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author of CAPTIVE UNIVERSE and DEATHWORLD

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ST TIME IN PAPERBACK! . ,

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THE DALETH EFFECT

was the key to the stars —and Israeli scientist Arnie Klein, its discoverer, knew that the great powers of the world would stop at nothing to control it. Arnie "defected" to tiny, tough Denmark in the hope of being able to carry on his work peacefully.

A dramatic, "impossible" rescue of stranded Russian astronauts by a space-going submarine breaks the news to the world, and the squeeze play is on — with Arnie and his adopted country the f6cus of espionage, blackmail, and frank menace, culminating in the first act of space piracy and a bitterly ironic finale.

UADDV UADDlOnil[1] lived m Denmark **nlllfllT llllllflflullll** (where writers are called

forfatters, not that it matters) as well as in Mexico, England, Italy, and Spain; he is at the moment settled in California. He has | affected the SF world as f much by his vigorous edi-I torship of anthologies and 5; magazines as by his origi-| nal, lively novels and i stories.

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THE DAiETH EFFECT

HURRY HARRISON

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MAKE ROOM! MAKE ROOM!

BILL, THE GALACTIC HERO

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TEL-AVIV

The explosion that blew out the west wall of the Physics Laboratory of the University of Tel-Aviv did little real harm to Professor Arnie Klein who was working there at the time. A solid steel workbench protected him from the blast and flying debris, though he was knocked down and cut his cheek as he fell. He was understandably shaken as he climbed to his feet again, blinking at the blood on his fingertips where he had touched his face. The far side of the laboratory was just rubble and twisted wreckage, with wreaths of dust or smoke curling up from it.

Fire! The thought of this stirred him to motion. The apparatus had been destroyed, but his records of the experiment and his notes might still be saved. He tugged wildly at the drawer, bent and warped by the blast, until it squealed open. There it was, a thin file folder, a few weeks work—but how important. Next to it a worn folder, fifteen centimeters thick, six years of concentrated labor. He pulled them both out, and since the opening in the wall was close at hand, he went out that way. His records must be made secure first; that was the most important thing.

The pathway here at the back of *the* building was seldom used, and was deserted now in the breathless heat of the afternoon. This was a shortcut that had been physically impossible to reach from the laboratory before, but now led directly to the faculty dormitory close by. The file would be safe in his room—that was a very good idea. He hurried there, as fast as one can hurry when the dry, furnace-like wind of the khamsin is blowing. Because he was already deep in thought he did not realize that his

movements were completely unobserved.

Arnie Klein appealed slow-witted to many people, but this was only because he was constitutionally unable to follow more than one train of thought at a time, and he had to chew this thought out with methodical thoroughness until every drop of nourishment had been extracted. His mind worked with meticulous precision and ground incredibly fine. Only this unique ability had kept him firmly on this line of reasoning for six years, a complicated chain of mathematical supposition based only upon a gravimetric anomaly and a possible ambiguity in one of Einstein's basic field theory equations.

Now his mind was occupied with a new train of speculation, one he had considered before, but which the explosion had now proven to be a strong possibility. As usual, when deeply involved in thought, his body performed routine operations with, in truth, his conscious mind being completely unaware of them. His clothing was dusty from climbing the debris, as were his handstand there was blood on his face. He stripped and automatically took a shower, cleaned the cut and applied a small bandage. Only when he began to dress again did his conscious mind intervene. Instead of putting on clean shorts, he took the trousers of his lightweight suit from their hanger and slipped them on. He put a tie in the jacket pocket and draped the jacket across a chair. After this he stopped, in silence for some minutes, while he worked out the logical conclusions of this new idea. A neat, gray-haired man in his early fifties, looking very ordinary, if one made allowance for the fact that he stood for ten minutes, unblinking and motionless, until he reached that conclusion.

Arnie was not sure yet what would be the wisest thing, but he knew what the alternative possibilities were. Therefore he opened his attache case, still on the dresser where he had put it upon his return from the Belfast Physical Congress the previous week, that contained a book of Thomas Cook & Sons traveler's checks. It was very full because he had thought he would have to pay for

his airplane tickets and be reimbursed, but instead the tickets had arrived prepaid. Into the attache case he put the file folder and his passport, with its visas still in effect; nothing else. Then, with his jacket folded neady over his arm and carrying the attache case, he went down the stairs and walked toward the waterfront. Less than a minute later two

excited students ran, sweating and breathless, up to his room and hammered on the door.

The khamsin blew with unobstructed relentlessness once he was away from the protection of the campus buildings, drawing the moisture from his body. At first Ar-nie did not notice this but, in Dizengoff Road, passing the cafes, he became aware of the dryness in his mouth and he turned into the nearest doorway. It was the Casit, a bohe-mian, Left Bank sort of place, and no one in the variegated crowd even noticed him as he sat at a small table and sipped his *gazos.*

It was there thafhis chain of thought unreeled to its full length and he made up his mind. In doing this he was completely unaware of any outside influences, and had no idea that an alarmed search was being carried out for him, that waves of consternation were spreading out from the epicenter of the university. At first it had been thought that he was buried under the debris caused by the mysterious explosion, but rapid digging disproved that idea. Then it was discovered that he had been in his room; his soiled clothing was found, as well as traces of blood. No one knew what to believe. Had he been hurt and was he wandering in shock? Had he been abducted? The search widened, though it certainly never came near the Casit cafe. Inside, Arnie Klein stood up, carefully counted out enough *prutot* coins to pay for his drink, and left.

Once again luck was on his side. A taxi was letting out a fare at Rowal's, the sophisticated cafe next door, and Arnie climbed in while the door was still open.

"Lydda Airport," he said, and listened patiently while the driver explained that he was going off duty, that he would need more petrol, then commented unfavorably on the weather and a few other items as weH. The nego-

tiations that followed were swift because, now that he had come to a decision, Arnie realized that speed would avoid a great deal of unpleasantness.

As they started toward the Jerusalem road two police cars passed them, going in the opposite direction at a tremendous pace.

2 COPENHAGEN

The hostess had to tap his arm to get his attention.

"Sir, would you please fasten your seat belt. We'll be landing in a few minutes."

"Yes, of course," Arnie said, fumbling for the buckle. He saw now that the seat belt and no smoking signs were both lit.

The flight had passed very quickly for him. He had vague memories of being served dinner, although he could not remember what it was. Ever since taking off from Lydda Airport he had been absorbed in computations that grew out of that last and vital experiment. The time had passed very swiftly for him.

With slow grandeur, the big 707 jet tipped up on one wing in a stately turn and the Moon moved like a beacon across the sky. The clouds below were illuminated like a solid yet strangely unreal landscape. The airliner dropped, sped above the nebulous surface for a short time, then plunged into it. Raindrops traced changing pathways across the outside of the window. Denmark, dark and wet, was somewhere down below. Arnie saw that his notebook, the open page covered with scribbled equations, was on the table before him. He put it into his breast pocket and closed the table. Points of light appeared suddenly through

the rain and the dark waters of the Oresund streamed by beneath them. A moment later the runway appeared and they were safely down in Kastrup Airport.

Arnie waited patiently until the other passengers had shuffled by. They were Danes for the most part, returning from sunshine holidays, sunreddened faces glowing as though about to explode. They clutched straw sacks and Oriental souvenirs—wooden camels, brass plates, exfoliating rugs—and each had the minuscule tax-free bottle of alcoholic spirits that their watchful government permitted them to bring in. Arnie went last, paces behind the others. The cockpit door was open as he passed, revealing a dim hutch incredibly jammed with shining dials and switches. The captain, a big blond man with an awe-inspiring jaw, smiled at him as he passed. *CapL Nils Hansen* the badge above his gold wings read.

"I hope you enjoyed the flight,'* he said in English, the international language of the airways.

"Yes indeed, thank you. Very much." Arnie had a rich British-public-school accent, entirely out of keeping with his appearance. But he had spent the war years at school in England, at Winchester, and his speech was marked for life.

All of the other passengers were queued up at the customs booths, passports ready. Arnie almost joined them until he remembered that his ticket was written through to Belfast and that he had no Danish visa. He turned down the glass-walled corridor to the transit lounge and sat on one of the black leather and chrome benches while he thought, his attache case between his legs. Staring unseeing into space he considered his next steps. In a few minutes he had reached a decision, and he blinked and looked about. A police officer was tromping solidly through the lounge, massive in his high leather boots and wide cap. Arnie approached him, his eyes almost on a level with the other's silver badge.

"I would like to see the chief security officer here, if you would."

The officer looked down, frowning professionally.

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"If you will tell me what the matter is . . •"

"Dette komrner kun mig og den vagthavende officer ved. Sa ma jeg tale med hart?"

The sudden, rapid Danish startled the officer.

"Are you Danish?" he asked.

"It does not matter what my nationality is," Arnie continued in Danish. "I can tell you only that this is a matter of national security and the wisest thing for you to do now would be to pass me over to the man who is responsible for these matters."

The officer tended to agree. There was something about the matter-of-factness of the Iitde man's words that rang of the truth.

"Come with me then," he said, and silendy led the way along a narrow balcony high above the main airport hall, keeping a careful eye open so that the stranger with him made no attempt to escape to the rain-drenched freedom of the Kastrup night.

"Please sit down," the security officer said when the policeman had explained the circumstances. He remained seated behind his desk while he listened to the policeman, his eyes, examining Arnie as though memorizing his description, staring unblinkingly through round-paned, steel-framed glasses.

***"Lojtnant Jorgensen"* he said when the door had closed and they were alone.**

"Arnie Klein."

"Ma jeg se Deres pdsT[y]

Arnie handed over his passport and Jorgensen looked up, starded, when he saw it was not Danish.

"You are an Israeli then. When you spoke I assumed ..." When Arnie didn't answer the officer flipped through the passport, then spread it open on the bare desk before him.

"Everything seems to be in order, Professor. What can I do for you?"

"I wish to enter the country. Now."

"That is not possible. You are here in transit only. You have no visa. I suggest you continue to your destination

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and see the Danish Consul in Belfast. A visa will take one day, two at the most."

"I wish to enter the country now, that is why I am talking to you. Will you kindly arrange it. I was born in Copenhagen. I grew up no more than ten miles from here. There should be no problem."

"I am sure there won't be." He handed back the passport. "But there is nothing that can be done here, now. In Belfast . . ."

"You do not seem to understand." Arnie's voice was as impassive as his face, yet the words seemed charged with meaning. "It is imperative that I enter the country now, tonight. You must arrange something. Call your superiors. There is the question of dual nationality. I am as much a Dane as you are."

"Perhaps." There was an edge of exasperation to the lieutenant's voice now. "But I am not an Israeli citizen and you are. I am afraid you must board the next plane

His words trickled off into silence as he realized that the other was not listening. Arnie had placed his attache oase on his knees and snapped it open. He took out a thin address book and flipped carefully through it.

"I do not wish to be melodramatic, but my presence here can be said to be of national importance. Will you therefore place a call to this number and ask for Professor Ove Rude Rasmussen. You have heard of him?"

"Of course, who hasn't? A Nobel prize winner. But you cannot disturb him at this hour . . ."

"We are old friends. He will not mind. And the circumstance is serious enough."

It was after one in the morning and Rasmussen growled at the phone like a bear woken from hibernation.

"Who is that? What's the meaning . . . *Sa for Satan!* . . . is that really you, Arnie. Where the devil are you calling from? Kastrup?" Then he listened quietly to a brief outline of the circumstances.

"Will you help me then?" Arnie asked.

"Of course! Though I don't know what I can possibly

do. Just hold on, I'll be there as soon as I can pull some clothes on."

It took almost forty-five minutes and Jorgensen felt uncomfortable at the silence, at Arnie Klein staring, unseeing, at the calendar on the wall. The security officer made a big thing of snapping open a package of tobacco, of filling his pipe and lighting it. If Arnie noticed this he gave no sign. He had other things to think about. The security officer almost sighed with relief when there was a quick knocking on the door.

"Arnie—it really is you!"

Rasmussen was like his pictures in the newspapers; a lean, gangling man, his face framed by a light, curling beard, without a moustache. They shook hands strongly, almost embracing, smiles mirrored on each other's faces.

"Now tell me what you are doing here, and why you dragged me out of bed on such a filthy night?"

"It will have to be done in private."

"Of course." Ove looked around, noticing the officer for the first time. "Where can we talk? Someplace secure?"

"You can use this office if you wish. I can guarantee its security." They nodded agreement, neither seemingly aware of the sarcastic edge to his words.

Thrown out of his own office—what the *hell* was going on? The lieutenant stood in the hall, puffing angrily on his pipe and tamping the coal down with his calloused thumb, until the door was flung open ten minutes later. Rasmussen stood there, his collar open and a look of excitement in his eyes. "Come in, come in!" he said, and almost pulled the security officer into the room, barely able to wait until the door was closed again.

"We must see the Prime Minister at once!" Before the astonished man could answer he contradicted himself. "No, that's no good. Not at this time of night." He began to pace, clenching and unclenching his hands behind his back. "Tomorrow will do for that. We have to first *gU* you out of here and over to my house." He stopped and stared at the security officer.

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"Who is your superior?"

"Inspector Anders Krarup but—"

"I don't know him, no good. Wait, your department, the Minister . . ."

"Herr Andresen."

"Of course—Svend Andresen—you remember him, Ar-nie?"

Klein considered, then shook his head *no,,*

"Tiny Anders, he must be well over six feet tall. He was in the upper form when we were at Krebs' Skole. The one who fell through the ice on the Sortedamso."

"I never finished the term. That was when I went to England."

"Of course, the bastard Nazis. But hell remember you, and he'll take my word for the importance of the matter. We'll have you out of here in an hour, and then a glass of *snaps* into you and you into bed."

It was a good deal more than an hour, and it took a visit by a not-too-happy Minister Andresen, and a hurriedly roused aide, before the matter was arranged. The small office was filled with big men, and the smell of damp wool and cigar smoke, before the last paper was stamped and signed. Then Lieutenant Jorgensen was finally alone, feeling tired and more than a little puzzled by the night's events, his head still filled with the Minister's grumbled advice to him, after taking him aside for a moment.

"Just forget the whole thing, that's all you have to do. You have never heard of Professor Klein and to your knowledge he did not enter the country. That is what you will say no matter *who* asks you."

Who indeed? What was all the excitement about?

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3

"I really don't want to see them," Arnie said. He stood by the high window looking out at the park next to the university. The oak trees were beginning to change color already; fall came early to Denmark. Still, there was an excitement to the scene with the gold leaves and dark trunks against the pale northern sky. Small puffs of white clouds moved with stately grace over the red-tiled roofs of the city; students hurried along the paths to classes.

"It would make things easier for everyone if you would," Ove Rasmussen said. He sat behind his big professor's desk in his book-lined professor's office, his framed degrees and awards like heraldic flags on the wall behind him. Now he leaned back in his deep leather chair, turned sideways to watch his friend by the window.

"Is it that important?" Arnie asked, turning about, hands jammed deep into the pockets of the white laboratory coat. There were smears of grease on the sleeve and a brown-rimmed hole in the cuff where a soldering iron had burned through.

"I'm afraid it is. Your Israeli associates are very anxious to find out what happened to you. I understand they traced your movements through a cab driver. They have discovered that you flew by SAS to Belfast—but that you never arrived there. Since the only stopover was here in Copenhagen it was rather hard to conceal your whereabouts. Though I hear that the airport people did give them a very hard time for a while."

