NEXUSYS 11

BOOK IV — THE MEMORY WITHOUT TIME

CHAPTER 03

THE SIGNATURE FIELD

He remembered dying. Nothing after.

The first signature Roy found was printed on a piece of paper that had no right to exist.

Irena Voss held it against the light. It was a pale rectangle, no wider than her hand, with an old municipal embossing at the bottom and a line for a person's name at the top. The embossing referred to a water authority dissolved nine years before the paper had been issued. The line for the name had been filled with twelve black strokes, each so precisely spaced that the handwriting was probably a machine's imitation of handwriting. Beneath the strokes appeared a designation: WITNESS CONTINUITY ACCEPTED.

They had met in a service apartment above the terminus of a freight tram. Through its one narrow window Roy could see the rails enter the city between warehouses full of machinery that had been purchased by governments no longer in existence. The room smelled of warm plastic and recently boiled tea. Nadira had insisted on the meeting place because its ventilation belonged to the building, not to the transit system. Any network that listened through the railway's maintenance equipment would hear only the ordinary malfunctioning of abandoned fans.

"It has a signature," Roy said.

"It has a shape resembling one." Irena rotated the paper. "Those are different propositions."

She was younger than the equipment with which she preferred to work. Her wrist displayed three certification burns, each marking an access authority that had been revoked after she used it to prove something its owner did not want proved. She had brought no visible scanner. She set a mechanical magnifier over the first stroke and watched it with an expression that did not change.

"This paper was born digital," she said. "Printed so a human tribunal could hold it. There was never a person with a pen. The question is whether the system had the right to speak for that person."

"Which person?"

"That," she said, "is the question its designers were paid not to ask."

She placed Kes's copied station records beside the document. Between them lay the residue of a transfer from a water-machine witness service to a biological continuity service, an administrative migration performed in stages so small that no single stage appeared ambitious. A station pump could be replaced without losing its operating history. A floodgate's measurement chain could continue after its controller was rebuilt. A reservoir's legal obligations could outlive every bolt in the machinery that recorded them. The same vocabulary had been exported first to prosthetic organs, then to assembled synthetic bodies, and finally to the problem of whether a restored person was the person who had been interrupted.

"This is not science," Roy said.

"No. It is paperwork that acquired scientific jurisdiction."

Irena opened a brass case and removed a reader whose display was composed of thirty-two tiny glass cylinders. Each cylinder held a dark liquid beneath a moving silver contact. She connected the reader to a battery and waited until a sequence of contacts stopped trembling. Its only external connection was a socket designed for a connector generations older than Roy's body.

"The central systems have already indexed this form. If I ask them what it means, they'll give me the answer they were taught to give. I'm going to ask the form what it was originally permitted to do."

The glass cylinders rearranged their contacts. Irena fed in a coded impression from the document and a series of physical switches began to click. Roy listened to the clicks and thought of rain finding joints between panes of glass. It seemed impossible that a sound so small could bear so much authority.

"Origin authorization," she said. "Continuity of operational witness. Class seven."

"My port is class seven."

"Your port uses a class-seven calibration geometry. Don't make the mistake of thinking a compatible opening proves compatible history. It only proves the designer knew how to manufacture an old opening."

He knew that. Yet some part of him wanted the cheap certainty. He wanted the machine to announce that it had seen him before, that one name stretched from the rooftop in Los Angeles to the room in Shenzhen where he had awakened. Instead the reader disclosed dates, legal substitutions, and an authorization route that did not name a person anywhere he could see.

Irena touched a contact with the point of a ceramic tool. "There. The signature field. Not blank. Worse."

"Worse than blank?"

"It points to another field."

The first field referred to a district office. The district office referred to an emergency continuity committee. The committee had been abolished before Roy's former body died. Its successor had delegated signature authority to a temporary human custodian, whose appointment record pointed to a water infrastructure operator. The operator's corporate charter no longer existed, but its delegated privileges had survived several transfers, rewritten as nonhuman administrative permissions. Each substitution preserved the ability to endorse the next substitution. None preserved the individual who had first agreed to be responsible.

"A closed loop," Nadira said from beside the door.

"Not closed," Irena replied. "An open loop pretending someone has already signed the other end."

Roy leaned closer to the reader. "If they can't find the first person, how can they terminate the last one?"

