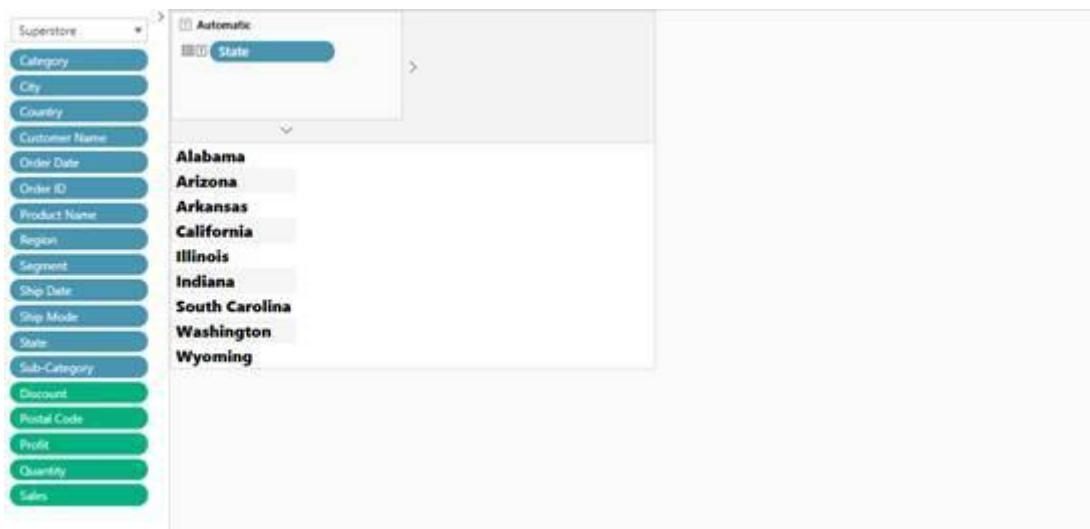


I drop state on the canvas:



And it defaults to Rows & Text:



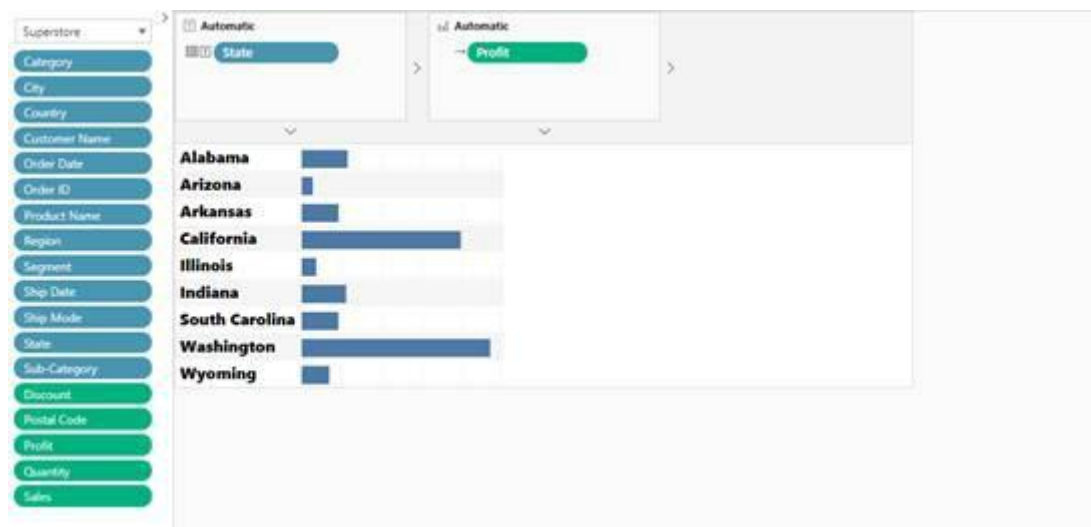
I like rows as a default for a number of reasons. Rows shows more text than columns (at least for English). Humans are really good at reading text and understanding how the data field is connected to the world. Rows also leads to horizontal bar charts. Bars are a great way to compare values and horizontal bar charts are good to encourage because they show more header text labels.

Note the x/y delta between my drop and the result. I would be fine with the shift to the top left corner if the drop were near that but I would not want the shift if the drop were more distant from the corner. I think this shift is totally fine for a prototype – you could certainly run subjects on the prototype. This is primarily an issue for authoring curated dashboards where authors might want to assemble the parts in an order different than the upper left.

