In this book, I liked the visualization of the price of wheat versus the wages of workers on page 34. This visualization was done with data from 1565 to 1821. Tufte does not specify when the visualization was done but I imagine that it was completed sometime in the second half of the 19th century. One interesting theme seems to be that the price seemed to go up at the end of one rulers’ reign and the start of the next. After transition period, prices seemed to go down a bit again. There was a huge spike in price at the end of the 16th century. I wonder if this was because of a bad harvest? Or maybe there was a war? But at this time, price was nowhere near proportional to the wages workers in this profession were earning.

Other interesting aspects that the creator could have added into the visualizations could be one comparing taxes to the price of wheat. Or how much of the taxes was going to the monarchy, based on who was reigning at that time. Other than the transition or reign period, there does not seem to be any correlation between price and ruler, but I would think that a good ruler may lower taxes and a greedy one may raise it.

I also found it interesting that the creator of the visualization decided to fade the bar graph out instead of placing the wages graph over it. I imagine that it may be harder to draw definitions of lines when working with the tools available at that time, though. The aesthetics of this piece was very nice too. I like the colors, the beige, light blue, and black seemed to work really well together. I imagine it would be hard to do by hand, but it would be interesting to see this visualization with other professions, or with other goods.

I wonder if anyone was brave enough to do some sort of visualization that showed the monarchy in a bad light. Again, the visualization here does not seem to show much in terms of what correlation, if any, the current ruler has to the prices of wheat. It is possible that they truly have nothing in common. Maybe another item was used as the tax during this time.

One of my favorite things about this visualization was that it was done a long time ago. In a time before visualizations were part of the main stream, this is one of the beginnings of this field. I am curious to know how many others worked on visualizing information at this time. I am also curious to know how well received this work was. Were people very interested in using this display to find patterns, or were they confused on why a person would try to display information in this way?

Tufte takes a quote from the lines of a Salman Rushdie novel, “Haroun and the Sea of Stories” and turns it into a beautiful visualization. I found the quote Tufte chose from Rushdie’s story to be very poetic. The sound of this sea of stories, where stories were fluid and could mix with other stories, different parts of one the ocean contained different stories, it all sounds amazing. Tufte took this description and made it his own by creating a visualization around it. The visualization appears on page 121. Through this visualization Tufte is able to point out a few different things. My favorite is the “Plane of Events”. Here, Tufte explains that an event is when nouns and verbs intersect. While it has a formulaic tone, I find it visually fascinating. At every point that time exists, one can take a plane through the visualization and find out what is happening in multiple stories.
However this is a very linear work. Even though it does not really fit into Tufte’s metaphor, I wonder what would happen if the plane used to intersect time, the nouns, and the verbs was not perpendicular to the time plane. That is, what would it mean to have a plane intersect a noun at point $t_0$ and intersect the noun at point $t_1$. It would be like a new dimension of storytelling. Tufte uses the red dots to bring in the example of multiplicity. However, I feel like that is a different step from my idea of an angled plane intersecting time as opposed to a one perfectly perpendicular to it.

There is one thing that I am not clear about in this visualization. Noun and verbs start from the “beginning of time” in this visualization, but I am not clear on if one line represents a noun while another represents a verb or a line represents the story (both nouns and verbs). If it is the former then the red dots, or the red line, would not make sense since you need both a noun and a verb to have an event, so what would it mean to compare a noun to a verb instead of an event to an event. If the latter is true, then the plane of events is less interesting, since one is not able to see the what happens with multiple verbs are around one noun strand or vice versa. That is how stories are created, putting the right nouns with the right verbs.

I love the simplicity of this work. The colors that were used were very elemental. There was nothing there that would shock the viewer, it was almost like a piece of art. If I were to change this visualization in anyway, I would try to make it clearer if the lines were stories or if the lines were nouns and other lines were verbs. But overall, I think this was a really beautiful piece. I would also add some lines that either merged together, or lines that split apart, like the way the Rushdie describes in his story. The idea of stories merging together or stories breaking apart and starting their own story was not something displayed in the visualization.

**Book:** Envisioning Information  
**Author:** Edward R. Tufte

In this book, I chose to critique the visualization on page 48. It was done by Donald J. Kessler and Burton G. Cour-Palais in 1978. I really like this visualization. It is simple and to the point. According to Tufte, the amount of debris in space has doubled every five years. If that visualization was from 1978, I cannot even imagine what it must be like now. I would be extremely interested in seeing a reproduction of this visualization with data from today.

There are other things that this visualization can show as well. What about the length of time a piece of debris has been in space? The location of a particular piece of debris may not matter, but if the visualization used color to show how long an object has been there, that might also show interesting information. For example, an indigo color can represent older pieces of debris and going through the color wheel, the newest pieces of debris would be represented by red tones. With this color scheme in mind, I imagine that there would be a lot of reds and oranges on this visualization – a visual reminder of how the current generation is polluting space, similar to graphs of global warming.

Another thing that this visualization can do is show size of the space debris. Right now, the visualization shows everything as the same size. However, the description of the piece says there was a toothbrush that accidentally got lost in space. I imagine that toothbrush is much smaller than and dead satellite. With this idea in mind, I feel that it would be interesting to also show size of the space debris. That way, when one looks at the visualization, one can get an idea of what sized items we are polluting space with. If space is filled with large items, that may spur people on to care more about it than if the majority of
items are tiny. On early missions to the moon, I imagine that there were not tons of satellites clouding the view of Earth. When astronauts were up there, they were able to get the amazing view of the planet. If we sent people up now, would the view be different? Movies like Apollo 13 do not address this issue. When Tom Hanks was in space, the movie shows that beautiful view of the Earth. Are the people currently on space stations too close to the Earth to have the view obstructed by the debris?

I feel like the movie Wall-E took this a cue from this visualization. I wonder if the Pixar animators really did see this visualization before they made a few scenes in the movie. At the beginning of the movie, while the camera is panning around, it starts off by trying to navigate an ocean of dead satellites and other man-made debris. Later in the movie, when Wall-E grabs hold of the ship, he has to withstand being bombarded with multiple satellites. As the ship flies away, instead of seeing a blue green marble representing Earth, the viewer sees a dusty-looking brownish planet covered by a cloud of all sorts of space debris.