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PHY 311
Book Review

The Eerie Silence by: Paul Davies
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The Eerie Silence explores the possibility of intelligent life through both pessimistic and optimistic reasoning. Paul Davies, a top SETI researcher and intelligent life-optimist, carefully covers a variety of topics speculating just exactly how modern technological/biological advances have affected our ability to communicate with extraterrestrials. Davies eagerly awaits first contact, which is the discovery of a second, cosmic independent genesis, (appearance of life from non living material). He suggests ways of interstellar -communication, explains the development of mechanical implants to enhance human performance, and considers that fact other intelligent life would potentially develop the same devices. It creatively ties metaphysics (theories of existence and knowledge) to theoretical physics (mathematically stable system). Some of the suggested technology already designed is difficult to wrap one's head around, so be prepared to be hit with some knowledge in addition to learning a lot about human guesswork on the "bigger questions". It seems that when and if (given we survive possible global catastrophes) the eerie silence is finally broken, humanity's view of the universe and life will drastically change.

Davies points out the location of genesis (geneses) of life is commonly thought to be somewhere on Earth. However, we must also consider Mars as an applicant to life genesis since its climate was much like that of Earth's at an early period in the solar systems formation, making it at the very least a possibility that life of Earth actually came from Martian asteroids interchanged between the two planets over a few billion of years. If that seems unreal, it might also be equally possible that interstellar, icy comets containing frozen microbes in dormant states could have impacted earth, thus leading to the conclusion that there have been many geneses instead of a singular one.

I found much of The Eerie Silence scientifically accurate and also very interesting, especially because I a bit of an alien-enthusiast myself and would enjoy nothing more than being alive when extraterrestrial life is first discovered. His extended discussion of terrestrial biology seems to bend past theories of life's ability to thrive after the limits have been pushed further than scientists ever expected after the discovery of extremeophiles, which are often microbes that thrive in extremely hostile environments by human standards. Davies explores differentiation between "standard life" (life that has derived itself from Earth's Tree of Life) and suspected foreign, "weird life" (extraterrestrial) found right here on our own planet. It seems that the role of advanced chemistry and nanotechnology will play to greatly improve our chances of being able to distinguish between what's from Earth and what's from the stars.

He also introduces a realization that SETI must continually upgrade the range of their search as well as types of searches. It is suggested that radio technology appears to be relatively simple due to the fact that it was created first, thus SETI must develop more powerful and effective means of transmissions in addition to devices that 'listen' deeper into the silence. He points out that the fact that if other intelligent civilizations exist and are also performing searches for signals from other star systems. Because of this, we must continually upgrade in order to meet at a common form of communication. Both microwave and laser communication have already proven superior but are not the most sophisticated types. Perhaps one of the most promising techniques is to send beams of neutrinos since neutrinos are essentially massless particles which are so exceptionally difficult to detect that they travel straight through matter as dense as neutron stars. Physicists have utilized particle accelerators to

generate beams of neutrinos able to be detected through the earth. They are now an area of intense study in order to develop a more advanced (and likely common) form of interstellar communication.

I am unsure of what Davies believes, but the much of the speculation lies in the question of whether we, as in the current living population, will live through the point of first contact (or in other words, the point at which our technology allows us to travel to, see, or communicate information with the ET). Are we doomed to die before the technological advances which would provide us safety from all cosmic extinction? Aquatic fossil samples mentioned suggest that every 92 million years, when the solar system travels outside of the galactic plane, whose magnetic field protects our planet from intergalactic radiation, causes mass extinction.

So who is to rightfully say that aliens will be good or bad? Davies explains that we simply have to look at ourselves and how we would react to the first encounter. He states, "Those who take a rosy view of aliens dismiss the scary Hollywood image as overly anthropocentric, and point out that any being that have overcome their own problems and survived for eons are unlikely to be innately aggressive". This statement is very logical in the sense that aliens will most likely desire the same things from us that we desire from them. We must consider which of us is more advanced and trade information accordingly. I feel that if any interaction between interstellar beings and us would result in benefit for both civilizations based on the information in this book but also because we would take a scientific approach to it rather than a political approach. This time, scientists would be in charge of information exchange which suggests that our initial actions will be friendly and portray that we are eager to learn from them. It seems true that interstellar beings must come from extremely superior societies capable of surviving massive cosmic extinctions, thus indicting that they have no real reason to harm us (even for our 'resources'). Overall, *The Eerie Silence* is a read encouraging the future exploration of the largely unknown as well as an informative read of futuristic research which might one day allow us to contact intelligent ET.