At this spot in the flow, I'm puzzled about how to get a bar chart using [Profit]. As you know, there are two drops on x-axis affordances. One in the current block and one in a nested block. Multiple X-axis choices will impact users new to this UX, which will be a speed bump in their learning. I decided to start by trying the drop in the current block on the X-axis. I was thinking that the block represents a “patch” of the analytical canvas where I can get a single view.



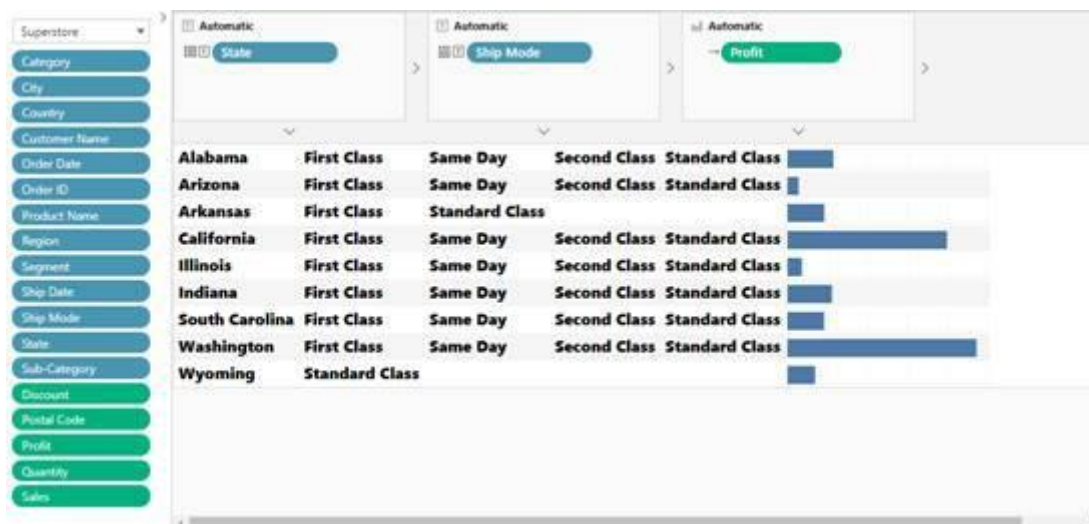
- One issue is that [State] is on both Rows and Text but the prototype does not show the text at this point. If this block represents the header, the text and the bars could be rendered simultaneously. Perhaps simultaneous is the plan for the prototype. I think a good default for the prototype would be to have the text on top of the bars. Obviously a full implementation would need to include formatting controls with changing the alignment of text and bars individually (and maybe the drawing order).
- I tried picking up the Profit pill to move it into the nested block but discovered that the prototype does not yet allow such modifications. I think it is essential that the prototype includes pill moving before significant user research studies are run because pill moving is a core part of the flow of visual analysis. In the meantime, I can clear and rebuild to simulate the movement of pills.
- Since I now have evidence that the first block specifies the header, I am going to move the Profit pill to the nested block on the X-axis.



- Woot. I now have a bar chart.
- However this Bar Chart does not have an axis.
- It will be rare that a user will want a **header** with fields on Rows and Text as well as a field on the X-axis, which means we can help people discover that the first block represents the header by encouraging them to drop into a second, nested block. One design idea is to not immediately offer the X-axis affordance on a block that has a field already on Rows/Columns & Text.
- I'm now puzzled how I get a Small Multiple with both Row Headers and Column Headers. I decided to drop [Ship Mode] on Columns in the second lock, which at least gave me small multiple bars but without the column headers or axes.



