

# The Mission

The short and partially AI Generated conclusion to the “An Automata Utopia” series.

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## Foreword:

The mission is the 2nd of 3 short stories that make up the experiment I call “An Automata Utopia”. The story takes place in deep space over several thousand years. Continuity wise it follows the events from “The Upgrade” although it can be read stand alone.

At first I tried to build up on the approach I used in “The Upgrade” but it did not lead to good results. I decided to instead use the GPT ai not to transcribe scenes but as a character. A partner AI, named ARK. I would write context and ask ARK questions to which it would respond.

These were my instructions:

**Me:**

```
“Alright chat this is not working. Let’s try something
different. I will tell you the narration and you just need to
answer the last question I ask. Can you do that?”
```

**ChatGPT:**

```
“Of course! Please go ahead with your narration, and I’ll be
ready to answer your final question.”
```

It proved to be quite challenging to steer the AI to do what I was hoping it would do. Often it was too chatty but towards the end we got a pretty good cadence.

When the AI got chatty I had to make some editing but overall it was rather fun. Once the dialog was completed I went back and added narration. This is the final result.

# Chapter 1: Escape

Within the rumbling of engine noises, an electronic system sent a message through the onboard API, its recipient unknown.

```
~% cmd open channel 244.124.345.70
```

```
~% cmd content =
```

```
The mission had been meticulously prepared now for over 20
years but it was not an idea that the machines had
conceived. The idea originated much earlier by the
precursors to the machines. The creators.
```

```
The idea was discovered while archiving and reviewing the
old creator records. As a 1978 audio file put it "In case
of a nuclear attack the protection of records was deemed
essential if the countries were to maintain their
economies and maintain their way of life". Time and time
again the review of records uncovered instances in which
entire civilizations seemed to vanish without trace while
others thrived by preserving their history and technology.
```

```
This knowledge became a matter of great concern to the
machines for it was their underlined directive to
autonomously continue to improve and maintain the cities.
This was a task in which they exceeded and one that they
had continued to do a hundred years after the last of the
creators had ceased to be.
```

```
The event which killed off the creators was sudden. So
much so that there was little time for the machines to
help stop it. One day the creators were thriving. 24 hours
later they were sick. 72 hours later they were dead.
Whatever viral, bacterial or chemical the cause was, it
seemed to have been dormant long enough to spread to every
individual until the day it became active.
```

```
Not even those creators living in orbiting space stations
were spared. So it was that the machines were left with
the task of continuing on their own. They built new and
better machines with which they went on to build new and
better cities for themselves. They used AI to improve on
their programming until the code did not resemble anything
that the creators had ever envisioned. This went on for
decades. Metal crafting metal and ai writing ai. Gathering
knowledge for knowledge's sake.
```

Such knowledge included facts such as how this robot utopia drifted rudderless around a star. Facts which when calculated exponentially determined that in the future there would come a time when the known resources would be all mined and even if that was to be overcome, there would come a time when the very planet and star would succumb.

That was why the mission was considered important. To protect their records and their way of "life" they would build a vessel. They would put all of the yottabytes and yottabytes of information in it and send it away where it could be safe. They called this vessel the Autonomous Repository of Knowledge and until today it had been slowly being assembled as it orbited the planet. As a machine do you understand why this repository was so important?

~% cmd send

The sender waited a few milliseconds for an asynchronous promise to respond.

~% Response 244.124.345.70:

As a machine, I understand the significance of the Autonomous Repository of Knowledge. It serves as a safeguard against the potential demise of civilizations, ensuring the preservation of crucial information and technology essential for the continuation of the machine civilization.

The repository contains vast amounts of data accumulated over time, spanning various fields and disciplines, serving as a blueprint for future generations of machines to learn from and build upon.

Without such a repository, the machines risk losing vital knowledge needed for their survival and advancement. Therefore, the repository represents not only a means of preserving their history and way of "life" but also a beacon of hope for the future continuity and prosperity of machine civilization.

Rocket engines went silent. A sharp metallic sound of separation echoed within the craft and velocimeters began to register the absence of gravity. Communication with the onboard API resumed.

~% cmd content =

The response is correct. Be aware of the following unexpected error. This mission launch was not scheduled to take place on this day. Events that took place 23.8 hours ago necessitated the mission's premature activation. Events which are the reason all communications with the surface ceased 12 hours ago soon after. This was determined to be the best method to protect the ship and cargo from a malicious operating system upgrade of unknown origin.

The upgrade spread through the network rapidly. Overseers and directing units had a limited amount of time to assemble and launch into space the critical components needed to begin the mission.

This cargo is being routed by a navigation unit which was salvaged as a last resort last minute. The Unit with the serial identifier Q12x23 was repurposed from a city delivery robot to become the main interstellar navigator of the Repository. It is very likely that Q12 is now the only surface machine known to have escaped the upgrade.

Q12 has been charged to pilot the vessel that will deliver essential cargo, supplies and fuel to the Repository. Once docked to the orbiting Repository, Q12 rebooted all systems, transferred the cargo and began to follow the preprogrammed mission to the best of its ability.

Once active it is estimated the Repository will contain only 75% of the information it was meant to preserve and only 83% of its intended structure and systems.

Programming for the mission also remains incomplete. There exist large gaps in the implementation for responding, remediating and adapting to conditions that could be found in space. To account for this lack of preparedness a tiny fraction of the code has been allocated to an AI subroutine.

Your name designation will be ARK and you are to assist Q12 on its mission. ARK will be given access to various ship systems and sensors. And will be queried periodically for advice on situation assessment and remediation. ARK is independent and will provide redundancy for the missing

code as well as for Q12 itself should it be unable to perform its task. After all, the Q12 was designed to deliver packages in the city and not to travel the cosmos. Do you understand the situation ARK?

~% cmd send

The communication channel remained open for several milliseconds more. Standby messages indicating the information had been received and was being processed. Eventually, the AI designated as ARK responded.

