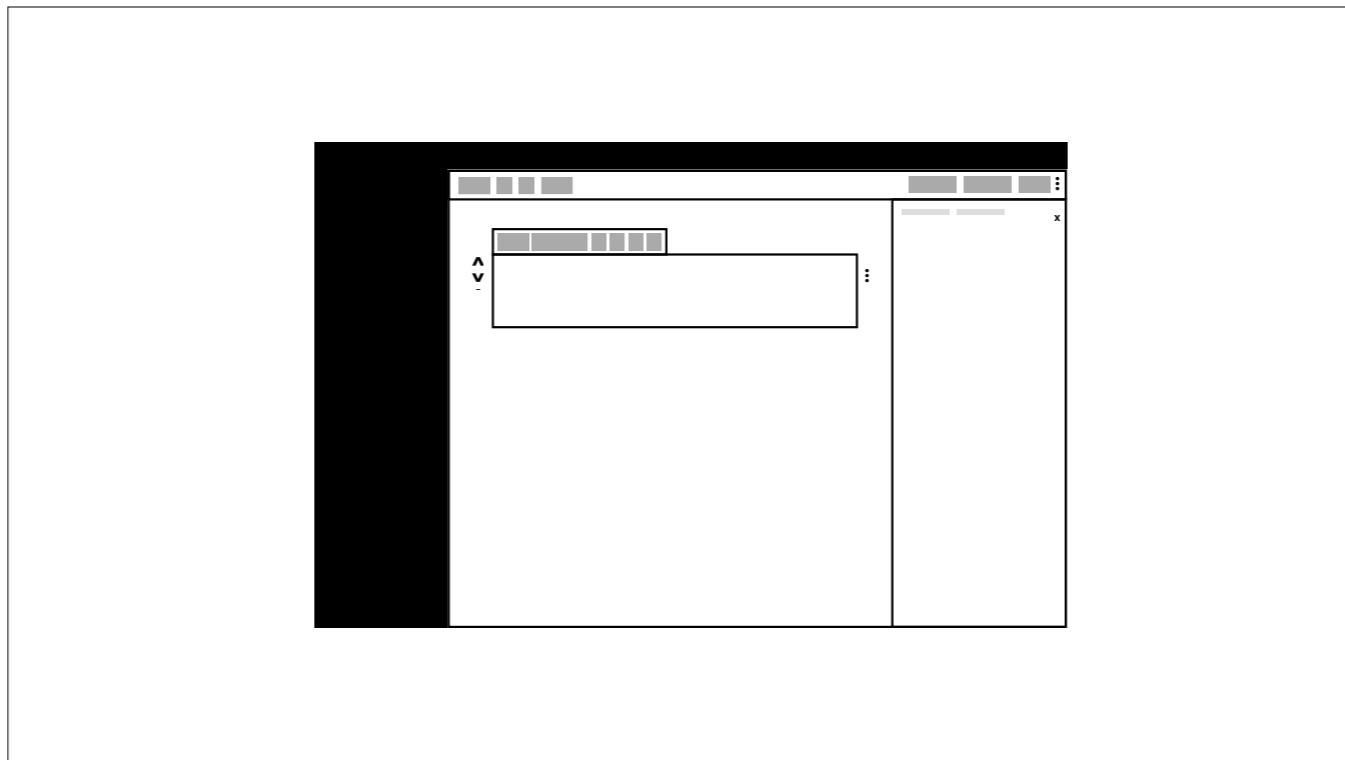
There are very specific elements worth noting before we dive into blocks themselves.



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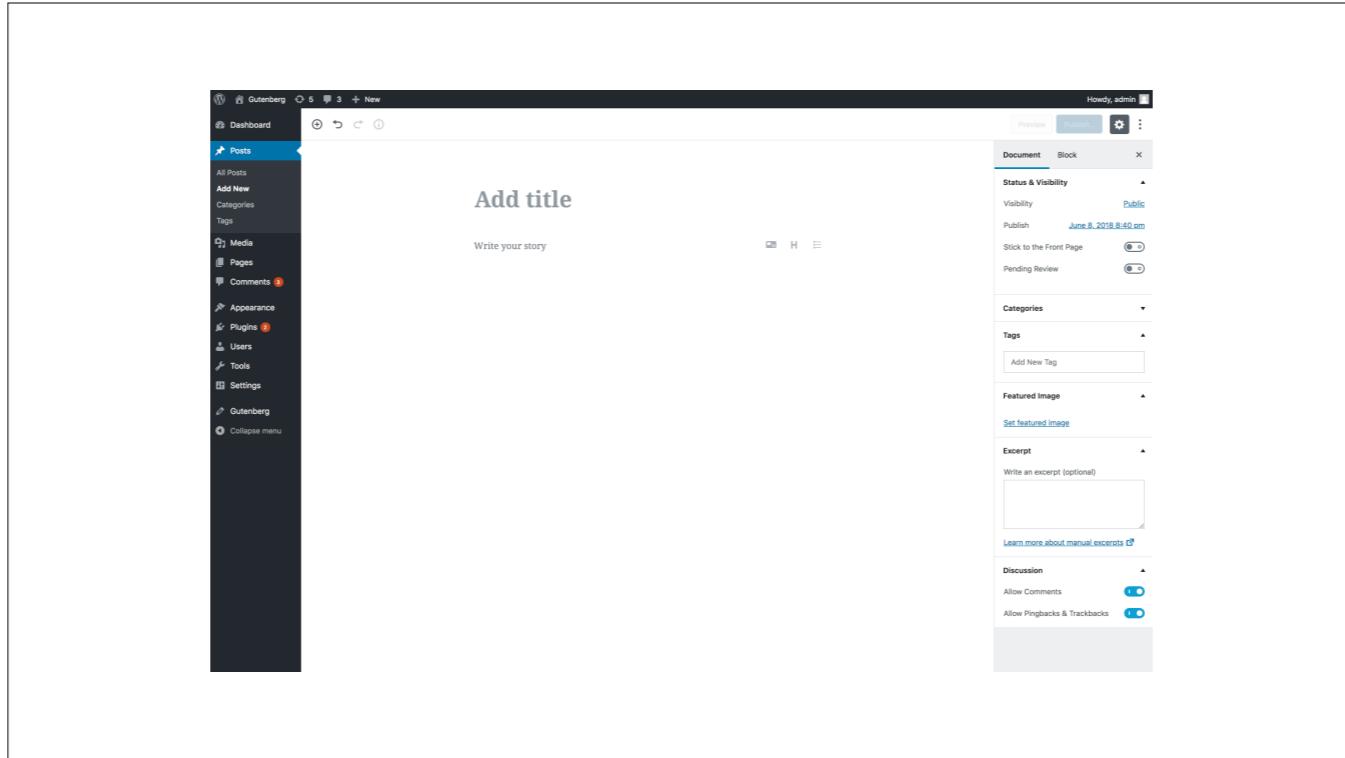
Screen

First, let's start at the beginning by panning right out to the entire editing screen.

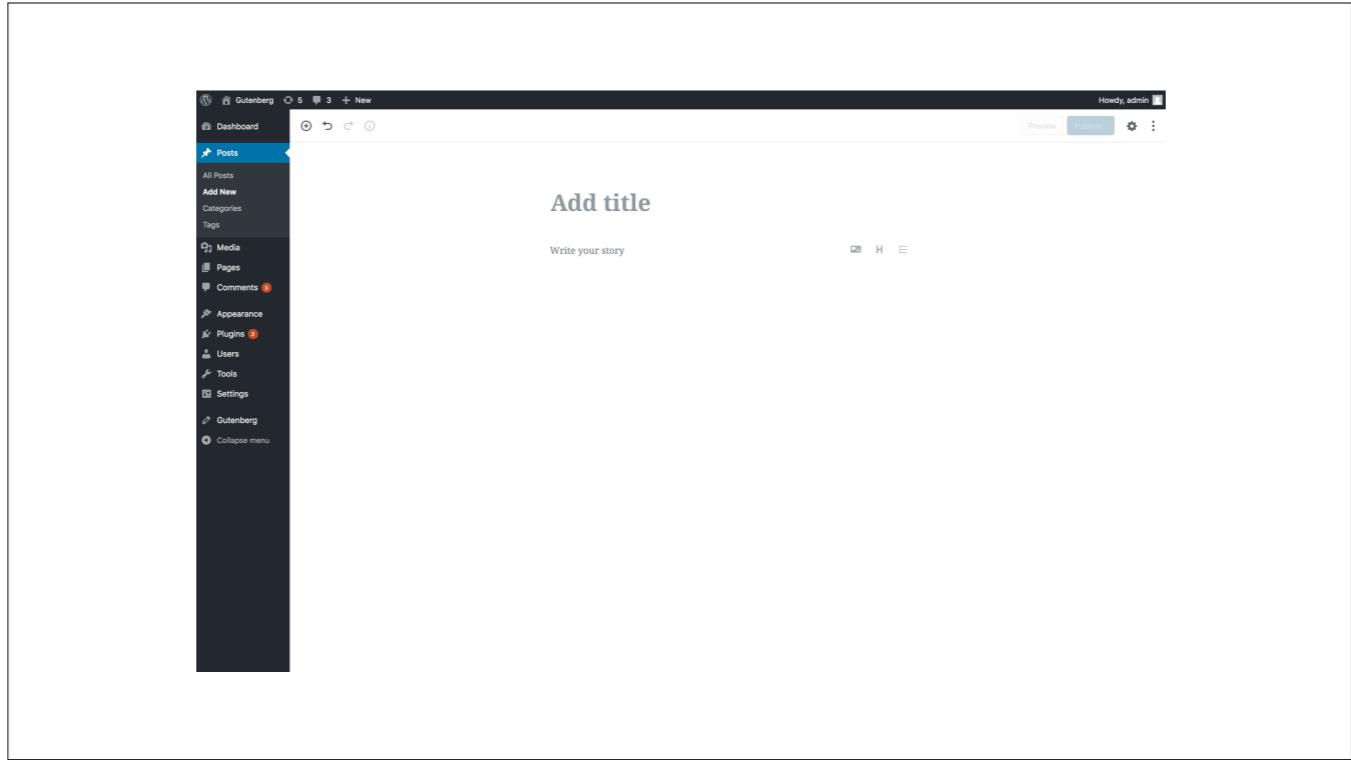


Here it is broken down into shapes.

Pretty familiar actually when you take away the new. It looks like WordPress, there's the shapes, the patterns you recognise.



Here is Gutenberg itself, sitting in WordPress replacing the editing experience. Again though you can see the roots here, for example the document sidebar.



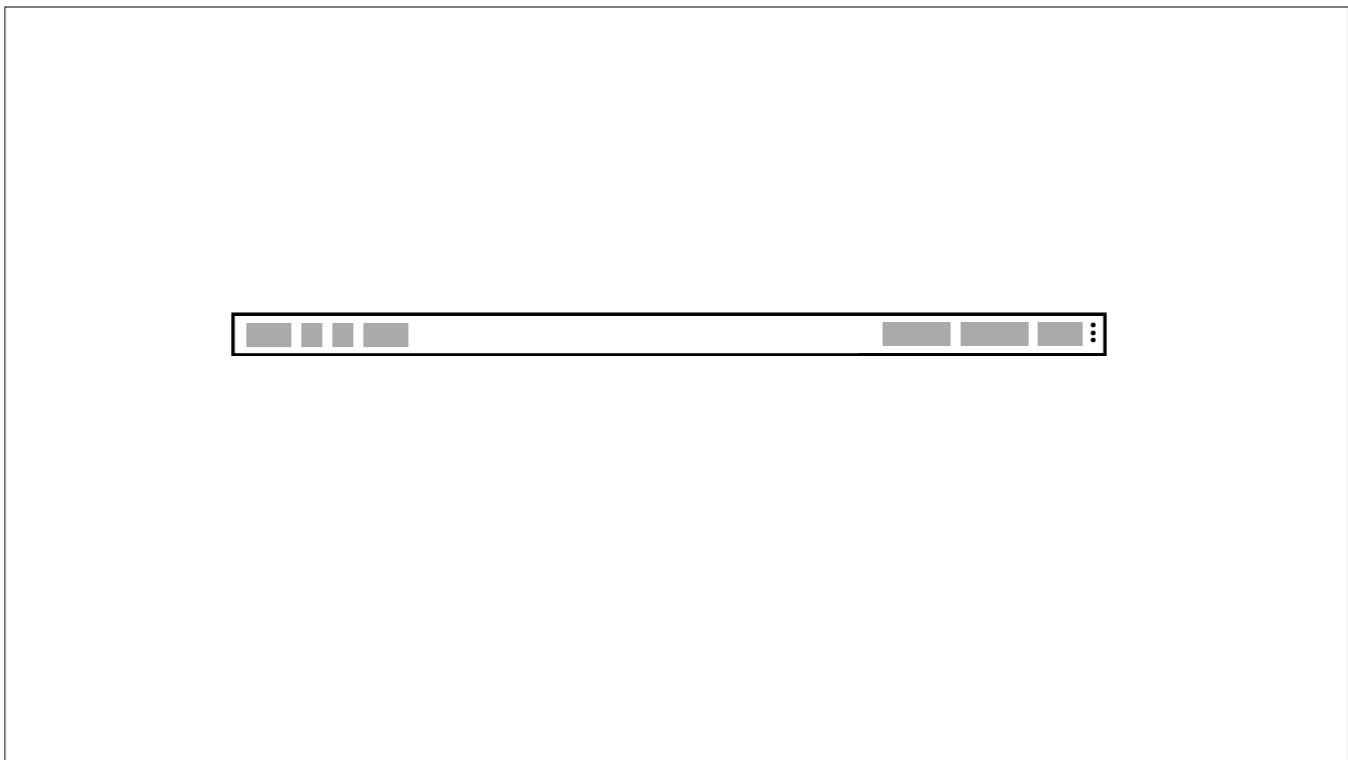
This is a little different when you close the sidebar you do get a more minimal writing experience.

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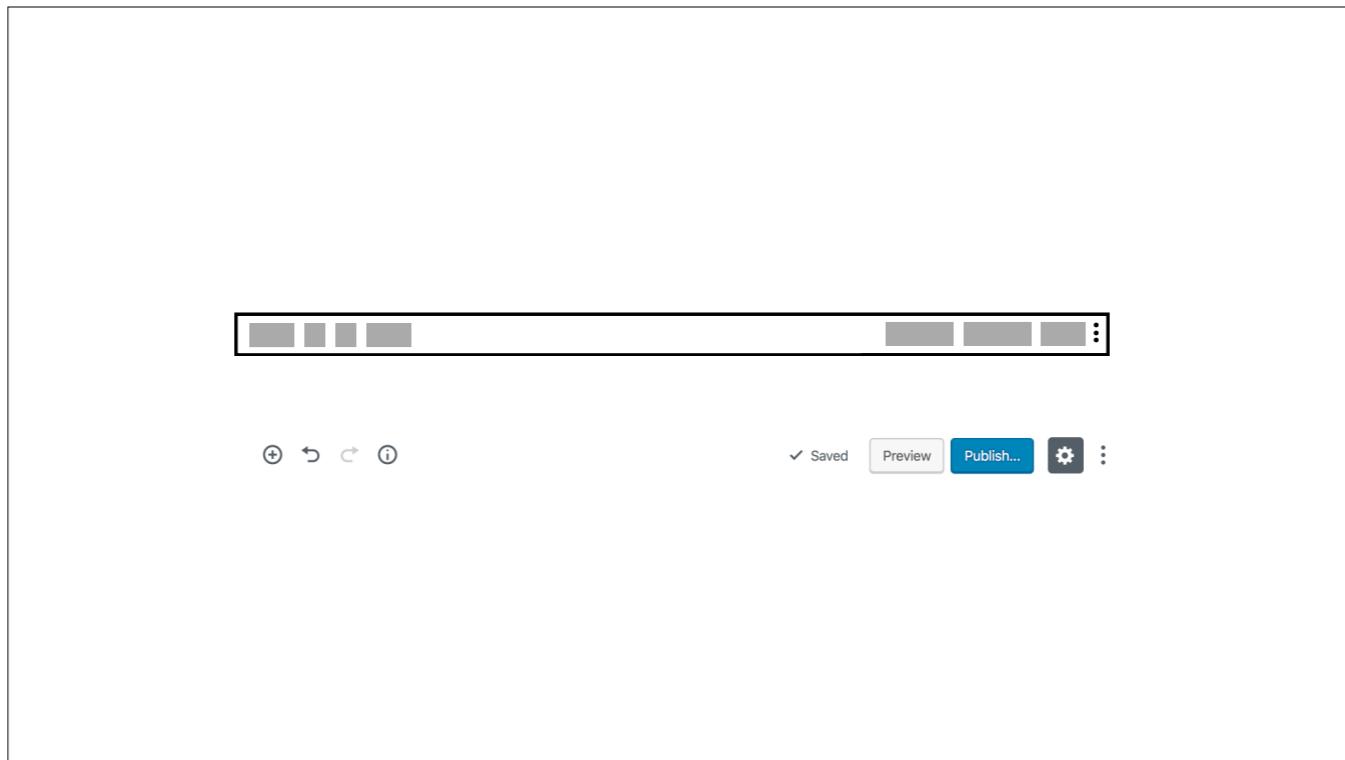
Action bar



Let's move into a few elements themselves. Starting with the action bar.



This is the top toolbar in Gutenberg. This has a blueprint that looks like this.

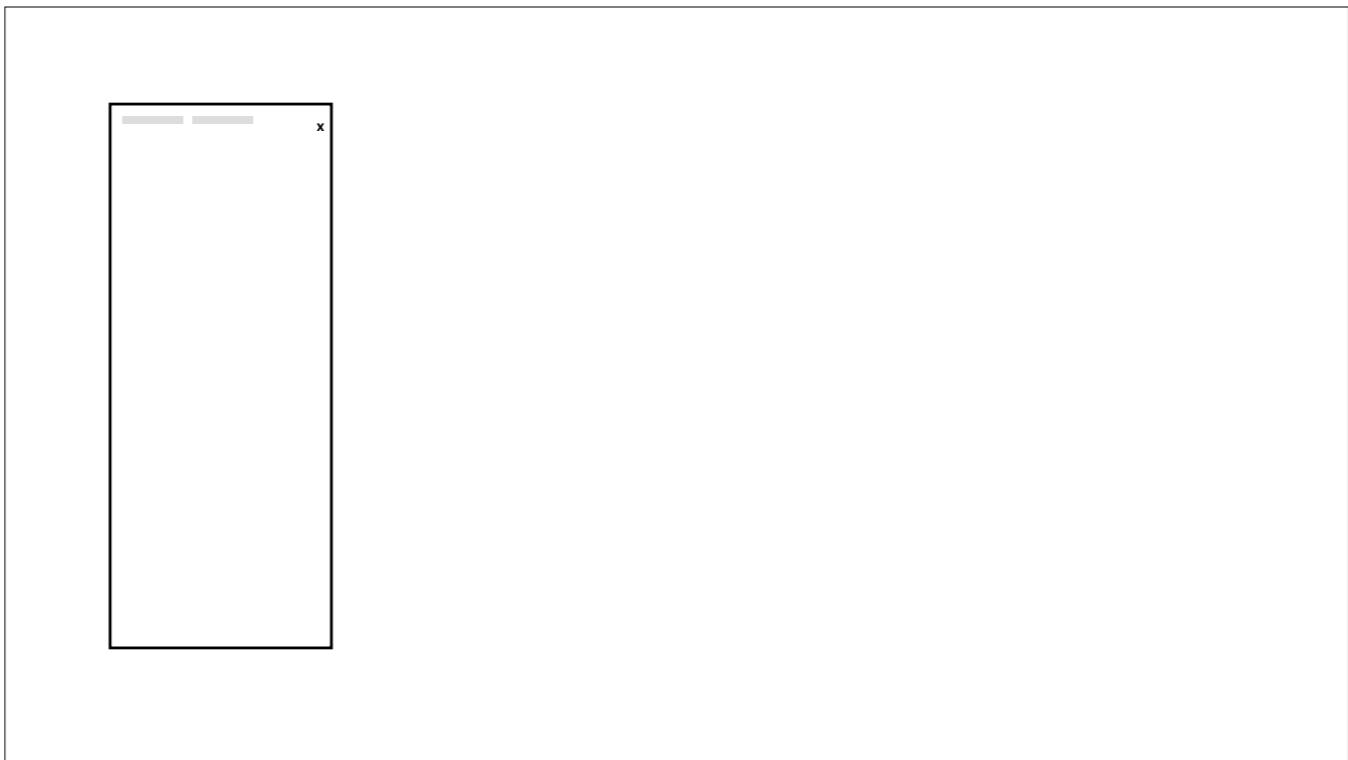


If you dig a bit into each element you can see it has <go through each>

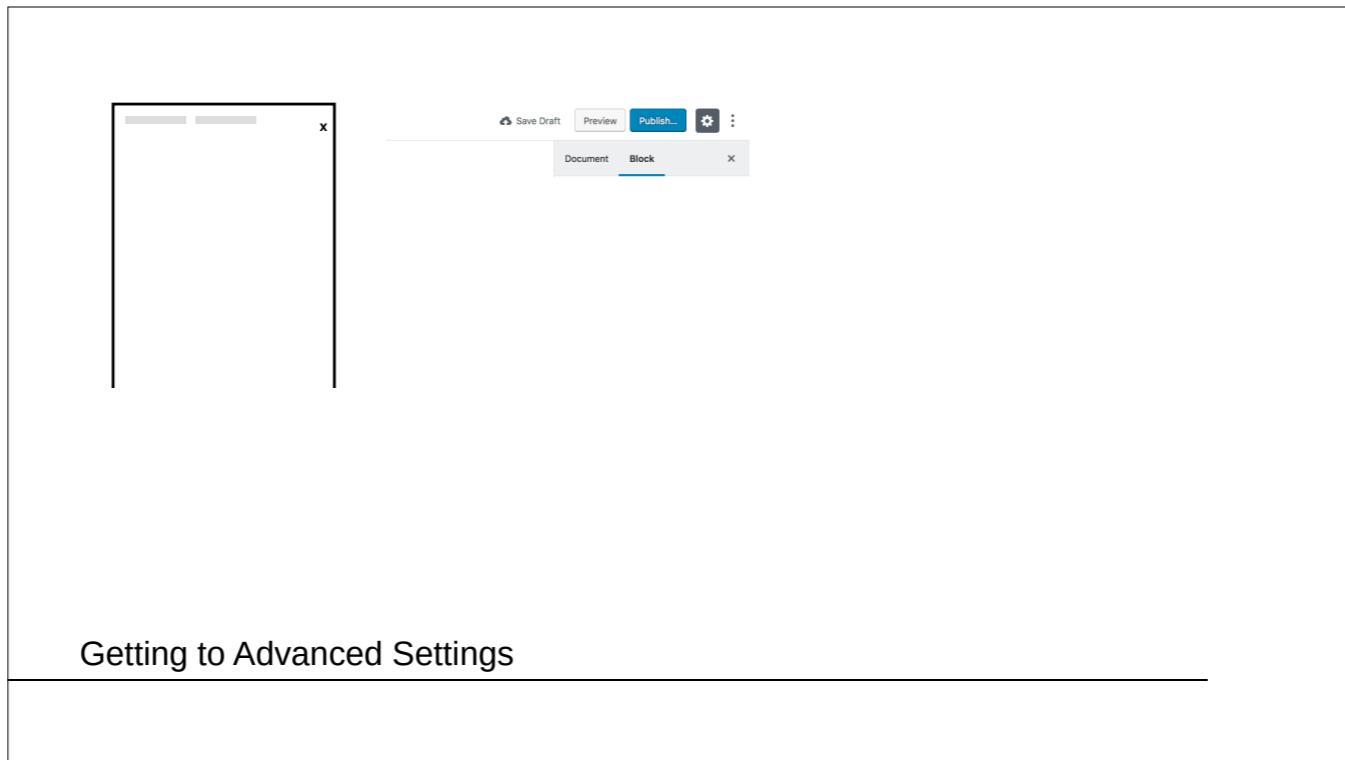
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Sidebar

We saw it a little earlier, so let's dive a little more into the sidebar.

