CHAPTER 02

THE CENTURY PROJECT

01 — THE FIRST EXPERIMENT

By morning, the water running through the pipes beneath the hospital was warmer than it should have been. Someone had connected a temporary cooling circuit to the research wing, and the old building had responded to the additional load by making a noise in the walls.

Rachel followed the noise to a room that had once been used to repair diagnostic equipment. Its new occupants had cleared a space between two benches for an experimental chamber no larger than a suitcase.

Adrian Tyrell was standing beside it with the original century-project proposal spread across the bench.

"They called this the preliminary apparatus," he said. "But the dimensions in the drawings do not agree with the equipment list. We're going to have to establish what they actually built."

A technician named Lin had already arranged three sealed specimens on a tray. None contained living tissue. Each was a piece of synthetic support material manufactured according to a different generation of specifications.

The first represented the material used in early replicants. The second had been manufactured more recently. The third reproduced, as closely as possible, a structural component described in Havel's recovered papers.

Rachel reviewed the consent and safety records, although there were no patients involved in the experiment. The absence of a patient did not remove the need to document what would be done with the results.

Roy arrived carrying two cups of coffee. He stopped when he saw the little chamber.

"That's the century project?"

"That's today's experiment," Rachel said.

He handed her one of the cups.

"It looks smaller than a hundred years."

"A hundred years isn't something we can put on a bench."

Lin closed the chamber and activated the measuring instruments. On a screen, three identical diagrams appeared. The test would continue until a measurable change occurred in the material or the instruments failed to maintain a reliable reference.

The first line of the research log contained the date, the names of the people in the room, and a statement of what the experiment could not establish.

Nobody had been asked to risk a life.

02 — A LIMIT WITHOUT A CLOCK

The restrictions documented in Havel's archive had been described for decades as the six-year clock. There was no such object inside the bodies examined at the hospital.

There were biological and structural processes that deteriorated with time. There were also systems designed to limit how those processes could be corrected. The relationship between these two kinds of deterioration was what Adrian wanted to understand.

He asked Roy to imagine a damaged bridge.

"If a bridge is never repaired, eventually it fails. That tells us nothing about whether anyone intended it to fail on a particular day."

"Unless someone makes the repairs impossible."

"Exactly. But you still have to establish which repairs are necessary. Simply removing the restrictions may not make the bridge safe."

Roy looked through the window of the experimental chamber. The specimens were indistinguishable to him under the white light.

"How much of my body was built that way?"

Adrian hesitated. There was no complete manufacturing record for Roy's present body. The fragments recovered from different archives could not yet be assembled into an authenticated description.

"I can tell you what we find in material we have permission to examine. I can't tell you that your body is identical to it."

Roy accepted the distinction, though it offered him little comfort. He had survived more than one set of calculations of his remaining life. That did not mean the calculations had stopped applying to him.

Rachel brought up the notes from the original project. One passage concerned the automatic withdrawal of repair authorization after a certain number of operating cycles. A subsequent passage described accelerated deterioration under conditions of energy shortage.

Someone had marked the two paragraphs with a question mark.

The mark had survived the removal of the researcher's name.

"Perhaps they didn't know either," Rachel said.

Adrian enlarged the image of the handwritten annotation. For several seconds he said nothing.

"Or perhaps they knew enough to be afraid of finding out."

Outside the room, an attendant was replacing the batteries in a portable monitor. Roy could hear the clicks as each battery settled into its compartment. He waited until the attendant had finished before asking whether the original project had ever reached the stage of treating a patient.

The surviving record did not answer him.

03 — THE CONDITIONS OF CONSENT

Imani brought Sena to the small consultation room at eleven. The patient was walking with less assistance than the day before, but she sat down as soon as she reached the table.

A form lay between her and Rachel. On its first page, participation in future research had been described as voluntary. Sena turned the page and found that the permission granted by her signature included the retention of biological material for unspecified future studies.

"I thought this was only about something you might take from me," she said.

"It is," Imani replied, reaching for the form.

"Then why does it say future studies?"

The form had been adapted from a standard hospital template. It was familiar to everyone on the staff, which was precisely why nobody had noticed the scope of its language.

Rachel took a pen and drew a line through the paragraph.

"We need a different form."

Sena watched her. "If I say no to the next experiment, will I still get treatment here?"

"Yes."

"Even if the experiment might have helped the others?"

"Yes."

Imani added a sentence to the first page: ordinary care would continue regardless of the decision to participate. The revised document would have to be reviewed before being used. Until then, there would be no collection of material from patients for the project.

Sena folded her hands on the table.