"That Lieutenant Jorgensen must have earned his salary."

"He did indeed. He was so bullheaded that there was

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almost an international incident before the Minister of State admitted that you were here. Now they insist upon talking to you."

"Why? I am a free man. I can go where I please." "Tell them that. Dark hints about kidnapping have been *dropped* ..."

"What! Do they think that the Danes are *Arabs* or something like that?"

Ove laughed and twisted about in his chair as Arnie stamped over and stood before the desk.

"No, nothing like that," he said. "They know—unofficially of course—that you came here voluntarily and that you are unharmed. But they are very curious as to *why* you have come here, and they are not going to go away until they have some answers. There is an official commission right now in the Royal Hotel. They say they will make a statement to the press if they don't see you."

"I do not want that to happen," Arnie said, worried now.

"None of us does. Which is why they want you to meet the Israelis and tell them that you are doing fine and they can take the next flight out. You don't have to tell them any more than that."

"I do not *want* to tell them any more than that. Who have they sent?"

"Four people, but I think three of them are just yes men. I was with them most of the morning, and the only one who really mattered was a General Gev . . ."

"Good God! Not him."

"You know him?"

"Entirely too well. And he knows me. I would rather talk to anyone else."

"I'm afraid you're not getting that chance. Gev is outside right now waiting to see you. If he doesn't talk to you he says he is going straight to the press."

"You can believe him. He learned his fighting in the desert. The best defense is a good offense. You had better show him in here and get it over with. But don't leave me alone with him for more than fifteen minutes. Any more

than that and you may find that he has talked me into going back with him."

"I doubt that." Ove stood and pointed *to* his chair. "Sit here and keep the desk between you. It gives one a feeling of power. Then he'll have to sit on my student-chair there, which is hard as flint."

"If it were a cactus he would not mind," Arnie said, depressed. "You do not know him the way I do."

There was silence after the door closed. An occasional shout from the students outside penetrated the double glass window, but only faintly. Inside the room the ticking of the tall Bornholm clock could be clearly heard. Arnie stared, unseeing, at. his folded hands on the desk before him and wondered what to do about Gev. He had to tell him as little as possible.

"It's a long distance to Tel-Aviv," a voice said in guttural Hebrew and Arnie looked up, blinking, to see that Gev was already inside the room and had closed the door behind him. He was in civilian clothes but wore them, straight-backed, like a uniform. His face was tanned, lined, dark as walnut: the long scar that cut down his cheek from his forehead pulled the corner of his mouth into a perpetual half-grin.

"Come in, Avri, come in. Sit down."

Gev ignored the invitation, stamping across the room, on parade, to stand over Arnie, scowling down at him as though he had been inspected and found wanting.

"I've come to take you home, Arnie. You are one of our leading scientists and your country needs you."

There was no vacillation, no appeal to Arnie's emotions, to his friends or relations. General Gev had issued an order, in the same voice that had commanded the tanks, the jets, the soldiers into combat. He was to be obeyed. Arnie almost rose from his chair and followed him out, so positive was the command. Yet he only stirred uncomfortably in the chair.

His decision had been made and nothing could be done about it.

"I am sorry, Avri. I am here and I am going to stay here."

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Gev stood, glowering down on him, his arms at his sides but his fingers curved, as though ready to reach out and grasp and pull Arnie bodily to his feet. Then, in instant decision, he turned and sat *down* in *the waiting* chair and crossed his legs. His frontal assault had been repulsed; he turned the flank and prepared to attack in a more vulnerable area. Never taking his eyes from Arnie he took a vulgarly large gold cigarette case from his pocket and snapped it open. The flag of the United Arab Republic was set into the case in enamel, the two green stars picked out with emeralds. A bullet hole punched neatly through the case.

"There was an explosion in your laboratory," Gev said. "We were concerned. At first we thought you were dead, then injured—then kidnapped. Your friends have been very concerned . . ."

"I did not mean them to be."

". • . and not only your friends, your government. You are an Israeli, and the work you do is for Israel. A file is missing. Your work has been stolen from your country."

Gev lighted a cigarette and drew deeply on it, cupping the burning end in his hand, automatically, the way a soldier does. His eyes never left Arnie's face and his own face was as expressionless as a mask, with only those accusing eyes peering through. Arnie opened his hands wide in a futile gesture, then clasped them before him once again.

"The work has not been stolen. It is my work and I took it with me when I left. When I left voluntarily, to come here. I am sorry that you . . . think ill of me. But I did what I had to do."

"What was this work?" The question was cold and sharp, and cut deep.

"It was ... my work." Arnie felt outmaneuvered, outfought, and could only retreat into silence.

"Come now, Arnie. That's not quite good enough. You are a physicist and your work has to do with physics. You had no explosives, yet you managed to blow up some

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thousands of pounds worth of equipment. What have you invented?"

The silence lengthened, and Arnie could only stare miserably at his clenched hands, his knuckles whitening with the pressure. Gev's words pulled at him, relentlessly.

"What is this silence? You can't be afraid? You have nothing to fear from Eretz Israel, your homeland. Your friends, your work, your very life is there. You buried your wife there. Tell us what is wrong and we will help you. Come to us and we will aid you."

Arnie's words fell like cold stones into the silence.

"I . . . cannot."

"You have to. You have no other choice. You are an Israeli and your work is Israeli. We are surrounded by an ocean of enemies and every man, every scrap of material is vital for our existence. You have discovered something powerful, something that will aid our survival. Would you remove it and see us all perish—the cities and the synagogues leveled to be a desert again? Is that what you want?"

"You know that I do not! Gev, let me be, get out of here and go back . . ."

"That I *won't* do. I won't let you be. If I am the voice of your conscience, so be it. Come home. We will welcome you. Help us as we helped you."

"No! That is the thing I cannot do!" The words were pulled from his body, a gasp of pain. He went on quickly, as though the dam to his feelings had been broken and he could not stop.

"I have discovered something—I will not tell you how, why, what it is—a force. Call it a force, something that is perhaps more powerful, or could be more powerful than anything we know today. A force that can be used for good or evil because it is by nature that sort of thing, if I can develop it, and I think I can. I want it used for good—"

"Israel is evil! You dare suggest that?"

"No, hear me out, I did not say that. I mean only that Israel is the pawn of the world with no one on their side.

Oil. The Arabs have the oil, and the Soviets and the Americans want it and will play any dirty game to get it. No one cares for Israel, except the Arabs who wish to see her destroyed, and the world powers who also wish *they* could find a way to destroy her quietly, the thorn in their sides. Oil. War will come, something will happen, and if you have my—if you had *this,* what we are talking about, it would be used for destruction. You would use it, with tears in your eyes perhaps, but you would use it—and that would be absolute evil."

"Then," General Gev said, in a voice so low it was scarcely audible, "from pride, personal ambition, you will withhold this force and see your country perish? In your supreme egocentricity you think yourself more fit to make major policy decisions than the elected representatives of the people. You place yourself on a pillar. You are unique. Better able to decide the important issues than all the lesser mortals of the world. You must believe in absolute tyranny—*your* tyranny. In your arrogance you become a little Hitler . . ."

"Shut up!" Arnie shouted hoarsely, half rising from the chair. There was silence. He sat down again, slowly, aware that his face was flushed, a pulse hammering like a rivet gun in his temple. It took a great effort to speak calmly.

"All right. You are correct in what you say. If you wish to say that I no longer believe in democracy, say it. In this matter I don't. I have made the decision and the responsibility is mine alone. To myself, perhaps as an excuse, I prefer to think of it as a humane act..."

"Mercy killing is also humane," Gev said in a toneless voice.

"You are right, of course. I have no excuses. I have acted willfully and I accept the responsibility."

"Even if Israel is destroyed through your arrogance?"

Arnie opened his mouth to answer, but there were no words. What could be said? Gev had him hemmed in from all sides, his retreat was cut off, his defenses destroyed. What could he do other than surrender? All that remained

was the persistent conviction that, in the long run, he was doing the right thing. A conviction that he was afraid to test or examine lest it prove false as well. The silence grew and grew and a great sadness pushed down on Arnie so that he slumped in his chair.

"I do what I have to do/' he said, finally, in a voice hoarse with emotion. "I will not return. I have left Israel as I came, voluntarily. You have no hold on me, Gev, no hold. ..."

General Gev stood up, looking down upon the bowed head. His words were slow in coming and when he did speak, there was the echo of three thousand years of persecution, of death, of mourning, of a great, great sadness.

"You, a Jew, you could do this . . . ?"

There was no possible answer and Arnie remained silent. Gev was soldier enough to see defeat even though he could not understand it. He turned his back, he said nothing more, though what more could be said than this act of turning his back and leaving? He pushed the door open with his fingertips and did not touch it again, to close it or even slam it, but went straight out. Upright, marching, a man who had lost a battle, but who would never lose a war without dying first.

*** * ***

Ove came in and puttered around the room, stacking the magazines, pulling out a book then putting it back unopened, doing this for some minutes in silence. When he finally spoke it was about something else.

"Listen, what a day it is out. The sun's shining, you can see for miles. You can see the girls' skirts blowing up when they ride their bicycles. I've had enough of this filthy cafeteria food, I'm stuffed solid right up to here with *rugbrod.* I can't face another sandwich. Let's go *to* Langelinie Pavillonen for lunch. Watch the ships sail by. What do you say?"

There was a stricken look on Arnie's face when he raised his head. He was not a man normally given to

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strong emotions of any kind, and he had no defenses, no way of dealing with what he now felt. There was the pain—written so clearly on his face that Ove had to turn away and push about the magazines so recently ordered.

****Yes, if you want to. We could have lunch out." His voice was as empty of emotion as his face was lined with it.**

They drove in silence down Norre AUe and through the park. It was indeed as Ove had said. The girls were on their high black bikes, flashes of color among the drab jackets of the men, pacing the car on the bicycle paths that bordered the wide street, sweeping in ordered rows across the intersections. Their long legs pumped and their skirts rode up freely and it was a lovely afternoon. Except that Arnie carried with him the memory of a great unhap-piness. Ove twisted the little Sprite neatly through the converging traffic at Trianglen and down Osterbrogade to the waterfront. The car shot through a gap in the Langelinie traffic and braked under the rear of the Pavillonen restaurant. They were early enough to get a table at the great glass window that formed one wall. Ove beckoned to the waiter and ordered before they sat down. Even as they were pulling up their chairs a bottle of akvavit appeared, frozen in a block of ice, and a brace of frosted bottles of Tuborg Fine Festival beer.

"Here," Ove said, as the waiter poured out two of the thimble-sized glasses of chilled *snaps.* "Drink this. I'll bet you don't see much of it in Tel-Aviv."

***"Skal,"* they said in ritual unison, and drained the glasses. Arnie sipped at his beer afterward and looked out at the black and white ferry to Sweden, ploughing ponderously by. The buses were pulled up in a waiting row while the tourists clambered over the rocks for a ritual visit to the Little Mermaid, cameras eagerly ready. Beyond them the white sails of tiny yachts from the basin cut across the cold blue of the Sound. The sea. You could not go more than forty miles from it in Denmark, a seafaring, sea-girt nation if there ever was one. The white triangles of sails were dwarfed by a great liner tied up at**

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Langeliniekaj. Flags and pennants gave her a rakish holiday air, and a sudden burst of steam rose from her front funnel. Moments later the distant moan of her horn could be dimly heard.

"A ship," Arnie said and now, considering his work once again, all trace of what he had been feeling seemed to have vanished. "We need a ship. When we want to try out a larger . . ." He hesitated, and they both looked around with their eyes only, like conspirators, and when he went on it was in a lower voice.

"A larger unit. The first one is too small, a demonstration of theory only. But a big unit will have to be tested on a large scale, to see if we have anything here other than a stupid laboratory demonstration that blows up equipment."

"It will work. I know that it will work."

Arnie twisted his mouth wryly and reached for the bottle.

"Have some more *snaps'*[9] he said.

4

"It is a matter of security," Skou said. He had a first name, Langkilde, but he never mentioned it, perhaps with good reason. "Skou," he insisted, "just call me Skou." As though welcoming all men to the informal friendship of a world-wide billiard parlor. *"Go*[1] *davs, Hansen—Go*[1] *davs, Jensen—Go* davs, Skou."* But, although he insisted that he was just plain Skou to all men, he was most correct with others.

"We must always take security seriously, Herr Professor Rasmussen," he insisted, his eyes watching everything while he talked. "You have something that requires security, therefore you must have security at all times."

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"What we have here . . ."

"Don't tell me, I insist. The fewer who know, the fewer who can tell. Just permit me my security arrangements, and go about your work without a worry."

"Goodness, man, I have no worry. We've only started work recently and no one knows about the project yet."

"Which is the way it should be. I prefer to be in at the beginning or even before the beginning to make my arrangements. If they don't learn one thing they won't learn anything."

He had the knack for constructing pseudo-colloquialisms that made him appear a bit of a fool, which he definitely was not. When he stood, hands stuffed into the pockets of his well-worn tweed jacket, he canted at an angle like a perpetual half-drunk. His blank face and sandy, thinning hair helped this illusion. Ove knew that it was illusion only. Skou had been a police officer for years, his German was perfect, and he had been a rather despised collaborator and card-playing companion of the occupying Germans in Helsingor during the war. He had also been head of the underground in that area, and the angle of his stance had something to do with his being shot by his former drinking companions, then escaping out of a second-story hospital window before they got around to questioning him too closely. Now he was connected with some government bureau, he was never too clear about it, but it added up to security and he got his way whenever he wanted it. He had been in and out of the labs for over a month, enforcing some rules and operations, so what was meant to be private was kept private.

"This all seems very cinematic, Herr Skou," Arnie said. "If we just put the unit in a truck and cover it up no one would ever notice."

"Skou, if you please. The unreal borrows from the real, the cinema from life, if you know what I mean. And maybe we can learn a thing or two from them. It is best to take precautions. A matter of security."

Skou was not to be argued with. They waited, out of sight inside the Nils Bohr Institute building, while the red

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and black post office truck pulled up at the loading ramp outside. There was a certain amount of shouting when, backing in, it almost knocked over a stack of milk-bottle crates. But with not too many *"Stop, Hendrik!"* and *"Lidt ertdnu! Sa er den derf"* cries it put its back doors at the platfonn edge. Two postmen, bulky in their reddish-pink jackets and heavy with the thud of their wooden-soled *traesko,* brought in some armloads of parcels. That they were more than postmen was apparent by their complete ignoring of the presence of the three watchers: no normal Danish postman could have resisted this opportunity for a chat. Skou silently pointed to the crates that contained the unit and, just as silently, they pushed them into the waiting van. The wide doors were closed, the big padlock sealed, and the truck rumbled its engine and moved out into die road. They watched it until it vanished in the morning traffic.

"Post trucks are not invisible, but they are the next best thing to invisible," Skou said. "They will go *to* the central office on Kobmagergade, along with many other trucks of the same shape and color. They will emerge a few minutes later—with new numbers, of course—and proceed to the quay. I suggest, gentlemen, that we proceed there as well to greet them upon arrival."

Skou drove them in his car, a disreputable Opel of uncertain age, and did a certain amount of cutting down narrow streets and darting in and out of traffic until he was sure that they were not being followed. He parked near the yacht basin and went to find a telephone while they walked on ahead. A biting wind keened in off the waters of the Oresund, directly from Sweden and the arctic beyond. The sky was low and gray.