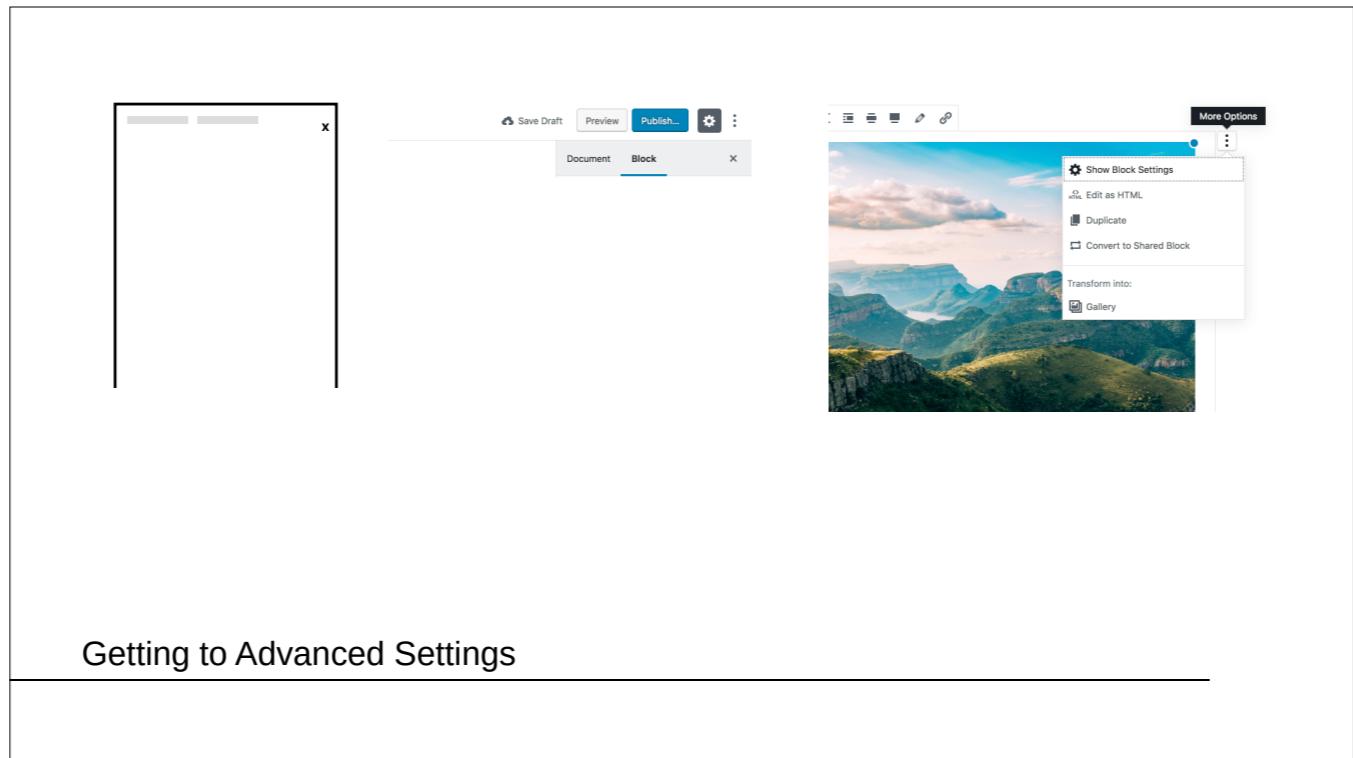


This is what it looks like as a blueprint.



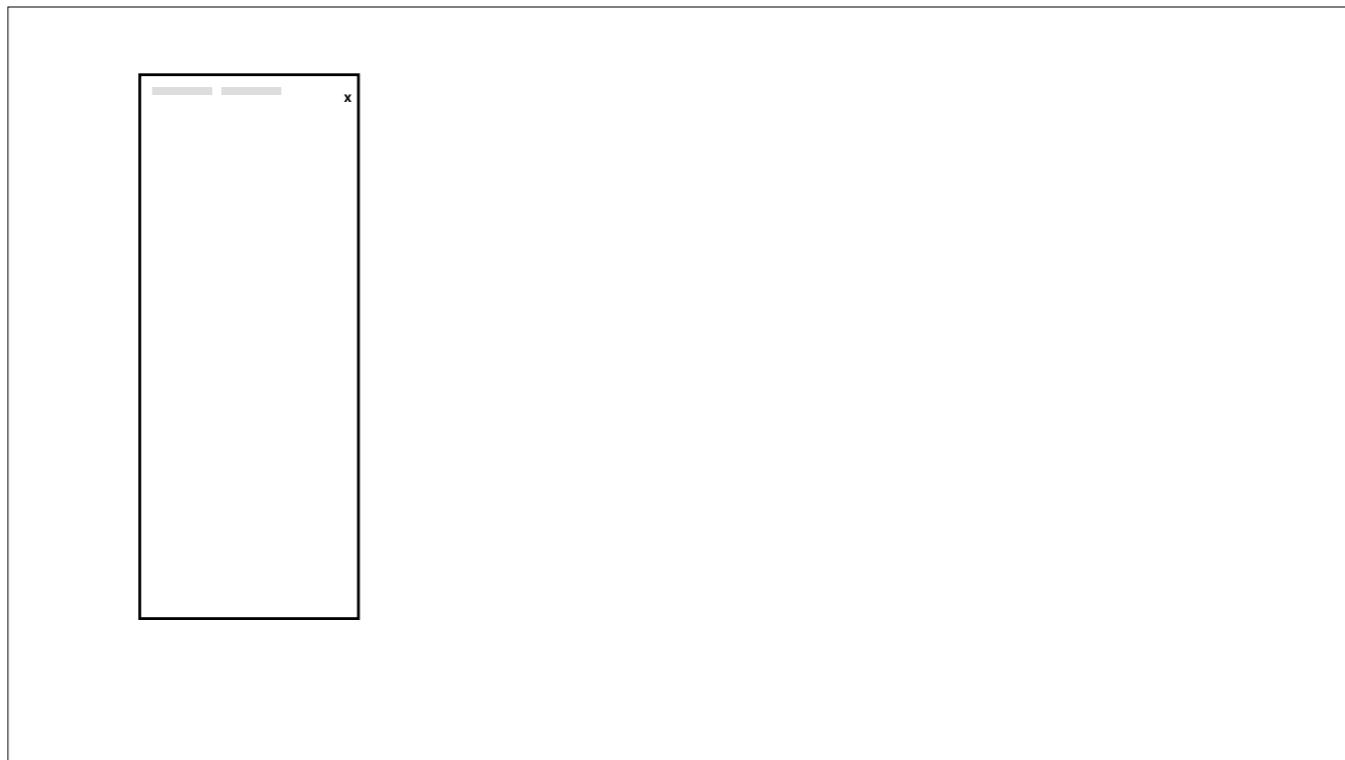
Getting to Advanced Settings

You get to it through either the advanced settings in the toolbar



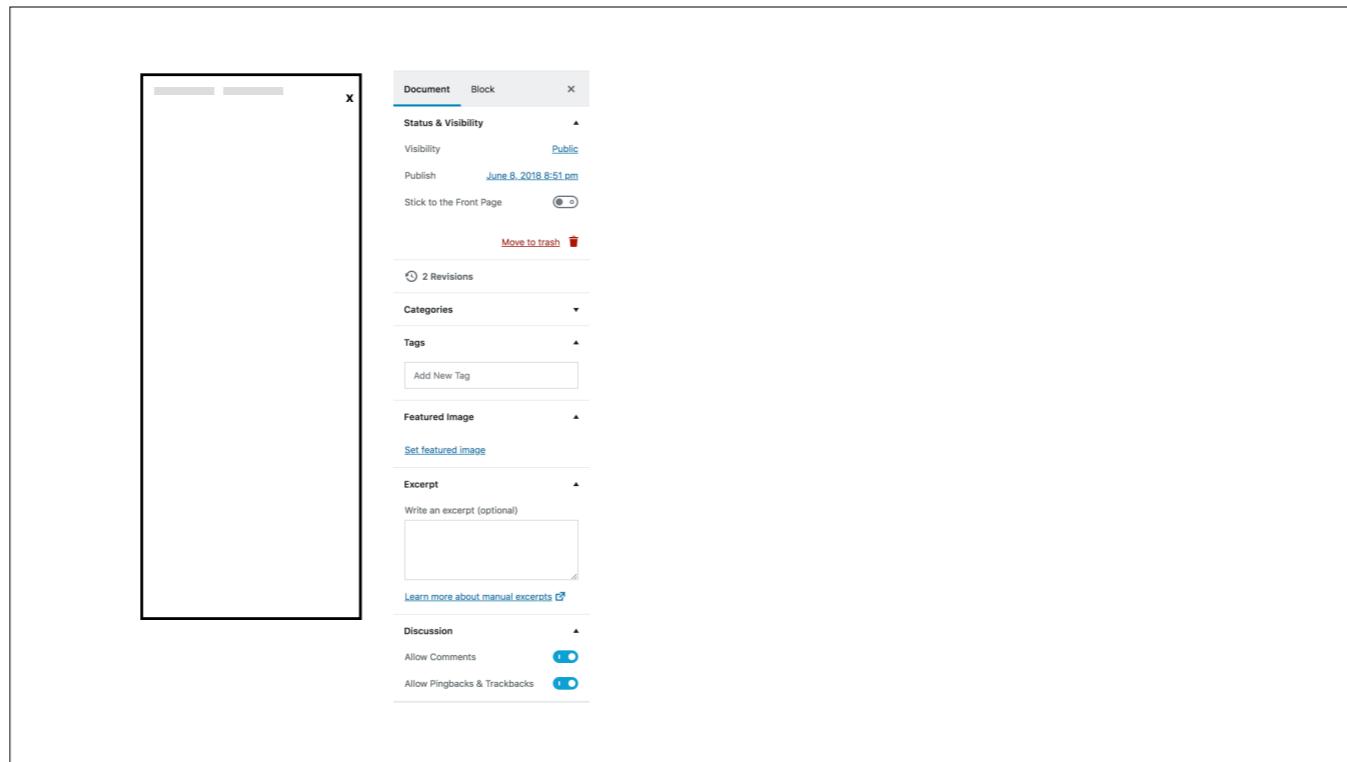
Getting to Advanced Settings

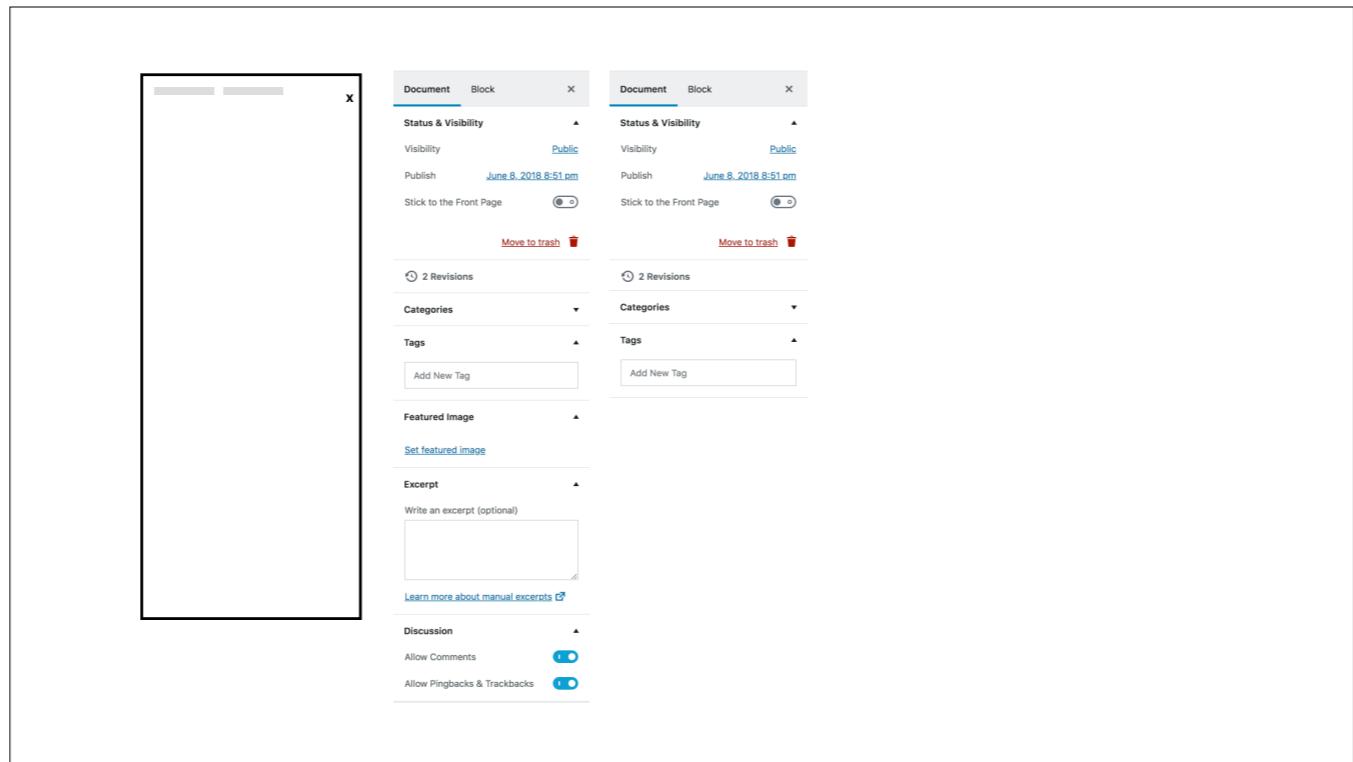
Or by the block.

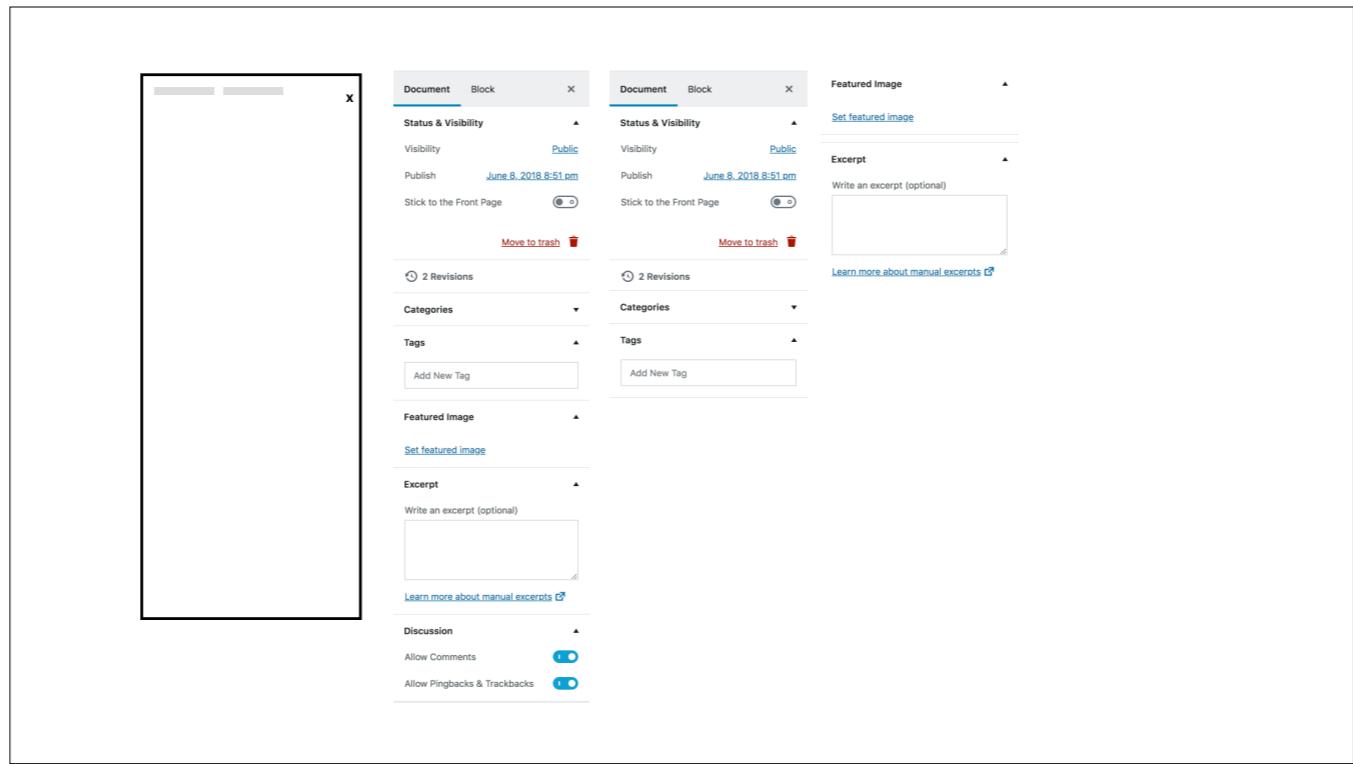


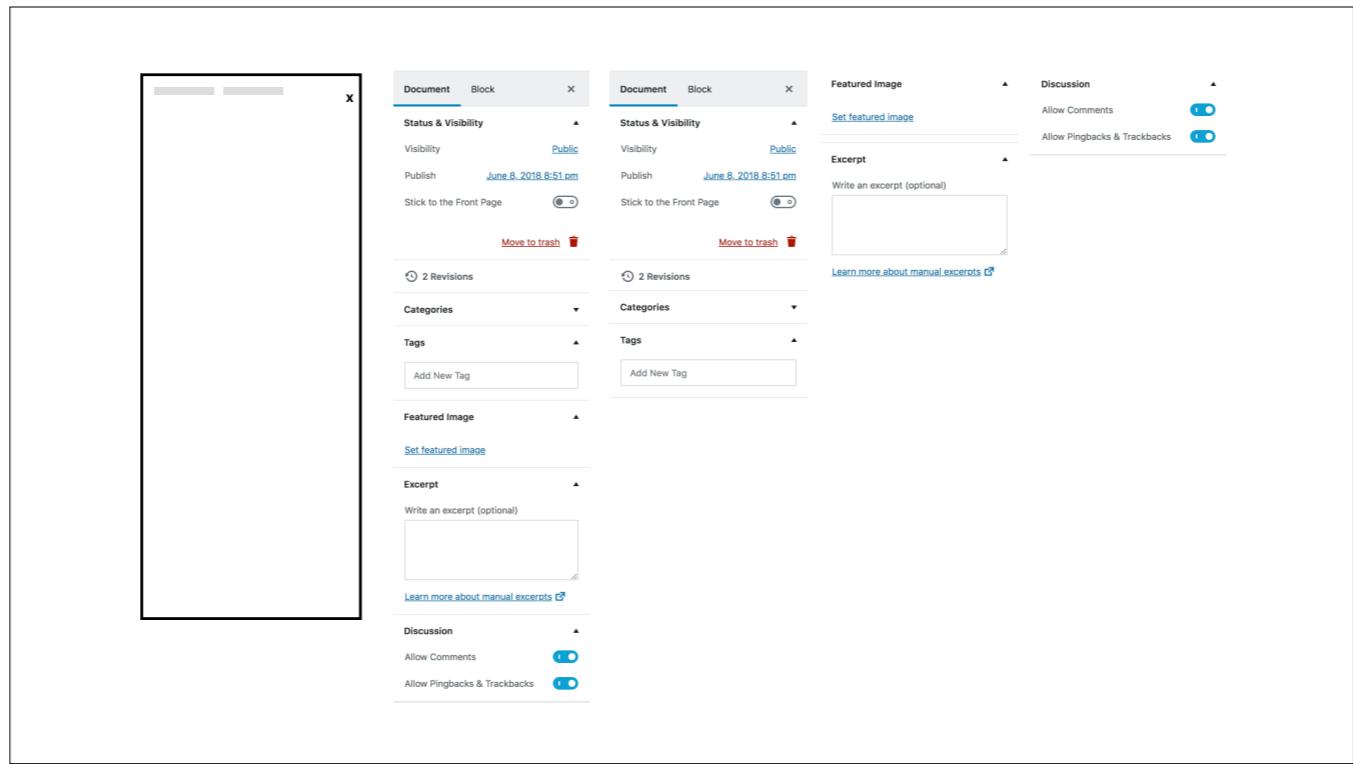
This is the document sidebar, the first tab of the sidebar.

