**Haider Rizvi - Question 2**

As the tranquil blue glow of a distant star fades below the ridges of Jezero Crater, a lone six-wheeled machine rolls steadily across the crusted soil of a distant world. It cruises along until chilling zephyrs begin to whip up clouds of dust, forcing the traveler to pause for the night. To make use of its time, the machine moves one of its robotic appendages, armed with a small drill tip, and penetrates the sediment below. After a few minutes, it collects a meager sample of ochre soil, and over the course of the night, it analyzes it with a host of spectrometers. Once its measurements are complete, the idle rover relays its findings through a network of orbiters all the way to a facility on our home planet, where a team of astronomers, physicists and other scientists are all blown away by the data: Perseverance has detected biosignatures on Mars.

No matter how many tests the team commands Perseverance to repeat, the results always come back the same, further confirming the presence of microbial life on the Red Planet. Staff-members run panickedly across the facilities, numerous phone calls are made and hundreds of executives are woken from their sleep. At 5 AM, a meeting is attended by members of the Cabinet, military generals, world-renowned astronomers and the team behind Perseverance. They not only verify the findings made by the rover, but discuss the more important question: should they release them to the public? The aim to find potential biosignatures on Mars had always been stated by NASA, but they had never expected it to actually happen, and especially not to happen so soon; there was no plan for such an outcome. Hours pass, and charged remarks are exchanged between the members of the meeting: could this aid our enemies on the other side of the world? Is there any strategic benefit to withholding the information? Could the government use this for its own interests? Scenarios are constructed, evaluated at length, and dismissed quickly. As the meeting progresses, more diplomats, representatives and scientific professionals are summoned to give their opinions and contribute to a heated debate that continues for 12 hours. At last, having seemingly exhausted all possibilities and lines of argument, a conclusion is reached. Early in the morning on the following day, NASA reaches out to national news distributors, who hastily plan out programmes and interviews, and at 8 AM, the world awakens to the revelation that humanity, and our fellow terrestrial organisms, are not alone in the Universe: there is life beyond our planet.

Although there were many reasons for the disclosure of this groundbreaking discovery, one of the most prominent factors may have been that the information did not really advantage any party; while the presence of microbial life on another world is certainly shocking, it only confirms the suspicions of leading scientists that water on Mars from 2.5 billion years ago did indeed harbor living organisms. It does not change the fact that all of this life was eradicated before we even had the chance to interact with it. On a surface level, the microbial life discovered by Perseverance only represents the traces of a bygone ecosystem, doomed to an onslaught of ionizing radiation from the Sun in the absence of a planetary magnetic field.

 And yet, the impact that this news has on the world is not light in the slightest. Around the globe, people are faced with a new and unsettling question: what does the existence of life in the cosmic wilderness imply for our species?

Reactions to the announcement vary drastically across cultures and nations. Many religious institutions, such as churches and mosques, outright deny the validity of the information, reassuring their followers that God created life on this world alone. Other religious leaders, however, are forced to swallow this truth, and adapt their interpretations of their faith accordingly. Some even celebrate the news as a sign of God’s cosmic power to spawn life in the Universe.

The internet remains abuzz for months on end with not just religious discussion, but other sorts of speculation. Many netizens theorize the existence of alien life on other corners of the Solar System as well, such as Europa. A range of conspiracy theories related to alien invasion are promulgated, though most of them are understandably exaggerated. Many people are excited at the prospect of Mars’ ability to foster life, and the desire to settle on Mars gains a newfound impetus.

But above all, the question that remains in nearly every human’s heart is this: just what exists out there that we don’t know about? We may have started out by finding microbial life, but in time, we may discover new, unanticipated life-forms, which could be much larger, and possibly even on our scale. Could there even be organisms that have gained sentience just beyond our reach? If so, what does our future as a species look like? Will we ever meet with life other than our own, and what could happen to us as a consequence? These thoughts are rife in people’s minds. Before this revelation, the idea of alien life was little more than an innocent fantasy, confined to the contents of books, films and scientific theories. Now, however, it has become a real possibility with a confirmed case, and who knows how many more cases are to come?

At the present, our inner confrontation with this concept yields no significant change in society. Our day-to-day lives continue mostly unaffected by this knowledge. But deep down, something within our souls is stirred. It’s hard to describe what these swirling feelings are. Maybe it’s unease? Maybe it’s conflictedness? Or perhaps, it is that primal sense that has always accompanied us since the dawn of our civilization, awakened now at the realization of us not being alone: the feeling ofunknowing.