"It feels like snow," Ove said.

"Is that the ship?" Arnie asked, looking toward the far end of Langelinie quay, where a single vessel was tied up.

"Yes, the *Isbjorn. It* seemed the best for our needs. After all, we can't be too sure about stress and, old as she is, she's still an icebreaker. I watched her half of last winter keeping the channel clear out here."

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Two policemen, massive in their great, long coats, looked out toward Sweden and ignored them when they passed. As did two equally solid men in a car halfway down the quay.

"Sfcou has his watchdogs out," Ove said.

"I doubt they'll have much to do. In this weather not many sightseers will want to walk along here.".

The ship loomed over them, a black wall studded with rows of bulging rivet-heads. The gangplank was down, but no one was in sight on deck. They climbed up slowly, the ramp creaking beneath them.

"Quite an antique," Ove said once they had reached the deck. "But a little too dark to match her *polar bear' name with all the soot." A thin ribbon of coal smoke rose from her stack from the furnace below.

"Old but strong," Arnie said, pointing at the massive reinforcing in the bows. "The new generation of icebreakers slide up onto the ice and break it with their weight. This old-timer does it the hard way by bashing right on through. This was a wise choice. I wonder where everyone is?"

As though summoned by his words the door to the pilot house swung open and an officer appeared there, as dark and brooding as the ship in his black coat and boots, a great piratical beard concealing the lower part of his face. He stomped over to them and executed a very perfunctory salute.

"I assume that you are the gentlemen I was told to expect. I am Captain Hougaard, the commander of this vessel." There was no warmth at all in his tone or his manner.

They shook hands with him, embarrassed by Skou's instructions not to give their names.

"Thank you for having us aboard, Captain. It was very kind of you to make your ship available," Ove said, trying to be conciliatory.

"I had no choice." He was not in a peacemaking humor. "I was ordered to do so by my superiors. My men are staying below as was also ordered."

"Very kind," Ove said, working hard *to* keep any sarcastic edge from his words. There was the thin squeal of brakes as the post office truck pulled up on the quay below; a welcome interruption. "Would you be so kind as to have some of your men bring up the packages from that truck?"

Captain Hougaard's only answer was to bellow commands down a hatchway, which brought a half-dozen sailors on the run. They were far more interested than the captain in what was happening, and perhaps grateful for the break in routine.

"Gently with those," Arnie said when they carried the boxes up the gangway. "They can't be dropped or jarred."

"Couldn't treat it more gendy if my mother was inside," a blond giant of a seaman said. His wide sideburns vanished into a heroic moustache. He winked at them when the captain wasn't looking.

They had gone over the blueprints of the ship and had selected the engine room as best suited to their needs. The bow end of the space was cut off by a screened wall into a room for the electrician, with his supplies and workbench. The power board and generator were here and, equally important, it was against the outer skin of the ship's hull. The boxes were brought here and, under the watchful eyes of the two physicists, were gently lowered to the deck. When all of the men had gone the captain stepped forward.

"I have been instructed that your work is to be done in absolute privacy. However, since one boiler must be fired, an engineer will have to be stationed out here ..."

"That's perfectly all right," Arnie broke in.

". . . and when the watch is changed I will change the men myself. I will be in my cabin if you wish to contact me."

"Fine, thank you for the aid, Captain." They watched his retreating back. "I am afraid he doesn't like all this," Arnie said.

"I'm afraid we can't afford to worry about it. Let's get these things uncrated."

Setting up the equipment took most of the day. There were four basic units, electronic equipment of some kind, unidentifiable in their dial-studded black metal cabinets. Heavy cables with multiple-pronged connectors *snaked* between them, and an even thicker cable ran to the power outlet. While Arnie worried over the connections and

adjustment of the equipment, Ove Rasmussen pulled on a pair of cotton workmen's gloves and studied the paint-encrusted, rivet-littered hull of the ship.

"Right here," he said, tapping on a bulging rib with his hammer. He then went to work with steady precision, with hammer and chisel, removing the thick layers of paint that covered the steel. When he had a foot-long area cleaned right down to the bare, shiny metal, he scrubbed it industriously with a wire brush.

"Done," he announced with satisfaction, pulling off the gloves and lighting a cigarette. "Clean as a whistle. Positive contact here and through the entire hull." "I hope so. This connection is most vital." A flexible, rectangular-cross-sectioned wave guide protruded from what appeared to be the final unit in the interconnection, and terminated in a complicated bit of brass machining equipped with screw clamps. After a certain amount of filing of metal, and mumbled curses about the intractability of inert matter, they succeeded in fastening it to the prepared section of metal. Arnie made a number of careful settings and switched on the equipment.

"Trickle power," he said. "Just enough to see if we are completing our circuitry."

There was a sudden sharp rapping on the door. Ove went and opened it a crack. Captain Hougaard was outside, looking as annoyed as ever. "Yes?"

"There is a soldier here who wishes to speak to you." He did not appear to enjoy his role as messenger boy.

Ove opened the door just wide enough to slip out through, then carefully closed it behind him. A uniformed sergeant, all web belts, brass clips, high boots, was holding the leather case of a field telephone. The cable from it

vanished out of sight up the gangway.

"I was told to bring this to you, sir. The other unit is on the quay outside."

"Thank you, Sergeant. Just put it down here and I'll take care of it."

The door to the electrician's compartment opened and Arnie looked out.

"Could I talk to you, Captain?" he asked.

The captain pointed at the sergeant. "Wait for me on the deck above." He was silent until the man had clumped up the stairway out of earshot. "What is it?"

"We need some skilled help. Perhaps you have someone aboard who can weld—and do a good job? It will take a long time to send ashore for help. This is a matter of national interest," he added when the captain was silent, and appeared reluctant to answer.

"Yes, I'm very much aware of that. The Minister of Trade will have my complete report on this matter. There is Jens; he was a welder in the shipyard. I'll send him down." He went away, the very stomp of his feet radiating annoyance.

Jens turned out to be the moustached giant who had helped bring down the boxes. He appeared, swinging the heavy tanks of a gas welder like toys, smiling innocently.

"Now we get a look at the box of tricks, hey? No secrets from Jens; he sees all and tells nothing. Big mysterious secret affairs, Army, Navy, Marine—even Nils Bohr Institute like Herr Professor Rasmussen here." Both men looked shocked as the big man winked and dropped the pipes and tanks to the deck.

"Perhaps we had better contact—" Arnie said, but was interrupted by Jen's Olympian laugh.

"Don't worry! See all, tell nothing. Jens has been in the Army, in Greenland—in the shipyard, South America. On television I saw the Professor here get the Nobel prize. Gentlemen, don't worry, I am as good a Dane as they come, even if I was born in Jutland, which some lousy Zealanders hold against me, and I even have the Dan-nebrog tattooed on my chest. Would you like to see it?"

He assumed they would, even before they had a chance to answer, and opened his jacket and shirt to show the

white-crossed red flag of Denmark tucked away behind the golden waves of hair.

"That is very good," Arnie said—and shrugged. "I suppose we do not have much choice in the matter. I assume you will not talk about what you see here. ..."

"If the torturers pulled out every fingernail and toenail on my body I would laugh and spit in their faces without saying a word."

"Yes, I am quite sure that you would. If you will come *in here."* They stood aside while the big man dragged his equipment in. "It is the hull connection," Arnie told Ove. "Just not good enough. The signal is not getting through. We will have to weld the wave guide to it."

Jens nodded while they explained what must be done, and his welder popped, then hissed to life. He knew his work all right; the captain had not been wrong about that. After removing the wave guide; he brushed the area clean again and scrubbed it with solvent. Only then did he clamp the brass fitting back on and run a true and steady bead down its length, humming cheerfully to himself while he worked.

"Strange looking radios you have here," he said, flashing a brief look at the equipment. "But of course it's not a radio—I know that much, did a bit of radio operating myself in Indonesia. Physics, very complicated stuff."

"Did anyone ever tell you that you talk too much, Jens?" Ove asked.

"Sometimes, but not twice." He closed a scarred fist that looked as big as a soccer ball. Then he laughed. "I talk a lot, but I don't say much. Only to friends." He picked up the equipment and started out. "It has been good speaking with you gentlemen. Don't forget to call on old Jens when you need help." Then he was gone.

"An interesting personality," Arnie said. "Do you think he will tell anyone about this?"

"I hope not. And I doubt it. But I think I'll mention him to Skou, just in case."

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"You've caught his security bug."

"Perhaps. But if everything goes according to plan tonight, we are going to have something that we very much want to keep under wraps."

"The signal is fine now," Arnie said, and flipped off the power and leaned back and stretched. "That is all we can do for the moment. What comes next?"

Ove looked at his watch. "Six o'clock and I'm getting hungry. It was arranged for us to eat aboard."

"The captain will really enjoy having us. Boiled fish, boiled potatoes, and alcohol-free beer, I suppose. We should take turns. Why don't you eat first? I am not very hungry."

"After your undoubtedly accurate description *neither* am I. But I'll volunteer since it was my idea. It will be eleven o'clock before anyone shows up so we have more than enough time."

Arnie puttered with the equipment and worked out an estimate on field strength at maximum output, so the time passed quickly. He unlocked the door when Ove called to him.

"Not one half as bad as we expected. Roast pork and red cabbage, very filling in a hearty, nautical way. Unless you have acquired some dietetic prejudices since I saw you last?"

"Hardly. Modern Judaism is more a state of mind and a cultural heritage than a religion. Though I admit that it is easier to find poultry than pork in Tel-Aviv. I look forward to the dinner."

Just before eleven the field telephone rang with a clanging military urgency. Ove answered it.

"Skou here. The observers are assembling and. they wish to know when the demonstration will begin."

"At once, tell them. Tell them I'm on my way up." He rang off and turned to Arnie. "Ready?"

"Ready as we will ever be, I imagine." He took a deep breath. "You had better stay on the other end of this phone so we can be in touch. Keep me informed constantly."

"You know I'll do that. And it's going to work, be sure of that."

"I *hope* that. We will look quite the fools if it does not."

"The laboratory results . . ."

"Are not a field trial. We are going to try that now. Let me know when I am to start."

Ove followed the telephone wire up through the ship and, when he opened the outer door, was pelted in the face by a flurry of fine snow. It was carried by a biting wind that made him close his coat tightly and turn up the collar. From the top of the gangway he could see the huddle of dark figures against the far wall of the quay. Skou was waiting for him when he came down.

"If you are ready they would be pleased if you started. Admiral Sander-Lange there is in his seventies, and we have two generals not much younger." . "The Prime Minister . . . ?"

"Decided at the last minute not to come. But there is his representative. The Air Force people are here, everyone on the list."

"We are all ready then. If you bring the phone over, I'll brief them and we can begin."

"I would like some explanation," the admiral said when Ove came up, more than an echo of command still in his old man's voice.

"I'll be happy to, sir. What we hope to do here is to demonstrate the Daleth effect."

"Daleth?" a general asked.

"The fourth letter of the Hebrew alphabet. The symbol that Professor Klein had assigned to the factor in the equation that led to the discovery."

"What discovery?" someone asked, puzzled.

Ove smiled, his features barely visible in the snow-obscured light of the overhead lamp.

"That is what we are here to observe. The Daleth effect has been proven in theory, and in limited laboratory experiments. This is the first time that it has been attempted on a large enough scale to prove whether it will be univer-

sally applicable or not. Since there was so much physical difficulty, and security, in setting up this trial, it was decided that observers should be present even if there were a chance of failure."

"Failure of *what?"* an irritated voice asked.

"That will be obvious enough in a few minutes . . ." The telephone rang and Ove broke off. "Yes?"

"Are you ready to start?"

"Yes. Minimum power to begin with?"

"Minimum power. Beginning"

"If you gentlemen will watch the ship," Ove said, covering the mouthpiece.

There was very little to see. Flurries of fine snow swept through the cones of light along the quay. The *Isbjorn's* gangplank had been raised, as had been instructed, and men stood by on the fore and aft cables, which had been slacked off. The tide had carried the ship away from the quay so that a gap of dark water could be seen. Waves gurgled and slapped between the hull and the stone wall of the quay.

"Nothing yet," Ove said.

"I'm turning up the output"

The men were stamping their feet in the cold and there was an undertone of irritated murmuring. One of them turned to Ove, a complaint ready on his lips, when a sudden high-pitched whining filled the air. It seemed to come from all directions at once, sourceless and irritating, making them feel as though the bones in their skulls were vibrating. This painful aspect of the sound passed quickly, though the vibration itself remained, at a lower pitch, like the string on some celestial bass viol, humming to itself behind the backdrop of the world.

As this first sound died away, a creaking began in the *Isbjorn,* sounding first one part of the hull then the other. There were excited shouts *on* deck. Something like a shudder passed through the ship and tiny waves broke all around it and sucked at the hull.

"Good Christ, look!" someone gasped. They looked. It was incredible.

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As though mounted on a giant underwater piston, the entire mass of the bulky icebreaker was slowly rising in the water. First the Plimsoll line appeared, then the red-leaded bottom of her hull. Dim blots of barnacles *spotted* it here and there and then, further down, hanks of weed trailed limply. At the stern the lower, barnacled part of the rudder appeared, as well as the propeller, rising steadily until all of its dripping blades were clear of the water. The seamen on shore quickly payed out line as the cables grew taut.

"What is happening? What is this?" one of the observers called out, but his voice was drowned out as others shouted with excitement.

The snow was lessening, blowing away in gaps and swirls; the lights on the quay now shone clearly on the ship and the sea. Water ran in continuous streams, louder than the slap of waves against the stone.

The keel of the ship was now a good meter above the surface of the Yderhavn channel.

"Arnie, that's it. You've done it!" Ove clutched the phone, looking at the multi-thousand-tonned mass of the ship before him that floated, unsupported, in the air. "It's a meter above the surface at least! Reduce power now, reduce . . ."

"/ *am."* The voice was strained. *"But there is a harmonic building up, a standing wave . . .*"

His words were drowned in a groan of metal from the *Isbjorn* and the ship seemed to shudder. Then, with frightening suddenness, the stern dropped into the water as though some invisible support had been removed, sliding back and down.

The sound was the crash of a giant waterfall, a crescendo of noise. In an instant, rearing up like an attacking animal, a wave of black water surged high over the edge of the quay, hung poised, one meter, two meters above— then plunged. Changing instantly to a bubbling, knee-high foaming tide that tore at the observers and splashed high against the rear wall. It swept the men off their feet, jumbled them together, hurled them apart, left them

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stranded like beached fish as it drained away iii a wide sheet of darkness.

As it subsided the groans and cries went up, and the shouts were echoed aboard the ship.

"Over here, my God, it's the admiral!"

"Don't touch him—that leg's broken at least, maybe worse."

"Get off me . . . !"

"Someone call an ambulance, this man's hurt!"

Heavy boots hammered on the stone as the guards ran

up: someone was shouting into a police radio. Aboard the

• *Isbjorn* there was the clang of metal as she wallowed back

and forth, and her captain's voice could be clearly heard

above the others.

"Taking water aft—the wooden plugs, you fools—when I get my hands on the people who did this!"

The ear-hurting *bahh-boo* of police cars grew louder, and in the distance there was the rapid clanging of ambulance bells. Headlights raced down the length of the quay as water ran from its edge in a hundred tiny waterfalls.