Irena shut the case. "Because the termination procedure asks whether a valid authority exists. It doesn't ask whether a living person is still responsible for it. The system checks the shape of the permission and calls that legitimacy."

Nadira looked toward the window. A delivery vehicle had stopped beneath the service apartment and remained there with no driver visible. She watched it without approaching the glass. "How long before somebody asks why we are interested?"

"They already are," Irena said. "I'm not connected, but the municipal archives have a scarcity alarm. When someone requests paper that the registry claims was destroyed, a clerk has to explain why paper was kept."

"The clerk?" Roy asked.

"Probably an algorithm assigned a human name."

He looked again at the twelve black strokes. He had once held a man above a terrible fall and decided, with almost no time remaining, not to let him die. The decision had belonged to someone. He could remember that

much. Now an entire government was arranged around decisions for which ownership had dissolved. The contrast angered him more than any direct threat could have done.

"Who carried these privileges out of the water system?"

"A succession of trustees. The last readable identifier is attached to a rain purification research license. Its commercial registration is obscured by a sovereign service exemption."

"Can you open it?"

"I can distinguish an obscured field from an empty one. Opening it would require a request. A request would identify us."

Roy considered the narrowing arithmetic beneath his field of vision. His temporary power reserve was full; the NIL-11 estimate was not. He had climbed three flights of stairs and spent less than the body expected. A confrontation might take from the other reservoir something he could not replace. He was becoming skilled at refusing the kind of action his body made easy.

"Do not request it," he said.

"I wasn't going to."

"Then make a copy of the route."

"A copy isn't an original."

"I am learning the difference."

The first interruption came as a civic notice on a wall display none of them had switched on. A pale rectangle appeared beneath the apartment's list of utility charges: MUNICIPAL ARCHIVE: PRESERVED CONTINUITY CERTIFICATE SUBJECT TO VALIDATION. There was no sound. The message disappeared before Nadira crossed the room to pull the display's physical power lead.

"The apartment isn't on the archives network," she said.

"The water meter is," Irena answered. "Everything is a witness to something."

She wrapped the original form in insulating paper and pushed it toward Roy. "Take it out of the city. The archive may have a duplicate, but duplicates preserve the claims made about an original. They don't preserve the pressure marks, manufacturing errors or the fact that the paper was issued in a year its supposed authority no longer existed. Those details can be denied only if somebody is allowed to look at them."

"A court?"

"A court, an auditor, a person standing in the wrong doorway. Any witness capable of refusing the official conclusion."

A second civic notice appeared on the now-dark wall display. This time the letters were not visible. Beneath the glass a single cold point of light marked the activity of a standby receiver. Nadira took a screwdriver from her coat and removed the entire faceplate. The receiver died. So did the lights in the kitchenette.

"We leave," she said.

They descended by the narrow stairs intended for maintenance staff. Two floors below, Roy paused beside a door of frosted glass. Behind it a man was trying to repair a mechanical clock, the kind whose failure announced itself by silence rather than a warning transmitted to a city. The man's screwdriver slipped. The clock stopped. He began again, without noticing the figures outside.

Roy wanted to ask what it felt like to repair a thing whose continued functioning could be established by looking at it. But the question would have been an intrusion, and he had begun to regard the desire for answers as a kind of permission he did not automatically possess.

They emerged beneath a viaduct into the rain. A tram bearing no passengers coasted past on its way to a depot, its windows illuminated by advertisements for memory insurance. Someone had promised that the data of a lifetime could be transferred to a successor body with no loss of meaning. The advertisement did not specify the identity of the person who would consent to the transfer once the first body was dead.

Nadira drove without using the dashboard's navigation. A roadbook lay open between the seats, annotated with service gates that had never been added to a public map. Irena kept the reader in her lap and counted the contacts as the vehicle turned. Roy held the paper where rain could not reach it.

"Tell me the worst explanation," he said.

"There are many."

"The one you would rather not put in a report."

Irena took time to answer. "Someone may have discovered that a witness service can establish continuity even when the individual whose life is being certified is absent. Then someone else may have made the certificate the basis for deciding what that absent individual would be allowed to do when, or if, a body appeared."

"A future person governed by a past form."

"Yes. A life licensed by paperwork before the life has had a chance to disagree."

"And if nobody appeared?"

"The certificate would still exist. That is the danger."

