Is It Really Possible To Live On Another Planet?

Illustration: MGL Meiklejohn (Graphics Licensing Art Collections)

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The catastrophes of earth due to climate change and other human made disasters are quite intense. Envisioning what it would be like a couple of years down the line is even worse. Thus, humans are doing what they do best. Running away from their mistakes. Ideas about living in another planet are rising and many are convinced that this can be accomplished. Colonizing another planet may sound appealing, however realistically it's proved immensely challenging.

Scientists have begun searching for planets where there is the ability to sustain life. Necessities such as food, water, and oxygen are all points one should look into upon finding these planets. Although these are all important facts to acknowledge, we should

recognize the first issue, which is actually being able to travel to another planet. Depending on what planet one is trying to reach, it usually takes years to get to those destinations. Michel Mayor, an astrophysicist who isn't too fond of this idea asserts that "All of the known exoplanets, or planets outside of our solar system, are too far away to feasibly travel to". He also added that "Even in the very optimistic case of a livable planet that is not too far, say a few dozen light years, which is not a lot, it's in the neighborhood, the time to go there is considerable". The time spent traveling to a different planet should be something to evaluate carefully. Additionally, how many spaceships would we have to make for possibly billions of people? What capacity would each spaceship hold for a number of years? This is a problem within itself and isn't close to possible without advanced technology.

While this matter is clearly overlooked, scientists continue to search for more planets to add to their list. Most planets reside in a habitable zone, which means they don't really have the state suitable for human life. There has been reported to be 40 billion potential habitable planets. Yet, none of them truly show a fit zone for human existence.

Kepler 438B was once declared as the most inhabitable exoplanet. The earth sized planet was discovered in 2015 with outer characteristics similar to that of earth. Additionally, K-438B has an equilibrium temperature of 37 °C, similar to earth's. These features of course stood out to scientists for a number of reasons and led them to think this is their best choice. However, Jacklin Kwan, a graduate student with her masters in physics says differently.

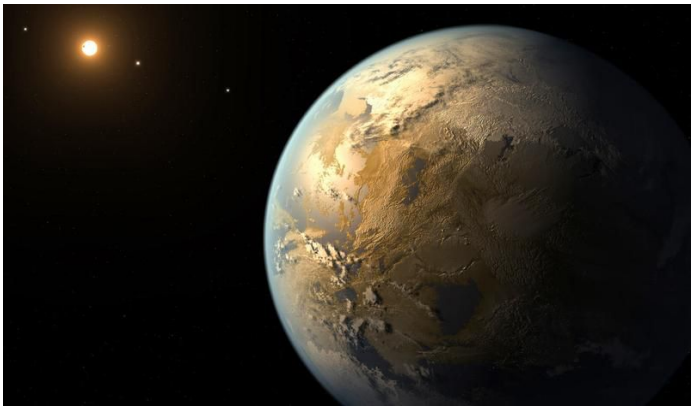

Illustration: Ames/JPL/NASA

Kwan states "Although Earth is protected from solar flares by its magnetic field, created by a rotating molten iron core, scientists do not know if Kepler 438b has a magnetic field. If it does not, its surface would suffer a heavy dose of radiation every time there is

a solar flare, making it a wasteland". This indicates that K-438b isn't as similar to earth as scientists claim. The absence of a magnetic field on this planet isn't something to toy with. If earth's magnetic field was just slightly weaker than it is currently, our planet would receive so much radiation from the sun and our lives would be in serious danger. Cosmic rays would attack our bodies and could damage our DNA, producing high chances of cancer and other illnesses. If this amount of destruction is the outcome of earth's magnetic field just being slightly weaker, imagine living on a planet with no magnetic field at all.

Gliese 667cc is yet another planet highly believed to be habitable. Along the same lines as Kepler 438b, at one point, G-667cc has also been declared the most earth like planet outside our solar system. G-667cc has a mass 4.5 times greater than Earth. Additionally, It is about 22 light years away with an average surface temperature of 30 °C. As usual, these are the characteristics scientists first looked into. However, this "most earth like planet" isn't as it seems.

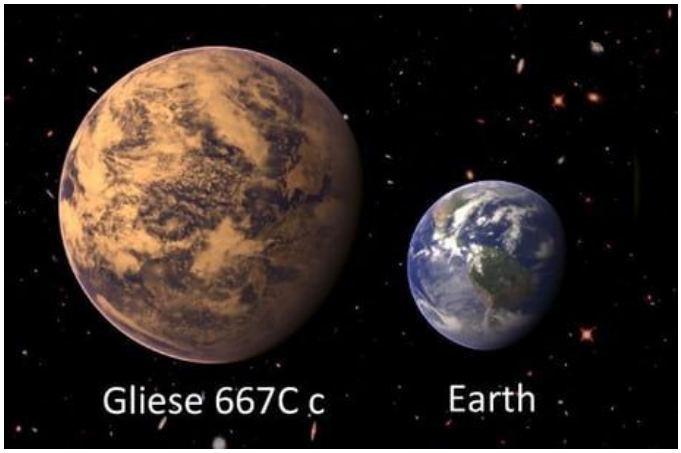

Illustration: On Pintrest by Mikem

Jacklin Kwan further informs "But it is tidally locked-- one hemisphere permanently faces the star it orbits, while the other is perpetual darkness". Moreover, it was later on revealed that G-667cc has a tidal heating 300 times more than Earth's. This of course, shouldn't be neglected. Living on a planet with one hemisphere facing light while the other is in darkness is not something to take lightly. It doesn't seem like a stable zone to rely on.

