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A Comparison of the Work of Renee Descartes with Thomas Kuhn: Descartes from Kuhn`s Perspective

Journal 4

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Rene Descartes is responsible for the earliest draft of the scientific method. Prior to his writing, there was no formal manner in which knowledge could be tested. While the processes for testing different hypotheses were primitive by today's standards, Descartes still put forth a method for which a hypothesis could be accepted as knowledge. Thomas Kuhn wrote more recently and had the benefit of centuries of scientific development and technology to draw his conclusions and provide supporting evidence for them. Kuhn outlines the process for which innovation in the scientific community occurs. This process sees innovation as a scientific revolution in that paradigms that were previously accepted are rejected to be replaced by new ones. This essay will evaluate Descartes from Kuhn's perspective while discussing Descartes' works as a potential scientific revolution of his era.

Kuhn would agree with Descartes' systematic method of deductive reasoning and his approach to solving problems. Kuhn discusses the importance of looking at existing paradigms and attempting to make predictions from them that can be tested. Descartes not only outlines a process for doing this in Discourse on Methods but also outlines specific rules for which this process should be carried out in Rules for Guiding One's Intelligence in Searching for the Truth. Kuhn would compare Descartes' process of not accepting anything as true, subdividing a problem into its smallest parts, studying those parts from simplest to complex, and making reviews of knowledge to ensure that nothing was omitted (Descartes, 1999) to the fundamentals of what he refers to as normal science. This approach is also consistent with Kuhn's discussion of how science is like solving a puzzle.

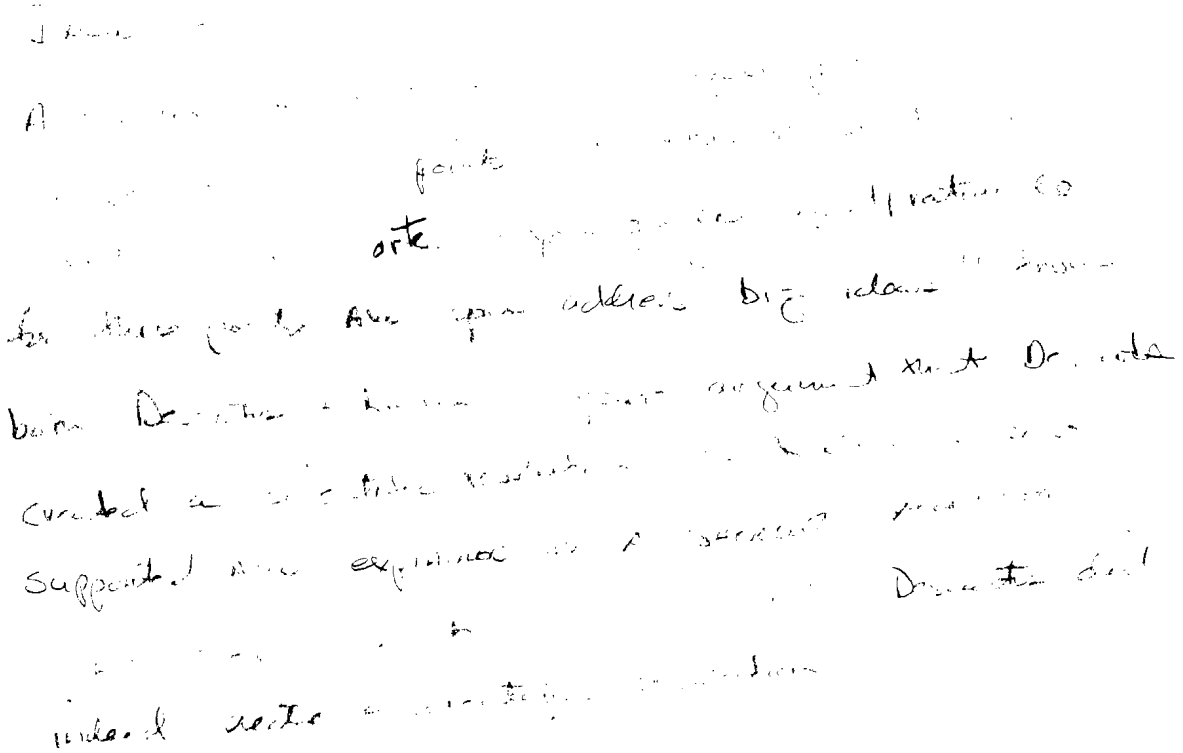
Kuhn would disagree with Descartes in the areas involving collaborative efforts and the absolute nature of Descartes' approach. Descartes outlines that it is best for a single person to solve problems to avoid confusion. Kuhn would explain to Descartes that normal science should

be a collaborative effort amongst researchers studying different paradigms. Having different people study the paradigms creates the opportunity for creative approaches to be developed and disagreement amongst researchers to further the science. This allows for more efficient study of the paradigm which increases the likelihood that an anomaly will be discovered in the accepted paradigm which in turn may create a paradigm shift. This is less likely to happen when only one person is studying a particular paradigm as they may lack the ability to approach the paradigm from new and different perspectives. Descartes states that once something is established as knowledge, then it is absolute truth and cannot be changed. This philosophy is in direct contradiction of the entire theme of Kuhn's writing in that it is about the process through which scientific knowledge (referred to as paradigms) changes and evolves over time. Kuhn would give Descartes numerous examples over the course of history ranging from the study of oxygen to the evolution of Newton's theories into the concept of relativity. Kuhn may further use examples that Descartes could relate to such as the discoveries of Copernicus and Galileo. If the scientists involved in these advances adhered to Descartes' principles, then none of these advances would have been made. The advancement of technology and thinking has allowed different scientists to test paradigms in different ways that have caused them shift these paradigms to new ones which have occasionally changed it completely.

Descartes' Discourse on Methods does meet Kuhn's attributes as a scientific revolution. While there was no particular process for testing knowledge during Descartes lifetime, his writing helped create one. It may not have come as the direct response to an anomaly or crisis in the scientific community of his day but it did shift the paradigm in which people approached scientific thinking during that time. Any crisis that was experienced in the contemporary paradigm in which Descartes was published would have been created as a result of his work.

This crisis would have been resolved through the adaptation of his method as the accepted approach of studying the world. If nothing else, this was the first established paradigm in the scientific community that could be used to formulate scientific theory. Being that it was the first one, it still required a shift in thinking and therefore a revolution.

Kuhn lays out in great detail the process through which science has evolved over time. It is only through conflict and unexplained phenomena that a revolution can occur which advances the particular field. It would seem that these phenomena would occur while studying a particular problem through the processes introduced by Descartes. While Kuhn lays out the process for which scientific development occurs, Descartes has provided the vehicle through which scientific knowledge is studied that would allow an anomaly to be discovered and revolution to occur.



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