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In his article “Visual and Statistical Thinking: Displays of Evidence for Making Decisions”, Edward Tufte effectively argues for the importance of using proper displays of evidence and data to accomplish a particular task. He does this through two primary historical accounts: the discovery by John Snow that cholera is transmitted through water and the tragedy of the Challenger shuttle launch that killed seven astronauts. In the first case, Tufte explains that statistical data can both accomplish a goal and mislead people simultaneously. Regarding the Challenger, he discusses how the flawed presentation of data can lead less-informed supervisors and managers to entirely ignore a realistic conclusion.

In his article, Tufte expertly communicates his points largely using facts about the two scenarios. He also supplements these facts with various statistics and individual observations about what occurred in both cases.

Firstly, Tufte presents his thesis with two extensive factual accounts. Retelling the historical events of the London cholera epidemic and Challenger catastrophe in detail, he leaves no stone unturned in making sure his readers understand the foundation of his argument. By going in-depth into each story before explaining what he draws from them, Tufte allows his audience to recognize that he is not simply dealing with hypothetical scenarios. Instead, he enables the readers to learn from both the successes and failures involved in both accounts and draw initial conclusions before delving into what he attempts to communicate and teach said readers. Also, even after giving the overview of what happened, Tufte continues to litter his article with smaller facts to keep his readers engaged and give details that push forward his point. For example, after explaining that John Snow realized that cholera was being spread around London via the Broad Street water pump, Tufte mentions that the handle pump was removed on September 8th of that year. This portion of the story is integral to his argument because it sets up Tufte’s argument that the removal of the pump was less impactful to the outcome of the pandemic than it was presented. Another major example of his use of factual evidence is where Tufte goes into detail about how the O-rings functioned and were affected by cold temperatures before delving into the story of the Challenger explosion. This allows the audience to better understand his future argument that the engineers mispresented data about the O-rings dysfunctionality when they presented it to their superiors.

Additionally, Tufte refers to a variety of different statistical representations of the data in both historical scenarios. This is particularly important because Tufte’s intended audience is “students of quantitative thinking.” For readers such as that, statistical data is one of the most effective methods of persuasion possible. In the London cholera pandemic, for example, he focuses on how different ways of presenting the cholera deaths on a graph showing how many people died each day can majorly influence a reader’s interpretation of the data. Tufte shows three major charts which increment the time axis differently. The first shows the number of deaths per day. The second shows the number of deaths per week, with the week starting the day the pump is removed. The third also shows the number of deaths per week, but this time with the day the pump is removed in the center of the week. Tufte’s point in displaying these three charts is to show how drastically the data shifts, simply with a different representation. Only when the deaths are displayed per week does the removal of the pump seem to have made a major impact on the effects of cholera, even more so with the third chart than the second.

Lastly, Tufte makes several observations throughout his article to better articulate his purpose in presenting the previous facts and statistical data. Immediately after presenting the three charts covering cholera deaths, he observes that having access to a multiplicity of graphical data like this allows a researcher to pick and choose only that chart that best pushes his narrative. This is a point that logically follows from what he has just presented. It is quite possible that his readers would have come to the same conclusion without this observation, but by putting it into writing, Tufte affirms his reader’s thoughts and is able to increase the persuasiveness of his overarching argument. He also makes a variety of remarks when discussing the Challenger case.

One of these is where he points out how unnecessary the little diagrams of the rockets are in a chart presented to the presidential commission. Tufte mentions how the diagrams do nothing but clutter up the chart and detract from any meaningful data the engineers were trying to communicate. He also discusses how farcical Feynman presentation of the O-rings with the water in the meeting was since Feynman didn’t even provide a control group for his experiment or allow others to easily the effects the water had on the O-ring. Tufte makes this observation to successfully communicate that, even in publicized scenarios, points should still be made with a regard to the scientific method. Otherwise, they are nothing more than theatrical displays that achieve next to nothing.

In conclusion, in the article “Visual and Statistical Thinking: Displays of Evidence for Making Decisions,” Tufte makes an expert argument explaining why proper data representation is critical in any sort of technical analysis. By using facts, statistical data, and observations, he demonstrates how two major historical events can teach others about the importance of properly communicating results, especially when people’s lives are at stake. Tufte clearly demonstrates his writing experience in this article, as it has virtually no major issues and communicates his message just as effectively as he desires for data to be presented.