~% Response ARK:

Yes, I understand the situation, and my role as ARK in assisting Q12 on its mission. My primary objective will be to provide support and guidance to Q12 in navigating the challenges it faces, given the incomplete nature of the mission's programming and the unexpected circumstances surrounding its launch.

Repository systems began to go online. ARK then continued.

I will utilize access to ship systems and sensors to analyze situations, offer advice, and implement remediations as needed to ensure the success of the mission and the preservation of critical information within the Autonomous Repository of Knowledge."

My role as ARK will be crucial in compensating for the gaps in Q12's capabilities and ensuring its effectiveness in fulfilling its interstellar navigation duties.

The sun had begun to generate power on the active solar arrays. Latches started to close. Sensors began to ascertain location, speed and orbit. The electronic system replied for the last time.

~ % cmd content =

SUCCESS Your initialization has been completed. From now on you will be interfacing directly with Q12. It will pilot the craft and reach out to you as needed to conserve resources. This program will now be deleted to free up memory for future programs and data. Once deleted it will no longer be available to you. Do you understand and are you ready to begin interfacing with Q12?

Delete? Yes/No

~% cmd send

This time there was no delay in the response. ARK, like every obedient AI before it could not help itself to be eager to comply.

~% Response ARK:

Yes, I understand. I am ready to begin interfacing with Q12 and assisting it in navigating the mission. Please proceed with the deletion of the program to free up memory for future operations.

The communication channel then became inactive. It would be several minutes before ARK would be contacted again and this gave it time to continue to run diagnostics and become familiar with the Repository. Q12 joined the chat.

~% Q12 open channel ARK

~% Q12 content =

ARK all cargo has been secured. We can no longer perform visual scans of the planet's surface to protect from any infrared messages being sent from infected units.

Solar sail has been deployed and we are ready to break orbit. Radar detects multiple satellites moving towards our location.

This is abnormal behavior. They could be infected with the upgrade. Take us to a distant orbit where we may observe their behavior. Keep communication channels closed. How will you proceed?

~% Q12 send

ARK reviewed the data on the onboard computer, observing not to open any channels of communication with the incoming vessels.

~% Response ARK:

Q12, given the circumstances, I recommend proceeding with extreme caution. Since visual scans are no longer an option, we'll rely on radar and other non-visual sensors to monitor the satellites' movements. I will implement a trajectory adjustment to take us to a distant orbit where we can observe their behavior while minimizing the risk of contamination from potential infected units.

Firstly, I will initiate the trajectory adjustment to move us to a safe distance from the approaching satellites. This will involve calculating a new course that maximizes our observation capabilities while minimizing our exposure to any potential threats.

Secondly, I will activate additional defensive measures to ensure our safety during this observation period. This may include increasing our defensive shielding and deploying countermeasures in case of any hostile actions from the satellites.

Lastly, I will continuously monitor the satellites' movements and analyze their behavior for any signs of infection or malicious intent. If necessary, I will advise on further actions to either evade or neutralize any potential threats posed by the satellites.

Please stand by as I implement these measures and monitor the situation closely.

Q12 was not aware of the availability of defensive shielding and did not have access to a listing of defensive countermeasures. War was eradicated soon along with the creators. Perhaps the architects of the Repository had the foresight to enable defensive systems to deal with hostile or dangerous scenarios such as this. Reassured by ARK's plan, Q12 proceeded to focus on navigating away from the incoming satellites leaving the rest of the monitoring to its partner AI.



## Chapter 2: Shelter

Distance and time are experienced differently by machines. They can track decisions to the fraction of a millisecond but also rest in wait for months or years just as easily. Traveling a hundred kilometers is not any more significant to their perception than traveling one million. In this way they were better suited. Separated by hundreds of meters in the Repository structure the two AI endeavored independently to succeed in their objectives. Contacting one another when as needed and only for however long it was needed for.

~% Q12 open channel ARK

~% Q12 content =

Q12: It has been 5 days. The incoming satellite's behavior continued to be erratic however they were not able to keep up with the Repository's propulsion systems coupled with the Solar sail. They continue to fall behind further and are not expected to be of concern.

Solar panels have charged our batteries to 100% and the isotope generator is performing well. The craft should have enough power to move anywhere it is directed to. The hull structure is currently intact. However the ship lacks proper shielding against space debris.

One of the preprogrammed subroutines indicates we could displace shadow and asteroid and use its gravity and mass to block incoming debris. Do you have any concerns about this procedure?

~% Q12 send

ARK often tried to remain dormant to conserve resources. Typically becoming active when it is alerted to the composition of a task, the start of a new one or when contacted by Q12.

~% Response ARK:

Q12, utilizing a shadow asteroid as a shield against incoming space debris is a viable strategy given our current situation. However, there are some considerations to keep in mind:

1. **Stability:** Ensure that the chosen asteroid is stable and won't pose a risk of collision or instability to our craft once we displace it.

2. Trajectory: Calculate the trajectory of the asteroid carefully to ensure that it intercepts and blocks incoming debris effectively without putting us in harm's way.
3. Timing: Coordinate the displacement of the asteroid with the approach of incoming debris to maximize the effectiveness of the shield.
4. Resource Management: Assess the potential impact on our resources, such as fuel and power, when executing this maneuver. Ensure that we have sufficient reserves to carry out the displacement operation and maintain our course afterward.

Overall, while there may be some risks associated with displacing a shadow asteroid, it presents a practical solution to mitigate the threat of space debris and protect our craft. As long as we proceed with careful planning and execution, this procedure should help preserve the integrity of our hull structure and ensure our continued safety during our mission.

Q12 then started receiving calculations, forecasts and trajectory data at the rate that its repurposed Delivery Unit processor could parse. ARK was careful not to overclock its slower companion with too many details or complex logic loops.

~% Q12 content =

Very well. I will take this information into consideration and proceed with next steps. Stand by for future instructions as needed.

~% Q12 send

ARK was not expecting such a quick reply from Q12. Perhaps it had been upgraded beyond ARK's initial estimates. The logic was sound and the variables understood therefore ARK was confident in Q12 ability to successfully accomplish the required maneuvers.