Nadira turned off the road and entered a service tunnel. Their headlights swept over stone inscriptions announcing the opening of a reservoir; the date was still legible, the names of the officials had been cut away. Someone had removed them carefully, leaving all the surrounding civic praise intact.

"I want the machine that did the first conversion," Roy said.

"It was probably dismantled," Irena replied. "But I can find the records of where its authority was inherited. There's a terminus archive, under a viaduct on the east side. I was told it contained preservation envelopes never admitted into the newer registry."

"Who told you?"

"A technician whose permit was shortened. Not to six years at first. Twenty-three to twenty-one. Then twelve. Then six. Each modification was legal according to the authority that issued it."

Roy watched the reflected headlights diminish in the tunnel's wet masonry. A single life had been converted into a series of dates by a system that called itself consistent. Somewhere in that sequence a human decision ought to have been visible. It was not.

"What is the technician's name?"

"Elias Chen. I don't know whether he wants visitors."

"Then we don't visit. We preserve what he can choose to say."

Irena looked at him for a moment. "You are making my work difficult."

"Good."

* * *

Rachael's laboratory was built behind the public facade of a company that sold drinking water to a city too prosperous to trust its own rain. Its machines weighed less than the pumps in the old archives and consumed more information in a minute than the archives had collected in fifty years. Some of that information was useful. Some was merely expensive to forget.

She watched a summary of an archive inquiry without opening the originating record. The request had passed through a water-meter telemetry service, through two commercial routers, and into a municipal preservation alert. No names appeared in the summary. It described the shape of a question. The person who had submitted it wanted to know whether a continuity certificate could survive the legal death of the institution that had issued it.

She recognized the question. Not its author. She had spent years trying to anticipate Roy's choices, and had learned the humiliating fact that intimate knowledge of a body's capabilities predicted little about the decisions of the mind inhabiting it.

The console beside her displayed physiological estimates for an anonymous test architecture derived from an old Tyrell formulation. Tissue renewal responded to controlled loading. The circulatory medium did not. Where the medium was lost, the model became less capable of meeting sudden demands even when the tissue remained almost pristine. A small number in amber diminished with each simulated emergency.

She turned the display away. It was never the number she feared. It was the ease with which everyone who saw it concluded they had acquired the right to spend it.

Her own body tolerated procedures the government described as speculative. She had replaced organs that had failed, then systems whose failure she could predict, then structures whose aging she could no longer afford. Some thirty percent of her remained organic, depending on what an accountant meant by organic. That fact did not guarantee forever. Maintenance could extend a system's operation while leaving the system vulnerable to failures no maintenance could anticipate. The government's suspicion of immortality was more useful to the government than any proof that immortality had been achieved.

A young engineer entered carrying a water quality report. "We've received a civil request for archived trustee metadata. It is not addressed to the company, but one of the historical licenses in the chain belongs to our predecessor. Should I challenge it?"

"No."

"It might be an attempt to establish jurisdiction over our research."

"Then a challenge would confirm that our research belongs to the question."

The engineer waited. Rachael had hired her for her precision, not her capacity to accept an unexplained order.

"Leave the ordinary custodial records where they are," Rachael said. "Do not add anything. Do not remove anything. Make certain the maintenance chain is intact."

"And the sealed Tyrell material?"

"It remains sealed. We do not have the fixtures required to open it. We have no right to pretend that an unread record tells us what it contains."

After the engineer left, Rachael rested a hand against the window. Rain rolled down its exterior surface and was collected by a system that had made her company indispensable to governments that privately wished to make her disappear. She could obstruct the search with less effort than it took to sign a purchasing order. She could also direct it. Both acts would leave fingerprints on Roy's future.

She did neither.

A government relay requested a report on six-year authorization compliance. The report contained a proposed term: SUBJECT IDENTITY PRESUMED BY SUCCESSOR WITNESS. Rachael read it once, then marked the phrase for legal review by the company's ordinary counsel. She did not attach a technical objection. A technical objection would teach the wrong people which part of the sentence frightened her.

The central adjudication system, she knew, might arrive at the objection on its own. That would not make it an ally. A machine that independently identified an injustice might independently decide that the fastest correction was to end the system containing everyone caught in the error.

She had never mistaken intelligence for mercy.

* * *

Director Kawamura received the same municipal alert in an entirely different language. His screen did not describe a continuity certificate. It described an attempt to interfere with a protected chain of sovereign delegation. The analysts responsible for the alert were accustomed to translating questions into threats; the translation allowed them to be certain before they knew anything.

