Chaos Theory and Its Connections to the Real World in *Jurassic Park* by Michael Crichton

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Abstract

In the Web App Lab at the Center for Advanced Research and Technology (CART), teams were tasked with creating low functionality web pages about features at Jurassic Park such as food, merchandise, and tours. To prepare for the project, in their English class, students read Michael Crichton's 1990 novel, *Jurassic Park* and focused on the character, Ian Malcolm, who argues that science shows Jurassic Park as a business will fail due to the playout of chaos theory. Furthermore, learning life lessons through the chaos in *Jurassic Park* are explored as well as a discussion of how these lessons can be applied to one's everyday life. These lessons include the many ways that chaos theory correlates with real life and other forms of media, such as how small errors or problems can largely impact the final outcome of a situation.

Introduction

In the book, *Jurassic Park*, written by Michael Crichton the author uses the effects of chaos theory to develop the crucial plot points throughout the book. Although many readers may understand how chaos theory worked at Jurassic Park, they may not take into account the deeper lessons that can be learned by observing the chaos at Jurassic Park. Truly understanding the definition of chaos theory and how it works can give readers positive life lessons.

Scientific and Literary Origins of Chaos Theory/Butterfly Effect

Chaos Theory is the branch of mathematics that deals with systems that are highly sensitive to small changes, they can eventually lead to drastically different outcomes. Chaos theory was originally founded by the mathematician Edward Lorenz while attempting to make a system to predict weather patterns. Additionally, a French mathematician named Benoit Mandelbrot researched fractal geometry which is another form of chaos theory due to their unique but also repetitive nature, repeating at smaller scales each time. Another literary work that shows chaos theory is the short story "*A Sound of Thunder"*, due to the unforeseen consequences that the characters face because of one small variation in the world. "...a small thing that could upset balances and knock down a line of small dominoes and then big dominoes and then gigantic dominoes…" (Bradbury, 1952 pp. 11). Furthermore chaos theory is shown in the literary work *Romeo and Juliet,* Juliet's letter to Romeo never reached him which caused Romeo to believe she was dead, after which he went to her tomb to kill Paris and then himself, '"Who bare my letter, then, to Romeo?" "I could not send it—here it is again—"'(Shakespeare, 1597 pp. 111).

Chaos Theory at Play in *Jurassic Park*

Although the characters in most forms of literature are unaware of the chaos that they are experiencing, in *Jurassic Park* this is much different because of the character Ian Malcolm. Malcolm is a self proclaimed "Chaotiscian" dealing with the probability or certainty that everything that can go wrong will go wrong. Malcolm attempts to enlighten others to the fact that something must go wrong at Jurassic Park even though most choose to not believe him. When Malcom is speaking with Gennaro he shares how even simple systems can fail unexpectedly, "Second, the reverse of that—that simple systems can produce complex behavior." (Crichton, 55). Gennaro understands why Malcolm believed Jurassic Park was doomed to fail, but still believed it would be different. Additionally, Malcolm told Hammond that Jurassic Park would be a failure due to chaos theory, " I trust by now we all know what the eventual outcome is going to be. You're going to have to shut the thing down." (Crichton, 53). The author's purpose of sharing both sides of the argument was to show what other characters thought of the park's success, as well as foreshadowing the eventual downfall of the park due to chaos theory. Gennaro understands chaos theory because he actually listened to Malcolm and his warnings, even though he wanted to believe it wouldn't happen at the park. Hammond does not understand chaos theory, he believed that since he created the park and the dinosaurs he would have total control over everything.

Consequences of Chaos Theory

Even though Malcolm believes that chaos theory means something will go wrong at Jurassic Park, he can't calculate exactly what it is, most of the chaos at Jurassic Park was a result of human error, intentional or not. Dennis Nedry is the main contributor to the chaos at Jurassic Park because he turned off all the systems when we attempted to sell Jurassic Park's dinosaur embryos. The main unintended consequences of his action was his own death because of the

dinosaurs escaping their cells during the night. Another unintended consequence was the guests being attacked on their tour when the weather disabled the vehicles and the dinosaurs broke through the electric fence. The other main contributor to the chaos at Jurassic Park was Hammond because he scheduled a tour for all of the visitors at Jurassic Park even though the weather was extreme. The unintended consequence of the tour was the children and Dr. Grant had to get to the visitors center through all the dinosaur paddocks. The biggest unintended consequence related to the animals was Dr. Wu used frog DNA in some of the dinosaurs causing them to breed. Another consequence was that Hammond wanted the dinosaurs to be more lifelike and not tone down the brutality or hunter instincts. This caused the velociraptors to take multiple lives during the course of the book because of their intelligence and hunting abilities.

Lessons Learned from Chaos

Although there are many consequences of chaos theory, there are also many lessons that can be learned from observing it. Readers of *Jurassic Park* can take away the lesson that you should be prepared for the worst no matter how unlikely it is. For instance, the trouble at the park could have been avoided if John Hammond took Malcolm's advice and had more safety measures in place. Additionally, a lesson that may not be important to the majority of people but is explored in *Jurassic Park* is that attempting to have total control over anything is futile because chaos theory states that it will go wrong. In particular John Hammond tried to have complete control over every aspect of the island which ended up failing like a line of dominos after chaos theory took its first effect. This lesson can be applied to readers' lives because they can not worry about the small details of a situation but instead allow problems to sort themselves out.

Conclusion

Chaos theory is prominent in everyday life in both small and large ways, which is why it is beneficial to completely understand the positives and negatives of it. *Jurassic Park* effectively showcases the effects of chaos theory through the character of Ian Malcolm explaining why the events on the island happened the way they did and allowing readers to get a deeper understanding of chaos theory. Chaos theory is also prominent in many other literature works even if it isn't directly stated.

References

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