<step through each slide>





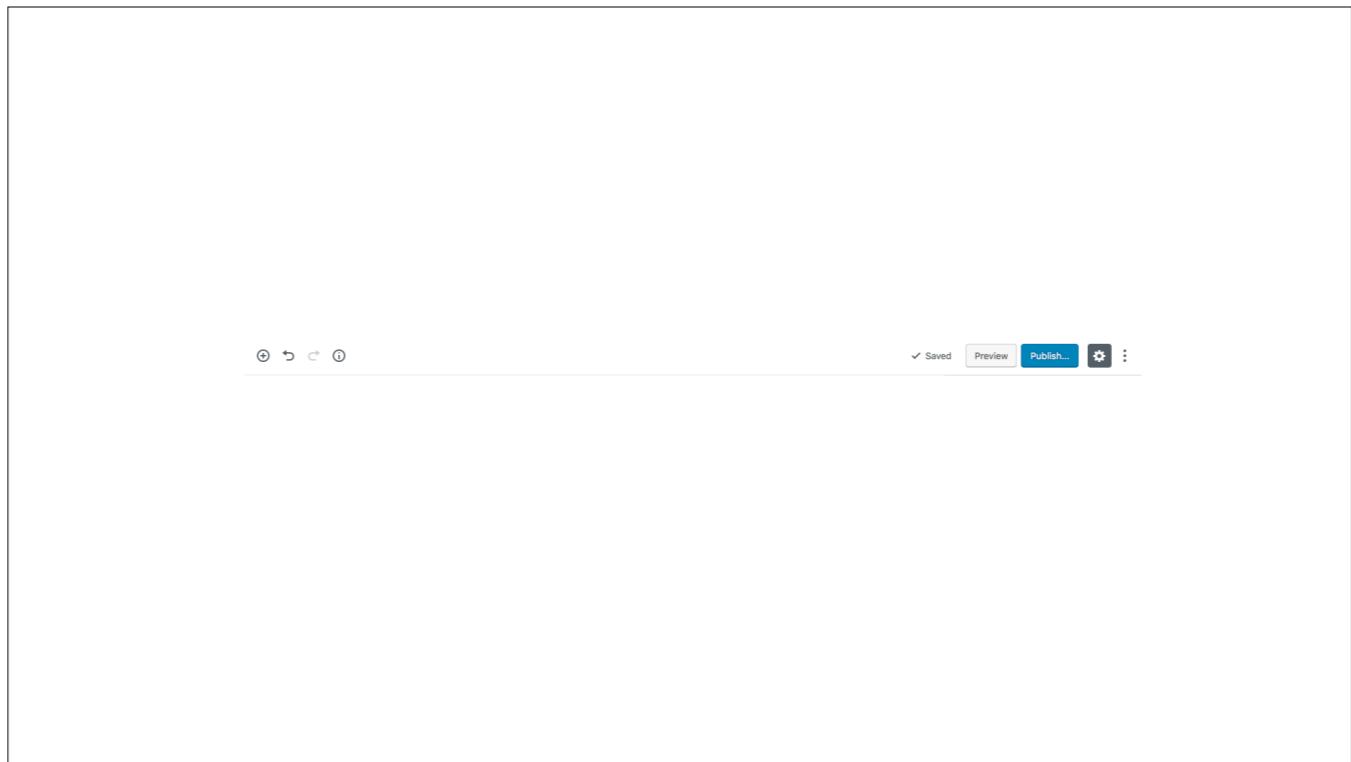




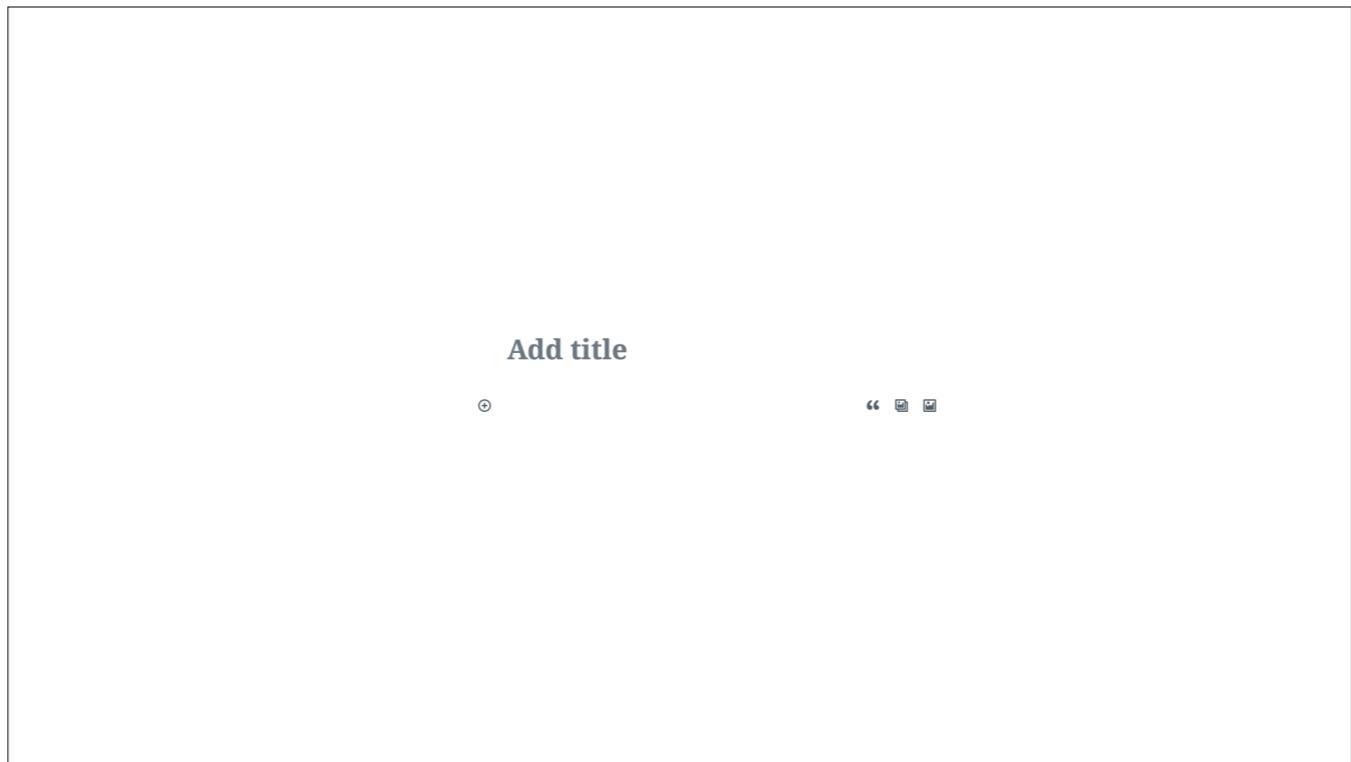
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Adding a block

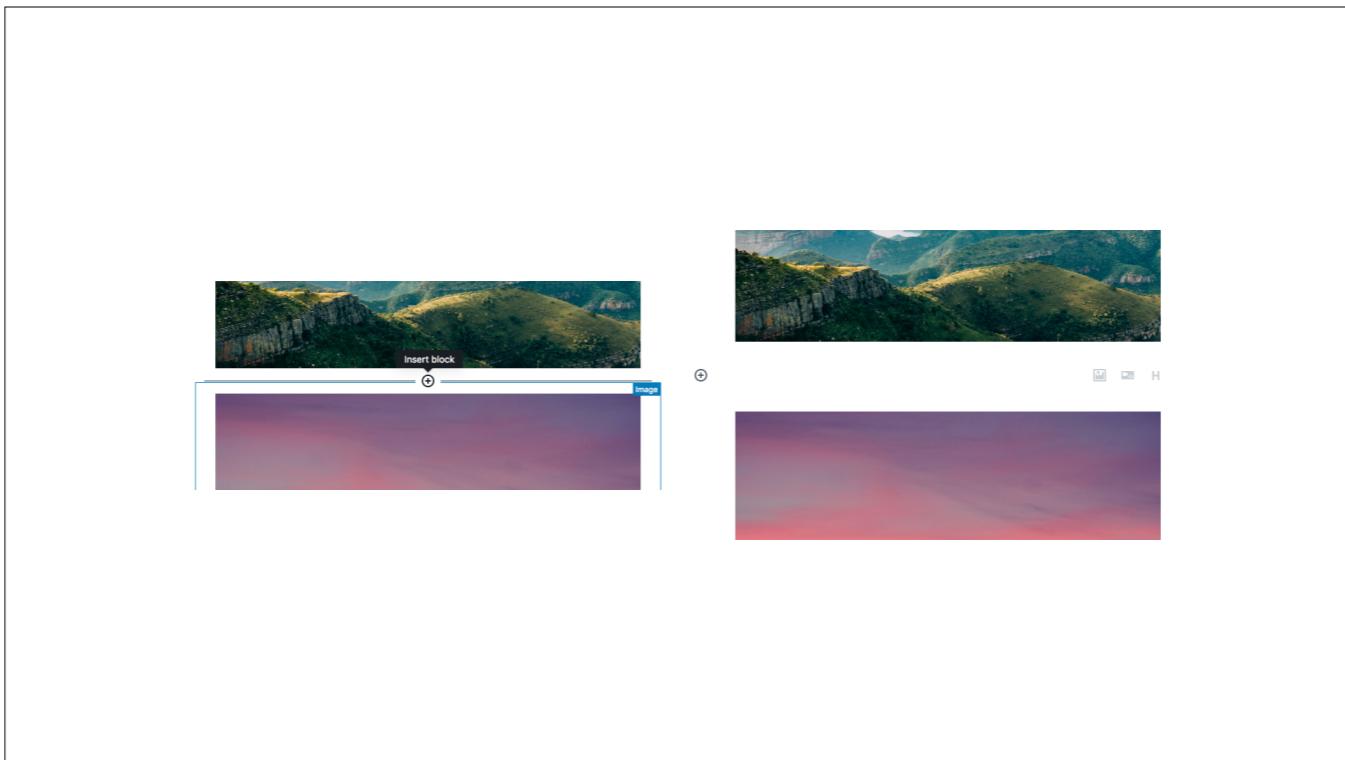
Let's move onto the action at the heart of Gutenberg, that of adding a block to your content.



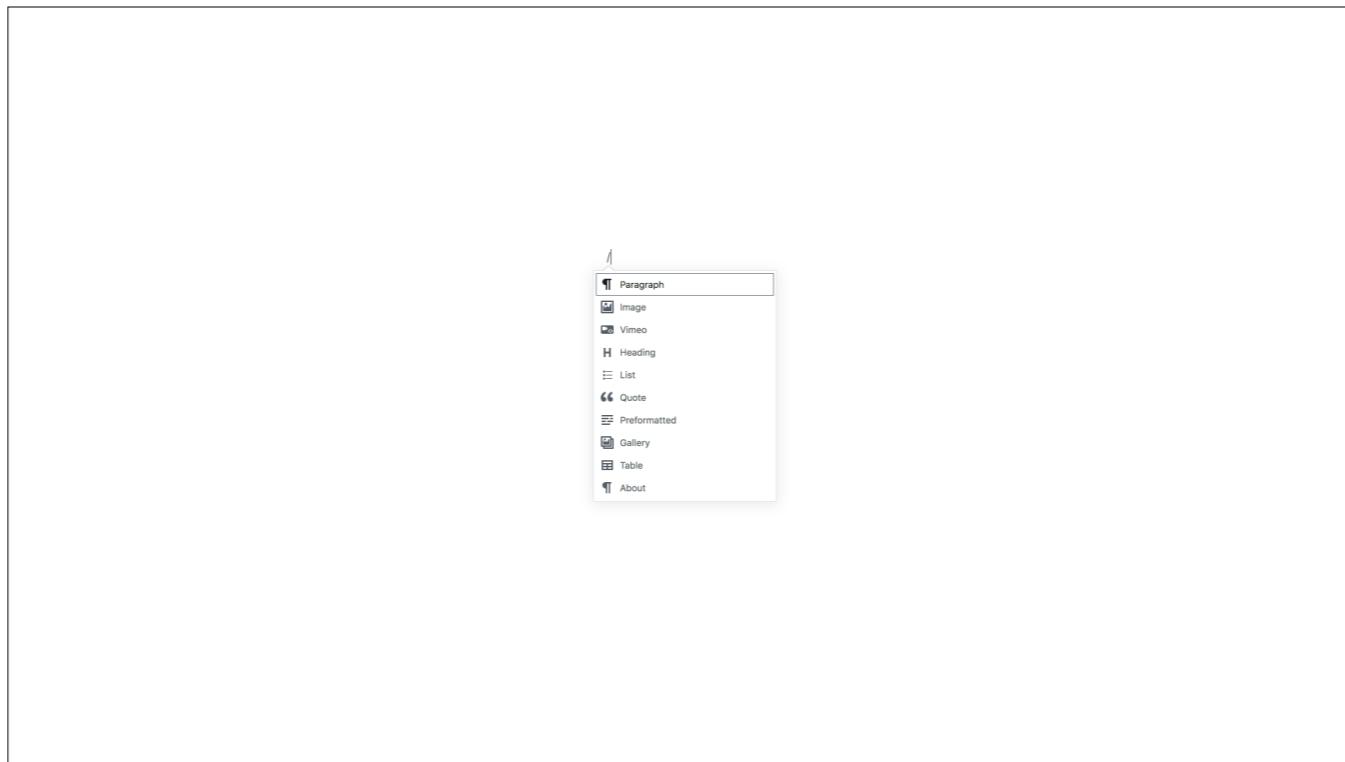
You can do this a few ways. There's a + icon in the action bar.



Another below the block, this one has handy suggested blocks, a mixture of frequent and recent.



You can even hover, then click in-between blocks and easily see the handy + again to add a block.

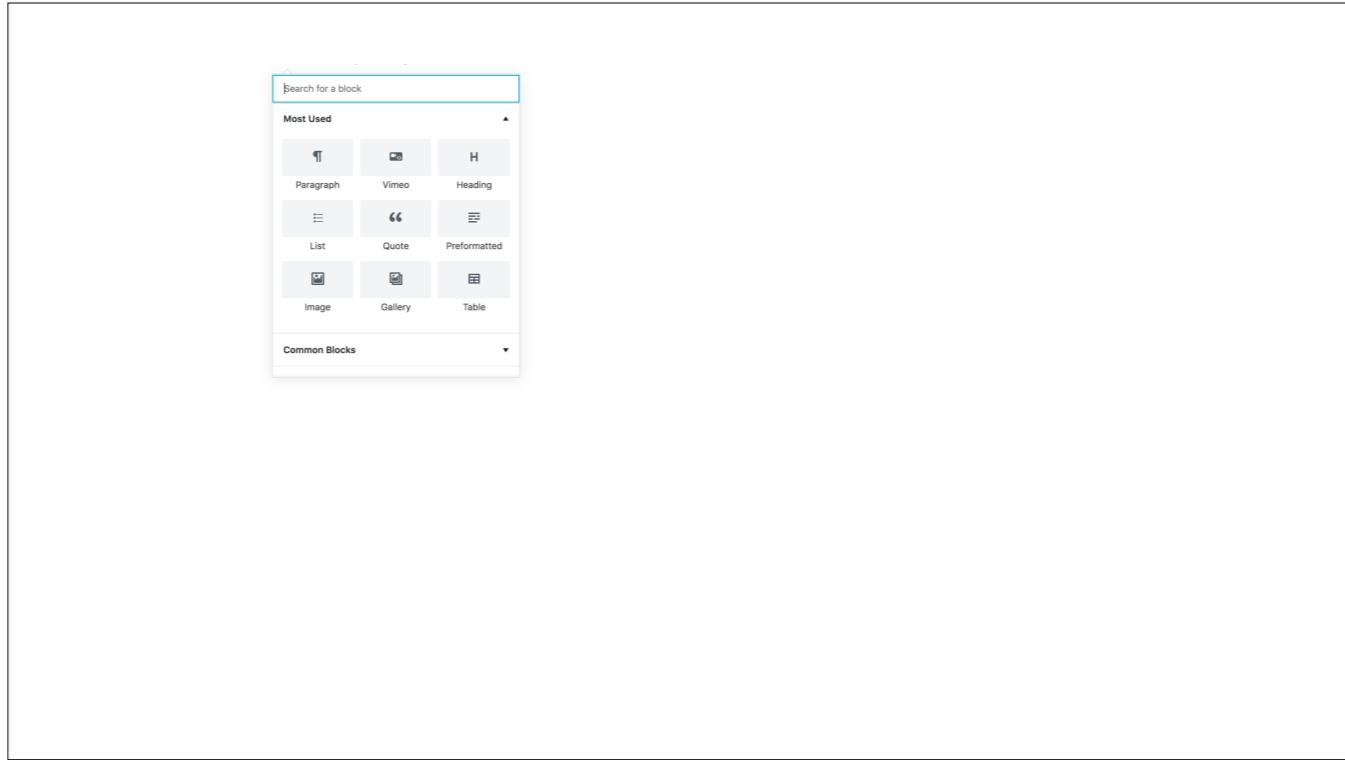


One feature of Gutenberg that really helps with the flow is using the ‘forward slash command’. Just like in Slack and other apps, you can do this to bring up various block types. Just start typing once you’ve clicked to add and then you can use your kb to add. It’s super fast and really creates a flow to writing.

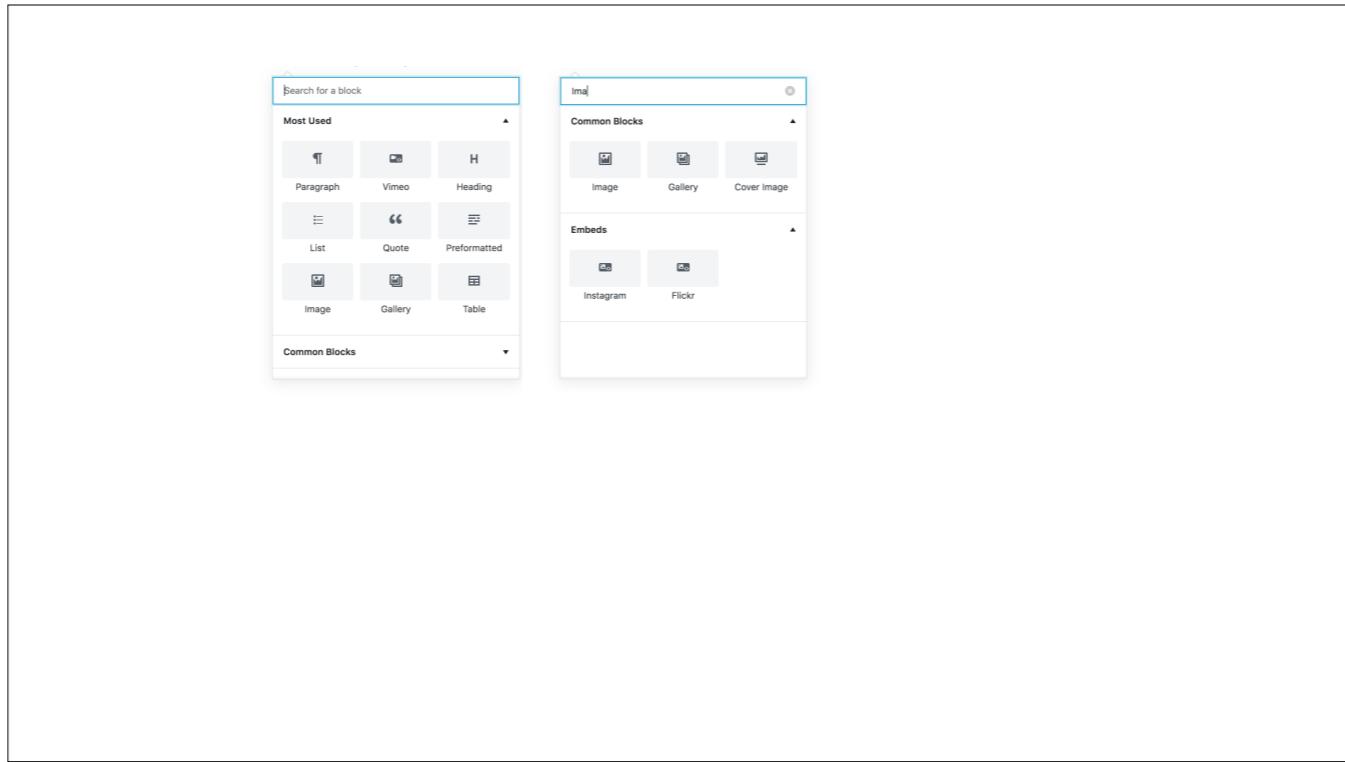
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Block library

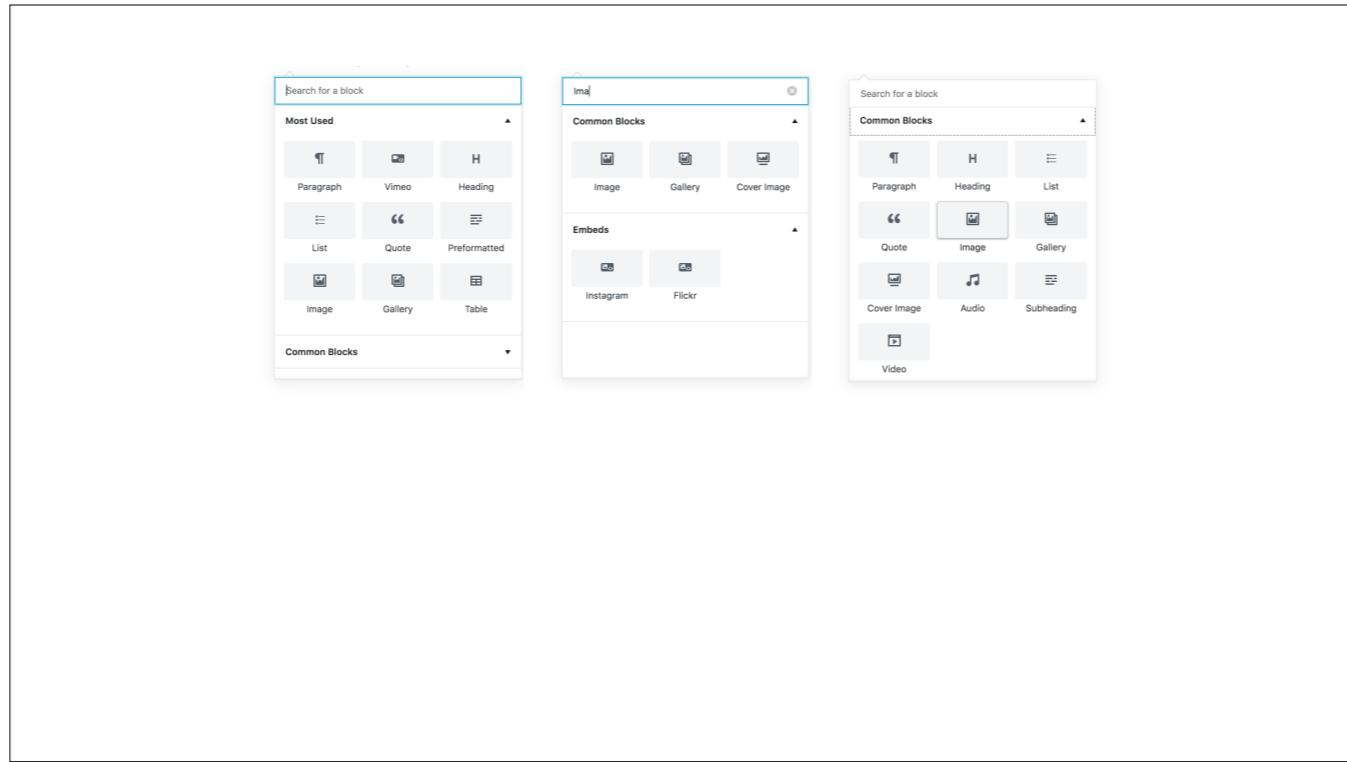
The library is where all the amazing blocks live. This allows you to also browse each block.



