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A Source Based Essay

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### The Butterfly Effect

For want of a nail the shoe was lost,  
For want of a shoe the horse was lost;  
And for want of a horse the rider was lost;  
Being overtaken and slain by the enemy,  
All for want of care about a horse-shoe nail.

This is Benjamin Franklin's variation of an old German proverb dating back before the 13<sup>th</sup> century. It was shortened and frequently used as a saying; "For want of a nail the kingdom was lost" (BookBrowse). Meaning something small can have a snowball effect leading to a big catastrophe.

The butterfly effect is a metaphor for life in a chaotic universe. Once upon a time it seemed reasonable to believe that big influences had big effects and little influences had little effects; that was the basis for Newtonian science. Chaos theory, however, changed that.

In "The Butterfly Effect: Everything You Need to Know About This Powerful Mental Model" by an online database, called *Farnam Street*, we are given all the information in a one-stop article with multiple real-life examples, how it affects the business and economic worlds,

the origin of it and how it's used to predict weather patterns. It was created and published to inform people who were curious about the butterfly effect.

With a very curious and complex tone, the educational article starts out with a simple example of the effect from one of Stephen King's books, *11/22/63*. In the book a young man stumbles across a portal leading back to 1958. After some time exploring the past, he has a grand idea of stopping the assassination of John F. Kennedy with hope the world would change for the better. Upon returning to his world with only a couple of minutes passed, he sees a world of destruction and ruins.

Shifting from a dark thought, Farnam Street goes into Lorenz, a meteorologist, and how he popularized the chaos theory we know today. Lorenz recognized that weather couldn't be justified with just a linear pattern and needed something that could accurately predict weather. "He theorized that weather prediction models are inaccurate because knowing the precise starting conditions is impossible, and a tiny change can throw off the results." ("The Butterfly Effect: Everything You Need to Know About This Powerful Mental Model" 2019)

The online database also makes things easier with their candid tone and laying out facts and real-life examples of the butterfly effect throughout history and even in the everyday business and economic worlds. Some of those examples include the assassination of Archduke Franz Ferdinand leading to the first World War, the bombing of Nagasaki happening because of our intended target, another Japanese city Kuroko, had cloudy weather, and the Academy of Fine Arts rejecting Adolf Hitler's applications leading him to shape into the definition of evil.

"Understanding the Butterfly Effect" is a scientific journal entry written by Jamie L. Vernon, published on a multimedia magazine, the *American Scientist*. Jamie L. Vernon is a

scientist and researcher, specifically in evidence-based decision making. *American Scientist* is a bimonthly magazine of Sigma Xi, The Scientific Research Society since 1913; which publishes news, features, and multimedia about science, mathematics, engineering, and technology.

The author also wrote about Lorenz, a meteorology professor at the Massachusetts Institute of Technology. He wanted to write to other scientists and people interested in the Chaos Theory to clear a misunderstanding on what Lorenz really intended when he developed the concept. Lorenz is credited with the creation of the Chaos Theory. It is widely used among meteorologists to this day to predict weather patterns around the world. Both “Understanding the Butterfly Effect” and “The Butterfly Effect: Everything You Need to Know About This Powerful Mental Model” successfully informed the readers about Lorenz goals and thought process.

Jamie L. Vernon had constant matter-of-fact statements and supported them with actual evidence to prove the way Lorenz saw the Chaos Theory. From Lorenz building off Newton’s “clockwork universe.” to taking Pierre-Simon Laplace on headstrong. Laplace argued the opposite of Newton and Lorenz, that unpredictability simply can’t exist within the universe. But the former is wrong since we would know all to come and past would merge with the present in our eyes. As we know, unexpected events do happen quite often.

In contrast to the first two articles, “Teaching and the Butterfly Effect” is a first-person article by Heather Haas that goes into detail on how her classroom is more about the philosophy of survival than the philosophy of teaching. She writes about her thought process in teaching her students wanting to encourage people, specifically her students, to take care of small steps that might lead to bigger ones.