"You could have told me that without making me read the form."

"We could have," Rachel said. "But you would still have been signing the wrong one."

There was a knock at the door. An administrative assistant informed Imani that an inventory inspector had arrived at reception. He was carrying a Defense Secretariat identification card and had requested the names of the patients associated with the longevity study.

Imani stood up.

"There aren't any patients enrolled in the study."

The assistant said the inspector had used the words prospective participants.

Sena looked down at the unsigned pages. For the first time since entering the room, she appeared frightened.

Rachel moved the papers away from the edge of the table.

"You can go back to your room. The rest of this isn't your responsibility."

Sena did not immediately get up.

"Please don't give him my name," she said.

04 — THE ENERGY QUESTION

At noon, the experimental chamber reported its first significant deviation. The third specimen had responded differently to a change in the conditions of the test.

Lin repeated the measurement. The result returned, smaller this time. When she exchanged the measuring apparatus for an independently calibrated instrument, the difference remained detectable but fell within the range of uncertainty.

Adrian was disappointed. Rachel was relieved that the second instrument had been available.

They recorded both results.

On another bench stood a sealed display model of the compact power supply described in the old helium-3 proposal. The model had no fuel, no active reaction chamber and no ability to generate energy. It was useful only for establishing the dimensions of the components that appeared in the drawings.

Roy walked around it while Adrian explained the difficulty.

The long-term maintenance of living tissue required energy to be delivered where it was needed, at the rate at which it could be used. Increasing the supply without understanding the control system might simply increase the rate of damage. Havel's research had proposed a source that could maintain output over a much longer interval, but none of the surviving specifications demonstrated that it had performed as intended.

"So even if the power supply works," Roy said, "the body might still fail."

"Yes. And even if the body can be repaired, the power supply might fail."

Rachel remembered the old minister's blade. In the ceremonial hall, Roy had encountered an impulse of extraordinary intensity, yet Havel had not carried a visible external source of energy. That observation did not establish a connection between his technique and the helium-3 proposal.

There was a question worth investigating, however, about the difference between the amount of energy available and the way in which a body directed it.

Roy extended his left hand, then closed it. The brace on his right arm rested against his ribs.

"When I fought him, I kept trying to become stronger. He kept making me use my strength in the wrong place."

"That's a useful observation," Adrian said. "It's not a design specification."

Roy smiled faintly.

"He would have liked you."

Adrian looked at the inert model on the bench.

"I hope not."

05 — THE INVENTORY INSPECTOR

The inspector remained in the reception area for forty-three minutes. He had not attempted to enter the wards. Instead, he had asked the hospital administrator to confirm that the facility had received the Secretariat's preservation notice.

She confirmed receipt and offered him a meeting with the council's legal representative.

He declined. His authority, he said, concerned the preservation of material rather than the resolution of jurisdiction.

When Rachel arrived, he presented a tablet displaying an inventory form. There were fields for equipment, historical documents and samples. At the bottom was a field for personnel with unique technical characteristics.

"What does that mean?" Rachel asked.

"It is a standard category."

"In a hospital?"

"In a national continuity assessment."

She gave him the list of materials already reported to the independent council. It included the existence of the experimental chamber and the recovered documents, but no medical record identifying a patient.

He inspected the list without reading every item.

"I understand Mr. Batty has been receiving treatment here."

"I cannot confirm confidential medical information."

"His connection to the minister's death is a matter of public record."

"That is not the same thing as permission to inspect his body."

The man looked at the unsigned field on his tablet. He appeared neither angry nor surprised. Rachel wondered how often he had conducted an exchange in which a refusal was not an obstacle but one of the expected outcomes.

He thanked her and requested that the conversation be registered as a partial response to the inventory request.

Before he left, he placed a paper notice on the counter. It instructed the hospital to preserve any property that might be subject to a subsequent transfer order.

Rachel showed it to the administrator.

"There is no transfer order attached."

"I can see that," the administrator said.

They watched the inspector cross the street to a waiting car. He did not look back at the hospital.

In the research room, the printer continued producing test results. The paper caught in the output tray, and Lin reached down to free it.

Nobody in the room had heard the discussion at reception. Rachel stood in the doorway for a moment before deciding what to tell them.

06 — TWO RECORDS OF THE SAME TEST

The Secretariat received the inventory shortly before the afternoon assessment meeting. General Venn studied the list of equipment without comment until she reached the annex containing Rachel's objections.

"No subject inventory provided," she read aloud.

There was a second report on the table. It had been prepared by an office that had previously examined the minister's archived research. Unlike the hospital's submission, it contained several pages of projected capabilities.

