

**Applications of Chaos Theory in Michael Crichton's *Jurassic Park***

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### **Abstract**

In the Web Application Development class at the Center for Advanced Research and Technology (CART), teams were tasked with developing a website for a hypothetical Jurassic Park theme park. To prepare for this task, students read Michael Crichton's 1990 novel, *Jurassic Park* and focused on the concept of chaos theory. Chaos theory is the concept that every event is unpredictable, and that everything is truly random. This concept was introduced in the story by a mathematician named Ian Malcolm and was spoken about several times throughout the story. Ian's profession relied on him knowing about chaos theory, and his knowledge was even presented to the reader when it was revealed that he was hired to give an idea of how successful Jurassic Park would be when it opens. Furthermore, students found that lessons learned from chaos theory could be applied to everyday life. These lessons include the concept of taking advice from experts and trusting in the abilities of other people.

## **Applications of Chaos Theory in Michael Crichton's *Jurassic Park***

### **Introduction**

In Michael Crichton's *Jurassic Park*, John Hammond, an entrepreneur, seeks to gain money through the development of a park that is filled with live dinosaurs who were developed through genetic engineering. Ian Malcolm, a mathematician who is well versed in a field known as chaos theory and was hired by Hammond, is adamant that the park would fail. He consistently warns everyone within the park, to Hammond's frustration, to spread evidence of his beliefs. Readers ultimately conclude that Ian is correct with his theory. However, chaos is not necessarily a negative thing. Readers may be able to learn valuable lessons from the chaos that occurs within the novel. Understanding chaos through the lens of *Jurassic Park* and the characters within the story can teach readers to trust in each other's abilities and listen to experts.

### **Scientific and Literary Origins of Chaos Theory/Butterfly Effect**

It is important to know what chaos theory is before talking about how it affected the events in *Jurassic Park*. Chaos theory is the study of random and unpredictable behavior in various systems. There are two ideas to this theory, the first of which is that everything is completely unpredictable, while the second theory is that there are too many factors to account for, and events that occur due to these factors seem unpredictable. The second theory had been acceptable since around the time in which Issac Newton lived. The man who coined the term "butterfly effect" went by the name of Edward Lorenz, and had felt that the model of heat convection had a high enough unpredictability that a butterfly could change the weather with the flap of its wings. There is plenty of literature that delves into the concept of chaos theory. One of the many examples of these stories include "The Sound of Thunder" by Ray Bradbury, which has a focus on the butterfly effect. The story follows a man named Eckels, who had purchased a spot

on a time machine to go to the past and hunt a Tyrannosaurus Rex. Although there were many methods to prevent any changes to the future, Eckels accidentally gets past the safeguards and kills a butterfly, “Eckels felt himself fall into a chair. He fumbled crazily at the thick slime on his boots. He held up a clod of dirt, trembling, ‘No, it can't be. Not a little thing like that. No!’ Embedded in the mud, glistening green and gold and black, was a butterfly, very beautiful and very dead. ‘Not a little thing like that! Not a butterfly!’ cried Eckels.” This event dramatically changes the future, switching from a country with a democracy to what is implied to be one with a dictatorship.

Another story in which chaos theory takes place is *Harry Potter and the Goblet of Fire*. This story was focused on the well known character Harry Potter taking part in a tournament. While he and others felt that there was something wrong with the tournament, he took part anyway, and was eventually transported to an unknown location. To his and the readers' shock, the revival of the main antagonist. There had been few hints throughout the series that the return of the character would occur, especially at this moment. This is an excellent example of chaos theory, as the event was entirely unexpected.

### **Chaos Theory at Play in Jurassic Park**

Similarly, chaos theory plays a major role in *Jurassic Park*, enough so to have one character explain it to another. Malcolm explains chaos theory to several characters, the initial character he explains it to being Gennaro. Gennaro, having no idea what chaos theory was, had chosen to ask Malcolm about it as he had heard that Malcolm believes the park would fail. Malcolm also explains chaos theory to Dr. Grant and Dr. Sattler after Grant brings it up. While Malcolm strongly believes that chaos theory is correct, Hammond repeatedly states his disbelief

in chaos theory. Hammond claims that the park will not fail and that chaos theory is nonsensical. The author chooses to show both viewpoints so that the reader could get an idea as to what kinds of opinions people have about chaos theory. Malcolm understands chaos theory, as his career is centered around the theory. He had spent years likely researching it. Meanwhile, Dennis Nedry never got the opportunity to learn chaos theory, at least as far as the reader is aware. This is because, unfortunately, he dies early on within the story, shortly after setting the events of the story into motion.

### **Consequences of Chaos Theory**

The actions that Nedry took before his death had major consequences, and those consequences were displayed within the story. Nedry had the most significant impact on the chaos of Jurassic Park, as he turned off all of the park systems, causing a majority of the initial chaos. This would end up leading a majority of the dinosaurs to escape from their confinement. John Hammond also had a hand in the chaos at Jurassic Park, as he was the one who ordered the creation of the dinosaurs and even hired people to create the dinosaurs. Even when Henry Wu objected to the current state of the dinosaurs, Hammond felt that having genuine dinosaurs rather than dinosaurs based on what people expect was more important. There were several unintended consequences that had occurred during the events of *Jurassic Park* that originated from animal species living on the island. The first major one was the presence of rats and mice on the island, as they were good enough to be food for the velociraptors. This would let the velociraptor population grow unnoticed and uncontrolled. The second unintended consequence was that, even though they learned that the electric fences were dangerous, there were several dinosaur species who attempted an escape when the electric fences lost their power. This allowed the dinosaurs who attempted this to escape and look for their captors.

### **Lessons Learned from Chaos**

Through *Jurassic Park*, readers are able to learn several lessons that they would be able to apply to their own lives. One thing that the reader is able to learn from the book is that a person should take the advice of experts, as if they do not there might be some consequences. An example of this is when Henry Wu suggests that the dinosaurs should be slower, and Hammond disagrees. Though it is too late in the story for this idea to come to fruition, the reader can infer that should the dinosaurs have been slower, there may have been less deaths within the park. Another lesson that the reader learns is that people should trust in the abilities of others. An example of this is near the end of the story, before power is returned to every building. Tim accesses the main computer, and while many people would assume that a young boy is not as adept with anything as an adult, he displays his proficiency with technology by figuring out how the system works, then restoring power to the room that Hammond, Ellie, and Malcolm were in.

### **Conclusion**

The lessons learned from the chaos within the story are one of many things the reader could take away from the story. The characters' reactions to chaos within the story emphasize that. Throughout the story, chaos set many events into motion, proving Malcolm's point of the park failing. This chaos taught the characters several things that the readers could also learn. The readers should have learned that they should trust both experts' advice and the abilities that others relay to them.

### References

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