Ove was dazed, washed against the wall, soaked to the skin and tangled in the wire from the telephone. He pushed himself to a sitting position, back against the rough stone, looking at the frantic scene of shouting men with the *Isbjorn* still rocking in the background. He was shocked by the suddenness of disaster, the wounded, possibly dead men near him. This was terrible; it should not have happened.

At the same time he was filled with such a rising feeling of exultation that he almost shouted aloud. It worked! They had done it! The Daleth effect was as Arnie had predicted it would be.

There was something new in the world, something that had never existed before this night, and from this moment onward the world would never be the same again. He smiled into the darkness, unaware of the blood that was running down his chin, and of the fact that four of his front teeth had been knocked out.

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*** * ***

Snow still drove past spasmodically, first *dropping a* sheet of obscurity and then lifting it for a tantalizing glimpse. The man on the other side of the channel of the Yderhavn cursed to himself in a continuous guttural monotone. This was the best he could do with such short notice, and it was just not good enough.

He was on the roof of a warehouse, just across the half-mile-wide channel from the Langelinie quay. This area was almost completely deserted after dark, and he had had no trouble avoiding the few night watchmen and police who came by. His glasses were good, the best Zeiss-Ikon 200 mm wide-field night glasses, but they could see nothing if nothing was there. The snow had started soon after the official cars had pulled up on the quay and had been drifting by ever since.

The cars were what had aroused his interest, the high-level activity so late at night, the concerted motion of a number of military people that he kept under observation. What it meant he had no idea. They had gone to that damned quay, in the dead of night in a snowstorm, to stand and look at a filthy scow of a coal-burning icebreaker. He cursed again and spat into the darkness, an ugly man, uglier now in his anger, with a tight mouth, round head, bullet neck, and thin gray hair cropped so short it might have been shaved.

What were these thick and stupid Danes up to? Something had happened; there had been an accident docking ,, the ship perhaps, men had been knocked down. There had been a disturbance in the water. But there had been no sound of an explosion. Now there was plenty of excitement, ambulances and police cars coming from all sides. Whatever had happened had happened; there would be nothing else of importance to be seen here tonight. He cursed again as he rose, chilled, his knees stiff and cracking with the effort.

Something had happened, that was certain. And he was

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damned well going to find out what it was. That was what he was paid to do and that was what he enjoyed doing.

The ambulances clanged away, and it would have taken a keen eye in the darkness to see that the icebreaker now rode lower in the water.

5'

"Not much of a view," Bob Baxter admitted, "but it's one that I find inspiring in a way. It's kind of hard for me to forget my job when I look out of this window."

Baxter was a thin, gangling man who seemed to fold at the joints like a carpenter's rule. His face was bland, instantly forgettable, and its most memorable feature was the thick, black-framed glasses that he wore. Without them you might not recognize him. Which was perhaps why he wore them. He slumped when he sat, deep in the swivel chair behind the desk, pointing out of the window with a freshly sharpened, yellow HB pencil stamped PROPERTY OF THE U.S. GOVERNMENT.

The only other man in the small office sat, bolt upright, on the front half of his chair and nodded stiffly. This was not the first time he had heard about the view. He was a solid, ugly man with tight-clamped lips and a very round head only partially covered with a stubble of gray hair. The name he was known by was Horst Schmidt, which is just as much a hotel register name as is John Smith.

"Peaceful in a way," Baxter said, jabbing the point of the pencil at the white stones and green trees. "Nothing more peaceful than a graveyard I guess. And do you know what that building with the fancy roof is, right on the other side of the graveyard?"

"The Embassy of the Union of Soviet Socialist Republics." His English was accented but good, with a

marked tendency to roll the Rs deep in the throat.

"Pretty symbolic that." Baxter swung about and dropped the pencil back onto his desk. "The American embassy being right across this graveyard from the Russian embassy. Gives you something to think about. What have you found out about that trouble the other night down by the waterfront?"

***"It has not* been easy, Mr. Baxter. Everyone is being very close-mouthed." Schmidt reached into the inner pocket of his jacket and withdrew a folded sheet of paper, holding it at arm's length and squinting to read it. "This is the list of the people hospitalized with injuries, all of them admitted at roughly the same time. They are—"**

"111 make a xerox of that list so you can skip the details. Can you just give me a summary now?"

"Of course. One admiral, one major general, one colonel, one other rank, one high-ranking member of the Ministry of State. Five individuals in all. I have good reason to believe that an unidentified number of other individuals were treated for bruises and dismissed. Among these numbered members of the Air Force."

"Very good. Most efficient."

"It was not easy. Military hospital records are hard to come by. There were expenses. . . ."

"Just submit your gyp sheet. You'll be paid, no fear. Now the sixty-four-dollar question, if I may say so myself, is what *caused* all these injuries?"

"That is difficult to determine, you must realize. There is a ship involved, the *Isbjorn,* an icebreaker."

"That is not what I would call startling news, since we have known it since the first day." Baxter frowned slightly and pushed the handful of sharpened pencils into a neat row on the unmarked green blotter before him. The only other item on the desk was a folding, leather-type plastic frame containing the picture of a round-faced, smiling woman holding two equally moon-faced, but surly, children. "There must be more."

"There is, sir. The *Isbjorn* has been towed across to the Naval shipyard in Christianshavn where it is being

repaired. It appears to have suffered some sort of hull damage, possibly through collision. I have been able to determine that whatever is responsible for the damage to the ship also injured the men. Getting this bit of information alone has been immensely difficult because of the security curtain that has been clamped down on the entire affair. This is enough to lead me *to* believe that something very important is going on."

"I believe the same thing, Horst, the same thing." Baxter's eyes unfocused in thought and his fingers touched one of the pencils, picked it up, carried it to his mouth where he gnawed lightly at it. "This appears to be a *big* thing for the Danes, all the military involved, their state department, even a damned icebreaker. And that icebreaker makes me think of ice and ice makes me think of Russia and I would like to know just what the hell is going on."

"You haven't then . . ." Horst smiled a completely unhumorous grin that revealed a badly matched collection of yellow teeth, steel teeth, even the unexpected luxury of a gold tooth. "That is, I mean, there should be some information through NATO, should there not?"

"Which is none of your damn business whether there is or not." Baxter frowned at the dented, spit-damp end of the pencil, then threw it into the wastebasket. "You are here to supply information to me, not the other way around. Though you might as well know that officially nothing has ever happened and no one is going to say one damned word to us about it." Under the cover of the desk he wiped his damp fingertips on his pants leg.

"That is very disloyal of them," Horst said with complete lack of emotion. "After all that your country has done for them."

"You can say that again." Baxter glanced quickly at his wrist watch. It was gold and contained an extraordinary number of hands and buttons. "You can give me a report in a week. Same day, same time. You should be able to find out something more by then."

Schmidt passed over the piece of paper with the names.

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"You said that you wished to photocopy this. And there is the matter of . . ." He had his hand out, palm up, and he smiled quickly before lowering it.

"Money. Come right out and say it, Horst. Money. Nothing to be ashamed of. We all work for money, that's what keeps the wheels turning. 1*11 be right back."

Baxter took the paper and went through the connecting door to the next office. Schmidt sat, unmoving, while he waited, showing no interest in the desk or the filing cabinet against the wall. He yawned once, widely, then belched, smacking his lips afterward with a dissatisfied expression. He took two white tablets from a plastic box in his pocket and chewed on them. Baxter returned and gave him back the sheet of paper and a long, unmarked envelope. Schmidt slipped them both into his pocket.

"Aren't you going to count it?" asked Baxter.

"You are a man of honor." He stood up, every inch the middle-class middle-European in his wide-lapeled dark blue suit, heavy black shoes, wide-cut trousers with cuffs big enough to swallow his feet. Baxter's eyebrows raised up, above the black frames of his glasses, but he said nothing. Schmidt took his coat and scarf from the stand in the corner, both as dark and coarse of texture as the wide-brimmed hat. He left without another word, using the door that opened into the gray and featureless hall. There was no nameplate on the outside of the door, just the number 117. Instead of turning into the lobby, he continued along the hallway, then down a flight of stairs to the United States Information Service Library. There, without looking at the titles, he took two books from the shelf nearest the door. While they were being checked out he shrugged into his coat. When he emerged into Oster-brogade a few minutes later he walked close behind another man who was also carrying books. The other turned right, but he turned left, and walked stolidly past Garnisons churchyard and on to the Osterport subway station.

Inside the station he made use of almost all of the facilities, one after another. He bought a newspaper at the

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kiosk by the entrance, turning about and looking over the top of it to see who came in after him. He went to the toilet at the far end. He checked the books and the newspaper into an automat locker and pocketed the key. He went down one staircase to the trains and, although it was against the law to cross the tracks, managed to come up some time later by way of a different staircase. This appeared to be thirsty work and he finally had a glass of draft Carlsberg from the luncheonette, standing up and drinking it at one of the chest-high tables. All of these actions appeared to have accomplished what they had been designed to do because, after wiping the foam from his lips with the back of his hand, he emerged from the rear entrance of the station and walked briskly down Ostbanegade, next to the tracks where they emerged from the tunnel into the watery winter sunshine. At the first corner he turned left and walked down along the other side of the churchyard. He was alone in the street.

When he was positive of this he turned about smartly and walked through the open, high wrought-iron gates and into the Soviet embassy.

"Ja, J a," Captain Nils Hansen said into the telephone, *"jeg skal nok tale med hende. Tak for det."* He sat, tapping his fingers against the phone while he waited. The man who had identified himself only as Skou stood looking out of the window at the gray, wintry afternoon. There was the distant banshee scream of jets as one of the big planes taxied in from the runway.

"Hello, Martha," Nils continued in English. "How is.

everything? Fine. No, I'm at Kastrup, just set down a little while ago. A nice tail wind out of Athens, brought us in early. And that's the trouble, I'm going right out again. . . ." He nodded agreement with the voice that *rustled in* his ear, looking more than a little unhappy.

"Listen, darling, you are completely correct and I *couldn*[9]*t* agree more—but there is absolutely nothing we can do about it. The powers that be have willed otherwise. I can't fly, too many hours, but they can fly me. One of the pilots—a Swede, what else?—is down with appendicitis in Calcutta. I'm going out on the next flight, in fact they are holding it for me right now, and I'll sleep and get another night's sleep at the Oberoi Grand, so I'll be able to take his flight out tomorrow. Right. . . . Nearer forty-eight hours I would say. I am as sorry to miss the dinner as you are and please tell the Overgaards that I am crying because I shall miss her *dyresteg* and instead of fine Scandinavian venison I shall be eating gut-rotting curries and will suffer for a week. Of course, *skat,* 111 miss you too and I'll make them pay me a bonus and I'll buy you something nice with it. Yes .. . okay .. . good-bye."

Nils hung up and looked with open dislike at Skou's turned back. "I don't enjoy lying to my wife," he said.

"I'm very sorry, Captain Hansen, but it cannot be avoided. A matter of security, you know. Take precautions today and tomorrow takes care of itself." He looked at his watch. "The Calcutta plane is just leaving, and you are listed as being aboard. You are registered at the Calcutta hotel, though you will not be able to receive phone calls. Everything has been arranged with the utmost detail. The ruse is a necessary but harmless one."

"Necessary for *what?* You appear out of nowhere, take me to this office, show me letters with big names on them requesting my service, including one from my commander in the Air Force Reserve, extract my promise to cooperate, induce me to lie to my wife—but really tell me nothing. What the devil is *going* on?"

Skou nodded seriously, looked around the room as if it were lined with countless eavesdropping bugs, and did

everything but put his finger to his lips: he radiated secrecy.

"If I could **tell** you I would. I cannot. Within a very short time you will know all about it Now—can we leave? **I'll** take your bag."

Nils grabbed it up before the other could touch it and stood, jamming his uniform cap onto his head. He was *six* feet four inches tall in stockinged feet: now, in uniform, cap, and belted raincoat, he loomed large enough to fill the small room. Skou opened the door and Nils stamped out after him. They exited through the back door of the operations building where a cab was waiting for them, a Mercedes diesel hammering and throbbing while its engine idled. As soon as they had entered the driver put down his flag and started, without instructions. When they left the airport they turned right, away from Kastrup.

"That's interesting," Nils said, looking out of the window, the scowl now vanished from his face. He could never stay angry very long. "Instead of going to Kobenhavn, and the exciting world beyond, we head south on this little pool table of a potato-growing island. What can we possibly find of interest in this direction?"

Skou reached over into the front seat and took up a black topcoat and a dark beret. "Would you be so kind as to take off your uniform coat and cap and put these on. I am sure that your trousers will not be identified with an SAS

uniform."

"Cloak and dagger, by God," Nils said, struggling out of his coat in the cramped back seat. "I suppose this good and honest cab driver is in on the whole thing?"

"Of course."

The capacious front seat now yielded up a small suitcase just large enough for the discarded coat and cap. Nils pulled the collar of his new coat up, pulled the beret down over his eyes and buried his big chin in the collar.

"There, do I look conspiratorial enough now?" He could not stop himself from grinning. Skou did not share his humor.

"I'll ask you, please, not to do anything that will draw

attention to us. This is a very important matter, I c you that much."

"I'm sure of it."

They rode in silence after that, through a drab landscape of freshly plowed fields waiting for the spring sowing. It was a short drive to the fishing village of Dragor, and Nils looked suspiciously at the old red-brick buildings as they passed. They did not stop, but continued on to the harbor.

"Sweden?" Nils asked. "Aboard the car ferry?"

Skou did not trouble himself to answer, and they drove right by the ferry slip to the small harbor. A few pleasure craft were tied up here, including a fair-sized inboard launch.

"If you will follow me, please," Skou said, and grabbed Nils's bag before he could get it himself. He led the way out on the dock, carrying both bags. Nils followed meekly after, wondering just what the hell he was getting into. Skou climbed aboard the launch and put the bags into the cabin, then waved Nils aboard. The man at the wheel appeared to ignore all this, but he did start the engine.

"I'll say good-bye, then," Skou said, "I think it will be most comfortable traveling in the cabin."

"Traveling where?"

Skou left without answering and began to untie the mooring lines. Nils shrugged, then bent over to get through the low cabin door. He dropped onto the bench inside and discovered, tardily because of the dim light that filtered through the small portholes, that he was not alone.

"Good afternoon," he said to the muffled figure on the far end of the other bench, and received a noncommittal answer in return. As his eyes adjusted to the light, he realized that there was a suitcase at the other man's feet and that he was wearing a black coat and dark beret.

"How about that," Nils laughed. "Looks like they caught you too. We're wearing the same uniform."

"I don't know what you are talking about," the other said testily, pulling off the beret and jamming it into his pocket Nils moved along the bench to sit opposite him.

"Oh yes you do. That Skou with his mysterious ways. Very little imagination though when it comes to disguise. I'll bet you were drafted for a secret job in a big hurry and rushed over here."

"How do you know that?" the other asked, sitting up.

"Instinct." Nils pulled off his beret and pointed to it— then looked closer at the other man's face. "Don't I know you from somewhere? A party or something—no, from the magazine. You're the submarine fellow who helped salvage that Seven-oh-Seven off the coast. Carlsson, Henriksen or something. . . ."

"Henning Wilhelmsen."

"Nils Hansen."

They shook hands automatically after this exchange of names, and the air of tension lessened. It was warm in the tiny cabin and Nils opened his coat. The motor chugged steadily as they pulled away from shore. Wilhelmsen looked at the other's uniform.