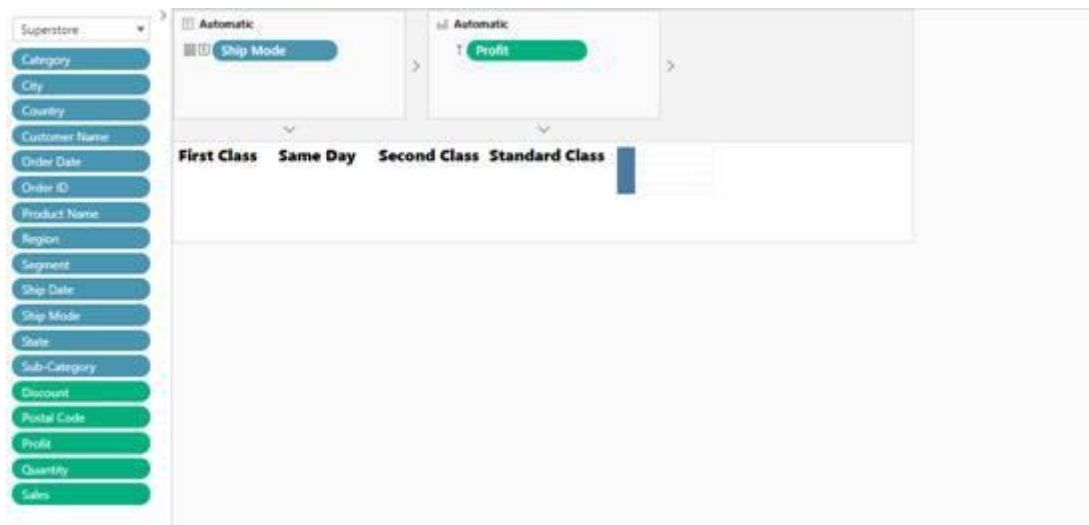
- I now wondered if I “moved” Profit to a nested block if I would get a small multiple header with both Row and Column headers



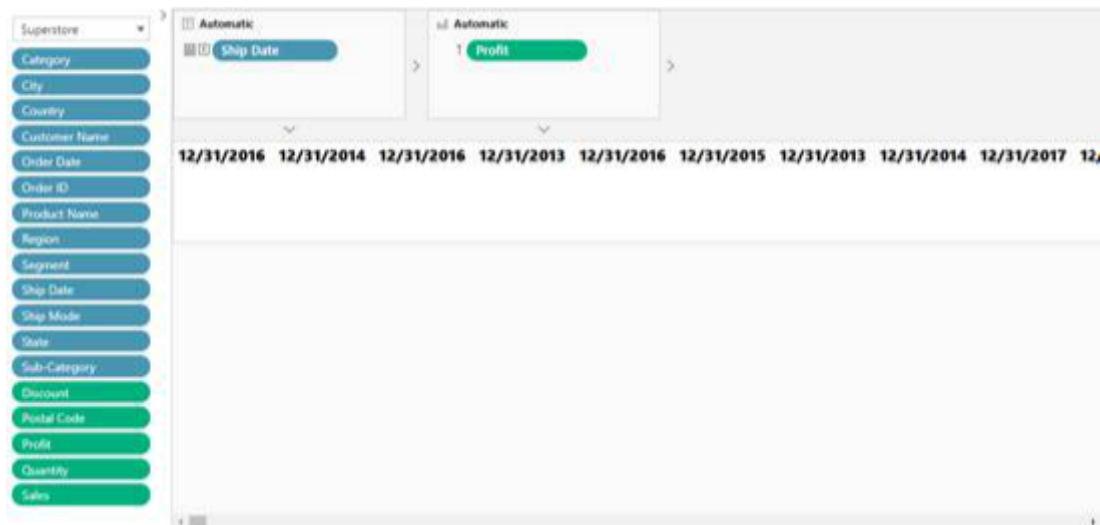
- I'm hoping there is work planned for the prototype that will result in a small multiple bar with axes draw since that will be necessary before we can do a lot of user research
- I get that the prototype only does nesting right now and this is the nesting of Rows&Text, Columns&Text, and X-axis.
- I was curious what I would get if I flipped the Rows and Columns but left [Profit] on the X-axis