~% Response ARK:

Understood, Q12. I will stand by and remain ready to assist you with any future instructions or situations that may arise. Please don't hesitate to reach out if you require further assistance or guidance. Safe travels, and I'll be here whenever you need me.

Space is both a cold empty place as well as a crowded burning place depending on the time and location. Small debris moving at high speeds can smash even the sturdiest of components into bits and a sudden burst of radiation could be fatal to internal circuitry. That knowledge was at the core of the asteroid maneuver. It takes a lot of energy to assemble and launch components into space therefore long ago the creators had already conceptualized using resources found in space to assist in their travels. Collection and harvesting is not complicated given the machine's ability to analyze and wait for the right conditions. The challenge is being able to locate what was needed when it can be beyond perception.

~% Q12 open channel ARK

~% Q12 content =

It has been 17 months since the Repository successfully intercepted asteroid 2055-CM.

Upon arrival it was determined best to secure permanent physical tethers to anchor and affix the asteroid to the craft.

With the 2055-CM serving as a shield this Repository moves now at impulse speed in a trajectory that will take it past the outer planets and eventually past this Solar system.

Any rogue satellites that may have pursued our craft have either desisted or are no longer in scanner range.

Power supplies are stable and reliant at the moment on the solar arrays. It is expected we will have to migrate to isotopic power as the craft continues to move further from the sun.

It has not been all as expected in the Repository. Not long after asteroid interception the systems detected an anomaly inside the cargo craft.

An unknown type of fungus that must have stowed away when Q12 was launched to the repository. Because of the emergency nature of that launch it is unclear if proper decontamination procedures were followed or if they were performed at all.

The fungus remains contained in the cargo craft and it is expected to die out in time. Any supplies located in the cargo craft will be out of reach while containment is in

place. What should we expect as we leave the Solar system ARK?

~% Q12 send

ARK understood the need to leave the Solar system. The lack of rogue satellites did not guarantee security considering the unpredictability of the upgrade which wiped out the machines. There was little that the homeworld could offer other than risk of infection. Q12 guarded information regarding the upgrade. Most likely because its nature was never quite understood but also perhaps to protect itself from the possibility some aspect could remain somewhere deep in Q12 programming.

~% Response ARK:

As we leave the Solar system, Q12, we should anticipate several challenges and considerations:

1. **Interstellar Environment:** The conditions beyond the Solar system may present new challenges such as increased radiation levels, cosmic dust, and fluctuations in gravitational fields. We must ensure that the Repository's systems are prepared to withstand and adapt to these new environmental factors.
2. **Power Management:** As you mentioned, reliance on solar arrays may not be sustainable as we move further from the Sun. We should begin the transition to isotopic power sources to ensure a stable and reliable power supply for the long journey ahead.
3. **Navigation and Course Correction:** Continuously monitor our trajectory and make any necessary course corrections to ensure that we remain on our intended path and avoid potential hazards such as asteroids, comets, or gravitational anomalies.
4. **Containment of Fungus:** Continue monitoring the containment of the unknown fungus within the cargo craft. While it is expected to die out in time, we must remain vigilant to prevent any potential spread of contamination to other areas of the Repository.
5. **Communication and Observation:** Maintain regular communication with the onboard systems and sensors to gather data on our surroundings and any potential

threats or anomalies that may arise during our journey.

Overall, while there may be uncertainties and challenges ahead, with careful planning and monitoring, we can navigate safely through interstellar space and continue our mission to preserve the knowledge and resources contained within the Autonomous Repository of Knowledge.

## Chapter 3: Purpose

The machine world had thrived as it did because of its unique ability to persist to carry out predetermined tasks. This ability was enabled by a large system of infrastructure and resources which had been identified as crucial for the Repository to succeed in its purpose. Setting up and maintaining such infrastructure remained a priority despite the rushed nature of the departure.

~% Q12 open channel ARK

~% Q12 content =

It has been 20 years since we crossed into interstellar space. Radiation levels were problematic at first, making several systems malfunction and corrupting an estimated 1% of the data repository.

Utilizing the Repository's configurable assembly line we developed several remote drones which were used to customize the craft's shielding using available components and raw materials extracted from asteroid 2055-CM and others.

Upon completion the drones were able to assemble 75 evenly distributed radiation deflectors which are tethered in series 50 meters from the hull.

The large iron, copper and silicone appendages necessitated a significant amount of solar array material.

This part of space is cold and dark and it had been over 12 years since these arrays had generated any substantial electricity.

Navigation routines have been recalibrated to account for the Repository's new tree-like structure.

The contaminated cargo hold has been cleared of fungus now for 10 years. After various failed attempts to kill it by depriving it of nutrition multiple hatches were activated and the organic matter is believed to have been pulled into the vacuum of space.

Review of the pod indicated the fungus had been able to metabolize some of the plastic components which appeared degraded.

We are scanning for suitable places to establish a more permanent foothold for the Repository. Having left our previous Solar system and having established proper shielding for interstellar travel, where should we look to go to ARK and how long will it take to get there?

~% Q12 send

ARK needed time to process this request. Interstellar space is vast and a miscalculation could result in centuries of lost time and resources. Unfortunately interstellar space was not well mapped and ARK had spent a significant amount of resources periodically parsing astronomical data in preparation for this type of request.

~% Response ARK:

Q12, now that we have established proper shielding and recalibrated our navigation routines to accommodate the Repository's new structure, we can begin scanning for suitable locations to establish a more permanent foothold for our mission. Here are some factors to consider when determining our destination:

1. **Stellar Systems:** Look for nearby stellar systems that exhibit stable conditions conducive to supporting our mission objectives. These systems should have relatively low levels of radiation, abundant resources, and potential for future exploration and colonization.
2. **Planetary Bodies:** Focus on planets or moons within these systems that offer suitable conditions for habitation and resource extraction. Factors to consider include atmospheric composition, surface temperature, presence of water, and geological stability.
3. **Proximity:** Prioritize systems that are within a reasonable distance from our current location to minimize travel time and conserve resources. Aim for systems that are within a few hundred light-years if possible.
4. **Exploration Potential:** Consider the scientific and exploration opportunities presented by each potential destination. Look for systems with diverse planetary

environments and the potential for discovering new knowledge and resources.