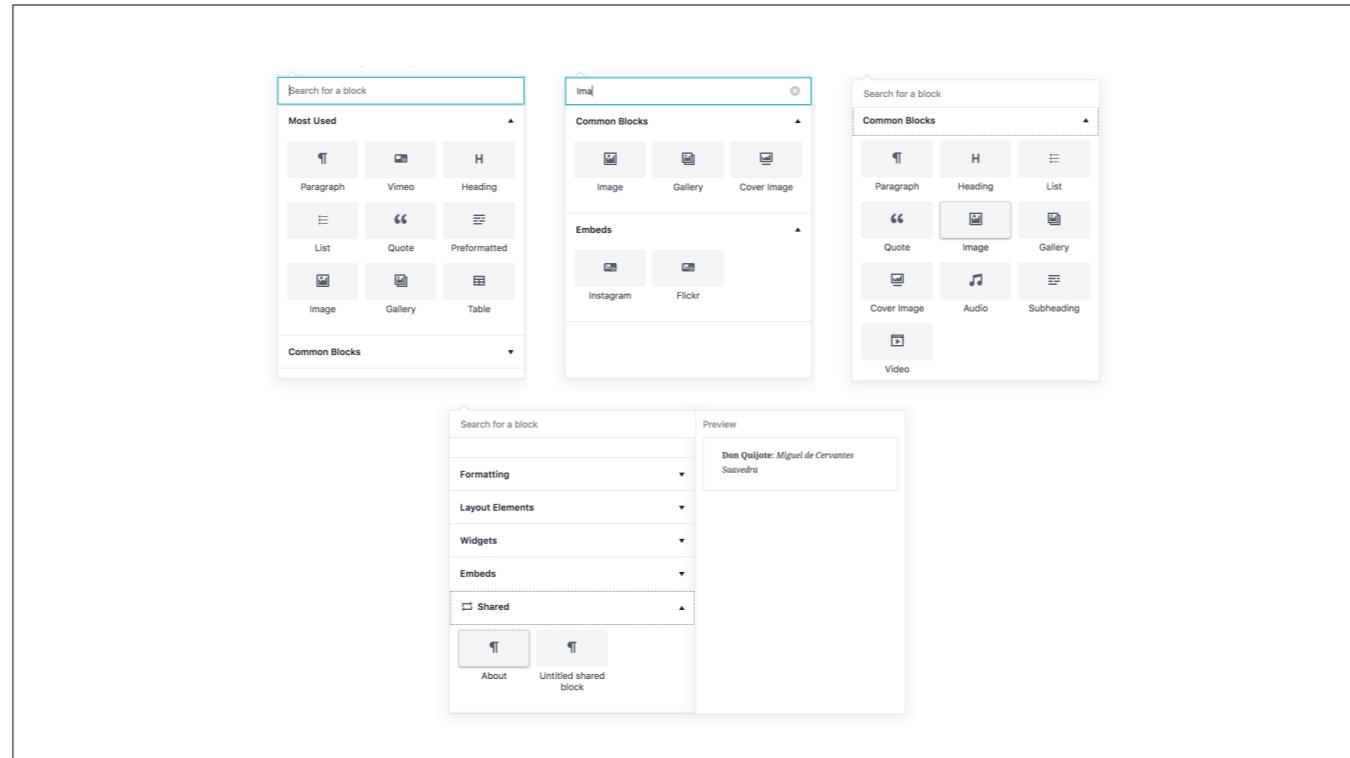
First you see the most used blocks.



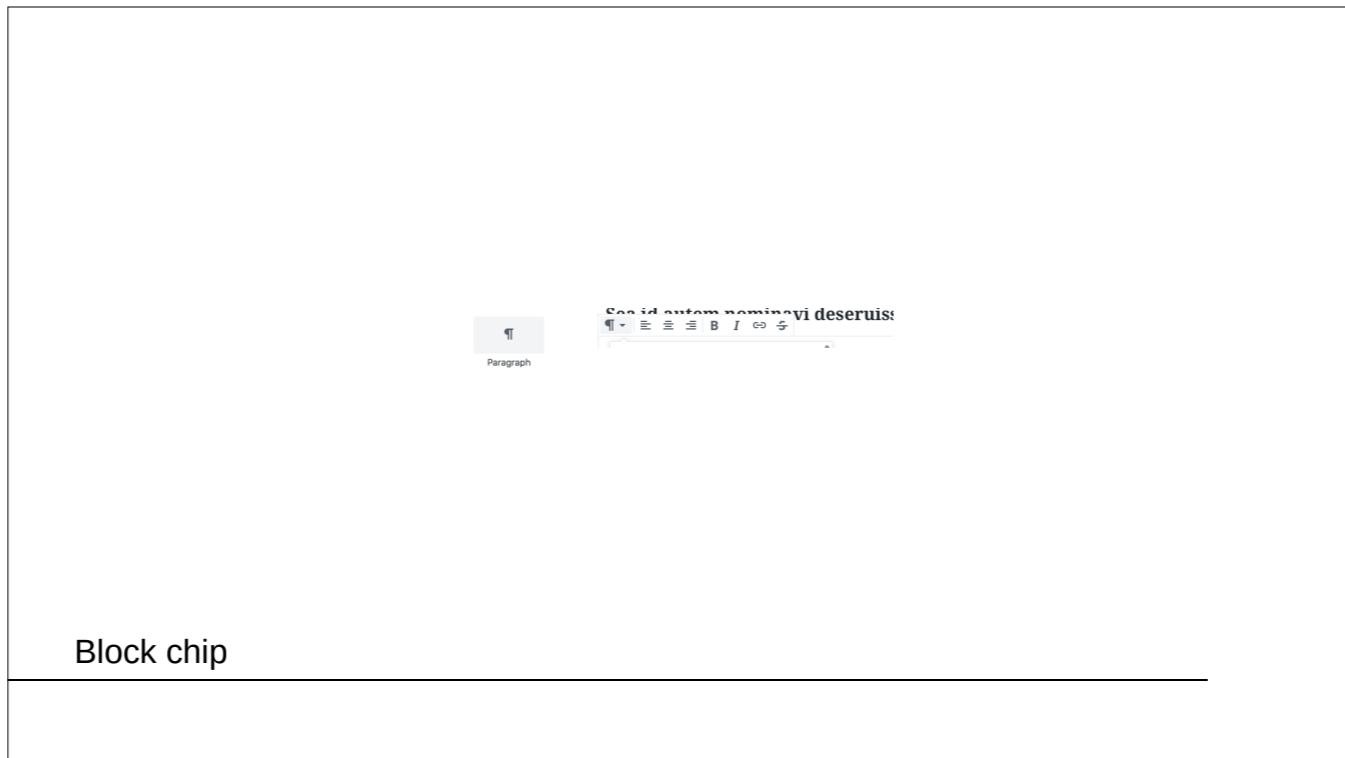
You can search for blocks in the library or scroll through a sectioned list of them all.



Here you can see the common blocks, for example gallery and audio.
Embeds each have a block too.



Shared blocks are a great way to save and reuse a block. You can do this to any block, customise it how you want and then just reuse throughout your site. Shared blocks you can preview like this to see what they look like.



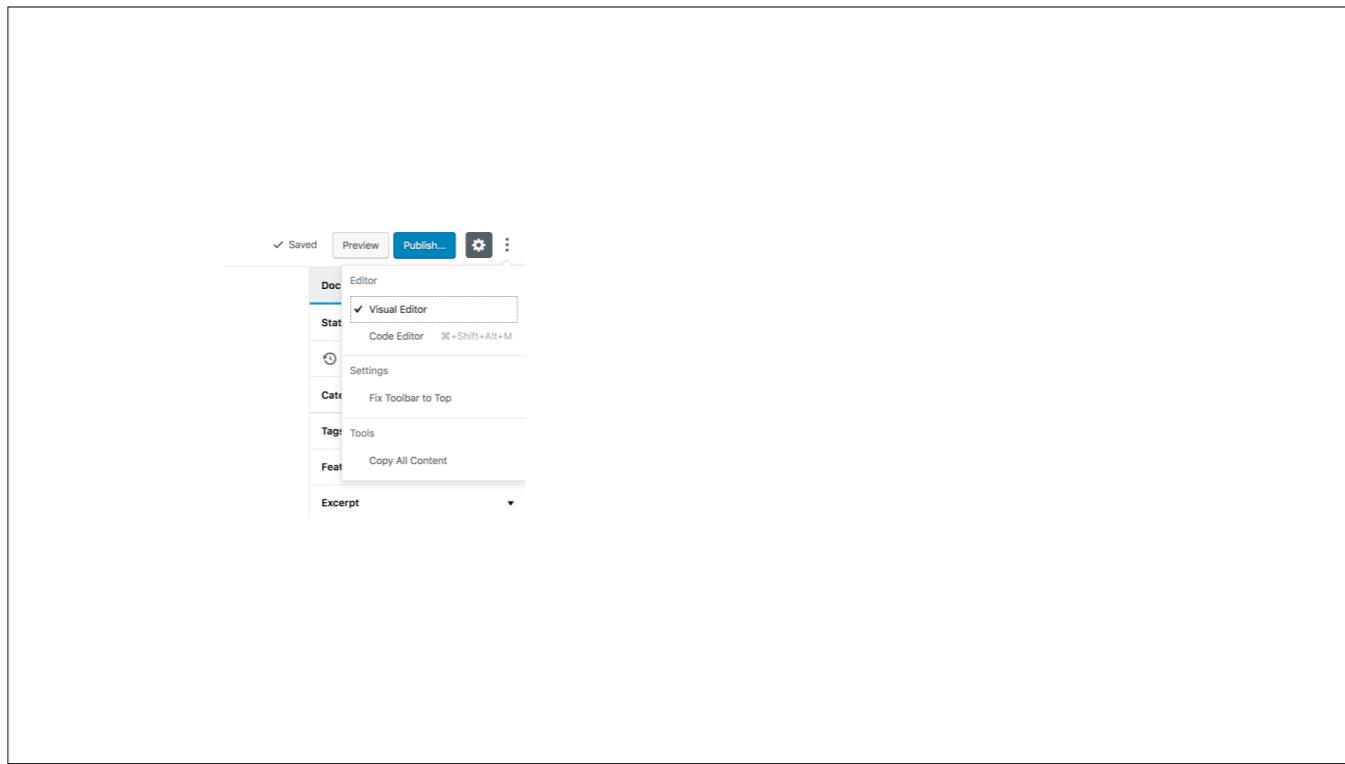
Block chip

Block chip is the name for the icon with or without the title, you can see it appears here in the library. It also appears beside the formatting options in the block toolbar. This doubles as a block type indicator and later iterations will likely see this used in the sidebar description.

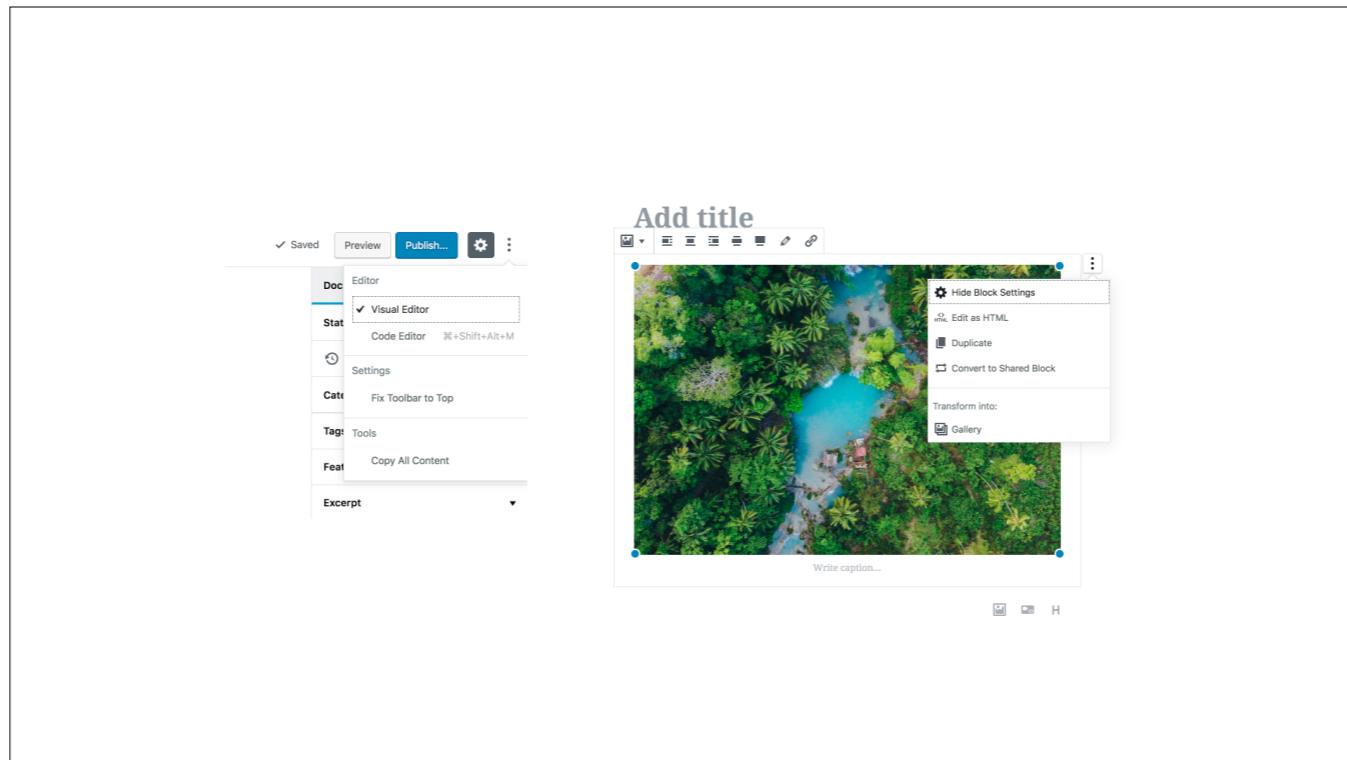
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More menu (ellipsis)

The ellipsis is a core part of the way Gutenberg gives you more options.
This is a common interface pattern, it simply means 'more'.

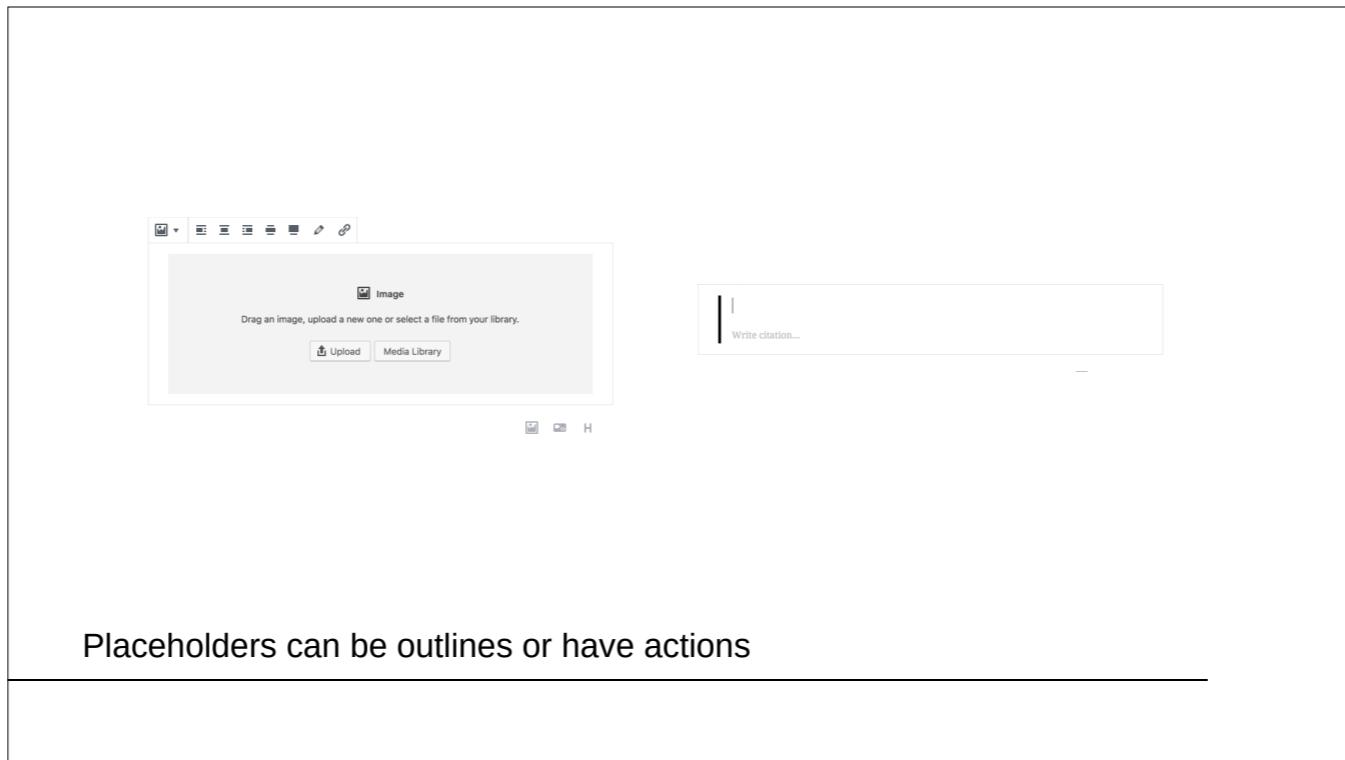


In the toolbar the ellipsis shows things like switching between code and visual editing. Also fixing the toolbar to the top, we'll get into that a little later.



Each block also has an ellipsis and this has common features across all blocks like editing as HTML and transforming (each block transforms into different ones).

Placeholders are a key concept in Gutenberg. They are a great way to even have in a custom post template that loads all set up to just easily add content. So much better for someone to interact with than an empty page with no guidance.



Placeholders can be outlines or have actions

Here you can see the difference between the image and the quote placeholder.

The image one is a call to action, to add an image. You can also drag images as the text suggests.