The technical adviser pointed to a column describing the potential duration of an unrestricted biological platform.

"These are estimates derived from design assumptions. They are not demonstrated performance."

Venn turned the page. "And the hundred-year figure?"

"A research objective."

The general closed that report and opened the assessment of Roy's recent movements. She was less interested in how long he might live than in the fact that the existing methods of predicting his behavior had repeatedly failed.

A civilian director argued that obtaining the subject's complete medical data might eliminate the need for a physical acquisition.

"Would it?" Venn asked.

The adviser said the answer depended on the quality of the records, whether they included observations of the unmodified structural components, and whether the individual had voluntarily undergone certain kinds of examination.

It was unlikely that the hospital possessed all of those records.

Venn instructed the legal adviser to prepare separate documents for the materials and for the person. She wanted to see the proposed authority for each before signing either.

The civilian director seemed dissatisfied with that procedure. He reminded her that the subject might leave the district while they were still discussing the wording.

"Then we must know where he goes," she said. "An assessment is not an arrest."

She asked for an update on the officer examined at the medical annex the previous day. His physician had cleared him for a second evaluation.

"Keep him in the facility for now. I want the results without the presence of the other unit."

The meeting continued. On the desk beside the general, the hospital's list and the military projection remained in separate folders.

Both had been filed under THE CENTURY PROJECT.

Only one described an actual experiment.

07 — THE SAMPLE THAT DID NOT BELONG

Late in the afternoon, Lin removed the third specimen from the experimental chamber. The visible surface had developed a tiny irregularity along its edge. It was not proof of repair, or even of a biological process: the specimen had never been alive.

She photographed the irregularity and placed the material in a numbered container.

While Rachel was checking the associated manufacturing record, she noticed that the materials reference from the old project had been assigned two incompatible descriptions. In the public archive, it referred to an obsolete laboratory instrument. In a photocopy recovered from Havel's papers, it appeared as an acceptance standard for a military contract.

Adrian confirmed that they were looking at the same reference number.

The photocopy bore an inspection stamp and a date. Most of the space intended for the receiving department had been blacked out. One line remained legible beneath the stamp.

NOT FOR CIVILIAN DISTRIBUTION.

The stamp was old. The documents did not establish whether the material had originally been developed for military use, or whether an existing civilian technology had later been transferred to the military.

They agreed not to interpret the reference any further until they had the original document.

Roy had been listening from the far end of the bench.

"Could they have used it in a body?"

"Possibly," Adrian said.

"A body that isn't like mine?"

"There isn't enough evidence to say."

Roy remembered the communications vehicle outside the water station. He wondered whether the people inside it had been studying him as a suspect or as an example of a technology they already understood better than he did.

Rachel entered a request for the original acceptance record. The archive acknowledged the reference number, then returned a message that external access to the file had been suspended pending a national continuity review.

The request was saved in the research log.

Nothing more could be learned from it that afternoon.

08 — ONE DAY AT A TIME

In the evening, the cooling circuit was disconnected, and the noise inside the walls subsided. Lin went home with instructions not to return before the following morning. Adrian took the experimental log to the independent review office.

Rachel stayed behind to finish the report. Its conclusion was short. There was no demonstrated increase in the lifespan of a manufactured person. There was no evidence sufficient to justify treatment using the proposed apparatus. A difference observed in one material required further investigation.

Roy read it over her shoulder.

"That's all we have?"

"That's what we know."

He pulled a chair beside her. In the quiet of the research room, he placed his uninjured hand on the edge of the bench and watched the tendons move beneath his skin. Some of the material inside that hand might have been described by the old acceptance standard. Some of it might never have appeared in any of the records they would find.

"How long do you think it will take?"

Rachel turned away from the screen.

"To understand what happened today? Maybe a week. To understand how to keep someone alive for a century? I can't give you a date."

He nodded. The answer had not changed since the previous day, but the city around them had.

From the window they could see a line of vehicles leaving the former ministry compound. The first two bore ordinary registration plates. The others had none visible from the hospital. At the intersection, the traffic lights held a different pattern while the vehicles passed.

Rachel watched until the street returned to normal.

"We should finish here for tonight."

Roy helped her stack the notebooks. They left the experimental material in the secured cabinet under the hospital's custody seal. The small chamber would remain empty until the next test.

Across the city, a different laboratory was opening a chamber of its own. The attending physician checked the instruments, signed the clearance form and waited beside a door through which a man in a grey coat entered without assistance.

The clearance form did not identify him as a patient.

It identified him as the apparatus under evaluation.

END OF CHAPTER 02