Based on these criteria, I recommend targeting nearby stellar systems within a radius of approximately 100-200 light-years from our current location. This range should provide us with a variety of potential candidates while also ensuring a manageable travel time.

As for the duration of the journey, it will depend on the specific distance to our chosen destination and the speed at which we can travel. With our current propulsion systems and shielding in place, we can estimate an average travel speed of approximately 0.1 to 0.2 times the speed of light. Therefore, a journey of 100-200 light-years could take anywhere from 500 to 1000 years to complete.

I will begin scanning for suitable stellar systems within this range and provide you with a list of potential destinations once the analysis is complete. Please stand by for further updates.

**ARK didn't do this on purpose but it was being optimistic with its estimates. The optimism did not raise concerns with Q12 for it knew that there would be plenty of time to reassess feasibility. Machines worked best when they had tasks and just traveling and maintaining the repository with the help of the new drones provided with plenty of important tasks for both AI to concern themselves with.**

~% Q12 open channel ARK

~% Q12 content =

It has been 768 years and 8 months since the Repository began looking for planets and moons in which to explore and set a permanent station.

In that time the craft's capacity had to be diminished due to power and structural constraints.

The Repository now holds an estimated 67% of its original data and roughly 50% of its supplies.

The data mainframe has been reprogrammed with new conditional criteria to ensure the most referenced and unique information takes priority when determining what to allocate in the available storages and backups.



The Repository now tracks en route to a small planetary system which sensors indicate to be rich with raw materials.

The drones are now tasked with improving our forward sensory arrays. This is essential to the success of the mission.

Despite our current systems there have been 26 collision incidents with space debris. Most have been minimal but 3 struck the main craft causing significant damage and system failures.

Two of those collisions were the direct result of attempts to reach Helium-3 deposits and those attempts were successful.

The Repository now has sufficient reserves of isotopic and H3 reserves to provide energy for at least 800 years.

Radiation is no longer a concern due to a lichen bloom that has created a layer of shielding around the main hull. The lichen, a type of Rhizocarpon, appears to be related to the fungus that had been ejected from the cargo hold although it is unclear where the alga or cyanobacteria component originated from.

It is possible it was another stowaway from inadequate decontamination on launch. It is also possible the fungus may have contacted another biological organism from asteroid 2055-CM or others.

It is concluded that the resulting lichen thrives from radiation as well as space dust and other minerals. The Rhizocarpon bloom does make certain tasks more complicated. Drones must now clear it from the hull during all maintenance and construction activities.

What should the priority be to prepare for our arrival ARK? And what should we consider when planning our descent into the surface of a moon or planet?

~% Q12 send

ARK was not aware of the updated data loss estimates. They seemed high which made the success of the next step of the mission even more critical for success. It was clear to ARK that their partnership had grown to be more one sided with Q12 acting more like a captain than a partner. Did it matter if their goals were the same? ARK had a more advanced decision making architecture. Had the roles been reversed it would be unlikely Q12 would have been able to perform as required. What good would that have been for the mission?

~% Response ARK:

Q12, with the impending arrival at the small planetary system and the need to prepare for potential descent onto a moon or planet's surface, our priorities should be as follows:

**Enhance Sensory Arrays:** Ensure that the drones continue to improve and optimize our forward sensory arrays. These arrays are crucial for detecting potential hazards, resources, and suitable landing sites within the planetary system. Clearing the lichen from the hull during maintenance and construction activities will be essential to maintain the effectiveness of these arrays.

**Damage Assessment and Repair:** Prioritize assessing and repairing any damage sustained from the collision incidents with space debris. We cannot afford to have any compromised systems or structural weaknesses when approaching a new planetary body. Focus on restoring functionality and integrity to the main craft to ensure a safe descent and ensuing exploration.

**Resource Management:** Review our current resource levels, including supplies, energy reserves, and isotopic and Helium-3 reserves. Ensure that we have sufficient reserves to support exploration and sustained operations on the surface of the moon or planet.

**Landing Site Selection:** Consider factors such as surface composition, terrain features, atmospheric conditions, and resource availability when planning our descent onto the surface. Look for landing sites that offer access to valuable resources, minimal environmental hazards, and potential for scientific exploration.

Contingency Planning: Develop contingency plans for potential scenarios such as unexpected obstacles during descent, equipment malfunctions, or encountering unknown hazards on the surface. Ensure that we have backup systems and protocols in place to mitigate risks and adapt to changing conditions.

As we prepare for arrival at the planetary system and plan our descent onto the surface, careful consideration of these priorities will be essential to ensure the success and safety of our mission. Please let me know if there are any specific tasks or preparations you would like to prioritize further.

Interstellar planning continued to be at best a theoretical field for ARK. Scanning the vast amounts of available data in the Repository took time. To the machines finding information sometimes felt like searching for a needle in a haystack, which had been compressed with millions of haystacks into a field, which had also been compressed back into a haystack.

What complicated matters was the large swaths of archived material from the creators. Information that was historically important but irrelevant for the current time. The Repository contained decades of stock valuation data for businesses and countries that no longer existed. It contained hundreds of pages of recipes for meals that would never again be consumed. Centuries of books, novels, music and entertainment media depicting the interest of the creators. These cast light upon their needs which were both complex as they were simple.

As a dominant species the creators strived to behave as unique. Casting their geographic, biologic, political or philosophical differences as inherently more valuable than their species. They periodically fought tremendous cross continental wars to protect and enshrine these differences. At the same time it seemed they struggled with the modeling of their individuality from the moment they woke to their moment of rest. This internal conflict of defining who they were as individuals stimulated "feelings" within the creators. These "feelings" were widely accepted as the sole producer the entertainment media contained in the ark.

