

# *The Time Dilated Generations*

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## *Chapter 6: Gravity*



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With two people now working in tandem, progress accelerated dramatically. Emma wasted no time getting up to speed. She had already studied every schematic, analyzed every log, and reviewed hours of video footage. For months, she had trained in virtual reality simulations, rehearsing every maneuver, every assembly protocol, every emergency contingency. When she arrived, it was as if she had been there from the beginning.

The station's construction revolved around the radial connections between the central propulsion system and the habitat nodes. The assembly process was similar to that of the main habitat modules, but the radial nodes had to withstand significantly greater stress. These conduits weren't just structural links; they were the station's arteries, channeling energy from the nuclear reactor to sustain life aboard the station. The pressure they would endure required reinforced plating and specialized thermal insulation.

Against all expectations, John and Emma completed the radial connections in just four months—two months ahead of schedule. Their coordination was seamless, a testament to Emma's meticulous preparation and John's hands-on experience.

Now came the most crucial phase: integrating the nuclear reactor.





John took the lead on the nuclear assembly, with Emma providing unwavering support. The reactor was an advanced iteration of the technology used in nuclear submarines—compact, efficient, and designed for extreme conditions. Back on Earth, the underground facility had vast reserves of uranium, more than enough to last for millennia. However, because the base primarily relied on geothermal energy, nuclear power was reserved for critical defense operations, such as EMP countermeasures against the AI, or ramping up weapons production when necessary.

Fortunately, the AI remained passive. It limited its actions to intercepting and destroying any rockets launched from the underground facility, but it had yet to escalate beyond that. Whether this restraint was strategic or simply a calculated indifference remained a mystery.

The reactor itself was designed with redundancy in mind. A network of solar panels supplemented its power, ensuring that the station wouldn't have to rely solely on nuclear fuel once it achieved full rotation. The artificial gravity system would function on centrifugal force—once set in motion, the station's rotation could be sustained with minimal energy input. Between solar power and the inertia of rotation, the habitats would remain self-sufficient. Nuclear energy would serve only as a failsafe, a last resort in case of power deficits or unforeseen failures.



They spent a full month conducting exhaustive diagnostics on the reactor, running tens—hundreds—of verification checks. Every circuit, every coolant system, every radiation shield had to be triple-checked. There could be no margin for error. A single miscalculation, a single faulty component, and everything they had built could be reduced to a drifting, lifeless shell in the void.

Then, after nearly two and a half years since John first arrived in space, the day came. The moment of ignition.

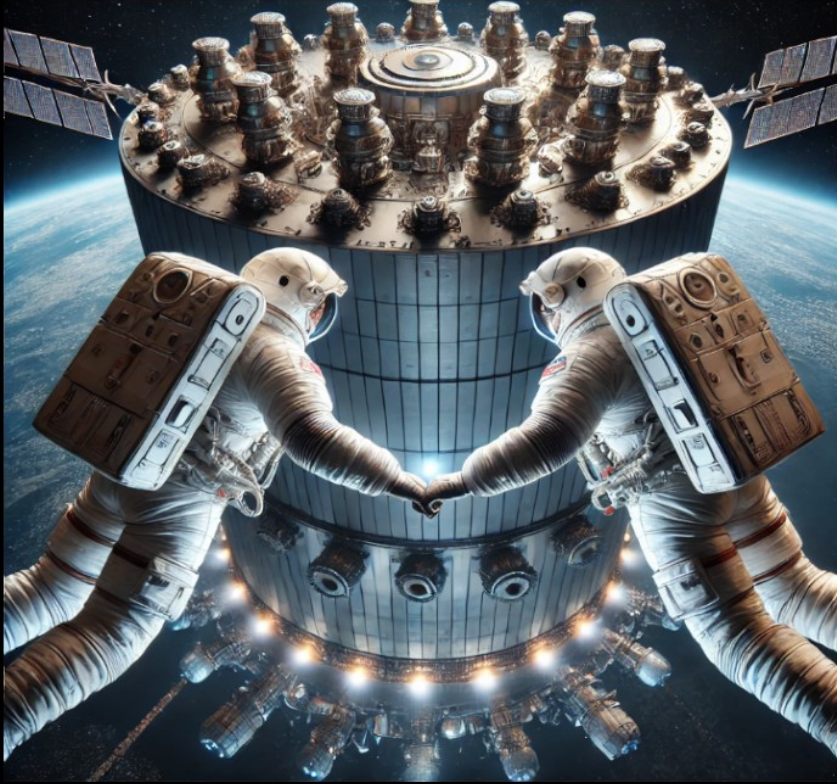
John held a wireless computer in his gloved hands, its interface linked directly to the reactor's startup sequence. Theoretically, he could initiate the process from a safe distance. But theory wasn't enough. He refused to leave anything to chance—not with the stakes this high. Cosmic radiation, a stray ion, even a corrupted data packet could cause a failure. The only way to ensure success was to be there in person.