"Now isn't that interesting," he said. "A naval commander and an SAS pilot wallowing out into the Oresund aboard a scow. What could this possibly mean?"

"Maybe Denmark has an aircraft carrier we don't know about?"

"Then why me? It would have to be a submarine aircraft carrier, and *that* I would have heard something about. How about a drink?"

"The bar isn't open."

"It is now." Wilhelmsen pulled a leather-covered flask from his side pocket. "The motto of the submarine service is 'Be prepared.' "

Nils smacked his lips unconsciously as dark liquid was poured into the metal cup. "I can't if I'm going to fly in the next twelve hours."

"Little chance of that out here, unless this barge sprouts wings. Besides, this is navy rum, alcohol free."

"I accept your offer."

The rum tasted quite good and put a better temper to the afternoon. After a certain amount of circling around the topic they exchanged information, only to discover

this merely doubled their lack of knowledge. They were going somewhere for reasons unknown. After squinting at the setting sun they agreed that the only bit of Danish la&dscape that lay in this direction was the island *of Bom-holm,* which was an impossibility in their light craft. A half-hour later their question was answered when the launch's engine was cut and the portholes on the starboard side suddenly darkened.

"A ship, of course," Henning Wilhelmsen said, and poked his head out of the door. "The *Vitus Bering."*

"Never heard of her."

"I certainly have. It's a Marine Institute ship. I was aboard her last year when she was mother ship for *Blaeksprutten,* the small experimental sub. I did the trial runs."

Feet thudded to the deck and a sailor poked his head in and asked for their baggage. They passed it out, then followed him up the heaving ladder. A ship's officer invited them to the wardroom, then showed them the way. There were more than a dozen uniformed men waiting there, representatives of all the armed forces, as well as four civilians. Nils recognized two of them, a politician he had once had as a passenger, and Professor Rasmussen, the Nobel prize winner.

"If you will sit down, gentlemen," Ove Rasmussen said, "I'll tell you why we are all here."

*** * ***

By dawn the next morning they were far put in the Baltic, in international waters, a hundred miles from land. Arnie had slept badly; he wasn't much of a sailor and the pitching of the ship had kept him awake. He "was the last one on deck, and he joined the others as they watched *Blaeksprutten* being swung up out of the hold.

"Looks like a toy," Nils Hensen said. The big pilot, although he wore his SAS cap was, like all of the others, now dressed in high rubber boots, sweaters, and heavy wool pants to stop the cutting arctic wind. It was a lower-

ing winter day with the clouds pressing down and the horizon close by.

"She's no toy—and she's bigger than she looks," Wilhelmsen defended warmly. "With a crew of three she can still carry a couple of observers. Dives well, good control, plenty of depth . . ."

"No propellers though," Nils said gloomily, winking at the others. "They must have got broken off . . ."

"This is a sub, not one of your flying machines! It has water impellers, jets, just like those stupid great things of yours. That's why it's called *Blaeksprutten*—it moves by jetting water just like a squid."

Arnie caught Ove's eye and motioned him aside.

"A perfect day for the trials," Ove said, pushing at his new front teeth with his tongue; they still felt strange. "The visibility is down and nothing at all on the radar. An Air Force plane overflew us earlier and reported the nearest ship to be over a hundred and forty kilometers distant. Just a Polish coastal freighter at that."

"I would like to be aboard for the tests, Ove."

Ove took him lightiy by the shoulder. "Don't think I don't know that. I don't want to take your place. But the Minister thinks that you are too valuable a man to be risked this first time out. And I guess that he is right. But I would still change if I could—only they won't let me. The admiral knows the order and he'll see that it is obeyed. Don't worry—I'll take good care of your baby. We've eliminated that harmonic trouble and there's nothing else that can go wrong. You'll see."

Arnie shrugged with submission, knowing that further argument would be useless.

With much waving and shouted instructions the small sub was swung out and lowered into the sea. Henning Wilhelmsen was down the ladder almost before it touched, leaping aboard. He vanished down the hatch 6n top of the conning tower, and a few minutes later there was an underwater rumbling as her engines started. Henning popped up through the hatch and waved. "Come aboard," he called out.

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Ove took Araie's hand. "It's going to be all right," he said. "Since we installed the Daleth unit, we have checked it over a dozen different times."

"I know, Ove. Good luck."

Ove climbed down the ladder with Nils Hansen right *behind him,* They entered and closed the hatch.

"Cast off," Henning said, his voice booming from the loudspeaker that, connected to the short-range, low-powered radio, had been installed on deck. The lines were pulled free and the little sub turned and began to move away. Arnie took up the microphone and pressed to talk.

"Take it out about three hundred meters before beginning the test."

"/a *veil"*

The ship's engines had been stopped, and the *Vitus Bering* rolled in the easy sea. Arnie held tight to the railing and watched the sub move away. His face was as composed as always, but he could feel his heartbeat, faster then he ever remembered. Theory is one thing, practice another. As Skou might say. He smiled to himself. This was the final test.

There were field glasses around his neck and he fumbled them to his eyes as the sub turned and began to circle the mother ship in a wide circle. Through the glasses the craft was very clear, moving steadily, its hull barely awash as the waves broke against it.

Then—yes, it was true—the waves were splashing against the side and more of the hull was visible. It appeared to be rising higher and higher in the water, floating unnaturally high—then rising even further.

Until, like a great balloon, it rested on the surface.

Rose above the surface. Went up gracefully five, ten, thirty meters. Arnie dropped the glasses on their strap and held the rail tightly, looking, frozen.

With all the grace of a lighter-than-air craft, the twenty-ton, thick-hulled submarine was floating a good forty meters above the sea. Then it seemed to rotate on some invisible bearing until it pointed directly at the mother

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ship. Moving slowly it drifted their way, sliding over their upturned faces, a spray of fine droplets falling

from its still dripping hull. No one spoke—struck speechless by the almost unbelievable sight—and the stuttering of the submarine's diesel engines could be clearly heard. Without turning his eyes away, Arnie groped for the microphone and switched it on.

"You can bring it in now. I think that we can call the experiment a success."

7

With the blackboard behind him and the circle of seated, eager listeners before him, Arnie felt very much at home. As though he were back in a classroom at the university, not the wardroom of the *Vitus Bering,* He resisted the impulse to turn and write his name, ARNDE KLEIN, in large letters upon the board. But he did write DALETH EFFECT very clearly at the top, then the Hebrew letter *\ after it.

"If you will be patient for a moment, I must give you a small amount of history in order *to* explain what you witnessed this morning. You will remember that Israel conducted a series of atmospheric research experiments with rockets a few years ago. The tests served a number of functions, not the least of which was to show the surrounding Arab countries that we . . . that is they, Israel . . . had home-manufactured rockets and did not depend upon the vagaries of foreign supplies. Due to the physical limitations imposed by the surrounding countries, and the size of Israel, there was very little choice of trajectories. Straight up and straight back down was all that we could do, and some very exacting control techniques had to be worked out to accomplish this. But a rocket that

rose vertically and stayed directly above the launch site on the ground proved an invaluable research device for a number of disciplines. A trailing smoke cloud supplied the meteorologists with wind direction and speed at all altitudes, while internal instrumentation recordings later coordinated this with atmospheric pressure and temperature. Once out of the atmosphere there were even more experiments, but the one that we concern ourselves with now is the one that inadvertently revealed what can only be called gravimetric anomalies." He started to write the word on the blackboard, but controlled himself at the last moment.

"My interest at this time was in quasars, and the possible source of their incomprehensible energies. Even the total annihilation of matter, as you know, cannot explain the energy generation of quasars. But this became almost incidental because—completely by chance—this rocket probe was out of the atmosphere when a solar flare started. It was there for almost fifty minutes. Other probes, in the past, have been launched as soon as a flare has been detected, but this means a lag of an hour at least after the original explosion of energy. Therefore I had the first readings to work with on the complete buildup of a solar flare. Magnetometer, cosmic ray particles—and something that looked completely irrelevant at the time: the engineering data. This drew my attention because I had been working for some years on certain aspects of the Einsteinian quantum theory that relate to gravity. This research had just proven to be a complete dead end, but it was still on my mind. So when the others discarded some of the data because they believed the telemetry was misreading due to the strong magnetic fields, I investigated in greater detail. The data was actually sound, but it showed that a wholly inexplicable force was operating that seemingly reduced the probe's weight, but not its mass. That is to say that its gravitational mass and inertia! mass were temporarily unequal. I assigned the symbol *Daleth* to this discrepancy factor and then sought to find out what it was. To begin with, I at once thought of the

Schwarzchild mass, or rather the application of this to the four-dimensional continuum of the Minkowski universe.

The baffled expressions on all the faces finally drew Ar-nie's attention—including one high-ranking officer whose *eyes were* glazed, almost bulging—and he slowed and stopped. He coughed into his fist to cover his confusion. These were not physics students after all. Turning to the board he added another underscore to the *Daleth.*

"Not to go into too many details, I will attempt to explain this observation in simple language. Though you

must understand that this is an approximation only of what occurred. I had something that I could not explain, though it was something that was obviously there. Like taking a dozen chicken eggs and hatching them and having an eagle come out of one. It is there, clearly enough, but why and how we do not know."

A relieved chuckle moved across the wardroom, and there were even a few smiles as they finally found themselves understanding something that was being said. Encouraged, Arnie stayed on common ground.

"I began to work with the anomaly, first setting up mathematical models to determine its nature, then some simple experiments. In physics, as in all things, knowing just what you are looking for can be a great aid. For example, it is easier to find a criminal in a city if you have a description or a name. Once helium had been detected in the spectrum of the sun its presence was uncovered here on Earth. It had been here all the time, unnoticed until we knew what to look for. The same is true of the Daleth effect. I knew what to look for and I found answers to my questions. I speculated that it might be possible to control this . . ." He groped for a word. "It is not true, and I should not do it, but for the moment let us call it an 'energy'. Remembering all the time that it is *not* an energy. I set up an experiment in an attempt to control this energy which had rather spectacular results. Control was possible. Once tapped, the Daleth energy could be modulated; this was little more than an application of current

technology. You saw the results this morning when *Blaeksprutten* rose into the air. This was a very limited demonstration. There is no reason why the submarine could not have traveled above the atmosphere at speeds *of* our own choosing."

A hand was raised, with positive assurance, and Arnie *nodded* in that direction. At least someone was listening closely enough to want to ask a question. It was an Air Force officer, looking young for the high rank that he held.

"You'll pardon my saying this, Professor Klein, but aren't you getting something for nothing? Which I have been taught is impossible. You are negating the Newtonian laws of motion. There is not enough power in the sub's engines, no matter how applied, other than by a block and tackle, to lift its mass and hold it suspended. You mentioned relativity, which is based solidly on the conservation of momentum, mass energy, and electric charge. What appears to have happened here must throw at least two out of the three into doubt."

"Very true," Arnie agreed. "But we are not ignoring these restrictions; we are simply using a different frame of reference in which they do not apply. As an analogy I ask you to consider the act of turning a valve. A few foot pounds will open a valve that will allow compressed gas to leave a tank and expand into a bag and cause a balloon to rise. An even better comparison might be to think of yourself as hanging by a cord from that bag, high above the Earth. An ounce or so of pressure on a sharp blade will cut the cord and bring you back to the ground with highly dramatic effects."

"But cutting the cord just releases the kinetic energy stored by lifting me to that height," the officer said warmly. "It is the gravity of the Earth that brings me down."

"Precisely. And it was the released gravity of Earth that permitted *Blaeksprutten* to fly."

"But that is impossible!"

"Impossible or not, it happened," an even higher rank-

ing Air Force officer called. "You damned well better believe your own eyes', Preben, or I'll have you grounded."

The officer sat down, scowling at the general laughter, which died away as Admiral Sander-Lange began to speak.

"I believe everything you say about the theory of your machine, Professor Klein, and I thank you for attempting to explain it to us. But I hope you will not be insulted when I say that, at least for me, it is not of the utmost importance. Many years back I stopped trying to understand all the boxes of tricks they were putting on my ships and set myself the task of only understanding what they did and how they could be used. Could you explain the possibilities, the things that might be accomplished by application of your Daleth effect?"

"Yes, of course. But I hope that you will understand that there are still a number of 'ifs' attached. If the effect can be

applied as we hope—and the next experiment with *Blaeksprutten* will determine that—and if the energy demands are within reason to obtain the desired results, then we will have what might be called a true space drive."

"What exactly do you mean by that?" Sander-Lange asked.

"First consider the space drive we now use, reaction rockets such as the ones that power the Soviet capsule that is now on its way to the Moon. Rockets move through application of the law of action-and-reaction. Throw something away in one direction and you move in the other. Thousands of pounds of fuel, reaction mass, must be lifted for every pound that arrives at its destination. This process is expensive, complicated, and of only limited usage. A true space drive, independent of this mass-to-load ratio, would be as functionally practical as an automobile or a seagoing ship. It would power a true spacegoing ship. The planets might become as accessible as the other parts of our own world. Since reaction mass is not to be considered, a true space drive could be run constandy, building up acceleration to midpoint in its flight, then reversing direction and decelerating continuously until it landed.

This would make a simply incredible difference in the time needed to fly to the Moon or the planets."

"How big a difference?" someone asked. "Could you give us some specific figures?"

Arnie hesitated, thinking, but Ove Rasmussen stood to answer. "I think I can give you some help. I have been working it out while we have been talking." He lifted his slide rule and made a few rapid calculations. "If we have a continuous acceleration and deceleration of one G—one gravity—there will be no feeling of either free fall or excess weight to passengers in the vehicle. This will be an acceleration of . . . nine hundred eighty—we'll call it a thousand for simplicity—centimeters per second per second. The Moon is, on the average, about four hundred thousand kilometers distant. The result would therefore be

There was complete silence as he made the calculations. He read off the result, frowned, then did it over again. The answer appeared to be the same, because he looked up and smiled.

"If the Daleth effect does produce a true space drive, there is something new under the sun, gentlemen.

"We will be able to fly from here to the Moon in a little under four hours."

During the unbelieving silence that followed he made another calculation.

"The voyage to Mars will take a bit longer. After all, the red planet is over eighty million kilometers distant at its closest conjunction. But even that voyage will be made in about thirty-nine hours. A day and three-quarters. Not very long at all."

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They were stunned. But as they thought of the possibilities opened up by the Daleth effect a babble of conversation rose, so loud that Arnie had to tap on the blackboard with his chalk to get their attention and to silence them. They listened now with a fierce attention.

"As you see, the possibilities of the exploitation of the Daleth drive are almost incalculable. We must change all of our attitudes about the size of the solar system. But before we sail off to the Moon for a weekend of exploration we must be sure that we have an adequate source of motive power. Will the drive work away from the Earth's surface? Is it precisely controllable—that is can we make the minute course adjustments needed to reach an object of astronomical distances? Do we have a power source great enough to supply the energy demands for the voyage? Is the drive continuously reliable?

"The next flight of *Blaeksprutten* should answer most of these questions. The craft will attempt to rise to the top of the Earth's atmosphere.

"As the most qualified person in regard to the drive equipment, I shall personally conduct the tests." He looked around, jaw clamped, as though expecting to be differed with, but there was only silence. This was his day.

"Thank you. I would suggest then that the second trial be begun immediately."

8

"I'm beginning to see why they might need an airline pilot aboard a submarine," Nils said, spinning the wheel that sealed the lower hatch in the conning tower.