"Every time scientists uncover a potentially habitable planet, we are reminded of just how perfect our own home is. Small changes would make a planet completely hostile to human existence, and earth is a lonely ball that straddles this delicate balance to sustain

life". No planet discovered was ever found as complete for existence the way Earth is. The moment scientists believe they have found the final place they could call home, other facts are revealed to prove them wrong.

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While Kepler 438B and Gliese 667cc at some point were deemed as the most habitable planets to live in, one must keep in mind that they are both labeled as exoplanets. These are planets outside the solar system. Scientists share big hopes on an inner planet not too far away from us.

Mars is one of the inner planets that is mostly praised as a second home for humans. Often mentioned as Earth's "sister" planet, it is currently the closest place we have to earth in our entire solar system. Nonetheless, this doesn't say much for its background. The red planet has a radius smaller than that of earth and the average temperature is around -63°C , dropping as low as 125°C. In addition, the atmosphere of Mars is about 95% carbon dioxide and only 0.174% oxygen. Although there has been bodies of water confirmed on the planet, the soil there has an adequately high concentration of toxic salts. This implies that if humans tried making Mars home, they'd have to put much effort into transforming it so that it is able to sustain human life.

Illustration: Space Facts/Mars

In other words, scientists believe that they can geoengineer this entire planet to have underground or basis that protect its people from radiation and other factors. These

indoor places would supposedly have everything needed for survival, such as clean air, protection from harmful rays, and food supply. The video of “What If We Try and Colonize Mars” brought by “Insane Curiosity” mentioned that “Humanity has made isolated areas before, and submarines have shown that humanity has learned to make things that can have their own internal atmosphere and pressure gauges to ensure that passengers don’t get hurt”. This is quite unrealistic for a number of reasons. There is no doubt that humans can build such a thing but who would really want to live in a closed region for their entire life? It doesn't seem like a long term solution, given the fact that people can't be kept underground or in a closed space forever.

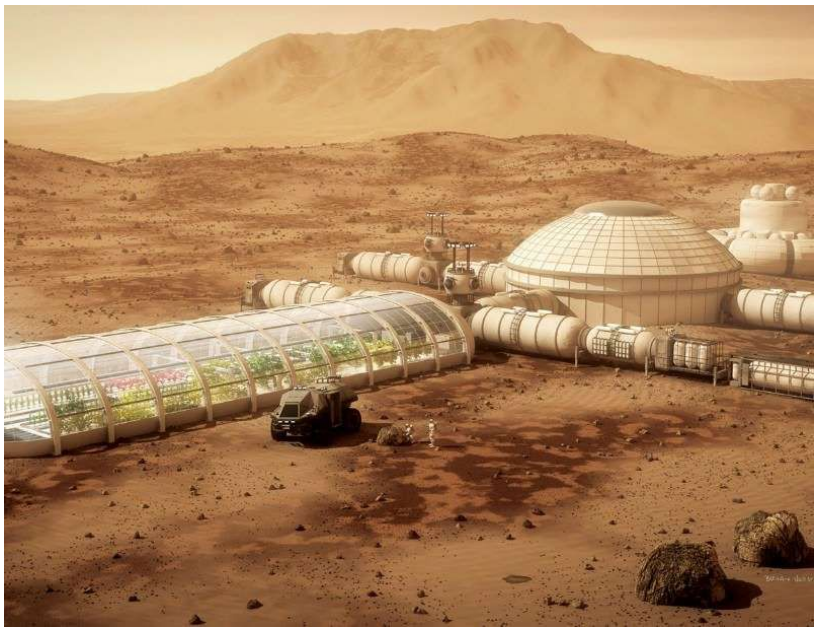

Illustration: NASA

Furthermore, George Dvorsky in his recent article “Humans Will Never Colonize Mars” writes that “Life in a Martian colony would be miserable, with people forced to live in artificially lit underground bases, or in thickly protected surface stations with severely minimized access to the outdoors. Life in this closed environment, with limited access to the surface, could result in other health issues related to exclusive indoor living, such as depression, boredom from lack of stimulus, an inability to concentrate, poor eyesight, and high blood pressure-- not to mention a complete disconnect from nature”. Overall, this seems like an extremely poor alternative to living on Earth. Cruelty plays a huge role in the quality of this lifestyle.

What exactly are the reasons for moving to another planet? Many would tell you that ours has been ruined throughout the years. Especially this time around, more and more

people are acknowledging global warming and the effect it has on us in the long run. But these are man made issues. It is because of our doings that Earth is slowly losing resources it once had. Cosmologist and astrophysicist Martin Rees, had a lot to say about this point in his latest book On The Future: Prospects for humanity. Rees claimed "It's a dangerous delusion to think that space offers an escape from Earth's problems. We've got to solve these problems here. Coping with climate change may seem daunting, but it's a dottle compared to transforming Mars. No place in our solar system offers an environment even as clement as the Antarctic or the top of Everest. There's no 'Planet B' for ordinary risk averse-people". Rees's statement couldn't have been said any better. Everyday we are slowly paying for the damage we've caused on earth due to global warming. We are already paying for our consequences and they are only getting bigger. The least that we can do is act quick. Yet, people still would rather choose to run from these problems and let it serve as an excuse to continue destroying the environment. This isn't worth losing our home planet over.

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Illustration: Shutterstock Kadzumo

In a way, searching for other planets really helps us realize how phenomenal Earth is. Michel Mayor concluded his speech perfectly. He voiced, “We must take care of our planet, it is very beautiful and still absolutely liveable”. Let’s not try to force something that isn’t stable and can put us through more disasters than we’re already in. Earth is one of a kind and we will never find a planet exactly like it. For now, our planet is the only habitable planet we know of so we must do everything in our power to make sure it remains that way.

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