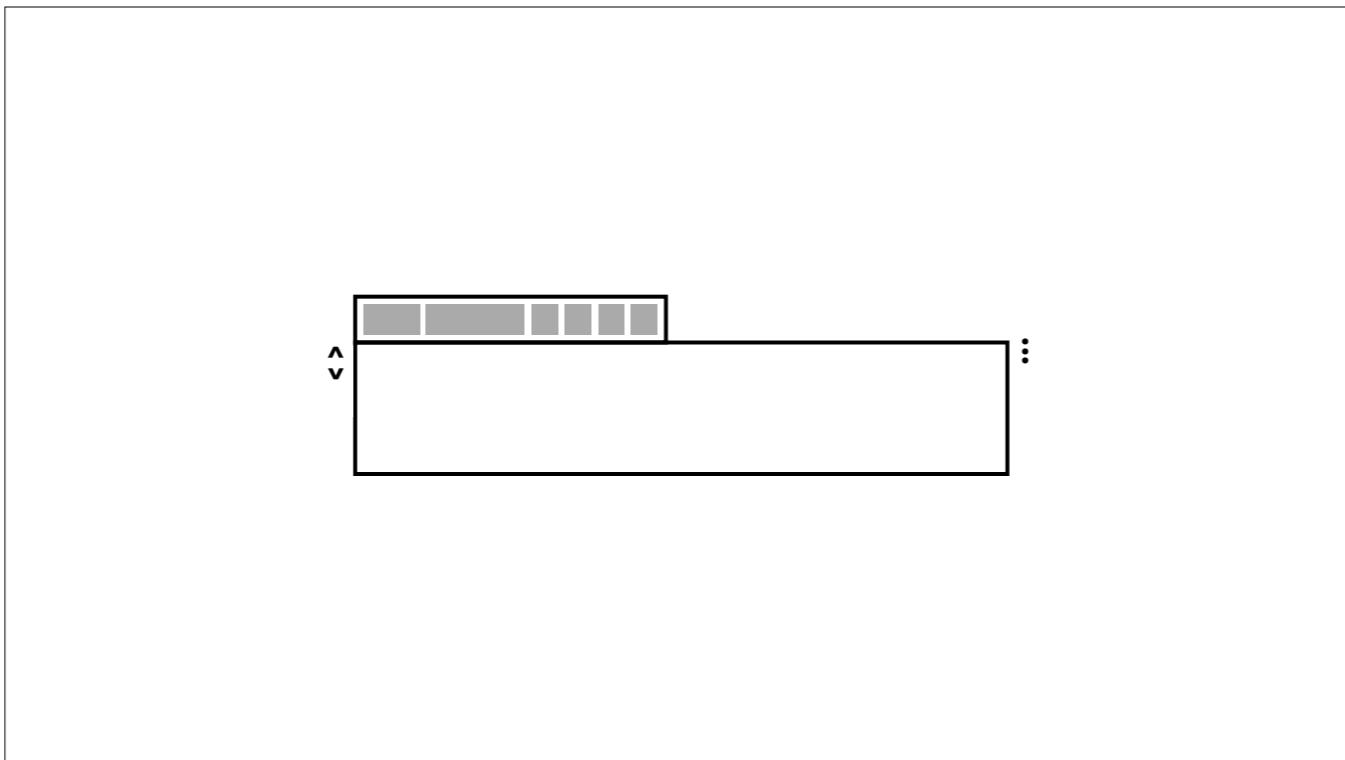
The quote is just to show the potential format and encourage a citation.

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Anatomy of blocks

Let's move on past the design language and vision.

Let's really look into the heart of Gutenberg and see what a block is made of.

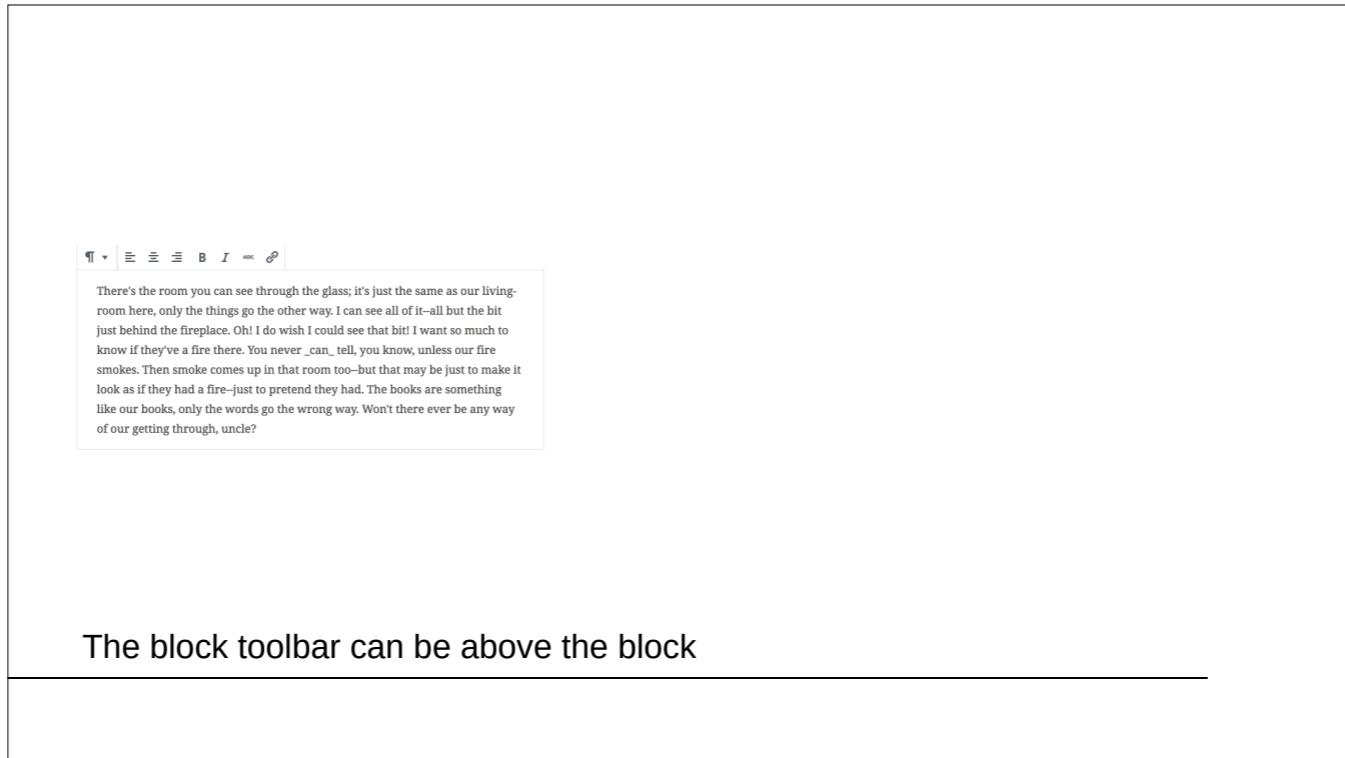


Here is a blueprint of a block. It's pretty simple.
A toolbar, the ellipsis and some up/down arrows.

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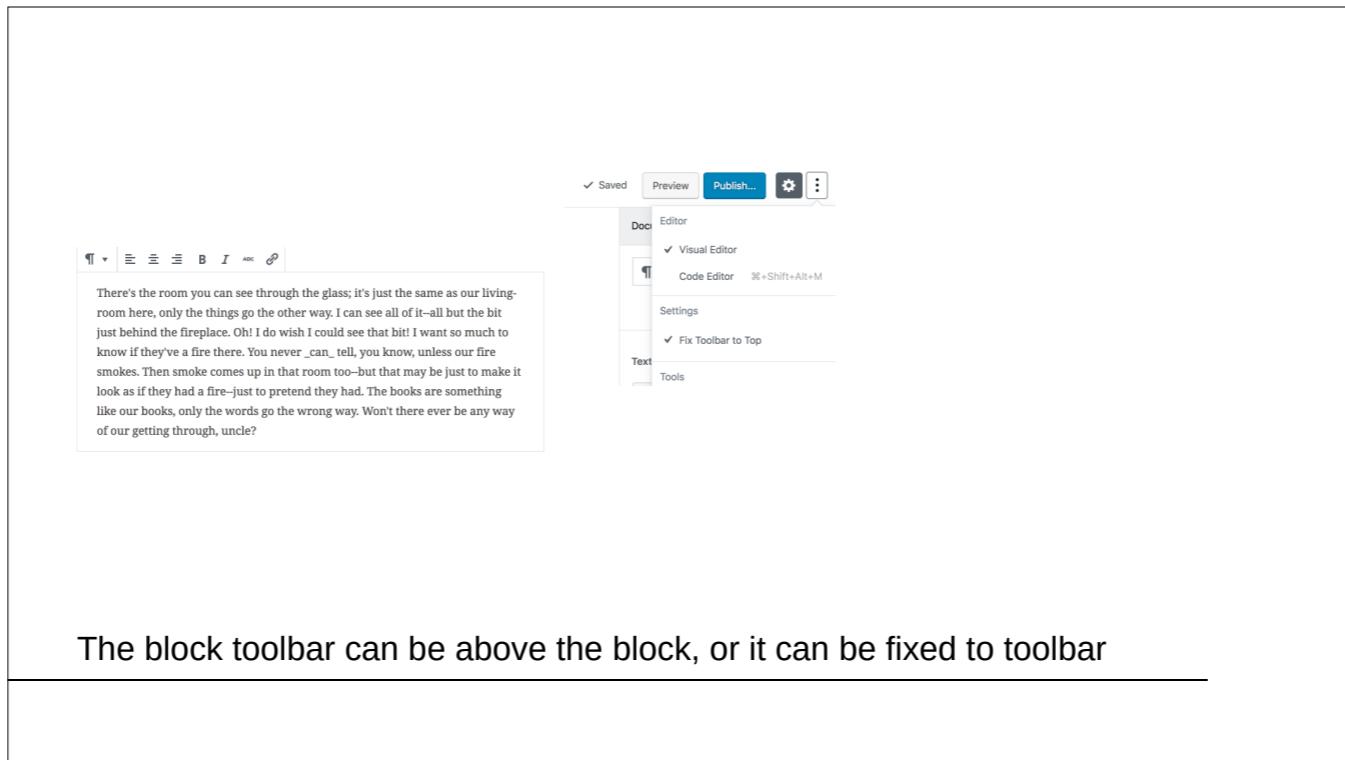
Block Toolbar

First, we're going to look at the toolbar.



The block toolbar can be above the block

Here you can see the paragraph block with the toolbar beside the block.



The block toolbar can be above the block, or it can be fixed to toolbar

You can change the position of the sidebar. Why?

In usability testing it was found that people were split on wanting this by the block or in the toolbar.

The screenshot shows a rich text editor interface with two examples of block toolbars. On the left, a block toolbar is positioned above a text block. This toolbar contains icons for bold, italic, underline, and other styling options. Below it is a text block containing a passage from Alice's Adventures in Wonderland. On the right, another example shows a block toolbar integrated directly into the top of the text block, appearing as a thin horizontal bar with icons. Above both examples is a standard toolbar with file operations like 'Saved', 'Preview', 'Publish...', and settings. A sidebar on the left lists 'Doc', 'Editor' (with 'Visual Editor' checked), 'Code Editor' (with keyboard shortcut '⌘+Shift+Alt+M'), 'Settings' (with 'Fix Toolbar to Top' checked), and 'Text'.

The block toolbar can be above the block, or it can be fixed to toolbar

Alice....

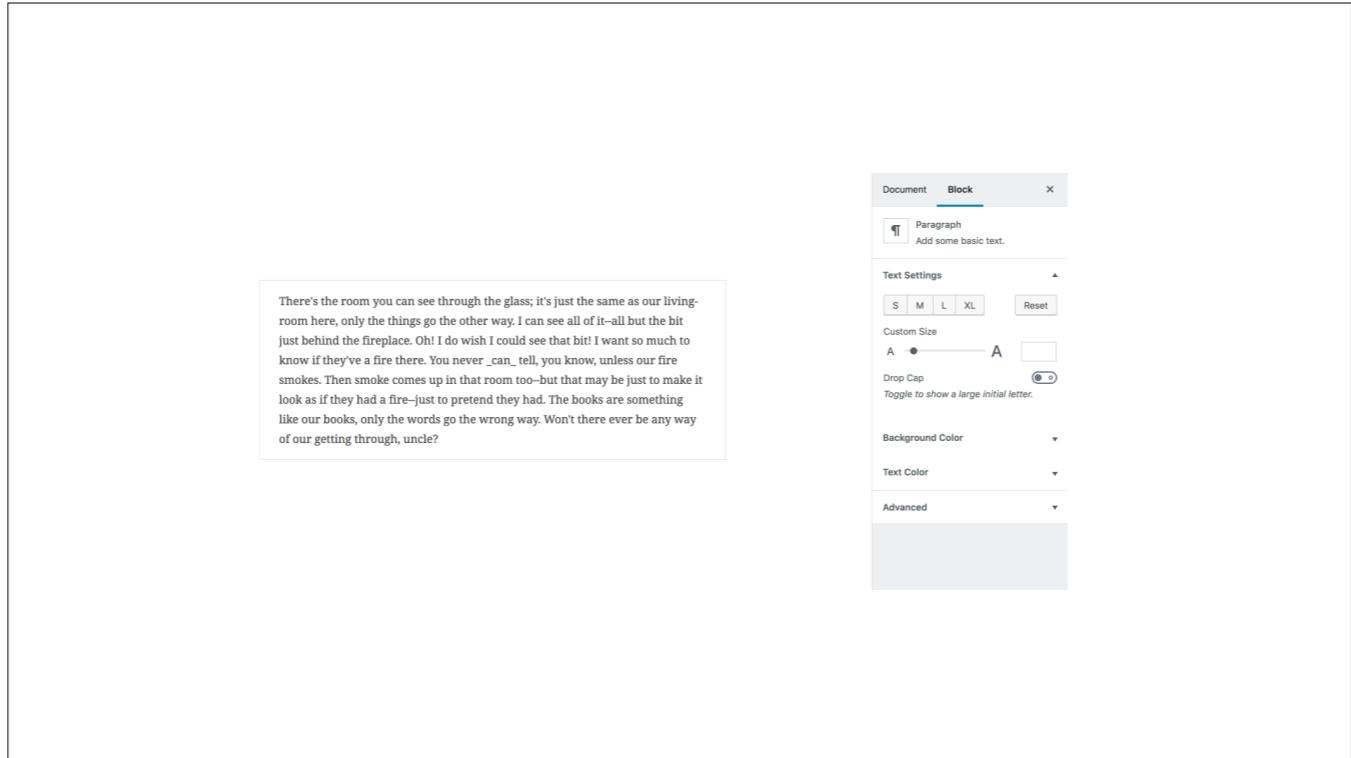
There's the room you can see through the glass; it's just the same as our living-room here, only the things go the other way. I can see all of it—all but the bit just behind the fireplace. Oh! I do wish I could see that bit! I want so much to know if they've a fire there. You never can tell, you know, unless our fire smokes. Then smoke comes up in that room too—but that may be just to make it look as if they had a fire—just to pretend they had. The books are something like our books, only the words go the wrong way. Won't there ever be any way of our getting through, uncle?

Placement of this has gone back and forth, for now leaving the option there seems to work well for everyone.

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Settings sidebar

Remember the document sidebar? Well blocks have one too.



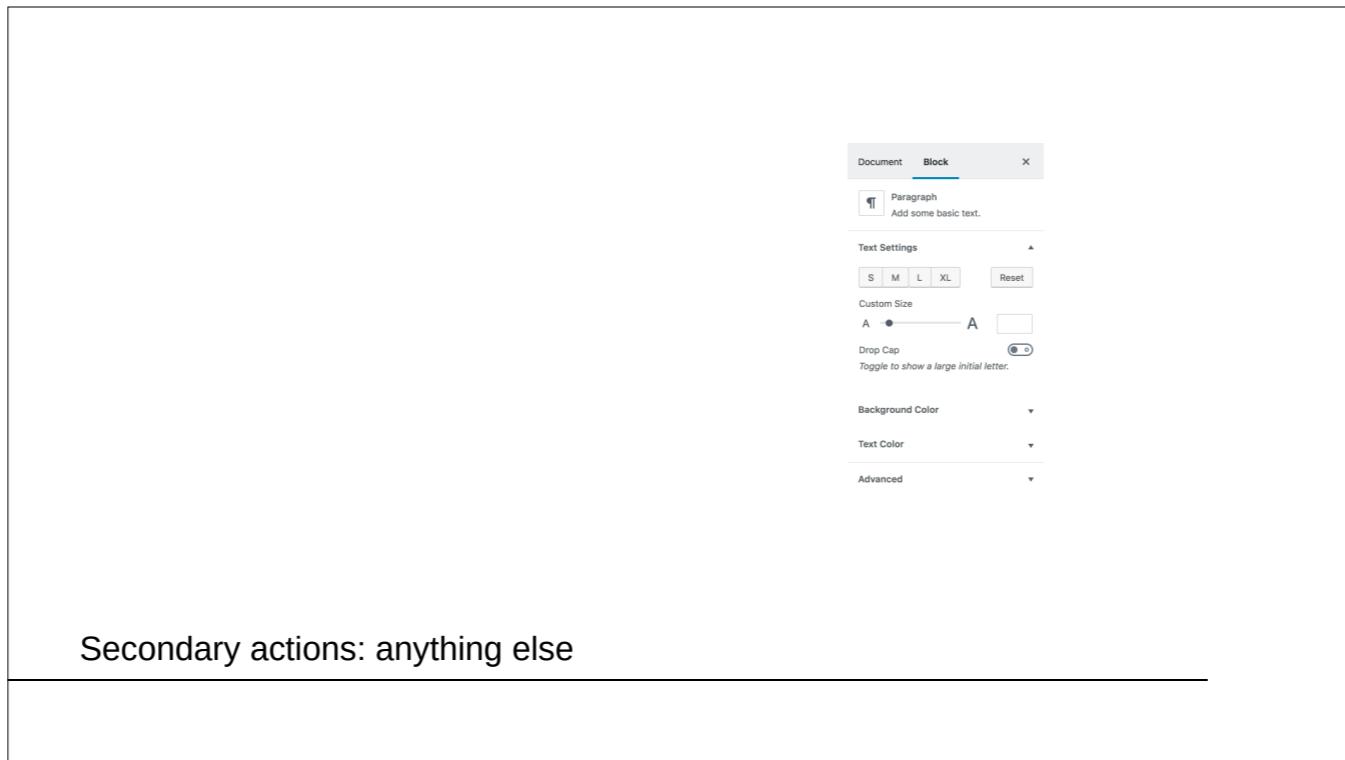
Here you can see the entire sidebar for the paragraph block.

The screenshot shows a Microsoft Word document window. At the top, there is a toolbar with icons for font size, bold, italic, underline, and other document settings. Below the toolbar is a text block containing the following text:

There's the room you can see through the glass; it's just the same as our living-room here, only the things go the other way. I can see all of it—all but the bit just behind the fireplace. Oh! I do wish I could see that bit! I want so much to know if they've a fire there. You never can tell, you know, unless our fire smokes. Then smoke comes up in that room too—but that may be just to make it look as if they had a fire—just to pretend they had. The books are something like our books, only the words go the wrong way. Won't there ever be any way of our getting through, uncle?

