

## Why is physics important?

For thousands of years, nature has been selecting individuals for their capacity of surviving and breeding. Nevertheless, the evolution process could have evolved. Not only genes are considered, but also discoveries that improve the understanding of reality, a definition-theory of life known as Supra-Darwinian evolution.<sup>1</sup> According to the Oxford Advanced Learner's Dictionary,<sup>2</sup> physics is 'the scientific study of matter and energy and the relationships between them...'. Thus, physics is crucial as it enables humankind to endure.

From the perception of nature, it is achievable to implement natural effects in favor of human specie. Such as the applications of x-rays, a type of radiation, which is the emission and displacement of energy.<sup>3</sup> Those have revolutionized medicine since they provide images of the structures inside the body.<sup>4</sup> The difference between the density of substances they penetrate determines the amount of radiation that will be absorbed by the material, resulting in images with contrasting tones of black and white. Their uses include diagnosis and treatment of a variety of diseases, the same as cancer and fractures. Namely, it has saved a precious number of lives. X-rays were discovered and managed so they could benefit humans. Unquestionably, information is correlated to boost the odds of surviving by learning how things behave. Hence, discoveries are necessary to sustain humanity.

Furthermore, human beings are capable of accomplishing different abilities. Artificial light illustrates that situation considering it granted people with the night view. The scientist, Humphry Davy,

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<sup>1</sup> S. Benner. Defining Life. *Astrobiology*, vol. 10, no.10, 2010: pp. 1021-1030.

<sup>2</sup> Oxford Advanced Learner's Dictionary, 10<sup>th</sup> edn., Oxford: Oxford University Press, 2020, p. 1159.

<sup>3</sup> What is Radiation?. Centers of Disease Control and Prevention. 12-07-15.

[https://www.cdc.gov/nceh/radiation/what\\_is.html](https://www.cdc.gov/nceh/radiation/what_is.html) (Accessed 2020-08-26).

<sup>4</sup> Medical X-ray Imaging. U.S. FOOD & DRUG Administration. 06-14-2019.

<https://www.fda.gov/radiation-emitting-products/medical-imaging/medical-x-ray-imaging#description> (Accessed 2020-08-20).

discovered he could transform electricity in luminosity by heating certain metals after attaching platinum to a battery.<sup>5</sup> Electricity is not light, still, light could be generated from electricity. Past several experiments, physics principles acquaintance led to a device responsible for turn society independent of daylight: the light bulb. Regarding this, inventions ensure prosperity. Humans can adapt to necessities and minimise the risks of becoming extinct.

Additionally, experts suggest that Homo Sapiens, the only human specie yet existing, outlasted from other hominin species mainly for its capability to innovate and readjust.<sup>6</sup> The Neanderthals, another human-like creature, did not surpass the habitat changing. They declined, primarily, given the decrease in food offer. Different from modern humans, Neanderthals did not have sophisticated weapons to capture tiny animals. Consequently, they had a smaller variety of prey to hunt as they did not modify their instruments to the new environment. While Homo Neanderthalensis faded, Homo Sapiens thrived. Due to that analysis, efficient tools enhance human performances. Though, it is only possible within techniques developed from analysing.

The data shows that society has become less susceptible to changes since it changes likewise. Undoubtedly, discoveries and inventions conduct to better efficiency, resulting in a reduction of the demand for effort and resources. Moreover, whatever better understood is manipulated more precisely,<sup>7</sup> thereby, the further away from the unknown and the closer to the truth better the odds of rehearsing the

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<sup>5</sup> CNBC. Who invented the light bulb?. YouTube. 07-24-2019.

<https://www.youtube.com/watch?v=vnTLCiKVAqY&feature=youtu.be> (Accessed 2020-08-20).

<sup>6</sup> M. Hogenboom. Why are we the only human species still alive?. BBC. 09-29-2015.

<http://www.bbc.com/earth/story/20150929-why-are-we-the-only-human-species-still-alive> (Accessed 2020-08-20).

<sup>7</sup> S. Hawking. Breves respostas para grandes questões, Rio de Janeiro: Intrínseca, 2018, p. 226.

genes.<sup>8</sup> Plus, the progress in the comprehension of reality leads humans to involve in a supra-Darwinian specie. Therefore, physics is important because innovations change the world while knowledge creates a future.

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<sup>8</sup> S. Hawking. Nosso futuro? Jornada nas Estrelas ou não?. In O universo numa casca de noz, 163-180. Rio de Janeiro: Intrínseca, 2016.

## Reference List

Benner, S. Defining Life. *Astrobiology*, vol. 10, no. 10, 2010, pp. 1021-1030.

CNBC. Who invented the light bulb?. *YouTube*. 07-24-2019.  
<https://www.youtube.com/watch?v=vnTLCiKVAqY&feature=youtu.be> (Accessed 2020-08-20).

Hawking, S. *Breves respostas para grandes questões*, Rio de Janeiro: Intrínseca, 2018, p. 226.

Hawking, S. Nosso futuro? Jornada nas Estrelas ou não?. In *O universo numa casca de noz*, Rio de Janeiro: Intrínseca, 2016, pp. 163-180.

Hogenboom, M. Why are we the only human species still alive?. *BBC*. 09-29-2015.  
<http://www.bbc.com/earth/story/20150929-why-are-we-the-only-human-species-still-alive> (Accessed 2020-08-20).

Medical X-ray Imaging. *U.S. FOOD & DRUG Administration*. 06-14-2019.  
<https://www.fda.gov/radiation-emitting-products/medical-imaging/medical-x-ray-imaging#description>  
(Accessed 2020-08-20)

*Oxford Advanced Learner's Dictionary*, 10<sup>th</sup> edn., Oxford: Oxford University Press, 2020, p. 1159.

What is Radiation?. *Centers of Disease Control and Prevention*. 12-07-15.  
[https://www.cdc.gov/nceh/radiation/what\\_is.html](https://www.cdc.gov/nceh/radiation/what_is.html) (Accessed 2020-08-26).