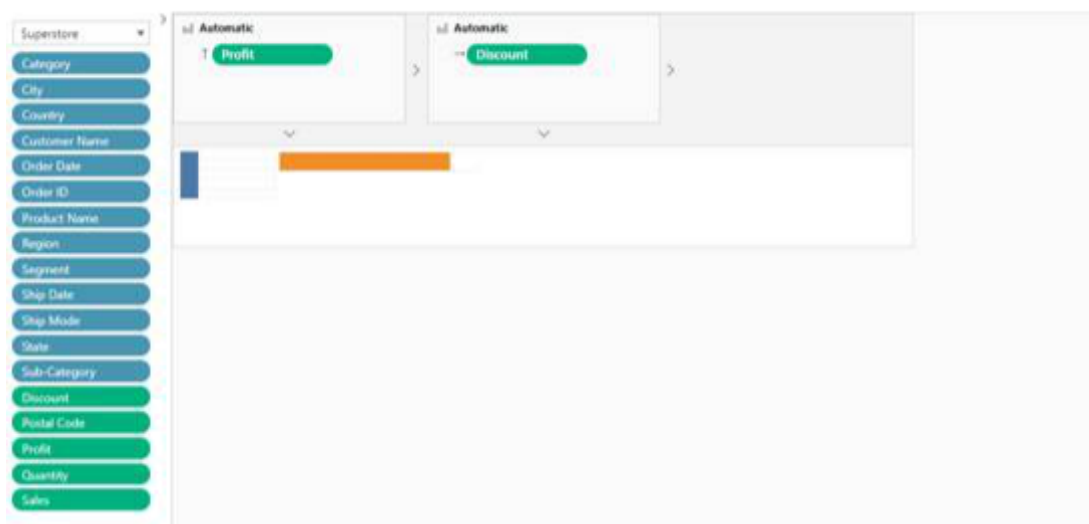
- Sadly I got an error.
- It was also hard to do since my first drop defaults to Rows&Text. I had to create a nested block for Columns&Text and then remove the outer block.
- I also tried to get a vertical bar chart



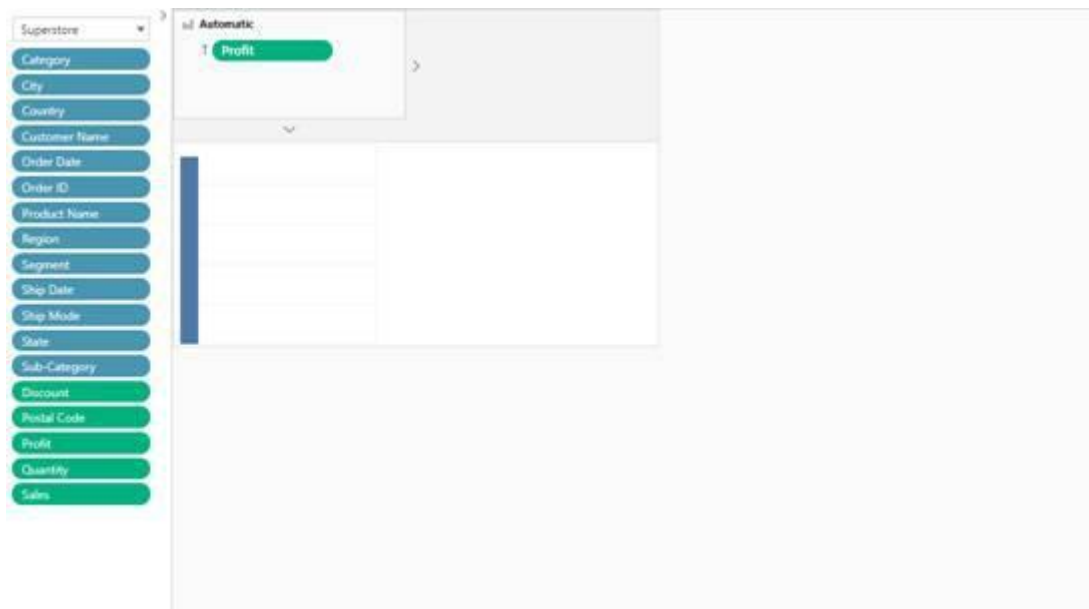
- Was sad not to see 4 bars (perhaps they are overlapping)
- I wondered if we had line views working