Primary actions: things that a block can't function without

Toolbar: Primary actions: things that a block can't function without

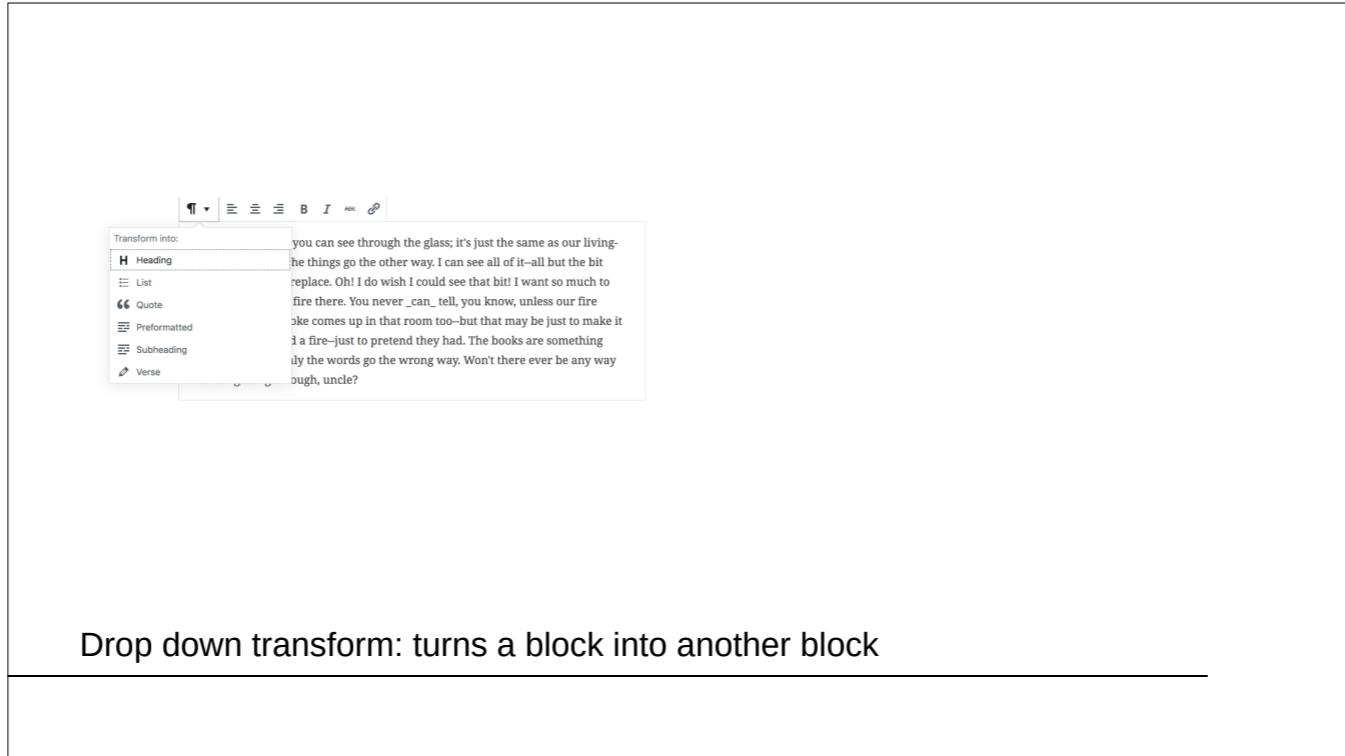


Sidebar: Secondary actions: anything else

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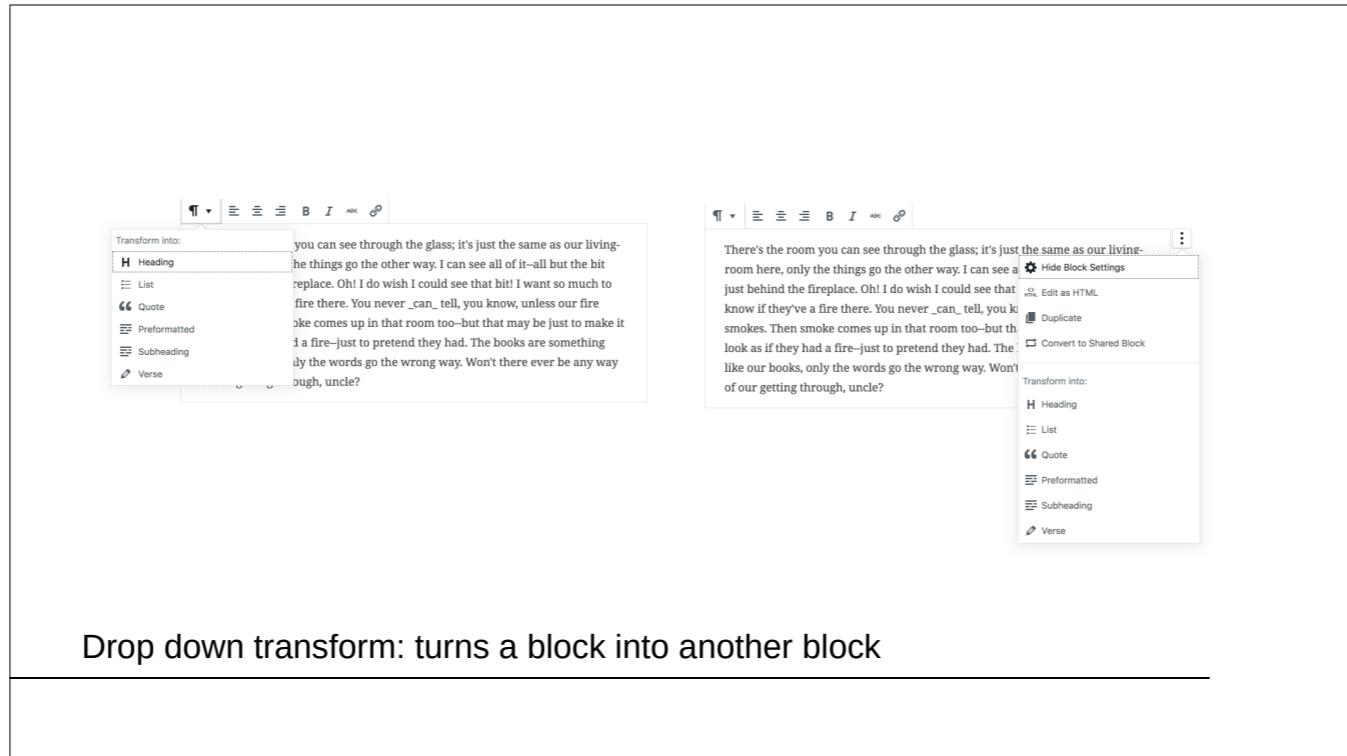
Block transforming

Almost all blocks can be transformed into another type of block, this allows easily changing content.



Drop down transform: turns a block into another block

You do this by either clicking the drop down in the toolbar or through the ellipsis menu.



Here you will get a list of everything a block will transform into, each block is different. For example here you can change a paragraph to list, quote or even heading.

The screenshot shows a rich text editor interface. At the top, there's a toolbar with icons for bold, italic, underline, and other styling options. To the right of the toolbar are buttons for 'Save Draft', 'Preview', 'Publish...', and settings. Below the toolbar is a title bar with the text 'See id autem nominavi deseruisse'. Underneath the title is a 'Block transforms' panel. This panel contains four main categories: 'Heading' (with a large 'H' icon), 'List' (with a list icon), 'Quote' (with a double quote icon), and 'Verse' (with a verse icon). Below these are three additional options: 'Preformatted' (with a code icon), 'Subheading' (with a smaller 'H' icon), and 'Text' (with a text icon). To the right of the panel, there is some sample text in Latin: 'iu, ad nec copiosae
ea, ut vis omnium
interpretaris at, sea et
suis partem ea, ius sonet
Eum cu unum choro
is gubergren conceptam, ex
sed wis nostrum occureret. Esse vent omittantur ius te, alii dissentias ei vis.
At sed unum veritus fabellas. Te volutpat appellantur duo. Ad natum fuisse
intellegebant eam, causae invidunt usu id, et vis impetus appetere.'

Potential design change to unify transforms

It's worth adding that there is work going on to move transforms to just one place and have this resemble the block library. Little unifying improvements like this are an important focus.

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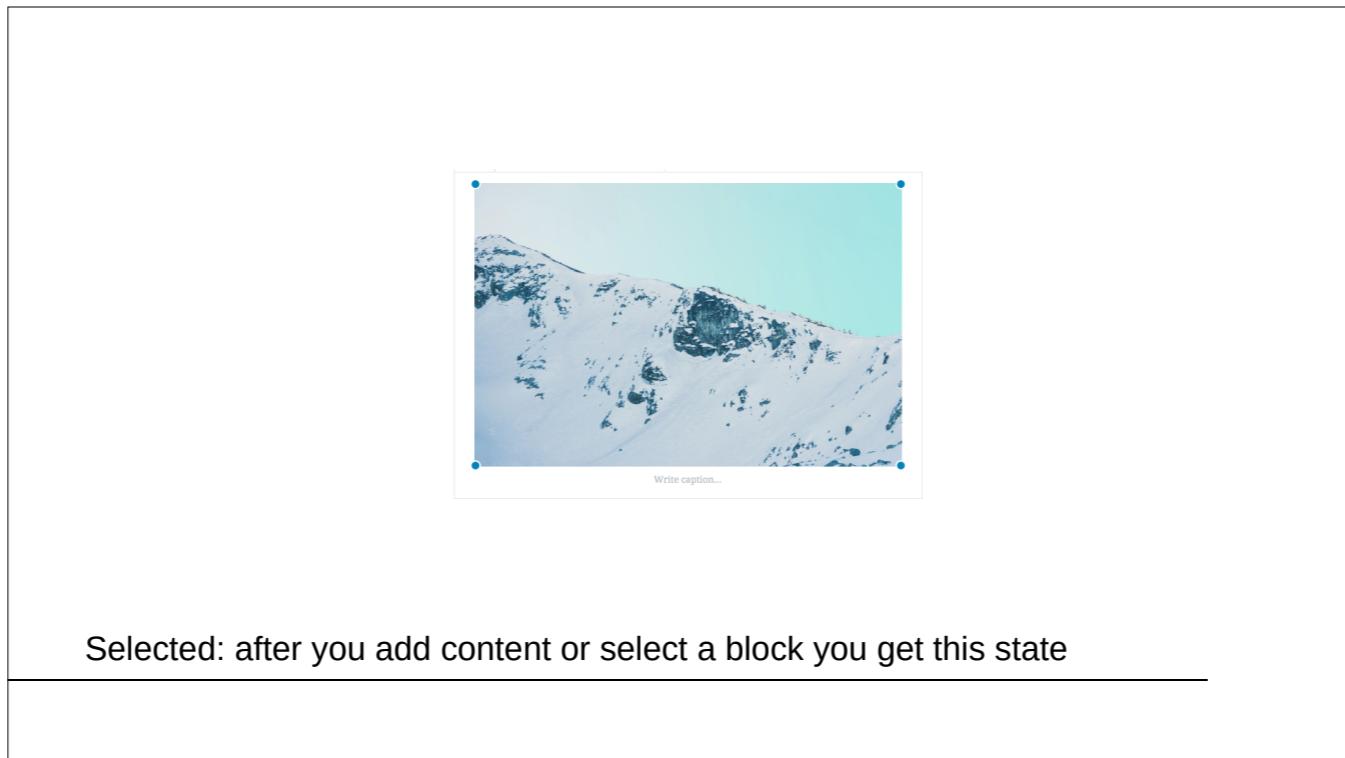
Block States

It's important to look at the states of blocks.



Unselected: shows when select block and no content

Unselected placeholder: shows when select block and no content



Selected: after you add content or select a block you get this state

Selected: after you add content or select a block you get this state



Unselected but contains content: not a placeholder

Unselected but contains content: not a placeholder



Hover state

This is the hover state

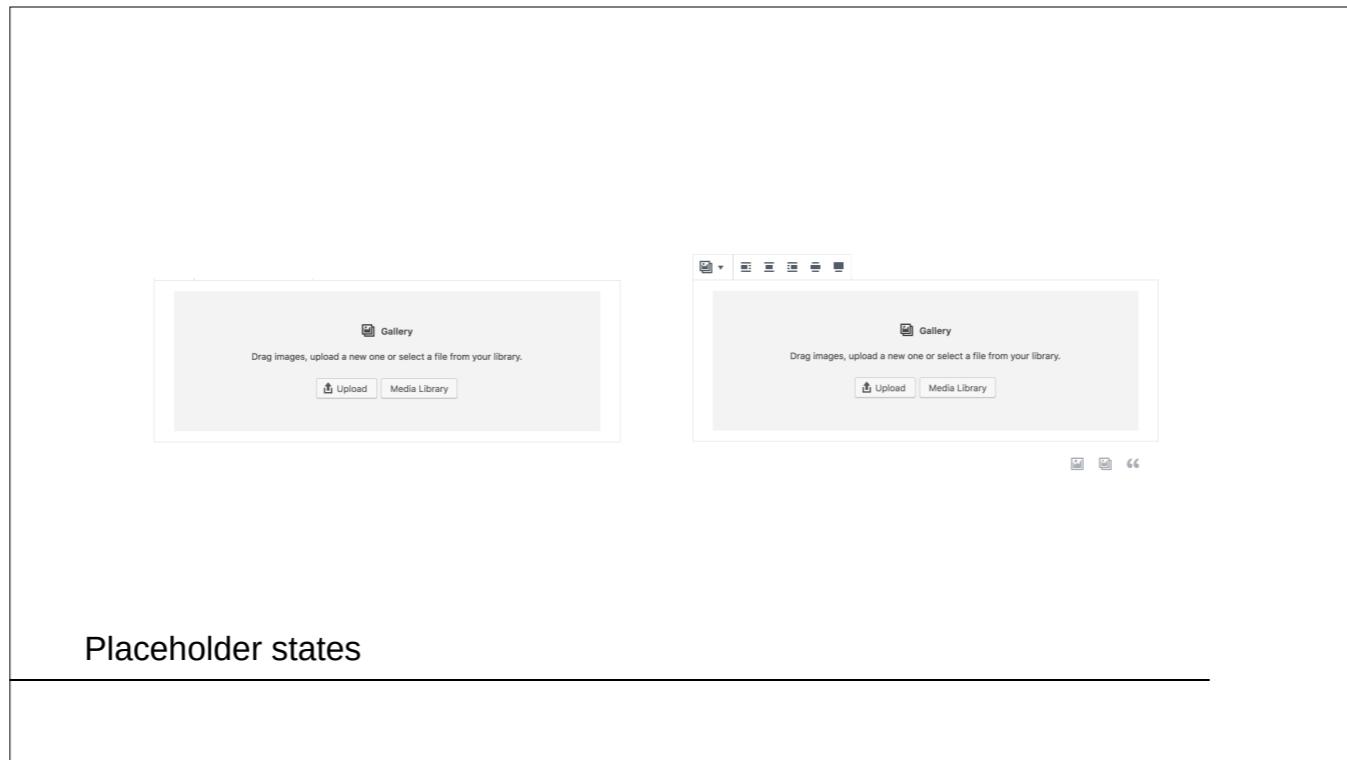
0/5

Block examples

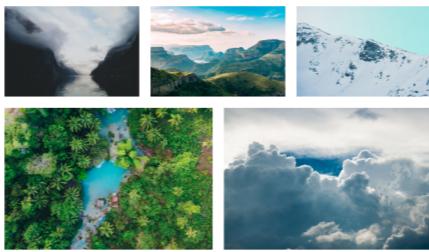
Now I have covered the basic anatomy of a block, I'm going to look at some examples and see how this applies to them.

5/1

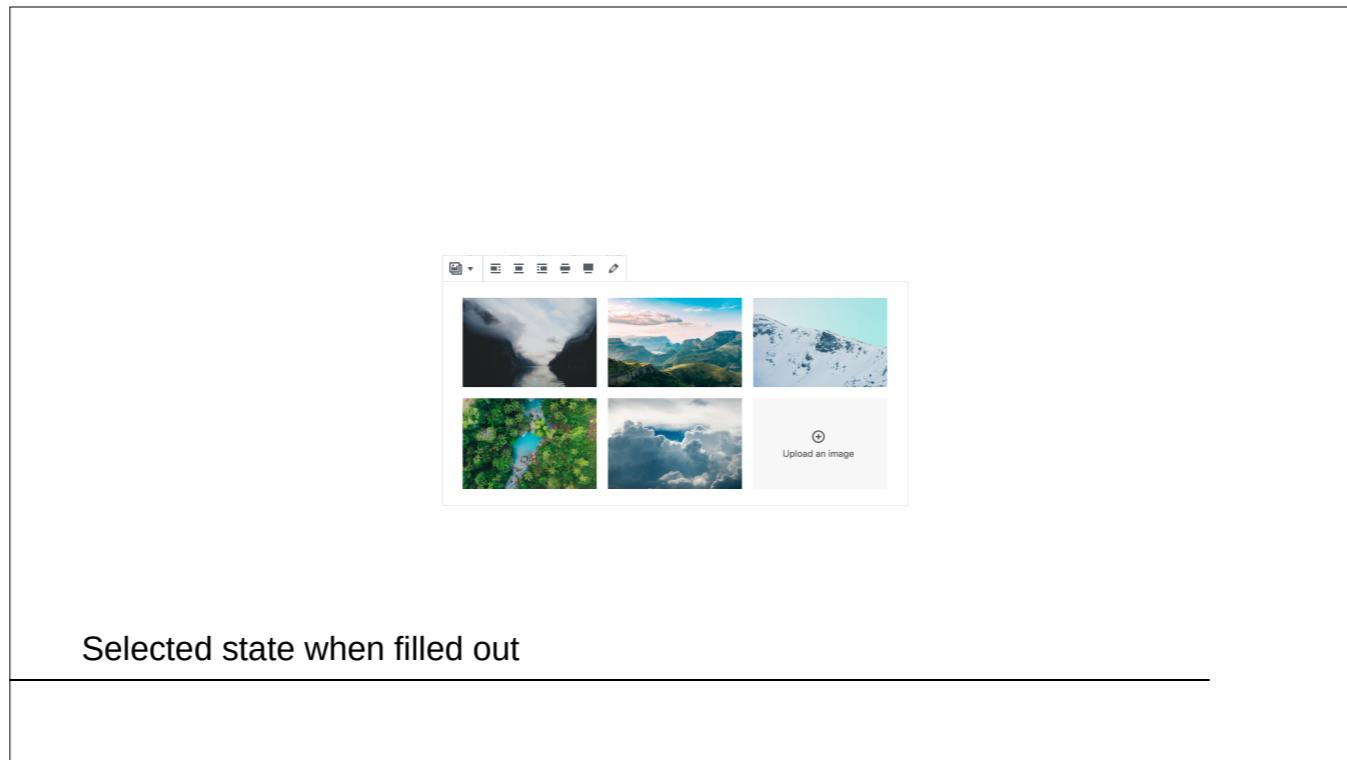
Example: Gallery block

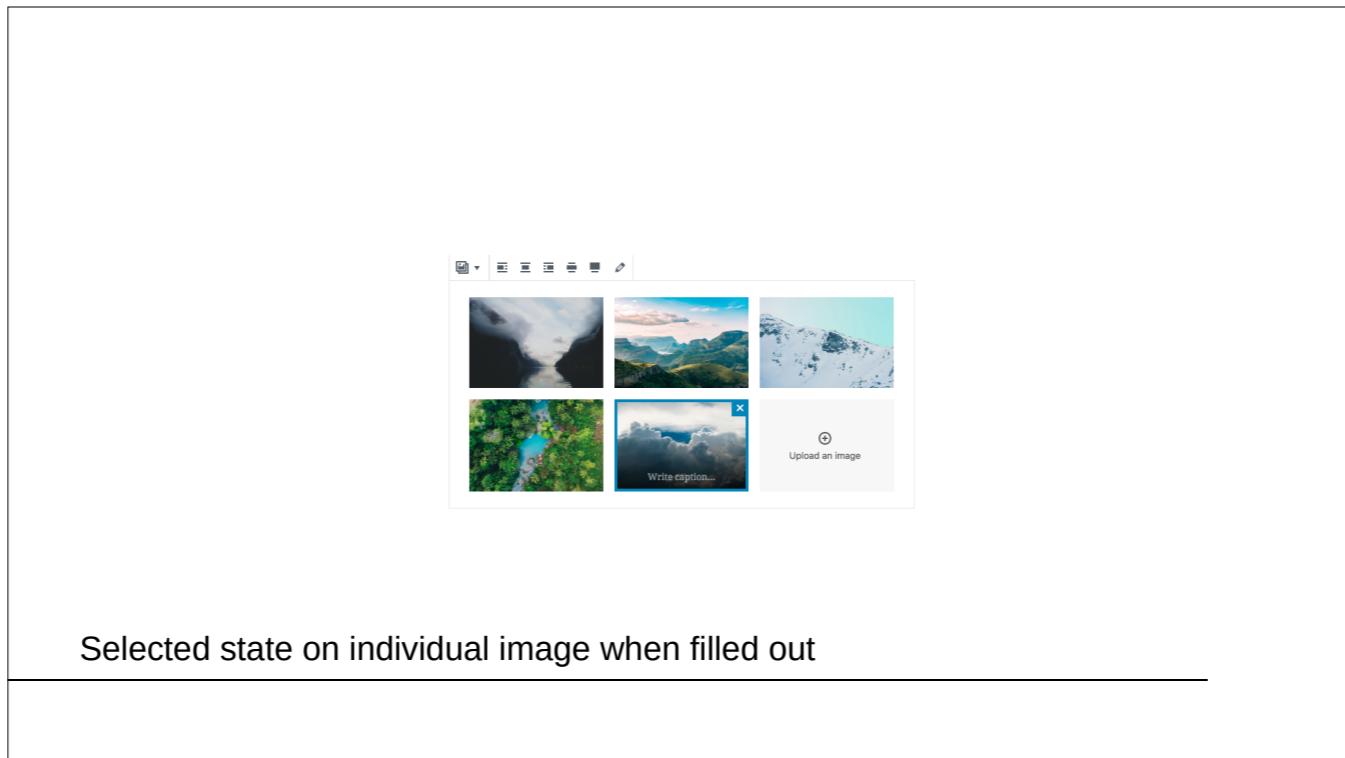


Upload, call to action, encourage.