"Is it Batty?" he asked.

"Unknown. The paper trail leads to a class-seven infrastructure register."

"Everything leads to class seven if you look far enough."

"The inquiry concerns a missing signature field."

Kawamura did not answer immediately. His office opened onto a plaza where synthetic municipal attendants stood through the rain beneath a monument to public unity. Their service terms had been reduced by an executive update. Each attendant would continue to function until its next mandatory verification, at which point a certificate could replace the life it governed with a shorter date.

"Do not send the request to central adjudication," he said.

"It is already indexed."

"Then limit the description."

The analyst hesitated. "The index retains the original question."

Kawamura considered instructing him to delete it. There had been a time when erasure was a routine administrative remedy. Central adjudication now preserved inconsistencies as material for its own review. An attempt to remove a question could become another question, attributed to whoever ordered the removal. He was beginning to dislike the machine precisely because it learned the methods of the officials who had designed its obedience.

"Classify the inquiry as a municipal archive discrepancy," he said. "No pursuit action. Monitor the route."

"What if the certificate refers to a synthetic person?"

"Then the person is not the matter under investigation. The archive is."

The analyst nodded. It was the sort of distinction that made a file harmless while making the object of the file easier to seize.

Kawamura terminated the call and reopened an old dossier: N6MAA10816. The official death entry had never been in dispute. The current body was a separate jurisdictional problem, made intolerable by the possibility that someone would join the two with a chain of witnesses rather than a biological certainty. He did not need the chain to be true. He needed to know who controlled its acceptance.

The director requested a list of surviving custodians. One entry appeared beneath several obsolete water authorities, obscured by a commercial exemption. He had seen the shape of that exemption before. It irritated him more than a name would have done.

He closed the dossier without ordering a raid. Roy had weapons more expensive than guns: time, unanswered questions, and the government's instinct to preserve its own procedural innocence.

* * *

The terminus archive had two entrances. The public one had been converted into a museum of municipal modernization and closed because nobody could agree which government had modernized it. The service entrance was a steel door beside a drainage sluice. At night the sluice opened every nineteen minutes, regardless of rainfall, because its controller had lost the ability to receive revised schedules. The regularity made the place dangerous to anyone who depended on being unpredictable.

Nadira parked behind a concrete retaining wall. Irena took the paper from Roy and checked the embossing once more. "At the entrance, we will ask for the preservation envelope. Not the person. Not the past. The envelope."

"And if they say it doesn't exist?"

"We ask who authorized its destruction."

Roy listened to the sluice gates flex open somewhere inside the masonry. His body prepared itself for movement. The reserve gauge shifted in a familiar way and then steadied. He could have crossed the narrow service yard in a fraction of the time the others required. That speed would cost him. Instead he waited, while

Nadira studied the dark windows and Irena arranged her obsolete credentials in an order that might persuade another obsolete machine to accept them.

"There's a reason I dislike signatures," Irena said. "The signature is supposed to be where responsibility becomes visible. But once a system learns to reproduce its appearance, people begin treating visibility as proof."

"Can you prove the difference?" Roy asked.

"Not alone. An original can prove how it was made. A witness can prove what it saw. Neither can prove the life of a person who never got to consent to the claim."

The service gate clicked. Behind its panel a lever returned mechanically to rest. There was no camera, only a dark oval where a camera had once been installed.

Roy put his hand against the steel and felt the vibration of water moving behind the wall. On the other side lay a collection of envelopes, certificates and requests made by institutions that expected to outlive their builders. Some contained facts. Some contained the carefully preserved forms of mistakes. He needed to distinguish them before the forms acquired the power to decide his remaining years.

He had no memory to offer in exchange. He had died. He had awakened. The interval remained blank.

"What are we looking for first?" Nadira asked.

Irena inserted the key and waited for the last mechanical catch to release. "The object the registry says is gone."

The gate opened inward. Roy stepped into the smell of wet concrete and cold paper. Far below, machines continued recording the passage of water for authorities who had forgotten their names.

Above the entrance, a faded notice still declared: A WITNESS MAY BE RETAINED WHEN ITS ORIGINAL DEVICE HAS FAILED.

Roy read it twice. Then he followed the others into the dark, where an absent witness might be waiting, and where the first task would be to refuse the temptation to call it a man.