Where's E.T.?

Aliens. The greatest mystery on planet on earth. The obscurities surrounding this mystery are about as far and wide as the universe itself. All around the world, the notion of aliens is widely debated, and school is no exception. The topic of aliens has been brought up several times in lecture. In fact, the topic of aliens is the most asked question in astronomy – by the general population. The issue of aliens – whether they exist or not – is a highly-publicized topic; more than Pluto becoming a dwarf planet. I believe that it doesn't matter whether aliens exist or not, because we will never be able to definitively know the answer. And, if they miraculously exist, we will never be able to visit them.

According to the Drake Equation, the universe should be teeming with life. Moreover, humanity should have evolved in a world filled with extra-terrestrial species, akin to Star Trek. However, this is not the case, as there are no guarantees that life exists outside of planet Earth. The probabilities of extra-terrestrial life are similar to Schrodinger's cat; both alive and dead at the same time. The only difference is, we can't check to see the state of aliens, and we will never be able to. Due to the complexity of life, I don't think we will ever be able to confirm anything. Best case scenario, we will have speculations and theories about what can and cannot be possible or plausible, but knowing with absolute certainty whether aliens exist is impossible. This is mostly because the technology is not adequate for extra-terrestrial detection. Our telescopes can't zoom in on a particular planet and map out its terrain – like satellites and Google Earth/Maps. To be able to see the American flag on the moon, we would need a telescope with a diameter of 200m. For reference, the largest optical telescope is 10 meters in

diameter, and the Hubble Space Telescope is 2.4 meters in diameter (Carter, 2015). The other problem is we can't travel to other planets to investigate whether life exists or not. Travelling at the speed of light is impossible, and humans can only experience a certain amount of G-force before they black out. We can send machines and robots, but it's not the same and communication is extremely ineffective at interstellar distances. Furthermore, a lot has to happen for life to form and evolve. The conditions have to be just right, otherwise, life will die out.

In the grand scheme of things, we are a random species, living on a random piece of rock, floating in a random solar system, that's rotating the center of a random galaxy, and the whole thing is situated in a universe we know almost nothing about. I don't think we will ever be able to answer the age-old question, "Do aliens exist". We can guess and guess, but never will we be able to definitively say, "Yes".

References

Carter, L. (2015, June 25). Are there telescopes that can see the flag and lunar rover on the Moon? (Beginner). Retrieved November 9, 2019, from http://curious.astro.cornell.edu/physics/45-our-solar-system/the-moon/the-moon-landings/122-are-there-telescopes-that-can-see-the-flag-and-lunar-rover-on-the-moon-beginner.