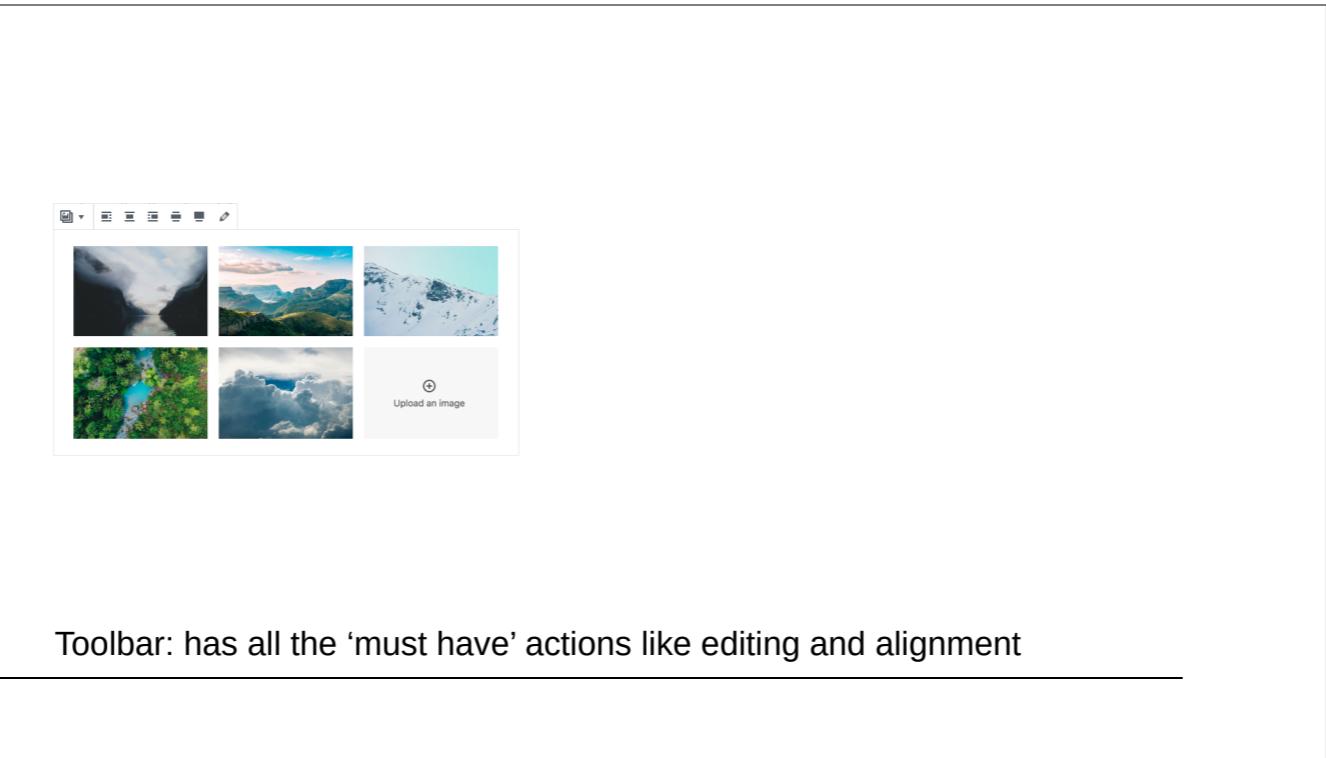


Unselected filled out state

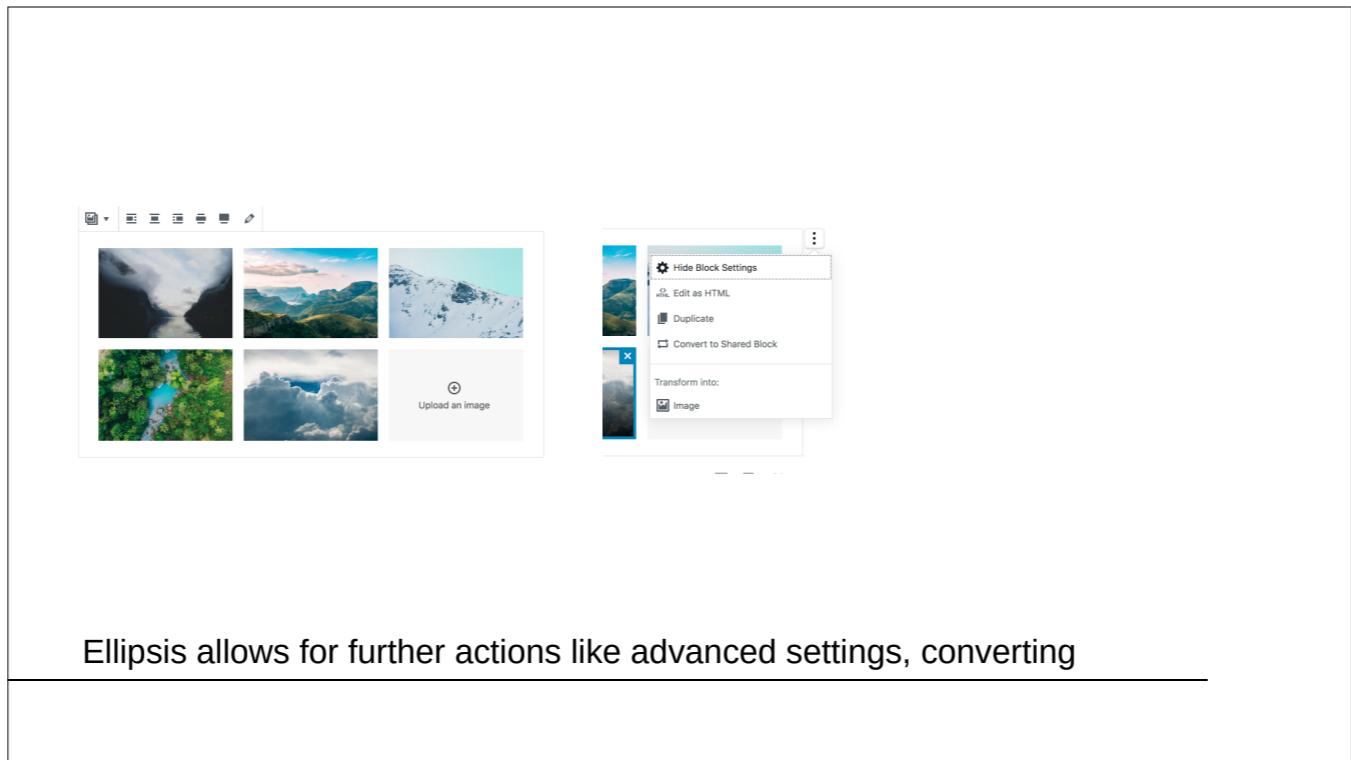




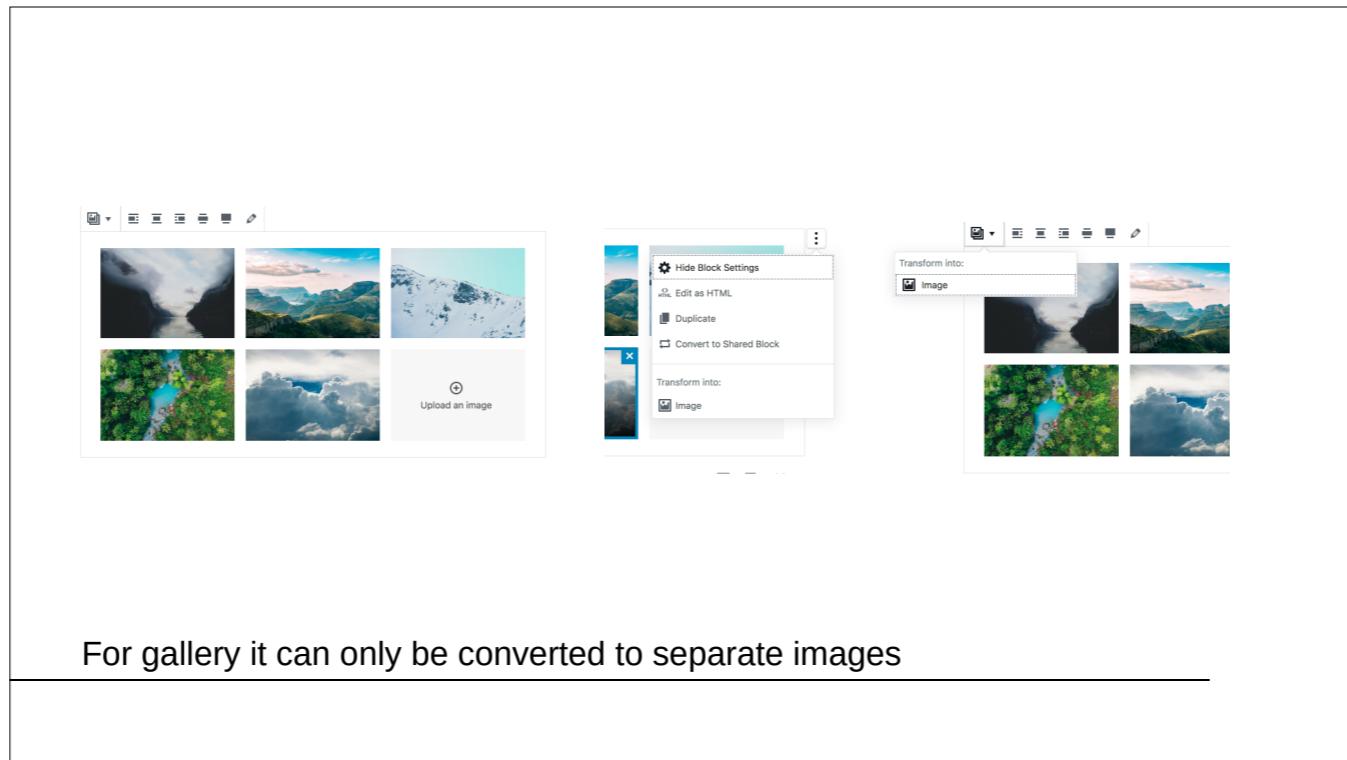
Hovering here on individual image shows caption.

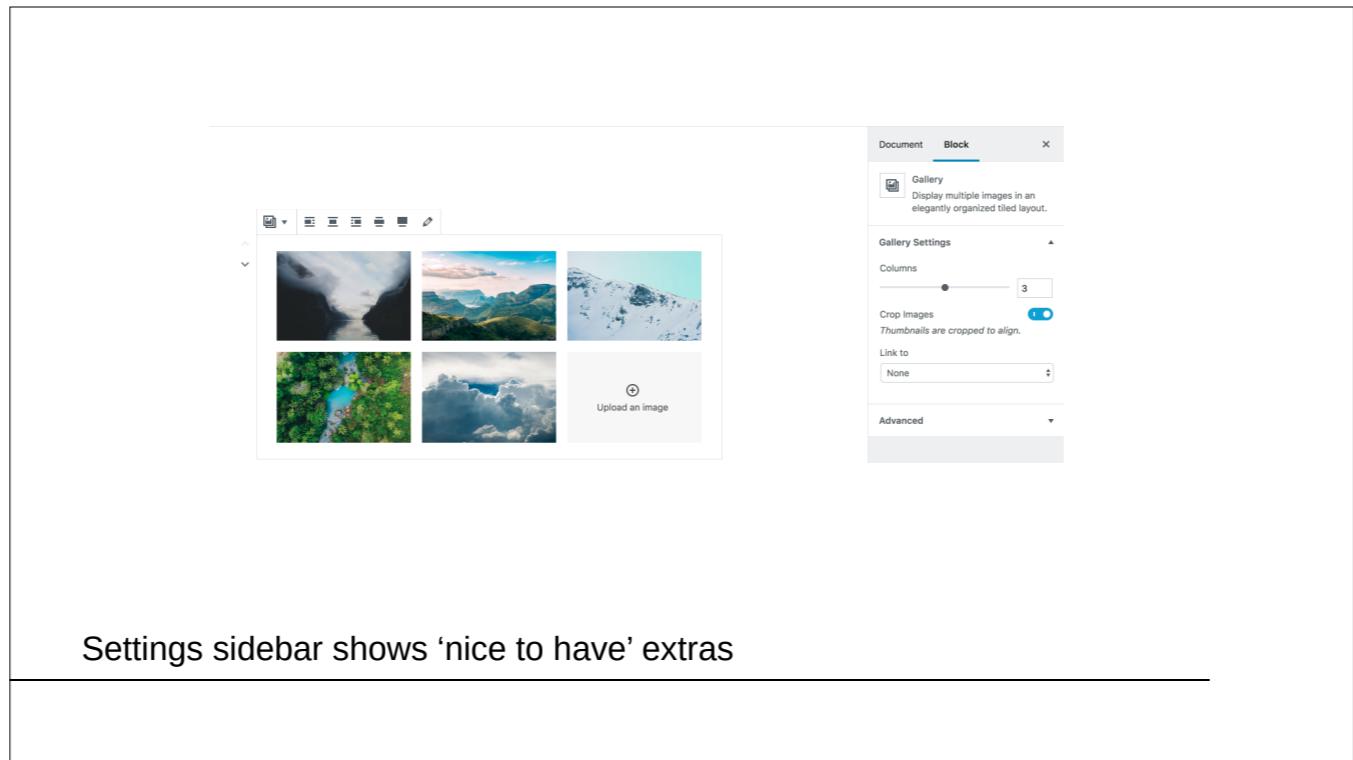


Toolbar: has all the 'must have' actions like editing and alignment



Ellipsis allows for further actions like advanced settings, converting

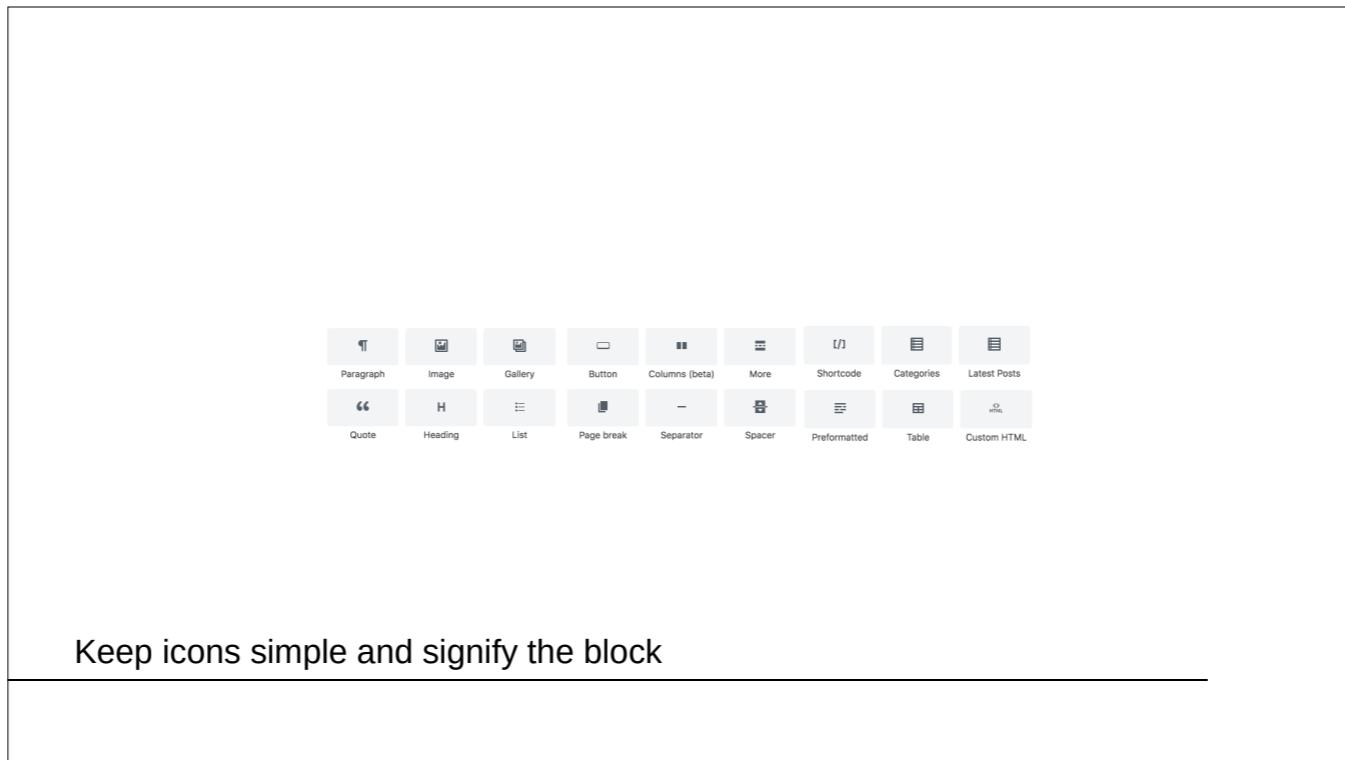




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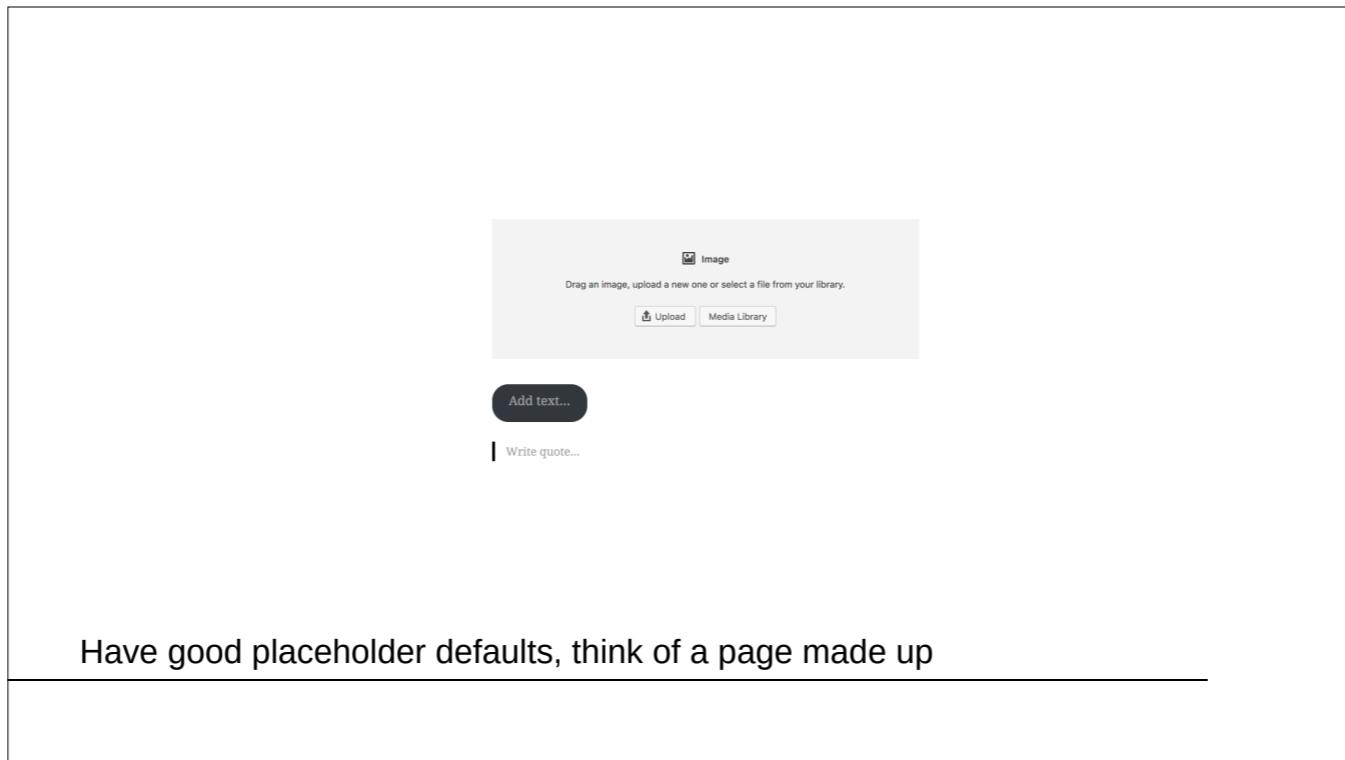
Hints

I wanted to take a little time now we've gone over some basics of blocks. To give some hints that will hopefully make designing easier.

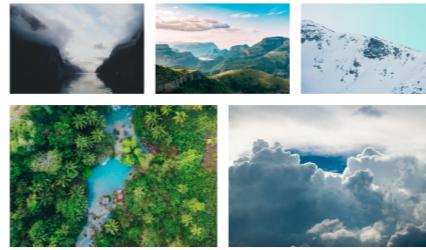
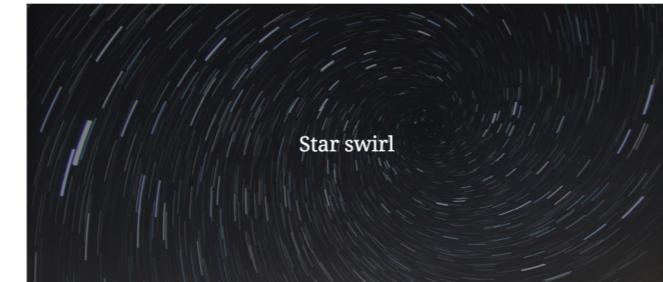


Keep icons simple and signify the block

Keep icons simple and signify the block. Every block can have an icon and text, also keep the text short and apt.

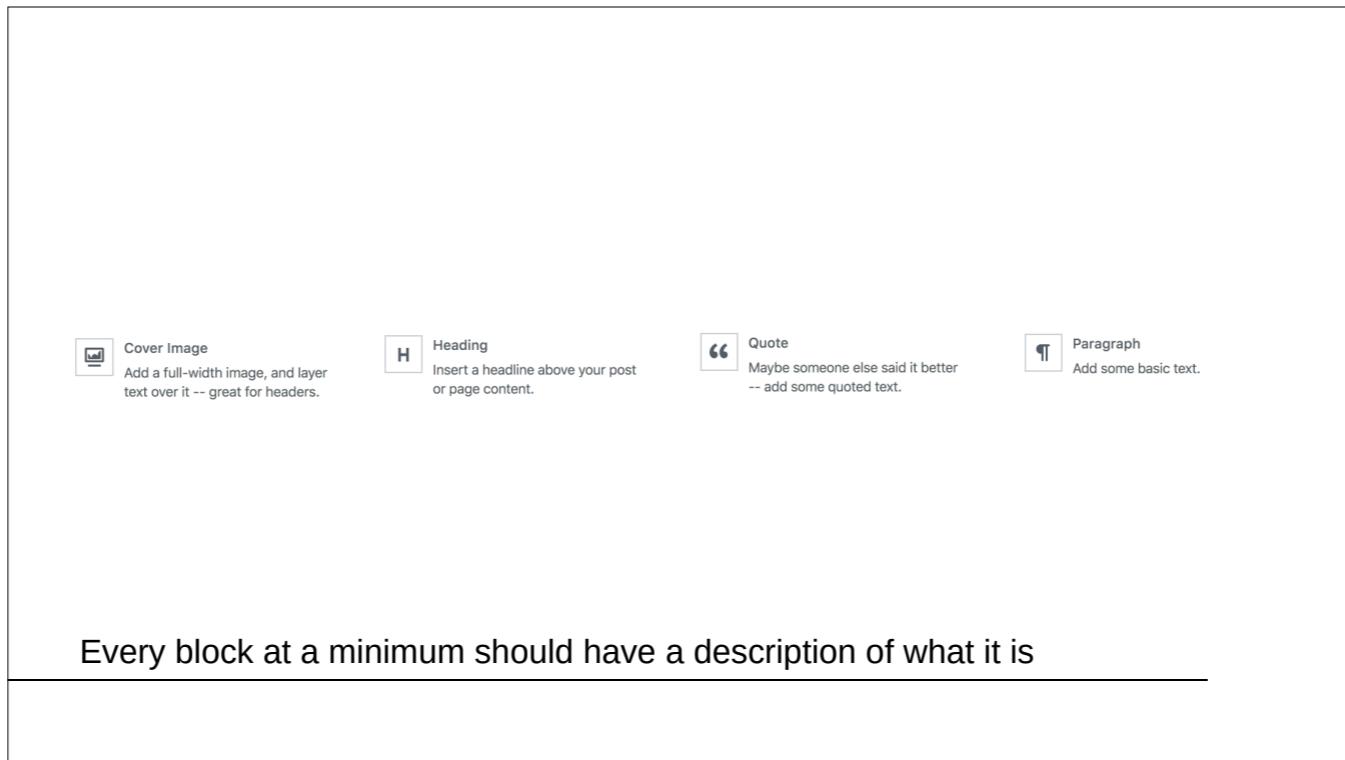


Have good placeholder defaults, think of a page made up in a template.