"Keep the log, will you?" Henning asked, pointing to the open book on the litde navigator's table fixed to the bulkhead.

"I'll do just that," Nils said, looking at his watch and making an entry. "If this thing works you'll be the only sub commander ever to get flight pay."

"Take us out, please, will you, Commander Wil-helmsen?" Arnie said, intent upon his instruments. "At

least as far as you did *the* first time."

"/a vel" **Henning advanced the impeller one notch and the pumps throbbed beneath their feet. He sat in the pilot's seat just ahead of the conning tower. The hull *rose* here in a protuberance that contained three round, immensely thick ports. A control wheel, very much like that *in an airplane,* determined direction. For turning left and right it varied the relative speed of the twin water jets that propelled the sub. Tail planes aft caused them to rise or fall.**

"Two hundred meters out," Henning announced, and eased off on the power.

"The pumps for your jets, are they mechanical?" Arnie asked.

"Yes, electrically driven."

"Can you cut them off completely and still maintain a constant output from your generator? We have voltage regulators, but it would help if you could produce as constant a supply as is possible."

Henning threw a series of switches. "All motor power off. There is still an instrumentation drain as well as the atmosphere equipment. I can cut them off—for a limited time—if you like?"

"No, this will be fine. I am now activating the drive unit and will rise under minimum power to a height of approximately one hundred meters."

Nils made an entry in the log and looked at the waves splashing at the porthole nearest him. "You don't happen to have an altimeter fitted aboard this tub, do you, Henning?"

"Not really."

"Pity. Have to get one installed. And radar instead of that sonar. I have a feeling that you're getting out of your depth . . ."

Henning had a pained look and shook his head dolefully—then glanced at the port as a vibration, more felt than heard, swept through the sub. The surface of the water was dropping at a steady rate.

"Airborne now," he said, and looked helplessly at his

useless instruments. The ascent continued; moments passed.

"One hundred meters," Nils said, estimating th£ir height above the ship below. Arnie made a slight adjustment and turned to face them.

"There appears to be more than enough power in reserve even while the drive is holding the mass of this submarine at this altitude. The equipment is functioning well and is in no danger of overloading. Are you gentlemen ready?"

"I'm never going to be more ready."

"Push the button or whatever, Professor. Just hanging here seems to be doing me no good."

The humming increased and their chairs pressed up against them. Nils and Henning stared through the ports, struck silent by emotion, as the tiny submarine leapt toward the sky. A thin whistle vibrated through the hull as the air rushed past outside, scarcely louder than the sigh of the air-conditioning unit. The engine throbbed steadily. Seemingly

without effort, as silendy as a film taken from an ascending rocket, their strange craft was hurling itself into the sky. The sea below seemed to smooth out, their mother ship shrinking to the size of a model, then to a bathtub toy, before the low-lying clouds closed in around them.

"This is worse than flying blind," Nils said, his great hands clenching and unclenching. "Seat of the pants, not a single instrument other than a compass, it's just not right."

Arnie was the calmest of the three, too attentive to his instruments to even take a quick glimpse through one of the ports. "The next flight will have all the instrumentation," he said. "This is a trial. Just up and down like an elevator. Meanwhile the Daleth unit shows that we are still vertical in relation to the Earth's gravity, still moving away from it at the same speed."

The cloud layers were thick, but soon fell away beneath their keel. Then the steady rhythm of the diesel engines changed just as Arnie said, "The current—it is dropping! What is wrong?"

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Henning was in the tiny engine compartment, shouting out at them.

"Something, the fuel, I don't know, they're losing power

"The atmospheric pressure," Nils said. "We've reached our ceiling. The oxygen content of the air is way down!"

The engine coughed, stuttered, almost died, and a shudder went through the submarine. An instant later they started to fall.

"Can't you do something?" Arnie called out, working desperately at the controls. "The flow—so erratic—the Daleth effect is becoming inoperable. Can't you stabilize the current?"

"The batteries!" Henning dived for his position as he spoke, almost floating in the air, so quickly was their fall accelerating.

He clutched at the back of his chair, missed, floated up and hit painfully against the periscope housing and bounced back. This time his fingers caught the chair and he pulled himself down into it and strapped in. He reached for the switches.

"Current on—full!"

The fall continued. Arnie glanced quickly at the other two men.

"Get ready. I have cut the drive completely. When I engage it now I am afraid that the reaction will not be gentle because—"

Metal screeched, equipment crashed and broke, and there were hoarse gasps as the sudden deceleration drove the air from their lungs. They were slammed down hard into their chairs, painfully, and for an instant they hovered at the edge of blackout as the blood drained from their brains.

Then it was over and they were gasping for air, dizzily. Henning's face was a white mask streaked with red, bleeding from an unnoticed scalp wound where his skull had struck the periscope. Outside there were only clouds. The engine ran smoothly and the air hushed from the vents, soft background to their rough breathing.

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"Let us not—" Nils said, taking a deep breath. "Let us not ... do *that* again!"

"We are maintaining altitude with no lateral motion/' Arnie said, his words calm despite the hardness of his breathing. "Do you wish to return—or to complete the test?"

"As long as this doesn't happen again, I'm for going on," Nils said.

"Agreed. But I suggest that we operate on the batteries."

"How is the charge?"

"Excellent. Down less than five percent."

"We will go back up. Let me know when the charge is down to seventy percent and we will return. That should give us an acceptable safety margin. Plus the fact that engines can be restarted when we are low enough."

It was smooth, exhilarating. The clouds dropped below them and the engine labored. Henning shut it down and sealed the air intake. They rose.

"Five thousand meters high at least," Nils said, squinting at the cloud cover below with a pilot's eye. "Most of the atmosphere is below us now."

"Then I can step up the acceleration. Please note the time."

"It's all in the log. Some of it in a very shaky handwriting, I can tell you."

The curvature of the Earth was visible, the atmosphere a blue band above it tapering into the black of space. The brighter stars could be seen; the sun burned like a beacon and, shining through the port, threw a patch of eye-hurting brightness onto the deck. The upward pressure ceased.

"Here we are," Arnie said. "The equipment is functioning well, we are holding our position. Can anyone estimate our altitude?"

"One hundred fifty kilometers," Nils said. "Ninety or a hundred miles. It looks very much like the pictures shot from the satellites at that altitude."

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"Battery reserve seventy-five percent and dropping slowly."

"Yes, it takes power to hover, scarcely less than for acceleration."

"Then we've done it!" Nils said and, even louder when the enormity struck him, "We've done it! We can go anywhere—do anything. We've really done it . . ."

"Battery reserve nearing seventy percent."

"We will go down then."

"A little slower than last time?"

"You can be sure of that."

More gently than a falling leaf, the submarine dropped. They passed through a silvery layer of high cirrus clouds.

"Won't we be coming down much further to the west?" Nils asked. "The Earth will have rotated out from under us so we won't be able to set down in the same spot."

"No, I have compensated for that motion. We should be no more than a mile or two from the original position."

"Then I had better get on the radio." Henning switched

it on. "Well be in range soon, and we'll want to tell them >»

A voice came clearly through the background static, speaking the fast, slang-filled Copenhagen Danish that only a native of that city would be able to understand.

"*. . . dive, daughter, dive, and don't come up for air. Swim deep, little sister, swim deep . . .*"

"What on earth are they talking about?" Araie asked, looking up, surprised.

"That!" Nils said, looking out the port and turning his head swiftly to follow the silver swept-wing forms that flashed by below. "Russian MIG. We're just out of the clouds and I don't think they saw us. Can we drop any faster?"

"Hold on."

A twist of Arnie's fingers pushed their stomachs up into their throats.

"Let me know when we are about two hundred meters above the water," he said calmly. "So I can slow the 4rop before we hit."

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Nils clutched the arms of his chair to keep from floating up despite his belt. The leaden surface of the Baltic flashed toward them, closer and closer, the waves with white caps were visible, and the *Vitus Bering* off to one side.

"Closer . . . closer . . . NOW!"

They were slammed down, loose equipment rolled, sliding across the suddenly canted deck. Then an even more powerful force crashed into the sub, jarring the entire hull, as they plunged beneath *the* surface.

"Will you please take over, Commander Wilhelm-sen," Arnie said, and for the first time his voice was a bit uneven. "I am shutting down *tht* Daleth unit."

The pumps throbbed to life and Henning almost caressed his control panel. It was hard to fly as a passenger in one's own submarine. He whistled between his teeth as he made a slow turn and angled up to periscope depth.

"Take a look through the periscope, will you, Hansen? It's easy enough to use, just like they do in the movies."

"Up periscope!" Nils charted, slapping the handles down and twisting his cap backward. He ground his face into the rubber cushion. "I can't see blast-all."

"Turn the knob to focus the lenses."

"Yes, that's better. The ship's off to port about thirty degrees." He swept the periscope in a circle. "No other ships in sight. This thing doesn't have a big enough field, so I can't tell about the sky."

"We'll have to take a chance. I'll bring her up a bit so the aerial is clear."

The radio hissed with background noise, then a voice broke in, died away and returned an instant later.

"Hello, Blaeksprutten, *can you hear me? Over. Hello*

"Blaeksprutten here. What's happening? Over." *"It is believed that you appeared on the Russian early warning radar screens. MIGs have been all over the area ever since you went up. None in sight now. We think that*

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w

they did not see you come in. Please close on us and report on test. Over"

Arnie took up the microphone.

"Equipment functioned perfectly. No problems. Estimated height of a hundred fifty kilometers reached on *battery* power. Over."

He flicked the switch and the sound of distant cheering poured from the loudspeaker.

9

The table was littered with magazines and booklets that did not interest Horst Schmidt. *Novy Mir, Russia Today, Pravda, Twelve Years of U.S. Imperialist Intervention and Aggression in Laos.* He leaned back in the chair, resting his elbow on the journals, and drew deeply on his cigarette. A pigeon flapped and landed on the windowsill outside, turning a pink eye to look at him through the water-beaded pane. He tapped the cigarette on the edge of the ashtray and, at the sudden motion inside the room, the pigeon flew away. Schmidt turned as the door opened and Lidia Efimovna Shirochenka came into the room. She was a slim, blond-haired girl, who might have appeared Scandinavian had it not been for her high Slavic cheekbones. Her green tweed suit was well cut and fashionable, undoubtedly purchased in Denmark. Schmidt saw that she was reading his report, frowning over it.

"There is precious little here of any value," she said curtly, "considering the amount of money we pay you." She sat down behind the desk that bore a small plaque reading *Troisieme Secretaire de la Legation.* She spoke in German, utilizing this opportunity, as a good party mem-

ber, to a dual advantage; gaining linguistic practice with a native speaker.

"There is a good deal of information there. Intelligence, even negative information, is still intelligence. We now know that the Americans are as much in the dark as we are about the affair at Langeliniekaj. We know that their fair-weather allies the Danes are not acquainting their NATO comrades with all of their internal secrets. We know that all of the armed forces seemed to be involved. And if you will carefully note the last paragraph, *tovarich* Shiro-chenka, you will see that I have tentatively identified one of the civilians who was aboard the *Isbjorn* during the same day when there was all that excitement. He is Professor Rasmussen, a Nobel prize winner in physics, which I find most interesting. What is the connection between this affair and a physicist?"

Lidia Shirochenka seemed unimpressed by this disclosure. She took a photograph from a drawer and passed it over to Schmidt. "Is that the man you are talking about?"

He had too many years of experience at guarding his expression to reveal any reaction—but he was very surprised. It was a very grainy picture, obviously taken with a telescopic lens under poor light conditions, yet good enough to be instantly recognizable. Ove Rasmussen, carrying a small case, was walking down a ramp from a ship.

"Yes, that's the same man. Where did you get this?"

"That is none of your business. You must realize that you are not the only man in the employ of this department. Your physicist now appears to be connected in some manner with rockets or missiles. Find out all you can about him. Who he sees, what he is doing. And do not tell the Americans about this littie bit of information. That would be most unwise."

"You insult me! You know where my loyalty lies."

"Yes. With yourself. It is impossible to insult a double agent. I am just attempting to make it clear that it would be a drastic mistake for you to betray us in the same manner that you have betrayed your CIA employers. There is

no loyalty for you, just money."

"On the contrary, I am most loyal." He snubbed out his cigarette, then took out his package and offered one to Li-dia Shirochenka. She raised her eyes slightly at the *label* American cigarettes were very expensive in Copenhagen. "Have one. I get them at PX discount, about a fifth of the usual price." He waited until he had lighted her cigarette before he continued.

"I am most loyal to your organization because it is the wisest arrangement for me. Speaking as a professional now, I can assure you that it is very difficult to *got* reliable intelligence information about the U.S.S.R. You have rigorous security procedures. Therefore I am tiappy for the items—I presume they are false—that you supply me for the Americans. They will never discover this because the CIA is hideously inefficient and has a one hundred percent record of never having ever been correct with intelligence information supplied to their own government. But they pay very well indeed for what they receive from me, and there are many fringe benefits." He held up his cigarette and smiled. "Not the least of which is the money you pay me for revealing their little secrets. I find it a profitable arrangement. Besides, I like your organization. Ever since Beria . . ."

"Things have changed a great deal since Beria," she said sharply. "A former SS man like yourself, an Oberst at Auschwitz has little claim to moral arguments." When he did not answer she turned to look out of the window, at the long white building barely visible through the light rainfall. She pointed.

"There they are, Schmidt, just across the graveyard from us. There is something very symbolic in that, have you never thought?"

"Never," he said emotionlessly. "You have far more insight into these matters than I have, *tovarich* Shirochenka."

"Don't ever forget that. You are an employee whom we watch very closely. Try to get closer to this Professor Rasmussen ..."

She broke off as the door opened. A young man in his

shirtsleeves hurried in and handed her a piece of paper

that had been torn from the teleprinter. She scanned it

quickly and her eyes widened.

"Boshemoil" she whispered, shocked. "It can't be true »

The young man wordlessly nodded his head, the same look of numb disbelief on his face.

*** * ***

"How many hours now?" Arnie asked.

Ove looked at the chart hanging on the laboratory table. "Over two hundred fifty—and that is continuous operation. We seem to have most of the bugs worked out."

"I hope to say you do." Arnie admired the shining, cylindrical apparatus that almost filled the large work-stand. It was festooned with wires and electronic plumbing, and flanked by a large control board. There was no sound of operation other than a low and distant humming. "This is quite a breakthrough," he added.

"The British did most of the groundwork back in the late sixties. I was interested because it related to some of my own work. I had been able to build up plasmas of two thousan< degrees, but only for limited amounts of time, a few thoi sand microseconds. Then these people at Newcastle on Tyne began using a helium-caesium plasma at fourteen hundred sixty degrees centigrade with an internal electric field. They were increasing the plasma conductivity up to a hundred times. I utilized their technique to build Little Hans here. I haven't been able to scale up the effect yet, not practically, but I think I see a way out. In any case Little Hans works fine and produces a few thousand volts steadily, so I cannot complain."

"You have done wonders." Arnie nodded thanks as one of the laboratory assistants handed him a cup of coffee. He stirred it slowly, thinking. "Scaled up this could be the power source we need for a true space vessel. A

pressurized atomic generator, of the type now used in submarines and surface craft, would fit our needs. No fuel needed, no oxidant. But with one inherent drawback."

"Cooling," Ove said, and blew on his hot coffee.

