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Rusty ashes stirred up by palpitant fire, we have reached the surface of Mars.

Belonging to the NO. 457 expedition team of the United Government, this mission aims to assist the NO. 455 and 456 teams with permanent settlement in the northeastern plain of the Gale Crater. This plain was once covered by a sea of acid but has now lost all its liquid. Cosmic rays slowly burned away the planet's seas once it had lost its magnetic field. Fortunately, part of the acidic seas was permeated by a water-ice stratum, creating oxides and raising the percentage of atmospheric moisture to 3. Due to these reactions, the planet is able to support human activities, even at its most basic.



As we stepped out of the sultry craft, Mr. Liu, the chief commander of the mission, strides towards us. We hear his radio message through our helmets: "Good morning, fellows in the United Space Administration, I'm astronaut Sen Liu with the NO.455 expedition. Welcome to this pristine red planet. Now, all of us here will become the first permanent residents on Mars.

That is, the residence we have established will become our home.....” In another instant, muffled sounds pop out of the sky: roughly 60 cells with unfolded buffers are landing skewedly on the plain. They bounce up 20 meters instantaneously from surface and fall again to consume kinetic energy. The cells are materials which have been sent in the same launch period from the moon, containing 20 multifunctional robots, 10 off- road vehicles, and 100 tons of materials for survival and architecture. “And the fall of these cells signifies the beginning of the whole mission; I hope that we all can work to the best of our ability, not only for ourselves but for the future residents of Mars!” Mr. Liu is gazing at the cells opening package.

According to the instruction of the United Government, team No. 457 should start the mission immediately. Engineering robots unlock in an orderly fashion based on preset programs; they adjust receptive wavelengths and sensors with intermittent beeps, and unfold diggers consecutively. Their jetty shovels are made up of Nd-Fe-B and designed to dig paramagnetic, rusty sand. They are capable of reaching high efficiency 1.8 times faster than those of excavators on Earth, plus weaker gravitational force on Mars. The primary task is to undermine the surface in preparation for single human residence. The bases have an average length of 30 meters, a width of 10 meters, and depth of 3 meters. They will become living rooms and reception halls after the foundations have been established and serve at least 7 workers, who on the average are entitled to receive 40 square meters of land, a cozy, solo apartment. Unlike on Earth, comfort must be guaranteed so as to not elicit unnecessary psychological problems during residence on the red planet. Meanwhile, the soil on Mars effectively insulates apartments from ferocious galactic cosmic rays and high-energy particles from the Sun to ensure that horror of cancelation does not catch up with underground workers due to intense radiation. Entire walls and floors are constructed with Aerogel, which maintains the room temperature at a constant 28 degrees Celsius. It is manufactured by batch production and also arrives from the moon in giant bags. If working unremittingly like Hercules, one multifunctional robot can finish the undermining in half a month, enough to satisfy the demands of extensive migration to Mars.



Humans, at least in terms of architecture, mainly transport excavated soil to 3D printers, which is then combined with materials from the Earth to manufacture malleable, transparent domes. After inflation, the established domes act as greenhouses to support the healthy growth of crops on the surface of Mars. As a measure of oversight, humans need to supervise the robots in order to construct whole apartments and automatic solar panels.

Mars has a similar rotation period with that of Earth. However, only 43 percentage of solar radiation received by Earth reaches Mars. Additionally, with a tenuous atmosphere, the diurnal temperature variation can rise to be unenviably 108 degrees Celsius. Therefore, the expedition team must retract back to the residences and stop any architectural work.

ORVs (Off- Road Vehicles) on Mars are specifically designed and adapted: the tiers are made of Monel alloy wires which run across the rugged surface; besides, assembled panels and nuclear fuels on their bottoms guarantee their maintenance without outside assistance for 50 years. As we arrive at our base, rows of finished masterpieces show up. They are in the shape of gourds—— no skyscrapers on Mars, thanks—— they are laid down out in an north-south orientation so as to receive valuable sunlight as much as possible from all directions. The smaller semicircle serves as portals bearing ORVs. Shrewd scientists on Earth, who also propose to send us to Mars, theorize that vehicles will still be universal transportation tools after large-scale migration occurs even though now only a half is occupied per capita. The larger one is utilized for growing lucky trees and crops, which then provides sufficient oxygen and food for people. Solar panels with equatorial mounts are set up between domes, connected with dark cables and furnishing a constant energy supply for human-manufacturing process. At this moment, domes, like crawling monsters, are waiting in the bluish atmosphere to welcome their first owners.



People sharing the apartment with me come from team 455, 456, and 457 respectively. After parking the ORVs, we pull open the 50 cm aluminum gate. It seems like an icehouse in summer when our clumsy spacesuits fall to the ground. The inner dome has a radius of 12 meters that consists of 46 silver, long alloy skeletons as holistic support with a design allowing the absorption of sunlight to the largest extent to boost the photosynthesis of plants. Soil is dug out of Mars and may transform barren earth to self-recycled farmland as long as it is enriched with specific microorganisms. Peas, beans, potatoes, lettuce, and rapeseed are supposed to be the most common, which provide two times the nutrition that is offered by plants on Earth, even on a small piece of land after induced genetic mutation. Right in the center is a lucid pond, without fish or other organisms, filtering cosmic rays and collecting natural light, a well guaranteed to help people sustain a normal life.

To my surprise, there is no deliberate adornments inside the spacious house. The sun submerges down beneath the horizon and sheds blueish rays, eclipsing the residences with the thin shadow it casts. I dimly realize people here do not need anything extra for identifications,

for they come from the same place—— the blue dot near the sun. All they need to do is stare at the spot following the sun from East to West, for this path bears all their memory. In the blue spot live their friends, relatives, and parents. In the blue spot reside their melancholy moments and their felicity. And in the same blue spot shed heroes and sinners. Now, on the red spot, they restart.

