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Physics 2

B34

Physics Extra Credit Essay

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Lev Davidovich Landau

The Nobel Prize for Physics is awarded once a year by the Royal Swedish Academy of Sciences to a person who has made an extraordinary contribution to the world through physics. Alfred Nobel, a great Swedish chemist who invented the dynamite, established the Nobel Prizes in his will. Alfred wanted those who made significant contributions to the world to be remembered forever, and recognized for their greatness. The prizes that were available were Nobel Prizes for physical science, chemistry, medical science, literary work, and for peace. The person awarded the Nobel Prize for Physics in 1962 was Lev Daidovich Landau

Lev Daidovich Landau, was a soviet born physicist, who made major contributions to the field of theoretical physics. His contributions surpass an array of fields such as plasma physics, and quantum electrodynamics. Landau was born on January 22, 1908, in the Russian empire to

an engineer, which is where he developed his love for physics, and the natural world, pondering life's mysteries. Landau attended Leningrad State University, to pursue his love for physics. During his stay he met Niels Bohr, and in which found himself a companionship, and all of this work was based on Bohr's. Landau went on to be the head of the Soviet Union, for developing the atomic and hydrogen bomb, in which he was awarded the Stalin Prize. In 1937, he finally got married and had a son as well, having the best of both worlds.

Well the reason why Landau won the Nobel Prize in Physics was because "for his pioneering theories for condensed matter, especially liquid helium" (Nobel Prize). The concept of finding material such as Liquid Helium, and the isotopes that were used for it, and manipulating the structure to find a liquid form of it at negative 273 degrees Celsius was indeed impressive. Also the point of physics is to understand the natural world, and with Landau's discovery of liquids, that helped further the development of the understanding of the natural world, and of course led to his appointment of a Nobel Prize. "Landau has also made contributions of the utmost importance to other parts of physics, in particular to the theories of quantized fields and of elementary particles." (Nobel Prize) Landau gained his inspiration from his work in Stockholm in 1937, when he first discovered the properties of liquid Helium.

Well his work was continued in Russia, so there weren't any events that were taking place, that could have a direct correlation with his work. I mean, the Cold War was going on during the time of his trials and experiments; however, none of the events that transpired in the Cold War have any relation with the experiments, works, and results of Landau's.

The time period of his experimentation was during the 1930's to the 1950's. During the conduction of his experiment, events such as World War 2 and the Cold War were transpiring.

However, the idea that these events had any effects on his experiment is complete blasphemy due to the fact, that his experiment was just discovering the use of liquid helium, and broadening the knowledge of the natural world. None of these experiments had ill intent in their mind, which of course would be the only cause during a time of war. So no, no event during this time period of his experimentation had influence of his works.

Landau's reasoning for this experiment, was just broaden his view of the world. He was conducting experminets in a local laboratory, in which he was collecting observations of an experiment. In this experiment he was able to realize what was going on, and the results that were concurring. While performing these experiments he was working at Moscow Institution with a fellow scientist in which both of these brilliant men, collaborated with one another to figure out how to form a liquid under absolute zero, astonishing isn't.

Unfortunatley however Landau suffered a severe car accident and was not able to retrieve his award first hand. In fact this accident was so severe, that it served detrimental to Landau's career as a physicist, and he was not able to perform other experiments in his life time.

http://www.nobelprize.org/nobel_prizes/physics/laureates/1962/press.html

http://www.nobelprize.org/nobel_prizes/physics/laureates/1962/

http://www.nobelprize.org/nobel_prizes/physics/laureates/1962/landau-facts.html