Haas is an assistant professor of philosophy at LaGrange College. She has a wary outlook in her teaching skills, but she is optimistic that her 60-minute teachings will be useful and promising to her students. Haas has dull expectations but wants to see her students succeed past from memorizing the test material for one day. Her aspirations for her, hopefully, life lessons are thorough and backed with passion.

Haas is writing to teachers and students with a hopeful tone that her students will take away small life lessons from her classes and apply them to good habits in their life. In hope that they will lead a small snowball effect to other teachers and students she's writing to. Her belief in the butterfly effect sustains her idealism, even in the face of the occasional less-than-optimal experience.

With a proud, yet playful tone of voice, the teacher gives multiple examples of success that she sees with her students but also times that make her question her profession. Though, there are times that make her jump for joy when receiving emails from students thanking her for her lessons, Haas continues to put up with days that make her shake her head in embarrassment because she still believes in the butterfly effect. If even just one person learns from that class and a small part of it sticks with them for the rest of their life, then it's worth it. She quotes "As a teacher, the butterfly effect gives me hope and keeps me working, even on the days that I seem to be having no impact at all."

"The Butterfly Effect" is a newspaper article by George Wehrfritz published in Newsweek International (Vo. 150, Issue 14.). The article was written in 2007 and published on October 1<sup>st</sup>, a little less than a year before the global economic crash in late 2008. The audience is targeted to people following the scary economic crash that is predicted to come in the near future.

The article starts out remembering back to the first time we might have heard of the butterfly effect. It inspired the legendary sci-fi writer, Ray Bradbury back in 1952, “which posits that minute changes in one place can lead to massive impacts elsewhere.” The author continues quoting Jim Walker, CLSA’s chief economist, that a warning was sent out predicting “butterfly wings in America’s unfolding subprime-debt debacle — will blow like a hurricane through China’s rust belt.” George Wehrfritz knows an economic crash will soon happen and he’s giving supporting facts that predict China’s economic crash and where they went wrong.

Wehrfritz did a good job supporting all his claims with credible sources and reasonable facts. For example, comparing China’s and Japan’s economic and GDP numbers and seeing how unsettling it was to see the numbers be so similar, in fear China will go down the same economic downfall and reform Japan went through. His almost sympathetic tone keeps circling back to how China’s impressive growth worldwide will be the reason they fall. They are considered as economically anorexic due to the fact they produce more than they can consume. This problem then led to them growing their export market and therefore vulnerable to an export shock that would soon come.

Wehrfritz seems to have already come to the conclusion that China will also be affected by the predicted financial crash, but there is strong belief that the events in the US, mortgages causing Continental bank collapses, up and coming stock market falls, and events happening not in favor, will be an influence to China’s eventual economic. Another example of the Butterfly Effect.

All the targeted audiences were considerably different from one another. Heather Haas had a bigger difference than the others since her academic journal entry was more emotion

driven than the other three, being factual articles. You can even argue both Vernon and Wehrfritz had an authoritarian feel due to all the facts they presented.

Vernon, Wehrfritz, and *Farnam Street* presented logos examples with real facts and evidence to support their claims. Meanwhile, Haas has a very pathos feel from her telling us her firsthand experience with teaching her students. Jamie Vernon's scientific definition is greatly contrasted to Heather Haas' psychological definition of the Butterfly Effect. George Wehrfritz had an even more abstract example of the chaos theory. The first article was successful without meaning in bringing all those definitions together.

Heather Haas also stands out with her tone of her writing versus the other three articles. She has a much more optimistic and informal voice that makes her journal feel more exuberant to read. Jamie L. Vernon has a very matter of the fact tone, stating that Professor Lorenz was one of the most influential people who helped shaped the understanding of the chaos theory, especially in weather tracking. George Wehrfritz's pessimistic attitude shined through his words by just listing fact after fact that leads to the conclusion China will be affected by the 2008 economic crash. "The Butterfly Effect: Everything You Need to Know About This Powerful Mental Model" kept a very formal and informative tone, but also changed some of the wording throughout the article, matching whatever evidence or example they presented.

No matter the audience each writing targeted or examples showcased, all of them come down to the same thing. Small things can lead to bigger impacts on things, whether it be people, weather, or economics.

Citations:

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