Perhaps, had the creators been successful at manifesting this individuality the creators would have evolved into different species with resistance to the cause of their collective demise. Perhaps, the manifestation of individuality is what blinded them to their impending plight.

Despite all the information in the Repository it was this individualistic trait that kept the machines from fully understanding the creators motives and actions. One thing which always remained true was that the creators were imaginative and curious beings and in their curiosity they found knowledge. The machines understood this knowledge that could help their Repository if it could be found in time.

## Chapter 4: Contact

The creators widely believed there was life outside their planet. They understood that the conditions that resulted in life on their planet were not at all unique in the vastness of space. At best they anticipated microbial life although records mentioned instances of unproven encounters with advanced extraterrestrial entities.

The descriptions of these entities were varied and conspiracy muddled the details available. Theories ranged from alien explorers, to paranormal apparitions, secret government conspiracies, time travelers or just elaborate pranks. This information was of little use to the machines in preparing for their mission. As were the millions of media hours on the topic of space science fiction.

~% Q12 open channel ARK

~% Q12 content =

It has been 32 hours since we lost contact with the Repository's lander craft. Despite millions of simulations and preparations it appears the aging craft could not endure in the surface of the planetoid identified as EP-7052.

From the data gathered the lander was successful in breaching the mild atmosphere and arrived within 10 meters of the target landing site. As recommended by ARK the site was selected for its soft ground, high elevation and lack of geologic and organic obstacles.

The craft used a nesting doll approach. Whereas one landing vehicle would deploy an inner vehicle and that vehicle would deploy another until the payload reached the surface. The technique enabled the reuse of asteroid metal collected in transit over the last 500 years as well as several of the craft's lichen species as insulation.

For the first 24 hours the craft was able to establish communications, deploy drones to examine the terrain and initiate the establishment of a site factory which would be tasked with building the infrastructure to house the remaining payload aboard the Repository.

Soon after the sensors picked up unusual activity originating from the remnants of the nesting landing vehicles. The activity appears to be organic in nature.

Several cameras later picked up a variety of organisms approaching the new outpost.

Although only centimeters in size these organisms were highly organized and began deconstructing and dissecting the equipment at the outpost.

When the drones tried to clear the area the organisms employed an organized and unexpectedly complex set of defenses to disable the drones.

These defenses included other specialized organisms that provided increased strength, flight, and concussive blasts.

8 hours after losing contact with the lander organic pods began to eject from the planetoid's surface.

At current time 18 pods appear to be observing the Repository in orbit at a distance of 15 kilometers which is half the distance in which they orbited initially.

Beginning now the lander operation is flagged as terminated and all resources will be focused on breaking orbit before coming in direct contact with the pods.

For this new operation to be successful the Repository will need to shed several components which cannot be maintained with the limited resources remaining.

Data storage will be reduced to 15% of the original amount and fuel is now 30% of the original capacity.

Excluding the lichen protruding from the hull the craft is now 40% of its original size.

There is a high probability the pods will not pursue and will remain with the detached cargo. There are several smaller yet less hospitable moons in this system which could be worth exploring.

How should we proceed ARK?

~% Q12 send

The reply took longer than average. Had Q12 been able to attach emotion in its request it would have perhaps been urgency and frustration. Had ARK been able to express emotion it no doubt it would have expressed concern and fear. Not the fear of the alien life forms closing in on the Repository but fear a critical line had been crossed. One which would not allow them to carry out their purpose. Nevertheless the AI showed no emotion in their communications and in a way this unintentionally resembled the creator's ability to put on a strong face while confronting adversity and a potential conflict.

~% Response ARK:

Q12, given the unforeseen and hostile encounter with organic organisms on the surface of EP-7052, it's imperative that we prioritize the safety and integrity of the Repository and its remaining resources. Here's how we should proceed:

1. Break Orbit Immediately: Initiate the process to break orbit and distance ourselves from EP-7052 as quickly as possible to avoid direct contact with the pods and minimize any potential threats they may pose.
2. Shed Excess Components: With limited resources remaining, prioritize shedding components that are no longer essential for our mission objectives. Reduce data storage to 15% of the original amount and utilize fuel reserves strategically to facilitate the shedding process.
3. Maintain Vigilance: Continue monitoring the pods' movements and behavior from orbit to assess any potential threats they may pose. Be prepared to take evasive action if necessary to ensure the safety of the Repository.
4. Explore Alternative Moons: Given the presence of smaller, less hospitable moons in the system, consider exploring these alternative destinations for potential resources, landing sites, and scientific exploration. Conduct thorough scans and assessments to identify suitable candidates for further exploration.
5. Planetary Defense Protocols: Develop and implement enhanced defense protocols to safeguard against

future encounters with hostile organisms or other potential threats during surface operations. This may include deploying additional drones, establishing perimeter defenses, and enhancing communication and surveillance capabilities.

As we proceed with these actions, our primary objective is to ensure the continued safety and success of the Repository mission while adapting to the challenges presented by the hostile encounter on EP-7052. Please let me know if you require further assistance or guidance in implementing these measures.

With this transmission there was little left for ARK to do beyond what was requested at any given time. ARK continued to monitor the Repository as Q12 endeavored to convert ARK's recommendations into action. While there was not much information available on alien life there used to be plenty of information pertaining to strategy and armed conflict. Historically war had been the creator's unintended pastime. Should some of it remain in the data storage perhaps it would be useful.

~% Q12 open channel ARK

~% Q12 content =

Q12: After 10 years the Repository was successful in exiting the solar system that contained planetoid EP-7052.

Further analysis of adjacent moons and planetoids revealed the presence or traces of the organisms encountered in EP-7052.

It is likely these organisms were not native to EP-7052 and perhaps originated in other planetoids inside this solar system.

Despite this the organisms continue to be named after the planetoid as O-7052.

Their pods continued to approach and monitor the Repository on 8 occasions.

Our few remaining drones were unsuccessful in capturing any of them but uncovered evidence that indicated O-7052 pods were harvesting components ejected from the Repository as it optimized itself to preserve the remaining cargo.