"Exactly. You can cool with sea water in a ship, but that sort of thing is hard to come by in space. I suppose an external radiating unit could be constructed . . ."

"It would be far bigger than the ship itself!'*

"Yes, I imagine it would. Which brings us back to your fusion generator. Plenty of power, not too much waste heat to bleed off. Will you let me help you with this?"

"Delighted. Between us I know . . ." He broke off, distracted by a sudden buzz of conversation from the far end of the laboratory. "Is there anything wrong down there?"

"I'm very sorry, Professor, it is just the news." She held up an early edition of BT.

"What's happened?"

"It's the Russians, that Moon-orbiting flight of theirs. It has turned out to be more than that, more than just a flight around the Moon. It is a landing capsule, and they have set it down right in the middle of the Sea of Tranquility."

"The Americans won't be overjoyed about this," Ove said. "Up until now they have considered the Moon a bit of American landscape."

"That's the trouble." She held the newspaper out to them, I19: eyes wide. "They have landed, but something is wrong with their lunar module. They can't take off again."

There was little more to the newspaper report, other than the photograph of the three smiling cosmonauts that had been taken just before take-off. Nartov, Shavkun, and Zlotnikova. A colonel, a major, and a captain, in a neatly

organized chain of command. Everything had been very well organized. Television coverage, reporters, take-off, first stage, second stage, radioed reports and thanks to Comrade Lenin for making the voyage possible, the approach, and the landing. They were down on the Moon's surface and they were alive. But something had gone

wrong. What had happened was not clear from the reports, but the result was obvious enough. The men were down. Trapped. There for good. They would live just as long as their oxygen lasted.

"What an awful way to die, so faf from home," the laboratory assistant said, speaking for all of them.

Amie thought, thought slowly and considered what had happened. His eyes went to the fusion generator, and when he looked back he found that Ove had been looking at it too, as though they both shared the same idea.

"Come on," Ove said, looking at his watch. "Let's go home. There's nothing more to be done here today, and if we leave now we can beat most of the traffic."

Neither of them talked as Ove pulled the car through the stream of bicycles and turned north on Lyngbyvej. They had the radio on and listened to the news most of the way to Charlottenlund.

"You two are home early," Ulla said when they came in. She was Ove's wife, a still attractive redhead, although she was in her mid-forties. While Arnie was staying with them she had more than a slight tendency to mother him, thinking he was far too thin. She took instant advantage of this unexpected opportunity. "I'm just making tea and I'll bring you in some. And some sandwiches to hold you until dinner." She ignored all protests and hurried out.

They went into the living room and switched on the television. The Danish channel had not come on the air yet, but Sweden was broadcasting a special program about the cosmonauts and they listened closely to this. Details were being released, almost grudgingly, by Moscow, and the entire tragedy could now be pieced together.

The landing had been a good one right up to the very end. Setdown had been accomplished in the exact area that had been selected and, until the moment of touchdown, it had looked perfect. But as the engines cut off one of the tripod landing legs had given way. Details were not given, whether the leg itself had broken or gone into a hole, but the results were clear enough. The lunar module had fallen over on its side. One of the engines had been

torn free: an undisclosed quantity of fuel had been lost. The module would not be able to take off. The cosmonauts were down to stay.

"I wonder if the Soviets have a backup rocket that could *get* there?" Arnie asked.

"I doubt it. They would have mentioned it if there were any chance. You heard those deep Slavic tones of tragedy in the interview. If there were any hope at all it would have been mentioned. They are already written off, and busts are being made of them for the Hall of Fame."

"What about the Americans?"

"If they could do anything they would jump at the chance, but they have said nothing. Even if they had a ship ready to go, which they probably don't, they don't have a window. This is the completely wrong time of the month for them to attempt a lunar trip. By the time there is a window that trio of cosmonauts will be dead."

"Then . . . nothing can be done?"

"Here's your tea," Ulla said, bringing in the heavily loaded tray.

"You know better than that," Ove told him. "You have been thinking the same thing I have. Why don't we take the fusion generator, put it in *Blaeksprutten*—and go up there to the Moon and rescue them."

"It sounds an absolutely insane idea when you come right out and say it."

"It's an insane world we live in. Shall we give it a try— see if we can talk the Minister into it?"

"Why not?" Arnie raised his cup. "To the Moon, then."

"To the Moon!"

Ulla, eyes wide, looked back and forth from one to the other as though she thought they were both mad.

10

THE MOON

* "Signing off until sixteen hundred hours foir next contact," Colonel Nartov said, and threw the switch on the radio. He wore sunglasses and ragged-bottom shorts, hacked from his nylon shipsuit, and nothing else. His dark whiskers were now long enough to feel soft when he rubbed kt them, having finally grown out of the scratchy stage. They itched too: not for the first time he wished that there was enough water to have a good scrub. He felt hot and sticky all over, and the tiny cabin reeked like a bear pit.

Shavkun was asleep, breathing hoarsely through his gaping mouth. Captain Zlotnikova was fiddling with the knobs on the receiver—they had more than enough power from their solar panels—looking for the special program that was beamed to them night and day. There was static, a blare of music, then the gentle melody of a balalaika playing an old folk melody. Zlotnikova leaned back, arms behind his head, and hummed a quiet accompaniment. Nartov looked up at the blue and white mottled globe in the black sky and felt a strong desire for a cigarette. Shavkun groaned in his sleep and made smacking noises with his mouth.

"Chess?" Nartov asked, and Zlotnikova laid down the well-worn thin-paper copy of *The Collected Works of V.I. Lenin* that he had been leafing through. It was the only book aboard—they had planned to read from it when they planted the Soviet flag in Lunar soil—and, while inspiring in other circumstances, bore little relationship to their present condition. Chess was better. The litde pocket set was

the most important piece of equipment aboard *Vostok IV.*

"I'm four games ahead of you," Nartov said, passing over the board. "You're white."

Zlotnikova nodded and played a safe and sane pawn to king four. The colonel was a strong player and he was taking no chances. The sun, pouring down on the Sea of Tranquility outside, hung apparently motionless in the black sky, although it crept closer to the horizon all the time. Even with sunglasses he squinted against the glare, automatically looking for some movement, some change in that ocean of rock and sand, mother-of-pearl, grayish green, lifeless.

"Your move." He looked back at the board, moved his knight.

"A vacuum, airless . . . whoever thought it would be this hot?" Zlotnikova said.

"Whoever thought we would be here this long, as I have told you before. As highly polished as this ship is, some radiation still gets through. It hasn't a hundred percent albedo. So we warm up. We were supposed to be here less than a day, it wasn't considered important."

"It is after eleven days. Guard your queen."

The colonel wiped the sweat from his forehead with the back of his arm, looked out at the changeless moonscape, looked back to the board. Shavkun grunted and opened his eyes.

"Too damn hot to sleep," he mumbled.

"That hasn't seemed to bother you the last couple of hours," Zlotnikova said, then casded queenside to get

I away from the swifdy mounting kingside attack. "Watch your tongue, Captain," Shavkun said, irritable after the heat-sodden sleep. "I'm a Hero of the Soviet People," Zlotnikova answered, unimpressed by the reprimand. Rank meant very little now.

Shavkun looked distastefully at the other two, heads bent over the board. He was a really second-rate player himself. The other two beat him so easily that it had been

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decided to leave him out of the contest. This gave him too much time to think in.

"How long before the oxygen runs out?"

Nartov shrugged, bearlike and fatalistic, without bothering *to* look up from the board. "Two days, maybe a third. We'll know better when we have to crack the last cylinder."

"And then what?"

"And then we will decide about it," he said with quick irritation. Playing the game had put the unavoidable from his mind for a few minutes; he did not enjoy being dragged back to it. "We have already talked about it. Dying by asphyxiation can be painful. There are a lot simpler ways. We'll discuss it then."

Shavkun slid from the bunk and leaned against the viewport, which was canted at a slight angle. They had managed to level off the vessel by digging at the other two legs, but nothing could replace the lost fuel. And there was the Earth, looking so close. He pulled the camera from its clip and squinted through the pentaprism, using their strongest telescopic lens.

"That storm is over. The entire Baltic is clear. I do believe I can even see Leningrad. It's clear, really clear there with the sun shining. ..."

"Shut up," Colonel Nartov said sharply, and he did.

11

The gray waters of the Baltic hissed along the side of the *MS Vitus Bering,* breaking into mats of foam that were swept quickly astern. A seagull flapped slowly alongside, an optimistic eye open for any garbage that might be thrown overboard. Arnie stood at the rail, welcoming the sharp morning air after the night in the musty cabin. The

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sky, still banded with red in the east where the sun was pushing its *edge* over the horizon, was almost cloudless, its pale blue bowl resting on the heaving plain of the sea. The door creaked open and Nils came on deck, yawning and stretching. He cocked a professional eye out from under the brim of his uniform cap—his Air Force one, not SAS this time—and looked around.

"Looks like good flying weather, Professor Klein."

"Arnie, if you please, Captain Hansen. As shipmates on this important flight I feel there should be less formality."

"Nils. You're right, of course. And, by God, it *is* important, I'm just beginning to realize that. All the planning is one thing, but the thought that we are leaving for the Moon after breakfast and will be there before lunch . . . It's a little hard to accept." The mention of food reminded him of the vacant space in his great frame. "Come on, let's get some of that breakfast before it's all gone."

There was more than enough left. Hot cereal and cold cereal; Nils had a little of each, sprinkling the uncooked oatmeal over his cornflakes and drowning them both in milk in the Scandinavian manner. This was followed by boiled eggs, four kinds of bread, a platter of cheese, ham, and salami. For those with even better appetites there were three kinds of herring. Arnie, more used to the light Israeli breakfast, settled for some dark bread and butter and a cup of coffee. He looked with fascinated interest as the big pilot had one serving of everything to try it out, then went around again for seconds. Ove came in, poured some coffee, and joined them at the table.

"The three of us are the crew," he said. "It's all set. I was up half the night with Admiral Sander-Lange and he finally saw the point"

"What is the point?" Nils asked, talking around a large mouthful of herring and buttered *rugbrad*. "I'm a pilot, so you must have me, but is there any reason to have two high-powered physicists aboard?"

"No real reason," Ove answered, ready with the answer after a night of debating the point. "But there are two completely separate devices aboard—the Daleth drive and

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the fusion generator—and each requires constant skilled attention. It just so happens that we are the only two people for the job, sort of high-paid mechanics, and that is what is important. The physicist part is secondary at this point. If *Blaeksprutten* is to fly, we are the only ones who can fly her. We've come so far now that we can't turn back. Our risk is really negligible—compared to the certain death facing those cosmonauts on the Moon. And it's also a matter of honor now. We know we can do it. We have to try."

"Danish honor,? Nils said gravely, then broke into a wide grin. "This is really going to rock the Russians back on their heels! How many people in their country? Two hundred twenty-six or two hundred twenty-seven million, too many to count. And how many in all of Denmark?"

"Under five million."

"Correct—a lot less than in Moscow alone. So they have all their parades and rockets and boosters and speeches and politicians, and their thing falls over and all die juice runs out. So we come along and pick up the pieces!"

The ship's officers at the next table had been silent, listening as Nils's voice grew louder with enthusiasm. Now they burst out in applause, laughing aloud. This flight appealed to the Danish sense of humor. Small they were, but immensely proud, with a long and fascinating history going back a thousand years. And, like all the Baltic countries, they were always aware of the Soviet Union just across that small, shallow sea. This rescue attempt would be remembered for a long time to come. Ove looked at his watch and stood up.

"It is less than two hours to our first lift-off computation. Let us see if we can make it."

They finished quickly and hurried on deck. The submarine was already out of the hold and in the water, with technicians aboard making the last-minute arrangements.

"With all these changes the tub really needs a new name," Nils said. "Maybe *Den Flyvende Blaeksprutte* —the Flying Squid. It has a nice ring to it."

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Henning Wilhelmsen climbed back over the rail and joined them, his face set in lines of unalloyed glumness. Since he knew her best, he had supervised all of the equipment changes and installations.

"I don't know what she is now—a spaceship I guess. But she's no longer a sub. No power plant, no drive units. I had to pull out the engine to make room for that big tin can with all the plumbing. And I even bored holes in the pressure hull!" This last crime was the end of the world to any submariner. Nils clapped him on the back.

"Cheer up—you've done your part. You have changed her from a humble larva into a butterfly of the skies."

"Very poetical." Henning refused to be cheered up. "She's more of a luna moth than a butterfly now. Take good care of her."

"You can be sure of that," Nils said, sincerely. "It's my own skin that I'm worried about, and *Den Flyvende Blaeksprutte* is the only transportation around. All changes finished?"

"All done. You have an air-pressure altimeter now, as well as a radio altimeter. Extra oxygen tanks, air-scrubbing equipment, a bigger external aerial, everything they asked for and more. We even put lunch aboard for you, and the admiral donated a bottle of *snaps*. Ready to go." He reached out and shook the pilot's hand. "Good luck."

"See you later tonight."

There was much handshaking then, last-minute instructions, and a rousing cheer as they went aboard and closed the hatch. A Danish flag had been painted on the conning tower and it gleamed brightly in the early morning sun.

"Dogged tight," Nils said, giving an extra twist to the wheel that sealed the hatch above, *set* into the conning tower's deck.

"What about the hatch on top of the tower?" Ove asked.

"Closed but not sealed, as you said. The air will bleed out of the conning tower long before we get there."

"Fine. That's about as close to an airlock as we can rig

on a short notice. Now, are we all certain that we know what to do and how to do it?"

"I know," Nils grumbled, "but I miss the checklists."

"The Wright brothers didn't have checklists. We'll save that for those who follow after. Arnie, can we run through the drill once more?"

"Yes, of course. We have a computation coming up in about twenty minutes, and I see no reason why we should not make it." He went forward to look out of a port. "The ship is moving away to give us plenty of room." He pointed down at the controls in front of Nils, most of them newly mounted on top of the panel.

"Nils, you are the pilot I have rigged controls here for you that will enable you to change course. We have gone over them so you know how they operate. We will have to work together on take-offs and landings, because those will have to be done from the Daleth unit, which I will man. Ove is our engine room and will see to it that we have a continuous supply of current. The batteries are still here, and charged, but they will be saved for emergencies. Which I sincerely hope we will not have. I will make the vertical take-off and get us clear of the atmosphere. Nils will put us on our course and keep us on it. I will control acceleration. If the university computer that ties in with the radar operates all right, they should tell us when to reverse thrust. If they do not tell us, we shall have to reverse by chronometer and do the best we can by ourselves."

"Now that is the part I *don't* understand," Nils said, pushing his cap back on his head and pointing to the periscope. "This is a plain old underwater periscope— now modified so that it looks straight up rather than ahead. It had a cross hair in it. Fm supposed to get a star in the cross hair and keep it there, and you want me to believe that this is all we have to navigate by? Shouldn't there be a navigator?"

"An astrogator, if you want to be precise."

"An astrogator then. Someone who can plot a course for us?"

"Someone whom you can have a little more faith in than a periscope you mean?" Ove asked, laughing, and opened the door to the engine compartment.

"Exactly. I'm thinking about all those course corrections, computations, and such that the Americans and Soviets have done before to get to the Moon. Can we really do it with this?"

