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Argument Analysis 2 First Draft

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**Summary**

In the piece, “Visual and Statistical Thinking: Displays of Evidence for Making Decisions”, by Edward R. Tufte, a thorough look at how the display of data can affect decisions is given. Tufte makes the argument that making decisions based on evidence requires good displays of the given data and evidence. A good display reveals knowledge about the cause and effect of something that can ultimately affect the decision someone makes when trying to analyze something. To prove this, Tufte looks at two cases where the display of information greatly influenced how people made decisions about events. The first being the commemorated investigation of the cholera epidemic in 1854 London, based on the findings of Dr. John Snow and the map he created. The second case being the horrible choice to launch the space shuttle, The Challenger, based on poor graphs and charts. Tufte mainly uses graphs of his own along with his analyzation abilities and even an example in the conclusion to prove how the display of information affects decisions and reinforce his points.

**Analysis**

First covered by Tufte, is the 1854 investigation of cholera in London by Dr. John Snow and how the way he displayed data could have affected how the results look. Cholera broke out on Broad Street which led Snow to believe the cause was the community water pump on Broad Street. To try and prove this, he got a list of 83 cholera deaths and where they died and plotted it on a map to see where the deaths were in relation the pump. Upon doing this it looked clear to him that the pump was the issue. The handle from the pump was removed and miraculously the deaths from cholera decreased. Tufte, however, makes it clear that Snow’s use of a map causes some problems regarding what actually caused cholera and where it was most prevalent. He uses a graph to show that even before the pump was removed, deaths due to the epidemic were decreasing. In addition, Tufte points out that depending on the aggregation of the deaths and subdivisions it could alter what areas appeared to have the most deaths. This is how Tufte uses graphs of his own to compare to the map to show how the display of information can affect the conclusion that others reach by using it.

Next, Tufte goes into detail about how the lack of clearly displayed information led to the decision that launching the space shuttle, Challenger, would be a safe and good idea. On January 28, 1986, the Challenger space shuttle was launched. When it launched, two rubber O-rings leaked causing it to explode, killing seven people. Even before launch, risks of the launch were made through 13 charts and the shuttle was still launched. Tufte goes on to add that this may be because the risks shown on their charts were not conveyed clearly. He reinforces this thought by then going on to discuss how charts that mention leaking O-rings did not mention the correlation to temperature. In addition, he touches on how a chart showing the history of O-ring damage in field joints has data in the wrong order, clutter due to visual elements and an overall lack of clarity resulting in issues showing cause and effect.

Tufte wraps the piece up with a quick but effective conclusion. He reminds the reader that if data reveals the truth about something, the design, in order to display that data, must also display that truth. He then uses the example of the scientific principles and how they guide how data should be displayed. He then breaks down and numbers these principles to make them even more clear. He wraps everything up by adding that it always helps when displaying data, to be dedicated to finding and showing the truth.

**Conclusion**

In the piece, **“**Visual and Statistical Thinking: Displays of Evidence for Making Decisions”, by Edward R. Tufte, Tufte effectively makes it clear why displaying data properly is just as important as collecting the data, as an improper display can cause in some cases catastrophic events. He does this by showing proper ways to display data with graphs and charts or by analyzing what is wrong with bad charts of data. All to then wrap it up cleanly while even providing an example in the end to further his point.