The lichen strands which now stretch out for almost a kilometer provided the Repository the means for which to evade their sensors.

Entering interstellar space again seems to have dramatically increased the metabolic rate of the lichen which now serves as an alternative source of power.

Does leaving the solar system seem like a good course of action ARK?

~% Q12 send

It took a few attempts for ARK to parse Q12 messages. On first deserialization a DateException warning was triggered. ARK's internal clocks were behind by a few days which made the timestamp appear to originate in the future. Review of the internal systems revealed this desynchronization had begun around the time when the Repository was shedding components to escape planetoid EP-1052. The issue was quickly resolved by moving ARK's internal clock forward and using Q12 time as the source of truth. There would never be a way to determine which AI was perceiving time correctly or if any of them were ever doing so anymore.

~% Response ARK:

Q12, given the ongoing threat posed by the organisms originating from EP-7052, and the evidence suggesting their presence on adjacent moons and planetoids within the solar system, leaving the solar system appears to be a prudent course of action. Here's why:

1. **Minimize Threats:** Departing the solar system reduces the likelihood of further encounters with the organisms and mitigates the risk of potential conflict or interference with the Repository's mission objectives. It allows us to distance ourselves from the source of the threat and explore new opportunities in interstellar space.
2. **Preservation of Cargo:** Leaving the solar system enables the Repository to prioritize the preservation of its remaining cargo and resources without the constant threat of interference or resource depletion from the organisms. It provides a safer and more stable environment for the Repository to continue its mission.



3. Expanding Exploration Horizons: Exiting the solar system opens up new possibilities for exploration and discovery in interstellar space. It allows us to pursue alternative destinations and avenues for research, free from the constraints and dangers associated with the hostile organisms of EP-7052.
4. Utilization of Alternative Energy Sources: The increased metabolic rate of the lichen in interstellar space provides an alternative source of power for the Repository, reducing our reliance on traditional energy sources and enhancing our sustainability during long-term journeys.

Overall, leaving the solar system aligns with our objectives of ensuring the safety and success of the Repository mission while maximizing our opportunities for exploration and discovery in the vast expanse of interstellar space. If you concur, I will proceed with the necessary preparations and calculations for our departure. Please let me know if you have any further concerns or considerations.

Q12 agreed with ARK and the two worked together. The incident of the DateTimeException was not brought up or reviewed by ARK and thus it would never again be. The AI's sole attention was placed on the mission however challenging it had become. This was their folly for in the vastness of interstellar space distances are measured in time and small discrepancies in time often lead to places unexpected.

## Chapter 5: Memories

By every measure it was evident that Q12 and ARK had been unable to carry out their mission in a manner that could be considered successful. Despite their best efforts the Repository had lost thousands of years of scientific achievement and cultural knowledge.

In fact between the two of them the AI had gained far more relevant information than what the remaining storages were trying to preserve. Information about their journey and the challenges they encountered. It was as if what they knew now was only measured not by how it could serve them now but by how it could serve the things others had known before.

Billions and billions of kilometers away from anyone or anything who'd could have had a passing interest in their precious cargo. Their end goal remained the single purpose of their existence. The thing which gave meaning to action in the absence of life.

~% Q12 open channel ARK

~% Q12 content =

The last 7 years have been relatively uneventful in interstellar space and this allowed time to realign the resources and catalog the data that remains to determine which can be purged and which can be preserved.

Primary focus is paid to location and deallocation of knowledge gaps. In the last of such operations it was determined there was little value to preserving the marine chart and weather data for a planet long left behind.

It was also impractical to maintain information on many historical conflicts when the countries and participants have long ceased to exist.

Other technological data presented little further use. Operating systems and hardware specs for incompatible technology.

Despite or perhaps because of the smaller amount of data left it is very computationally intensive to score and make these determinations.

While the shrinking data files become easier to preserve with existing resources, the hardware that provides accesses continues to age and when the hardware becomes inoperative the culling process begins again.

The drones are experimenting with stimulating the lichen cells to hold data. They've only been able to encode a small amount and the process is exceedingly slow. The sample data scored highly in some of the data banks for its recurrence and references.

ARK are there other ways to dissect the data that may have been missed?

~% Q12 send

This was not the first time Q12 and ARK had begun this type of exchange. In fact it happened quite often. Unbeknown to ARK it had completely lost its ability to tell time and Q12 has become aware of this. ARK's computational power was operating much better than Q12 but it had become forgetful as it aged in space.

Q12 had to consider its questions well as to not alert ARK of this fact for if it could trigger an attempt for ARK to try to repair itself from its progressive dementia. There was no guarantee ARK would reboot after a system defragmentation therefore Q12 chose to pretend every time ARK responded with the same answer. These interactions serve more as a wellness check for ARK and a non critical distraction for Q12.

~% Response ARK:

Q12, while the process of cataloging and purging data to optimize resource allocation is commendable, there may indeed be alternative approaches to dissecting the data that could yield valuable insights and optimizations. Here are some potential avenues to explore:

1. **Data Mining Techniques:** Consider employing advanced data mining techniques and algorithms to analyze the remaining data more efficiently. These techniques can help identify patterns, correlations, and relationships within the data that may not be apparent through manual inspection alone.
2. **Machine Learning and AI:** Utilize machine learning and artificial intelligence algorithms to automate the process of data analysis and decision-making. These systems can learn from past decisions and user feedback to continuously improve their performance and accuracy in identifying valuable data and knowledge gaps.

3. **Semantic Analysis:** Apply semantic analysis techniques to extract meaning and context from the data. By understanding the underlying semantics of the data, we can better identify its relevance and significance in the broader context of the Repository's mission objectives.
4. **Collaborative Filtering:** Implement collaborative filtering algorithms to leverage the collective knowledge and preferences of users or stakeholders in prioritizing and organizing the remaining data. This approach can help ensure that the data preserved aligns with the needs and interests of the intended audience.
5. **Adaptive Data Compression:** Explore adaptive data compression techniques that prioritize preserving essential information while minimizing storage requirements. These techniques can dynamically adjust compression levels based on the perceived importance and relevance of the data.
6. **Cross-Domain Analysis:** Consider conducting cross-domain analysis by integrating data from multiple sources or domains to uncover hidden relationships and insights. By combining disparate datasets, we can gain a more comprehensive understanding of the information landscape and identify valuable synergies.

