

Name

Instructor

Course No.

Date

Surely you are Joking Mr. Feynman! Book Analysis

Introduction

Richard Feynman is a theoretical physicist credited as a pioneer in the field of quantum electrodynamics and one of the most influential scientists of the 20th century. 'Surely you are Joking Mr. Feynman!' is uniquely written autobiography by Richard Phillips Feynman that offers a peek into the person Feynman was, his mind, and how his approach to life influenced his style and personality. Through a string of personal memories and experiences, he implores the foundations of his character in a clear and easy to understand way. The book is Feynman's simplified way of allowing people to know how his mind worked and what made him stand out in science. **Mr. Feynman sets up a path of scientific creativity and discovery through unconventional lessons on being inquisitive and passionate about learning new things and communicating them through simple ways.**

The book begins with a very brief summary of the author's life. Mr., Feynman's life began in Queens, New York, in 1918. He attained his undergraduate with physics as his major in 1939 and his Ph.D. from Princeton in 1942. Feynman worked along with other notable physicists in the Manhattan project that created the atomic bomb during World War II. Later he took up teaching while also advancing his studies on quantum electrodynamics. As a result of his contribution to science, Feynman is a recipient of the acclaimed Nobel Prize in Physics (1965) as well as other notable awards such as the Albert Einstein Award (1954), E.O Lawrence Award

(1962), and the Oersted Medal (1972). Mr. Feynman, however, chooses not to engage on his extensive achievements but on the experiences and efforts that shaped his life.

Feynman unconventionally documents the memories he had as a child and as a teenager to show the foundations of his approach to learning and solving problems. After the brief introduction and scheme throughout his life, Feynman begins with a description of his 'lab' and the job of fixing radios as an 11-year old boy. From the onset, Feynman prioritizes his thought process to solutions rather than the outcomes. In one specific account, he speaks of an encounter with a challenging client as a young boy fixing radios and how he used the opportunity to think through the process before performing the task. Feynman also underlines his persistence in solving challenges he encountered even as a young boy. He notes that "Once I get on a puzzle, I can't get off," (21) highlighting his persistence, openness to challenges and his approach to solving all the puzzles he faced repairing radios, in high school algebra and trigonometry and subsequently in all problems he met throughout his life. Through these personal accounts, Feynman indulges in experiences in his life that underline his personality in a way that allows one to conjure his pattern of thoughts. Through these narrations and anecdotes, he weaves the fabric of who Richard Feynman is even before he turns eighteen years.

Feynman's anecdotes show how he was curious and eager to learn in other areas. This formed the foundation of his discoveries within his life and in physics. One way Feynman communicates clearly is by talking about the experiences he had at MIT from freshman year to his experiences at Princeton. For instance, his experience at MIT allows the reader to understand that Feynman was not right at socializing, but had his tactics for social navigation. His account on joining Princeton shows how he maintains his analytical approach even in a more formal environment. His experience with a hypnotist at Princeton is one of the anecdotes shows his

eagerness to learn new things, remain adamant when challenged and gain new experiences regardless of whether they fall within his theoretical physics area of study. Feynman goes ahead to document his experience with graduate philosophers, and biologists and his challenge on getting to understand complex aspects of each subject area. This lead Feynman to learn to use a pictorial representation of a cat, to learn on the muscles of the cat, something that other graduate students took four years to learn. Secondly, he took part in an experiment that opened up an opportunity to learn something out of physics. In reflection, he notes, "But that was my big moment: I gave a seminar in the biology department of Harvard! I always do that, get into something, and see how far I can go." (56) Such observations on his life, help to understand the nature of Feynman's learning process and what made him a good learner.

Feynman focuses on minor observations and experiences that allow the reader to understand day to day thought processes that lead to scientific creativity and discovery. Particularly, Feynman credits his success in the Manhattan project to his approach of thinking differently, especially with the knowledge he had gained in different subjects. He terms this as his "different box of tools," which he uses at all times to approach problems (132). Hence through various stories, Feynman shows how he managed to use his unilateral thinking approach as well as a question to navigate new topics, especially during his time working on the Manhattan Project. He cites an engagement with Dr. Neils Bohr in which he discusses how to make the atomic bomb more effective. He goes ahead to reflect that he was selected to discuss with Dr. Bohr before anyone else because he focused on the topic he was discussing rather than who he was talking to. Hence "If the idea looked lousy, I said it looked lousy. If it looked good, I said it looked good. Simple proposition." (143). Feynman acknowledged it as one of his pleasant qualities and a critical pinnacle to his scientific creativity and discovery.

Feynman's best impact was on his ability to challenge ordinary thinking and simplify complex things while teaching and communicating scientific material. His ability to simplify things became well-elaborated when he took up teaching at Cornell and later California Tech, his work on electrodynamics using pictorial representations and teaching in Brazil. Beichner notes that Feynman's critique of the Brazilian academic system in being a system that teaches students to memorize rather than understand the concepts of the questions in science contributed to new literature in scientific education (11). Treagust and Harrison also acknowledge that Feynman uses his influence as a teacher and as a scientist to urge for simplification of terms and concepts into words that can be practically used in experiments by learners (43). Feynman suggestions to scientific teaching, expressed in the book, are among the things that make the text stand out in the field of science and places Feynman among the most influential scientist of the 20th century. The simplicity approach is one that he also applies in his lectures at Caltech throughout his career and in presenting information on the quantum electrodynamics at a time when it was a new area of study.

In conclusion, 'surely you are joking Mr. Feynman!' is a collection of personal anecdotes that define who Richard Feynman was and his processes and pattern of thought. Instead of Feynman focusing on the significant achievements he made over time, he focuses on the minor experiences that shaped his daily life and made him a scientist. The manuscript is a simple, easy to read and understand the account of the life experiences that bear unparalleled lessons on learning and communicating in science. The central tenet of Feynman's discourse in the book is to help the reader understand the nature of a scientist's mind. Key lessons focus on having a thirst for new knowledge, being persistent at solving problems, and using simple and practical

approaches to disclose scientific information. Using his personal stories and experiences, Feynman communicates these tenets to readers in a simple, exciting, and insightful manner.

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Works Cited

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