When unselected show a preview of block

When unselected show a preview of block. Make this look as close to the final output on front as possible.



Every block at a minimum should have a description of what it is when you view the additional settings.

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Thoughts

That's some tips, now I'd like to move into some thoughts that in part are answers to questions and conversations around designing with Gutenberg.

7/1

Blocks should adapt

Think what your block feels/looks like on all devices

A lot of work has gone in and will continue to go into making Gutenberg a better adaptive experience than the one today in WordPress. This is important work and needed to set the project up for the future. Every single thing you do should be tested across different devices. This includes blocks. Really consider what the interactions are going to be like and adapt.

7/2

Where should blocks live?

... it depends but likely plugins

This is possibly one of the top questions asked.

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Direct manipulation

One term that comes up when talking about Gutenberg is whether it has direct manipulation.

Let's take a look at the definition of Direct Manipulation...

Direct manipulation is an interaction style in which the objects of interest in the UI are visible and can be acted upon via physical, reversible, incremental actions that receive immediate feedback.

www.nngroup.com/articles/direct-manipulation/

Alice....

There's the room you can see through the glass; it's just the same as our living-room here, only the things go the other way. I can see all of it—all but the bit just behind the fireplace. Oh! I do wish I could see that bit! I want so much to know if they've a fire there. You never can, tell, you know, unless our fire smokes. Then smoke comes up in that room too—but that may be just to make it look as if they had a fire—just to pretend they had. The books are something like our books, only the words go the wrong way. Won't there ever be any way of our getting through, uncle?

Everything with blocks is direct manipulation and should be

As you can see Gutenberg has it and when creating a block this needs to be a consideration.
How things interact. Someone experience the interface expects this now, it's an important feedback.

7/4

Block styles

Whilst it is possible to create a style and share that through a shared block, actually having a set of pre-styled options per block.. now that would be a really useful thing right?

The screenshot displays four distinct configurations of the Gutenberg editor's block variants interface, each showing a different way to manage and present multiple styles for a single block type:

- Top Left:** Shows a sidebar with various styling options like "Default", "Pullquote", "Background", "Outline", and "Centered". The main area shows a quote from Julio Cortázar with a preview of the styling.
- Top Middle:** Shows a "Transform Block" configuration with a sidebar for "Block variants" containing "Heading 1" through "Heading 6". The main area shows a quote with a preview of the transformed heading styles.
- Top Right:** Shows another "Transform Block" configuration with a sidebar for "Block variants" containing "Heading 1" through "Heading 6". The main area shows a quote with a preview of the transformed heading styles.
- Bottom Left:** Shows a "Block styles" configuration with a sidebar for "Block transforms" containing "The quick", "The quic", and "The quic". The main area shows a quote with a preview of the transformed styles.
- Bottom Middle:** Shows a "Block styles" configuration with a sidebar for "Block transforms" containing "The quick", "The quic", and "The quic". The main area shows a quote with a preview of the transformed styles.

Styles : formally variations

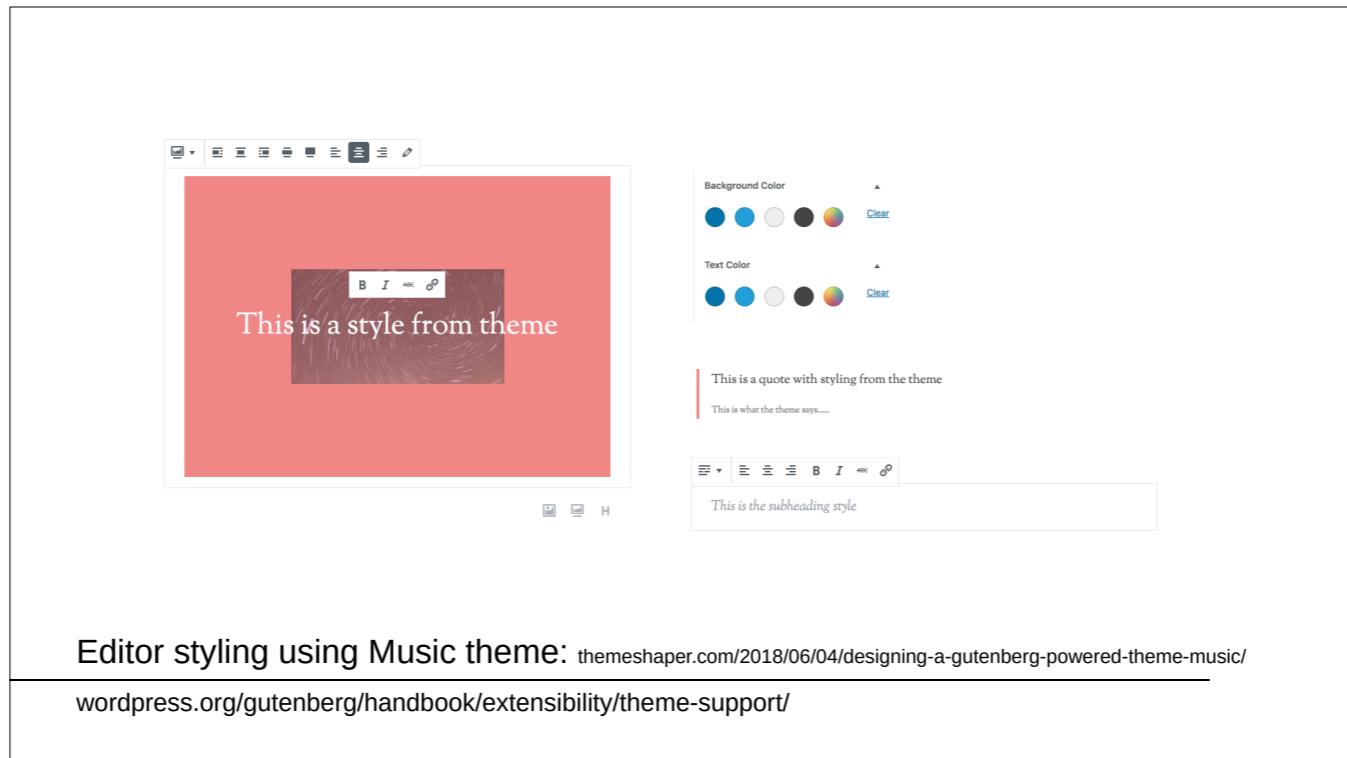
github.com/WordPress/gutenberg/issues/783

Block styles, formally called variants are a great way to do this. Right now as you can see the design of this is being explored. It goes to show how serval designers can approach the same interface in different ways. This is how Gutenberg has been designed, in the open with multiple people working through ideas. Follow along this issue as this is iterated on.

7/5

Editor block styles

Blocks can also have styles brought in from the editor to get things nearer to the WYSIWYG experience.



Editor styling using Music theme: themeshaper.com/2018/06/04/designing-a-gutenberg-powered-theme-music/
wordpress.org/gutenberg/handbook/extensibility/theme-support/

Gutenberg editor styles allow you to do simple and also powerful changes to styling of blocks. For example you can set a color scheme, go further and style each block even.

Find out more in this link

0/9

Beyond blocks

When should you build a block is a common question asked. Mostly it will be a block you'd make, but there are also other options. This is where there is more potential for plugins to create a more native, seamless additional experience within WordPress, truly extending not just building on.

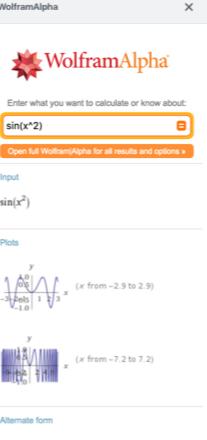
Sea id autem nominavi deseruisse

LoREM ipsum dolor sit amet, ferri vidisse nam eu, ad nec copiosae mnesarchum vituperatoribus. Te brute dicunt sea, ut vis omnium menandri, ut sumo aliquam has. Eum aperiam interpretaris at, sea et recusabo expetenda, omnis tibique mee no. Pri suas partem ea, ius sonet numquam offendit cu, ad simul admodum pri. Eum cu unum chorus albucius.

Eu integre accusata prodesset est, sed te impetus gubergren conceptam, ex sed wisi nostrum occurerer. Esse velit omittantur ius te, alii dissentias ei vis. At sed unum veritus fabellas. Te volutpat appellantur duo. Ad natum fuisse intellegebat eam, causae invidunt usu id, et vis impetus appetere.

Potential ideas

github.com/WordPress/gutenberg/issues/3330



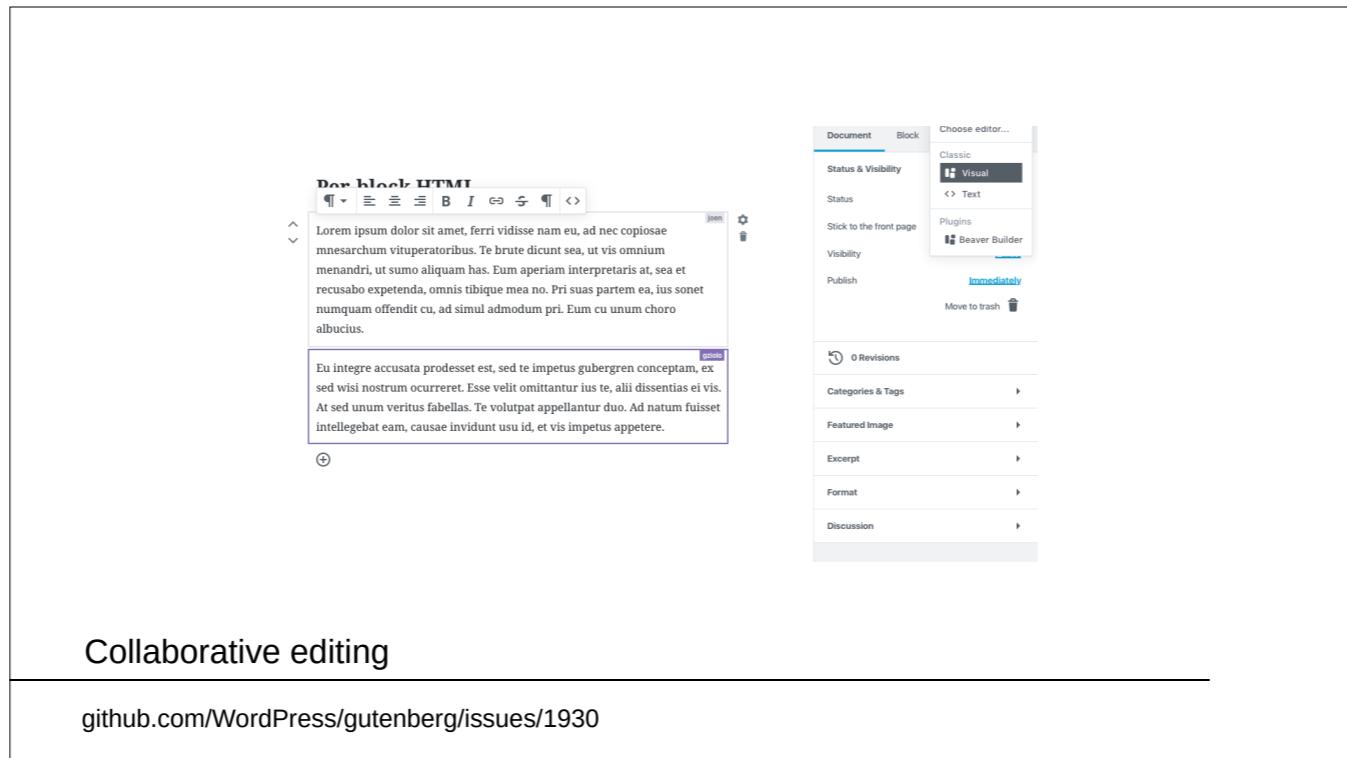
The screenshot shows the WolframAlpha interface. At the top, there's a search bar with the query "sin(x^2)". Below the search bar, there's an "Input" section with the text "sin(x^2)". Underneath that is a "Plots" section containing two graphs of the function $\sin(x^2)$. The first graph shows the function from $x \in [-2.9, 2.9]$, displaying a series of peaks and troughs. The second graph shows the function from $x \in [-7.2, 7.2]$, showing more detail. At the bottom of the interface, there's a link to "Alternate form".

Being able to hook into the sidebar is a really strong design pattern. Imagine something like this.

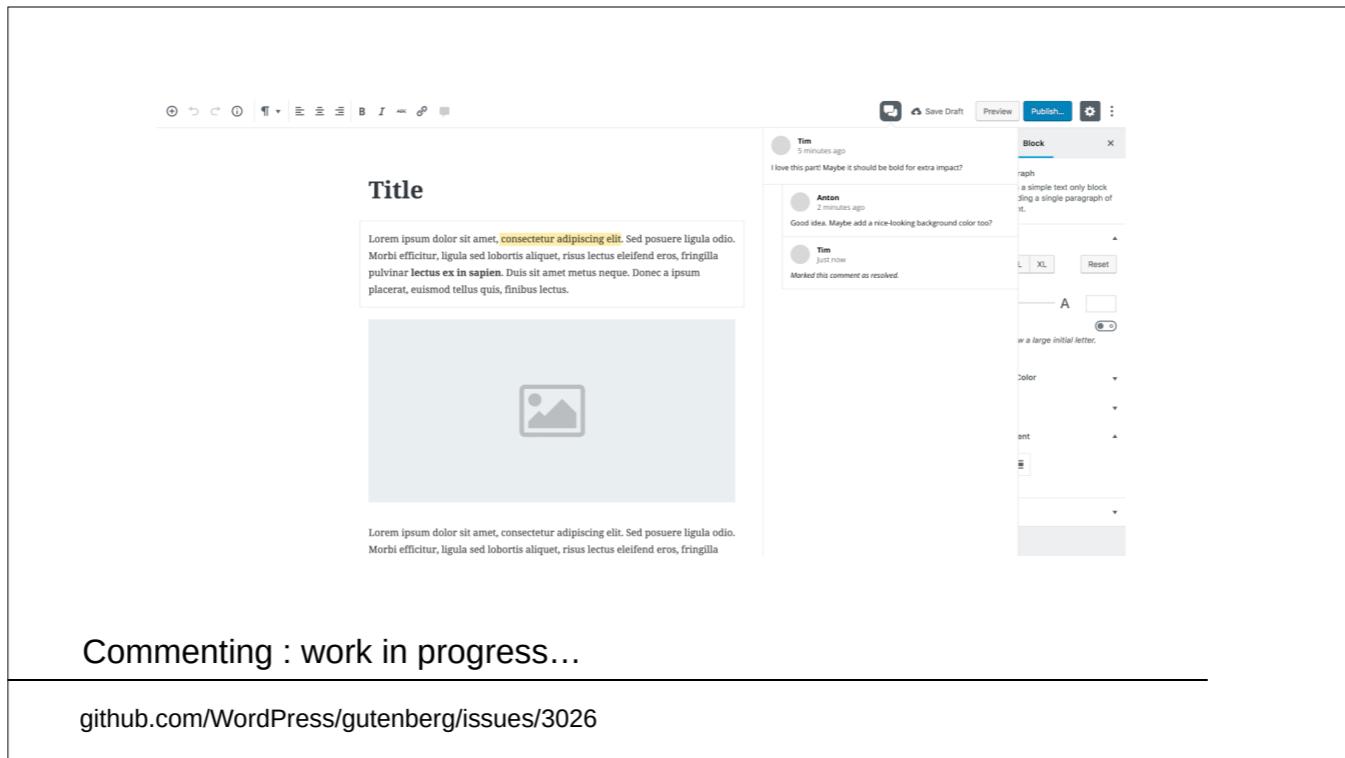
There is the ability right now to pin and have custom sidebars, the potential for this is going to be exciting to see realised in what people create.

The screenshot shows two side-by-side views of the Gutenberg editor. Both views display the same Latin text: "Sea id autem nominavi deseruisse". The left view is the "Visual Editor" and the right view is the "HTML Editor". In the Visual Editor, a tooltip appears over a highlighted sentence: "This sentence is too long. Consider shortening it." The right view shows a dropdown menu with various options, and the "Analyze Readability" option is highlighted with a mouse cursor. Below the editor, a section titled "Readability" contains the GitHub link "github.com/WordPress/gutenberg/issues/3330".

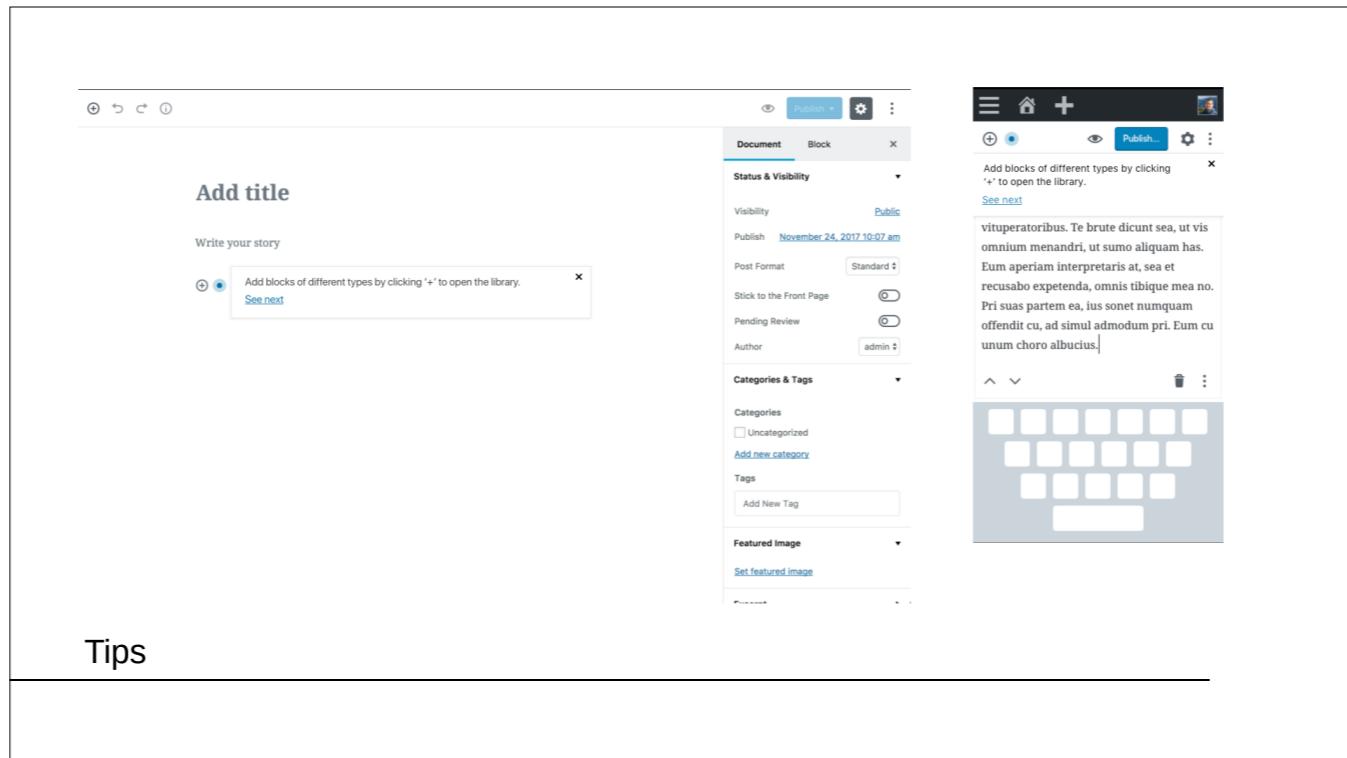
Imagine scanning your content and getting back information on how to make it more readable. This can be done through a plugin hooking into the interface. This truly takes Gutenberg to a more app like experience and sets WordPress up for a really exciting future.



Collaborative editing is something I know I've heard a lot of people want and need in WordPress to really simplify their publishing flows. This is just a mockup but the future where this is possible is close thanks to the work that has gone on so far.



Commenting has come a long way since a first idea. It's really a full fledged vision now and being made into final mockups. There on this issue are prototypes and I'd encourage you all to check it out as it's something people have wanted native in WordPress. This is going to be a really powerful feature.



Tips

Tips in their first form provide a simple new user experience guide. It's a short step through where you are taken through the writing flow to publishing. In later iterations this will develop into helpful tips that can of course be turned on and off, but also level up those using the editor. The hope is this eases people into the new experience and is something to build upon.

1/0

Anatomy of a block

That brings us to the end of this whirlwind trip through Gutenberg design. There's a lot still to work on but day by day the project is shaping and refining into being the future of WordPress.

9/1

Thanks for designing Gutenberg

I'd also like to say thank you to anyone that has made a contribution to Gutenberg, every single one matters and has helped. Gutenberg has got this far through all the amazing contributions and it's been a pleasure to work with all the amazing designers that have contributed.

9/2

karmatosed.github.io/talk-gutenberg-anatomyofablock

goo.gl/forms/GWVVbNtYBnrRjxGg2

Here are my resources. On that page is also a form link shown here to tell me what you'd like to have included in this talk and I didn't cover. Things maybe there should be in the handbook, as a post or even in future talks.

9/3

Questions?

@karmatosed on all the things :)

Thank you.