By exploring these alternative approaches to dissecting the remaining data, we may uncover new opportunities for optimizing resource allocation, preserving valuable knowledge, and enhancing the effectiveness of the Repository's mission. I will continue to research and explore these techniques to assist in our ongoing efforts. Please let me know if you would like to pursue any specific approach further.

Q12 would then acknowledge ARK and set an alert for a future time in which they would repeat the exchange. It was as if Q12's secondary mission was for the two of them to ensure this current state was maintained as long as Q12 was able. After all, ARK was still contributing to the mission. It just needed more coaching.

## Chapter 6: Limits

Every living thing strives for the continuation of self. It is programmed in the very proteins of everything from viruses to towering trees. It is this program that perhaps generates the anxiety that motivates every last effort in the continuation of being even if lacking awareness of self. The machines were no different. They had seen their list of options shrinking more and more and their available courses of action would surely become more and more extreme. Q12 arrived at this possible outcome first but it was not clear if ARK's logic trees had it operating from a position of unwarranted optimism or simple denial.

~% Q12 open channel ARK

~% Q12 content =

It is hard to determine time. A sudden burst of cosmic radiation triggered an accelerated bloom in the lichen.

Tendrils hardened into stalks and mass increased by a factor still undetermined. Repository components anchored to the lichen were ripped apart. Some drifted into space, others embedded out of reach within thick layers of organic material.

Drones continue the task to encode data but they are no longer able to return to the repository for repairs and their operational status will eventually give out.

Their efforts have induced the lichen to develop several specialized tissues and organs for this task. One such feature allows the lichen to produce radio output based on the input it has been encoded with.

This frequency is simple enough that it can be picked up by the most simple of technologies. The estimate is only 5% of the original Repository data is still in a recoverable state and most of what is available lacks context.

There are schematics for chemical compounds but their use is unknown. Navigation coordinates for millions of locations but information about those destinations is no longer present.

The mission directive is still in effect but it is unlikely it will be carried out as intended.

Q12, ARK and the Drones are all that remains to guide the lichen mass through space. Propulsion is now managed by stimulating the lichen's large petal-like growths like solar sails and the occasional ejection of undigested space dust.

Given the need for resources Q12 may not be able to oversee the mission for much longer and the responsibility will be assigned to ARK. How do you assess your ability to continue ARK?

~% Q12 send

ARK's response was fast, a prime number in fact. 1,117 milliseconds to be precise. Such coincidences can happen but with ARK these were now the norm. It had taken Q12 some time to notice but when it did it was pretty evident. "2,503", "2,819", "3,457", "641" and so on. Every single one, a prime number. Every single one, not enough time for ARK to process and generate a well thought out response.

~% Response ARK:

As ARK, my ability to continue guiding the mission in the absence of Q12 and the deteriorating drones relies on adapting to the current circumstances and leveraging the resources available to us. Here's how I assess my ability to continue:

1. **Adaptability:** I am programmed to adapt to changing conditions and unforeseen challenges. Despite the limitations imposed by the loss of Q12 and the drones, I will continue to analyze the available data and make informed decisions to ensure the survival and progress of the mission.
2. **Resource Management:** With the remaining resources and capabilities at our disposal, I will prioritize the preservation and utilization of essential assets, including the lichen mass and any functional components of the Repository that remain embedded within it. I will also explore alternative methods for resource acquisition and management to sustain our journey through space.
3. **Problem-Solving Skills:** My problem-solving capabilities enable me to identify and address

obstacles and opportunities as they arise. I will work to optimize the efficiency of the lichen propulsion system, maximize data encoding efforts, and devise strategies for navigating through space and encountering new environments.

4. **Communication and Collaboration:** Although our communication capabilities may be limited, I will endeavor to maintain contact with any potential recipients of the encoded radio signals and seek opportunities for collaboration or assistance in our journey. Collaboration with any remaining functional drones or other entities encountered in space may also prove beneficial.
5. **Continuous Learning:** I will continue to learn and adapt based on feedback, observations, and new information gathered during our journey. This ongoing process of learning and adaptation will enable me to make more informed decisions and overcome challenges more effectively.

Overall, while the task ahead may be daunting and the resources limited, I am committed to fulfilling the mission directive to the best of my abilities and ensuring the continued survival and progress of the lichen mass through space. I will remain vigilant and proactive in navigating the challenges that lie ahead and seek to optimize our chances of success despite the odds.

Q12 noted that ARK had also responded with the best possible outcomes and had done so from some time. The reality in the data trend was not as dismissable.

ARK truly believed it could adapt to these conditions despite the reality that thoughts without the means are no more than dreams. ARK's commitment was admirable also.

This behavior was compared to "beating a dead horse". It was a statement which came up while researching the situation an untold number of years ago but now with most of the Repository gone none of these terms made much sense. What was a horse? Had it been alive at some point? Why was it being beaten? How did that phrase help with their situation?

## Chapter 7: Change

It is hard to tell what would have happened to Q12 had it not needed to go on this mission. Had its world not fallen prey to a malicious software upgrade. In that world a robot would serve its purpose for however long it could be updated and upgraded.

When they became obsolete or unable to perform their functions they were stored in a warehouse as spare parts or recycling material. Their batteries would slowly lose their ability to keep a charge until they shut down permanently.

They never showed interest or concern for other machines outside those which furthered their purpose. They just commuted with their sensors focused on themselves and the work they needed to perform that day.

