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For a long time, scientists and researchers have worked hard and restlessly to find ways where we could obtain and convert energy into the things we use in society now. A lot of the energy that is used for our technology or innovations have been produced through heat and metal, such as fossil fuels. Unfortunately, getting this energy uses a lot of money and other resources, which also makes it not so abundant. That is why scientists have been testing and experimenting with the theory of cold fusion, which meant converting nuclear fusion into a lower temperature. The idea of cold fusion being achieved was in a way easier said than done. The theory and belief of cold fusion was soon to be an experiment and idea that was known for not being reachable and to be forgotten about. That all changed in March 1989 at the University of Utah when two chemists, B. Stanley Pons and Martin Fleischmann held a press conference where they claimed that they have created a nuclear fusion reaction at room temperature. Achieving cold fusion would allow us to have clean and non-pollutant at an abundance for us. Other scientists were skeptical about this discovery, making everyone want to see if it were true. The book by Lee McIntyre states how the scientific attitude revolves around using empirical evidence and also changing our theories if there are new results or evidence. The study of science involves the things that we observe and learn about in the natural world. The two chemists' theory did not have enough credibility due to the skepticism that was viewed on the

idea about “cold fusion”. Therefore, Stanley Pons and Fleischman did apply and embrace the scientific attitude into their theory for cold fusion. The reason that the scientific attitude was in fact used was because the theory being brought up into light and allowing scientists to research and replicate this nuclear fusion. This only allowed scientists to now be more skeptical in theories and also check for reassurance and strong evidence towards experiments. Only now, scientists can form new theories and experiments for cold fusion learning from past mistakes that were made by Pons and Fleischman in order for their words and ideas to be trusted by other scientists.

In this experiment for cold fusion, Stanley Pons and Fleischman found a way to make a nuclear fusion into room temperature. In order for this to happen, the nuclear fusion with hydrogen had to be placed in heavy water that would allow the water molecules and deuterium atoms to replace the hydrogen atoms inside the fusion. Then, the solution of salt which is electrolysis and the deuterium atoms would absorb the other atoms and allow a palladium electrode to soon form and allow the nuclei to open up involving the neutron. This allowed ray emissions to obtain energy in a fusion reaction which would be cleaner and cheaper. This news about the theory and findings on cold fusion spread over and became popular with another school and started trying to attempt this experiment. Even the evidence and paper was also not credible and did not provide the evidence. Their paper was not shown to be peer reviewed by themselves nor by any other scientists that allowed them to even publicize their theory. There is no successful method for perfecting nuclear fusion in an efficient way for us humans to use for our advantage as in for energy. It is most difficult mostly because of funding and expenses towards the research and space it is used. According to an article by “Nature”, Private fusion firms have disclosed more than \$2.4 billion in funding. This demonstrates how important

uncovering a method for cold fusion for cheap and abundant energy is crucial. Although Pons and Freischman's claim on nuclear fusion was false and imperfect, they were able to kick start the theory that has potential to become true.

As you can see, there is so much that was learned about the false claim about cold fusion made by Stanley Pons and Martin Freischman. Although their theory was flawed and not taken seriously, this still allowed scientists to this day to figure out the true method for forming nuclear fusion at a colder temperature. This claim still followed behind a scientific attitude. Pons and Freischman still brought in evidence and were able to change their theory on nuclear fusion after the criticism they received from other scientists. They made mistakes in providing evidence and results that can be repeated in a setting and a thorough paper to prove the science. One of their major mistakes was announcing their results of their experiment without the information that was supposed to be provided so that it could be understood and not be so criticized. It made them seem to be more focused on sharing the results and claims about nuclear fusion itself being achieved by them, rather than taking the time performing the process to produce actual and proven results from their experiments. Many figures of science have proved this through repetitive failure until success came and unlocked the many objects and knowledge of science that we use in our lives. According to the book "The Scientific Attitude", it states how science is not meant to be followed by these rules and methods. Science is a subject that involves the naturalness of the things that make up our world and how it functions. These methods were only used to be depended on when it came to experiments and research. The methods and structured steps that somehow allowed us to discover more knowledge on the science behind our lives were formed by humans, making it something that wouldn't really be natural and therefore unscientific. The scientific attitude allows scientists to strive and eventually make discoveries

and theories that can benefit us. Therefore, Stanley Pons and Martin Fleischman were in fact important figures of the scientific world.