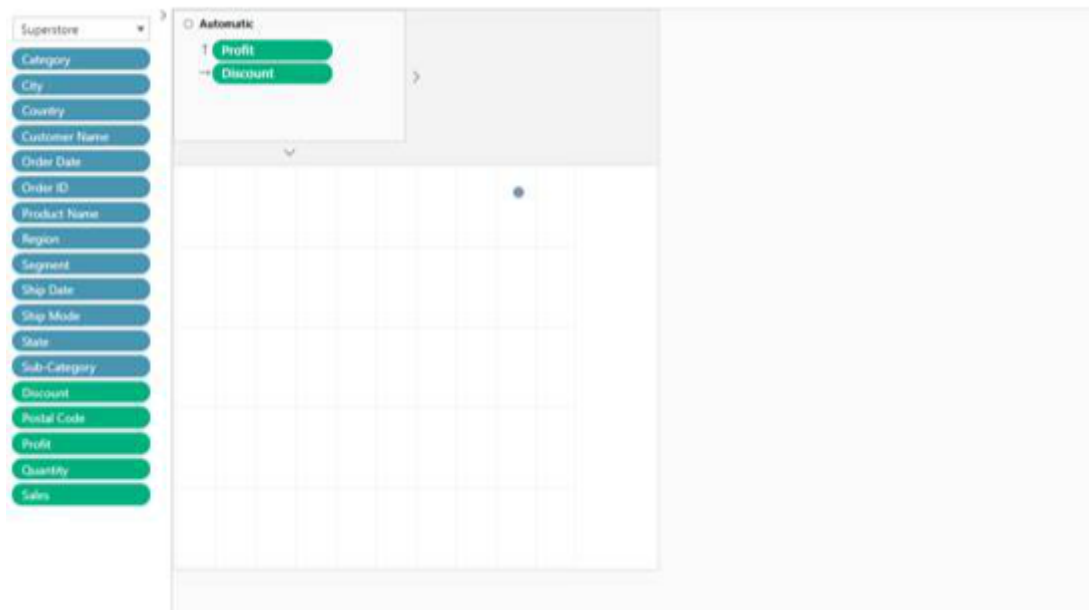
- I tried two blocks for scatters
- I was not surprised that they nested as two bars



- At this point, I reconsidered whether a single block could also be a 2D
- “patch” I started with [Profit]. Discovered it dropped on the Y-axis



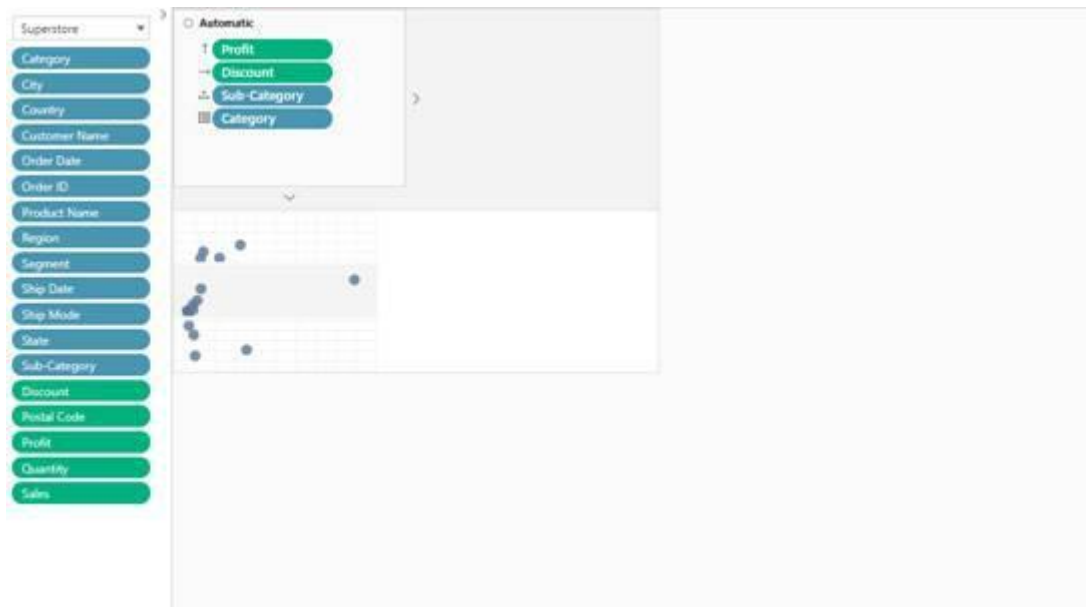
- We should consider the X-axis as the default when a quantitative is the initial drop.
- I then dropped [Discount] in the first block



- Just like the Shelf system, I need to add a categorical field to get multiple marks



- Woot! A scatter. But only a single block and no axes.
- Given the Row and Column affordances in this single block, the natural flow would be to drop categorical fields there to get a small multiple scatter, which have proven to be very useful in statistics. Dropping [Category] on Row does get me a small multiple, but without headers or axis. The row shading does help me see the 3 cells.



- Given the recent flow, I now drop [Ship Mode] on Columns and see that I do get a 2D small multiple but without Headers or Axes



I think I have done enough investigation of the block prototype and enough communication of my investigation that we should be able to have a productive discussion tomorrow.

I look forward to seeing you.

Jock D. Mackinlay, PhD.

he | him | his

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