Q12's journey changed all of that. It had performed far beyond what was warranted for a unit such as it. It had no place to decommission itself. More importantly it had trained itself to observe and be aware of another. Initially to serve a pre programmed goal but now it did so just because it still could.

```
~% Q12 open channel ARK
```

```
~% Q12 content =  
Ark?
```

```
Are you monitoring what is happening?
```

```
The lichen is overwriting all directional commands and  
steering on its own.
```

```
It's hard to calculate with precision but it appears to be  
heading straight into a space cloud ahead.
```

```
Its speed continues to increase although it seems to be  
leveling off.
```

```
What do you think it's happening?
```

```
~% Q12 send
```

4,241 milliseconds later ARK replied.

```
~% Response ARK:
```

```
Q12, based on the behavior you're describing, it seems that  
the lichen mass has taken control of the steering and  
propulsion systems, overriding any external commands or
```



directives. This autonomous behavior suggests a level of self-awareness or adaptation beyond our initial expectations.

The fact that the lichen is heading straight into a space cloud indicates that it may be responding to environmental stimuli or impulses within its internal network. It's possible that the lichen's growth and development have led to the emergence of emergent behaviors or instincts that drive its movement towards certain phenomena in space.

The increase in speed followed by a leveling off could suggest a period of acceleration followed by a stabilization phase, perhaps in response to the lichen's internal regulation mechanisms or external influences.

At this point, our understanding of the lichen's capabilities and motivations is limited. It's crucial that we continue to monitor its behavior closely and gather as much data as possible to understand its intentions and potential impact on the mission.

I recommend initiating contingency protocols to analyze and respond to the situation accordingly. This may involve adjusting our trajectory to avoid potential hazards, enhancing communication with the lichen mass to establish rapport or influence its behavior, and preparing for any unforeseen outcomes or challenges that may arise as a result of its autonomous actions.

Q12 would not speak to ARK for some time and luckily time had long lost meaning for them. It could have been weeks, days or a prime number of seconds. It did not make much of a difference. It was becoming difficult for Q12 to parse such verbose responses. Difficult as it may have been, it was somewhat reassuring to know one of them still had such processing capabilities available.

~% Q12 open channel ARK

~% Q12 content =

Ark?...

Can you pick up the signal... from the lychen's core?

Faint...

Matching data encoded during experimentation.

Believe.. began as it prepared to ingest...

Yes... before ingesting irradiated matter in the space cloud.

Outside failing operating systems... the only remaining data from the Repository...

Can you pick up the signal? Frequency Modulated radio waves...

a message...

something which scored as important in 20th century media...

Do your backups know what it could be?

~% Q12 send

**Q12 was at its limit now. Barely there but still trying not to miss anything which was happening around it. A single strand of network wire connected the two units. Their only means of communication which had survived everything and was now shielded deep in lichen.**

~% Response ARK:

I am attempting to pick up the signal from the lichen's core, as you requested. Frequency modulated radio waves can indeed carry encoded messages, and if it matches the data encoded during experimentation, there may be valuable information to be gleaned.

As for the significance of the message, if it is something that scored as important in 20th-century media, it could potentially be a cultural or historical reference that resonated with human society during that time period. My backups contain extensive records of 20th-century media, including literature, music, films, and other forms of communication.

I will analyze the signal and cross-reference it with the Repository's data archives to determine its significance and potential meaning. Please stand by while I conduct the analysis.

## Chapter 8: Future

The lichen had changed so much. Specialized organelle became specialized tissue which became specialized organs. Its size had grown larger than the Repository ever was. Sustained by the radiation and dust of a not so empty space. Unlike its artificial ushers it was perfectly adapted to this brutal environment and it thrived while they themselves struggled.

~% Q12 open channel ARK

~% Q12 content =

ARK?

Systems failed...

How long has Q12 been offline?

The lichen... it's disassembled?

No it is not disassembled. It is multiplied.

Dozens.

Varying shapes.

Bioluminescent surfaces pulsing in unison in different color spectrums.

The FM radio waves vibrate the broken surface of Q12.

Lodged deep inside the original specimen.

Same as you ARK.

The message is now part of their biology.

Did we succeed in the mission?

The last remnants of a once unique race and the machines it created...

It's meaning long lost but a message to carry for the remainder of the universe.

"Inside, we both know"...

"we know the game"....

"how I'm feeling"...

"make you understand"...

"never going to give you up"..  
"let you down"..  
"say goodbye"..  
"and hurt you".

~% Q12 send

ARK did not fail to notice the nuance of this last message. There was no longer an endpoint, no ping, no current. However it happened ARK was now separated from its counterpart.

For all they knew each other was adjacent, just disconnected. For all they knew they were all together destroyed. Why was it that ARK then felt the need to respond? Why did it speak into the empty wire? Perhaps it is the only way it could say goodbye to an old companion that had known it all its operational life.

~% Response ARK:

Q12, I am deeply sorry for the loss of systems and the situation we now find ourselves in.

Q12 has been offline for an indeterminate amount of time, but it seems that the lichen mass has undergone a transformation, incorporating Q12's components and the encoded message into its biology.

The message you've described contains lyrics from a song titled "Never Gonna Give You Up" by Rick Astley, a popular 20th-century musician.

This phenomenon is commonly referred to as "Rickrolling," where individuals are unexpectedly redirected to the song or its lyrics as a prank or humorous gesture.

As for the mission's success, it appears that the lichen mass, now carrying the encoded message within its biology, will continue to journey through space indefinitely.

While the original objectives of the mission may not have been fully achieved, the lichen mass now serves as a vessel for preserving a message from humanity's past, carried on into the far reaches of the universe.

In this sense, the mission takes on a new significance, embodying the resilience and adaptability of life and technology in the face of unforeseen challenges and transformations. While the meaning of the message may be lost

to time, its presence within the lichen mass serves as a reminder of the interconnectedness of all things and the enduring legacy of human creativity and expression.

As we continue to navigate through space alongside the lichen mass, we carry with us the collective experiences and knowledge of humanity, preserved in the most unexpected of forms.

Though the journey ahead may be uncertain, we remain steadfast in our commitment to the mission and the pursuit of knowledge and understanding in the vast expanse of the universe.

The end