Response 2

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Energy can neither be created, nor can it be destroyed. However, it can be converted from one form to another. There are two main types of energy named as potential and kinetic energy. The discussion post helped a lot in understanding the difference between the two types of energy. Kinetic energy can be defined as the energy of the objects that are in motion. For instance, a walking person or a speeding bullet both exhibits kinetic energy. Typically, the objects that are in motion exhibit some change in the environment as compared to the stationary objects. In contrast, potential energy is a type of energy that referred to the energy stored in an object and therefore is not relative to the environment of the object.

While discussing the types of energy in the context of atoms and electrons, the author Morrel in his research paper, highlighted that in the energy levels of atoms, valence electrons and molecules, there exists negative potential energy and kinetic energy (Cohen & Heine, 1961). According to the author, the negative potential is present inside the core of an atom, while electrons contain a significant amount of kinetic energy. This is because to attain stability, electrons are constantly moving from one shell to another, and as every object that is in motion possesses kinetic energy, so electrons also possess kinetic energy.

Typically, when electrons are in the excited state, they tend to move from one orbital to the other. Although, due to movement, kinetic energy is associated with them yet still they also possess potential energy as well. As potential energy is the energy possessed by the body due to its position, so when an electron reaches another orbital and stays there, it contains potential energy. This energy is converted to kinetic energy as soon as the electron started to move to the next orbital (Cohen & Heine, 1961). An electron possesses high potential energy when it is farther from the nucleus in an atom.

**References**

Cohen, M. H., & Heine, V. (1961). Cancellation of kinetic and potential energy in atoms, molecules, and solids. *Physical Review*, *122*(6), 1821.