And so, despite every precaution, John chose to be next to the controls of the reactor chamber.

Emma stood by his side, tense but unwavering.

"You don't need to be here... If something goes wrong—"





Emma declared solemnly, "John, we are in this together, no matter what. We've gone through every step of the process countless times. It will work."

John knew Emma's conviction was unshakable. She wouldn't leave him—not now, not ever.

With a final breath, he initiated the ignition sequence. The nuclear reactor's startup process wasn't instantaneous. It would take hours before the system reached the necessary conditions for its first controlled nuclear fission. During that time, they wouldn't have a single moment to rest. Every metric, every diagnostic reading had to be monitored, analyzed, and verified. There could be no mistakes.

The Earth underground facility monitored every development in real time, with quantum entanglement relaying each data point instantaneously. Though physically alone in the silent void, John and Emma could feel the weight of every surviving human watching, waiting, holding their breath. All of them praying for the same thing. That this would work. That humanity's future wouldn't end here.

After endless hours of calibration and monitoring, the system was finally ready. The reactor core had reached optimal temperature. The coolant flow was stable. Every safeguard was in place. The moment had arrived.



Emma reached for John's hand, her fingers wrapping around his with quiet strength. He could see it in her eyes—reassurance, unwavering belief. "We did everything right. We're ready." She didn't need to speak the words aloud.

For two and a half years, John had fought for this moment, poured everything he had into building the foundation of humanity's next chapter. And now, the culmination of all that effort, all that sacrifice, all that impossible struggle... was just a single button press away.

With Emma's hand in his, John reached forward with his other and pressed the ignition key.

For a second, there was nothing.

Then—

The display screen bathed them in soft, luminous green. Data flooded in, indicators confirming what they had fought so hard to achieve.

The reactor was online.

The first controlled nuclear fission in space had been successfully executed.





John and Emma exhaled—just for a moment, just enough to acknowledge that they had cleared the first hurdle. But their work wasn't done. The station needed time to store enough energy to begin its rotation, the centrifugal force that would finally create artificial gravity. Every human on Earth, watching through their screens, knew they weren't out of the woods yet. They needed visual confirmation.

You can't hear sound in space. There is no echo, no mechanical hum, no triumphant roar of an engine coming to life. But if you had asked John and Emma what they experienced in that moment, they would have sworn that they heard it.

A deep, resonant vibration, not through their ears but through their bones. A silent symphony of movement.

Beyond the observation window, the colossal structure began to shift. The outer hull of the station, a construction of years, slowly—agonizingly slowly—tilted into motion. What had once been a collection of motionless steel and silence was now alive. The entire space station—their space station—had taken its first breath.

On Earth, in the underground facility, a quiet tension filled the room as they awaited the final confirmation. The system needed thirty minutes to stabilize before they could officially declare success. Those thirty minutes felt longer than all the years that had led them here.



Then, at last—

The final readings came through. The station had achieved full stabilization. The artificial gravity system was functioning. It was real.

For the first time in history, humanity had built a home beyond Earth. The first independent habitat in space was no longer just an idea, no longer just a plan. It was alive.

They had done it.

They had taken the first step toward the stars.