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Keep Knowledge Alive

In the episode "Who Speaks for Earth?" from the *Cosmos: A Personal Voyage* PBS series, Carl Sagan talks about the decimation of the Library of Alexandria, a place described by Sagan as the "center of science and learning in the ancient world" ("Who Speaks for Earth?" 00:25:24-27). This library contained an invaluable and innumerable amount of information. However, the knowledge and information destroyed in that library will never be known to the world. Similar to the loss of the Library of Alexandria, the end of the world would mean the loss of rare and irreplaceable knowledge. Everything on the surface of the Earth is a product of knowledge, from living creatures to buildings to the newest iPhone. Everything that is or was created on Earth is information that cannot be replicated elsewhere because it is uniquely of the Earth. There is an infinite number of planets in the universe, which means life can exist elsewhere. This other species can benefit from the unique knowledge here on Earth. The end of the world, in terms of the destruction of everything on the face of the Earth, would be a catastrophic loss of the rare knowledge derived from the life on planet Earth, which may prove to be detrimental to other species in the universe as a whole.

The rarity of the knowledge on Earth is an important reason why the end of the world, in terms of living species, would matter. It is known that the presence of life and all that follows with the presence of life on a planet is something that is extremely hard to replicate. There are what could be called requirements, as far as current science knows, that a planet must meet if it is

to develop life. For instance, the Earth's location in the solar system is the ideal spot for the development of life. Bill Bryson writes in his book *A Short History of Nearly Everything*, "Venus is only twenty-five million miles closer to the Sun than we are. The Sun's warmth reaches it just two minutes before it touches us. In size and composition, Venus is very like Earth, but the small difference in orbital distance made all the difference to how it turned out" (247). If Earth was closer to the sun, it may have ended up like its neighboring planet Venus, which has a surface temperature of roughly 900 degrees Fahrenheit. The added warmth on Venus due to its proximity to the sun is believed to have caused its oceans to evaporate, which allowed "hydrogen atoms [to escape] into space, and the oxygen atoms combined with carbon to form a dense atmosphere of the greenhouse gas CO_2Ycu9bmLYB" (Bryson 247). These two planets are similar as Bryson points out, but the slightest change in location can mean the development of life or not.

There are many other factors that can determine the development of life on a planet. In *Lonely Planets* by David Grinspoon, he writes about the numerous ways in which the Earth is suited for life, saying, "It is the right distance from the Sun, neither too hot nor too cold. It is just the right size to hang on to its atmosphere and oceans and retain enough internal heat to drive plate tectonics. Earth has enough water to maintain life, but not so much that the continents are entirely submerged. We are blessed with the perfect atmosphere to support the king of life that has evolved here" (143) Thus, when life develops on a planet it is a rare occurrence. There are many challenges a planet has to overcome before it can produce life. The ability of life to form is therefore a precious thing, and, inherently, the knowledge and information that is cultivated from that life is just as precious. As Grinspoon describes it, "If just one of many factors had been different, our planet would, at best, be a world of microbial slime" (143). The capacity for life -

and therefore knowledge - to develop is a remarkable and almost inimitable thing. The end of the world would be the end of an unique type of knowledge that would be irreplaceable.

One of the main importances of the rare information that the Earth contains is the importance it holds for possible other species. Another species in the universe may have found a use for the information humans and other living beings have created by existing or by humans' intellectual history. This species may find an answer to a problem that plagues their planet that humans have solved. The short story "And the Moon be Still as Bright" by Ray Bradbury, reveals that humans, fleeing from a troubled, atomically devastated Earth, have been sent on an expedition to Mars. When one of several crews arrives on the planet, they are met with a desolated world. As they look around the planet, the narrator says of the captain that "He wondered where the people had gone, and what they had been, and who their kings were, and how they had died. And he wondered, quietly aloud, how they had built this city to last the ages through…" (Bradbury 76). The crew finds that there is the knowledge of an entire planet that they will never truly know, at least not from the perspective of those who inhabited that planet. If another species were to find Earth, it would be similar to this. Even if the other species was more technologically or intellectually advanced, they could still benefit from Earthly knowledge because our perspective of our world - which influences our knowledge - can not be replicated. They would be able to see things that they've known about in a new way. However, if our world were to end, they would never be able to really know the knowledge that our planet contained.

The loss of the information on Earth would be a loss to the universe as a whole when considering species who could have utilized this information. This can be compared in a more vivid example by thinking of ecosystems on Earth. If a living creature from an ecosystem were to vanish or go extinct, it could mean complete chaos for the overall ecosystem. This can be seen

in the death of coral reefs, which may become fatal to a lot of marine life. Therefore, the loss of rare information that the world contains could be detrimental or fatal to another species in the universe. The destruction of one could mean the destruction of all. An extraterrestrial civilization may find that their world is ending, and the information on Earth may hold the solution to their problem. All species in the universe may rely on one another like marine life relies on coral reefs. If the universe were thought of as wholly connected, then losing a planet full of information would be equivalent to a human losing their memory. People with Alzheimer's or dementia that have lost parts of their memory in some way find that living life gets infinitely harder. This may be the same for other species in the universe; essentially losing a storehouse of knowledge. The end of Earth would be detrimental to extraterrestrials in this way.

The Earth has been in existence for more than 4.5 billion years and life came around about 3.8 billion years ago (Bryson 294). The Earth has been creating knowledge ever since the appearance of the first living thing. The accumulation of billions of years worth of knowledge would be destroyed if the world were to end. As previously mentioned, it is not easy to create life that will help cultivate the collective knowledge of a planet. As Bryson puts it, "So far space scientists have discovered about seventy planets outside the solar system, out of the ten billion trillion or so that are thought to be out there…but it appears that if you wish to have a planet suitable for life, you have to be just awfully lucky, and the more advanced the life, the luckier you have to be" (246). The end of the world would matter greatly to other beings in the universe, who are extremely lucky that a rarity such as life formed here and that it created an unfathomable amount of knowledge.

Works Cited

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“Who Speaks for Earth?” *Cosmos: A Personal Voyage*, written by Carl Sagan, Ann Druyan, and Steven Soter, directed by Adrian Malone, Public Broadcasting Service, 1980.