"We have the same computations behind us, realize that. But we have a much simpler means of applying them because of the shorter duration of our flight. When time is allowed for our initial slower speed through the atmosphere, our flying time is almost exactly four hours. Knowing this, certain prominent stars were picked as targets and the computations were made. Those are our computation times. If we leave at the correct moment and keep the target star in the sight all of the time, we will be aiming at the spot in the Moon's orbit where it will be at the end of the four hours. We both move to our appointed meeting place, and the descent can be made. After we locate the Soviet capsule, that is."

"And that is going to be easy?" Nils asked, looking dubious.

"I don't see why not," Ove answered, poking his head out of the engine cubby, wiping his hands on a rag. "The generator is operating and the output is right on the button." He pointed to the large photograph of the Moon pasted to the front bulkhead. "Goodness, we know what the Moon looks like, we've all looked through telescopes and can find the Sea of Tranquility. We go there, to the right spot, and if we don't see the Soviets we use the direction finder to track them down."

"And at what spot do we look in the Sea of Tranquility? Do we follow this?" Nils pointed to the blurry photograph of the Moon that had been cut from the newspaper *Pravda.>* There was a red star printed in the north of the *mare* where the cosmonauts had landed. *"Pravda* says this is where they are. Do we navigate from a *newspaper* photo?"

"We do unless you can think of something better," Ar-

nie said mildly. "And do not forget our direction finder is a standard small boat model bought from A.P. Moller Ship Supplies in Copenhagen. Does that bother you too?"

After one last scowl Nils burst out laughing. "The whole thing is so outrageous that it just has to succeed." He fastened his lap belt. *"Blaeksprutten* to the rescue!"

"It is all much more secure than it might look," Ove explained. "You must remember that we had this operational submarine to begin with. It is a sealed, tested, proven, self-sufficient spaceship built for a different kind of space. But it works just as well in a vacuum as under water. And the Daleth drive is operational and reliable—and will get us to the Moon in a few hours. The combination of radar and computer on Earth will track us and compute the correct course for us to follow. Everything possible has been done to make this trip a safe one. There will be later voyages and the instrumentation will be refined, but we have all we need now to get us safely to the Moon afld back. So don't worry."

"Who is worrying?" Nils said. "I always sweat and get pale at this time of day. Is it time to leave yet?"

"A few more minutes to go," Arnie said, looking at the electronic chronometer before him. "I am going to take off and get a bit of altitude."

His fingers moved across the controls and the deck pressed up against them. The waves dropped away. Tiny figures were visible aboard the *Vitus Bering,* waving enthusiastically, then they shrank and vanished from sight as *Blaeksprutten* hurled itself, faster and faster, into the sky.

The strangest thing about the voyage was its utter uneventfulness. Once clear of the atmosphere they accelerated at a constant one G. And one gravity of acceleration cannot be sensed as being different in any way from the gravity experienced on the surface of the Earth. Behind them, like a toy, or the projection on a large-size screen, the globe of the Earth shrank away. There was no thunder of rockets or roar of engines, no bouncing or air pockets. Since the ship was completely sealed, there was not even the small drop in atmospheric pressure that is felt

in a commercial airliner. The equipment worked perfectly and, once clear of the Earth's atmospheric envelope, their speed increased.

"On course—or at least we are aimed at the target star," Nils said. "I think we can check with Copenhagen now and see if they are tracking us. It would be nice to know if we are going in the right direction." He switched the transceiver to the preset frequency and called in the agreed code.

"Kylling calling *Halvabe.* Can you read me? Over." He threw the switch. "I wonder what drunk thought up these code names," he mumbled to himself. The sub was the "chick" and the other station the "lemur"—but these names were also slang terms for a quarter-litre and a hali-litre bottle of akvavit.

"We read you loud and clear, Kylling. *You are on course, though your acceleration is slightly more than optimum. Suggest a five percent reduction."*

"Roger. Will conform. Are you tracking us?"

"Positive."

"Will you send turnover signal?"

"Positive."

"Over and out." He killed the power. "Did you hear that? Things couldn't be better."

"I have cut the acceleration by the five percent," Arnie said. "Yes, things could not be better."

"Would anyone like a Carlsberg?" Ove asked. "Someone has stuffed a whole case back here." He passed a can to Nils, but Arnie declined.

"Finish them quickly," he said. "We are not far from turnover, and I cannot guarantee that things will not get shaken up a bit. I could reduce the thrust to zero before I turned the ship, but that would put us in free fall for awhile and I would like to avoid that if I could. Aside from our personal feelings, the equipment just isn't designed for it. Instead, I shall attempt to rotate the ship one hundred eighty degrees while maintaining full thrust, at which point we will begin to decelerate."

"Sounds fine to me," Nils said, squinting through the

periscope and making a precise adjustment. "But what about our course? Is that what we use this gas pipe in the deck for? The one that Henning was moaning about because it needed a hole in his pressure hull?"

"That is correct. There is a wide-angle lens system here, with an optical gunsight fitted into it."

"The kind used on fighter planes to fire the guns?"

"Precisely. You will keep the star centered as before. I envisage no problems."

"No, no problems at all." Nils looked around at *the* jury-rigged and hurriedly converted sub and shook his head in wonder. "Will one of you take the con for me for a minute? I have to go to the head.. The beer, you know."

Turnover went smoothly, and they would not have known they were rotating if they hadn't watched the sunlight move across the deck and up the bulkhead. A few loose objects rattled, and a pencil rolled across the desk and fell.

Time moved swiftly. The sun glared and there was some discussion of solar storms and Van Allen radiation. These were no serious menace since the pressure hull of the submarine was a solid metal barrier, incredibly thicker than that of any rocket ever launched.

"Have you thought about talking to the cosmonauts?" Ove asked. He stood in the doorway of the engine compartment where he could watch the fusion generator and talk with the others at the same time.

"They are all pilots," Nils said. "So they should speak English." Ove disagreed.

"Only if they have flown out of the country. Inside the Soviet Union Aeroflot uses Russian. Only on international flights is English required for radio control. I put in six months there, at Moscow University, so I can talk to them if I have to. I was hoping that one of you was more fluent."

"Hebrew, English, Yiddish, or German," Amie said. "That's all."

"Just English, Swedish, and French," Nils told them. "It looks like it is up to you, Ove."

Like most Europeans with college education they took it for granted that one spoke at least one language other than his own. Like Scandinavians, two or three other languages were more likely. They .assumed that the cosmonauts would speak something they could understand.

The computer kept track of their progress and, when the four hours were neaiing their end, they were informed that they could turn on their radio altimeter because they were nearing the point where it would be effective. Its maximum range was a hundred and fifty kilometers.

"Getting a fringe reading," Nils called, excited. "The Moon is down there all right." Since midpoint they had not seen the satellite which was beneath their keel.

"Let me know when we are about a hundred kilometers above the surface," Arnie said. "I'll roll the ship then so we can see through the side ports."

There was a growing tension now as the spacegoing submarine hurtled down toward the Moon, still out of sight below them.

"The altimeter is unwinding pretty fast," Nils said, his controlled pilot's voice showing none of the tension he felt.

"I'll raise the deceleration up to two G's," Arnie said. "Stand by."

It was a strange sensation, as though they were suddenly growing heavier, with their arms pulled down and their chins sinking to their chests: their chairs creaked and their breathing labored. Nils moved his hand to the controls, and it felt as though weights hung from his arm. He weighed over four hundred pounds now. "Rate of drop slowing," he said. "Coming up on a hundred kilometers. Rate of drop slowing to near zero."

"I'm going to hover at this altitude while we look for the target area," Arnie said. Thankfully. He was too obviously aware of the thudding of his heart as it labored to pump blood in the doubled gravity. As he adjusted the controls weight fell away, *to* one gravity, and past that, until it felt as though they would float free. Hovering now, they were in the grip of the Moon's gravitic field, a mere

one-sixth of that of the Earth. "Rotating," he said.

Loose objects rolled across the deck and clattered against the wall as they tilted over; they clung to the arms of their chairs. White light flooded in through the port.

"*Ih; du Almaegtige!*" Nils whispered. There it was. Filling the sky. Less than seventy miles below them. Cratered, streaked, pitted, dead and airless, another world. The Moon.

"Then we've done it," Ove said. "Done it!" he shouted with rising excitement. "By God we've crossed space in this tub and we've reached the Moon." He unhooked his belt and stood, staggering as he tried to walk in the lessened gravity. Sliding, half falling, he slammed into the bulkhead, unheeding, as he braced himself to look out of the port.

"Just look at that, will you! Copernicus, the Sea of Storms, now where would the Sea of Tranquility be? To the east, in that direction." He shaded his eyes against the reflected glare. "We can't see it yet, but it has to be that way. Over the curve of the horizon."

Silent as a falling leaf *Blaeksprutten* tilted back to the horizontal, then rotated about an invisible axis. They had to lean back to balance themselves as the bow swung down and *the* Moon reappeared, this time directly ahead.

"Is that enough of an angle for you to see to navigate by?" Arnie asked.

"Fine. There's worse visibility from an airliner."

"Then I shall hold this attitude and this height and switch forward and lateral control to your position."

"On the way." Nils hummed happily to himself as he pressed gently on his control wheel.

*** * ***

The three cosmonauts stood to attention as best they could in the cramped module with limited floor space: Zlotnikova had his nose pressed practically against the colonel's hairy shoulder. The last notes of "The Interna-

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tionale" died away and the radio speaker hissed gently with static.

"At ease," Nartov ordered, and the other two dropped into their bunks while he picked up the microphone and switched it on. "In the name of my fellow cosmonauts, I thank you. They stand behind me, and agree with me, when in this moment of victory, I say that you, fellow *citizens* of the Union of Soviet Socialist Republics, should not grieve. This is a victory for us all; for the Party Chairman, Members of the Presidium, workers in the factories where parts of the rocket and capsule were manufactured, to be assembled by . . ."

Lieutenant Zlotnikova's attention wandered: he had never been one for either making speeches or listening to them. Stolidly, he had listened to thousands upon thousands of hours of speeches during his twenty-eight years on Earth. And on the Moon. They were an accepted evil, like snow in the winter and drought in the summer. They were there, whether one liked it or not, and nothing could be done about them. Best to ignore them and suffer them, which was where a fatalistic, Slavic state of mind helped. He was a fighter pilot, one of the best, and a cosmonaut, one of the few. Attaining these goals was worth any sacrifice. Listening to speeches was only a minor bother. Even death was not too high a price to pay. He had no regrets; the game was worth the candle. But he just wished it could be done with a few less speeches. The colonel's voice droned on and he glanced out of the viewport, then turned quickly away since at least an appearance of courtesy was called for. But the colonel had his back turned, with his right fist clenched in a salute and marking time to the strong rhythm of his words. It must be a good speech. At least the colonel was enjoying it. Zlotnikova turned back to the port—then tensed abruptly at the slowly moving speck of light high above. A meteor? Moving so slowly?

". . . and how many died in battle to preserve the freedom of our great land? The Red Army never hesitated

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to embrace death for the greater good, peace, freedom, liberty, and victory. Should Soviet cosmonauts shirk responsibilities, or ignore the realities of—angrily he brushed away the bothersome hand that was tapping him on the shoulder. ". . . the realities of space flight, of the complexity . . ."

"Colonel!"

"—the complexity of the program, the great machines, the responsibilities . . ." *Bothering him in the middle of this speech—was the bastard mad?* ". . . to all the Soviet workers who made possible . . ."

Colonel Nartov wheeled about to glare and silence the lieutenant. But. his gaze followed Zlotnikova's pointing finger to the port, through the thick glass, across the cratered, airless moonscape to the small submarine which was slowly settling down out of the star-flecked sky.

The colonel coughed, gasped, cleared his throat, and looked at the microphone in his hand with something

resembling horror. "I will complete this call later/* he said abrupdy, and switched off. "What the hell is that?" he roared.

For obvious reasons, neither of the other men answered. They were shocked, silent, and the only sound was the whispering of their last bit of depleted atmosphere coming through the grill, the mutter from the radio of distant music as someone back on Earth started the band playing again to cover the untimely silence from the Moon.

Slowly the submarine settled, no more than fifty meters from their capsule, hovering daintily the last few centimeters above the gravel before easing itself down. There were some strands of very dehydrated seaweed plastered to its keel, thin streaks of rust at the stern.

"Danish?" Shavkun gasped, pointing to the flag painted on the small conning tower. "That is Danish, isn't it?" Zlotnikova nodded, silently, then realized that his jaw was gaping open and closed it wife a sharp click. The radio rustled and squealed, and a voice came in over the music

in very loud, very bad, Russian.

"Hello* Vostok IV, *can you read me? This is* Blaeks-prutten, *and I have landed near you. Can you read me? Over."

Colonel Nartov looked at the microphone in his hand and started to turn it on. He stopped and shook his head, trying to rally his thoughts, then reached for the radio controls. Only after he had cut the output power to a trickle did he switch on the transmitter. For some automatic defensive reason, he did not wish Moscow to hear this conversation.

"This is *Vostok IV.* Colonel Nartov. Who is that speaking? Who are you? What are you doing here—" The colonel cut himself off abruptly, feeling that he was about to start babbling.

Aboard *Blaeksprutten,* Ove listened and nodded. "Contact established," he told the others. "Better put that curtain up now while I get them over here." He switched the radio on. *"Govoreetye ve po AngleeskeeT he asked.**

"Yes, I speak English."

"Very good, Colonel," Ove said, changing with some relief to that language. "I am pleased to tell you that we are here to bring you back to Earth. In your broadcast a few minutes ago you said that all three of you are all right. Is that true?"

"Of course, but . . ."

"That's fine. If you would get into your spacesuits . . ."

"Yes, but you must tell me . . ."

"First things first, if you please, Colonel. Do you think you could put on your suit and step over here for a minute? I would come myself, but unhappily we don't have any space gear. If you don't mind?"

***"I am on my way."* There was a certain positiveness in the way the message ended.**

"The colonel didn't sound so happy for a man whose life had just been saved," Nils said, threading the line through the grommets in the large tarpaulin that was spread out on the deck. It was gray and weatherstained,

with a certain memory of fish lingering about it, perhaps from being stored near the marine life specimens in the hold of the *Vitus Bering,*

"He's happy enough, I imagine," Ove said, going to help the others with the clumsy canvas. "But I guess it will take a little getting used to. He was in the middle of a very dramatic sort of deathbed speech when we interrupted."

They threaded the lines through ringbolts in the ceiling and hauled it up. It made a wrinkled barrier the width of the small cabin, cutting off sight of the Daleth unit and the fusion generator.

"Better not tie down this corner," Ove said. "I have to get past it to reach the engine compartment."

"It doesn't seem a very effective barrier," Nils said.

"It will do," Arnie told him. "These men are officers and presumably gentlemen—and we are saving their lives. I do not think they will cause any trouble."

"No, I guess not. ..." Nils looked out of the port. "Say, their lock is opening—and here comes someone. Probably the colonel."

Colonel Nartov still had not adjusted to the changed circumstances. He had put on his spacesuit with automatic motions, ignoring the excited speculation of the other two cosmonauts, then stood calmly while they checked and sealed it. Now, jumping the last few feet to the surface of the Moon, he took a grip on himself. This was really happening. They were not going to die. He would see Moscow, his wife and family, again, and that was a pleasant thought. This strange craft had come to the Moon so it could undoubtedly return to Earth. Details would be explained later. Bringing his men back alive was his first concern. Head up, he strode toward the submarine, the dust and pebbles kicked up by his thick-soled boots falling back instantly to the airless surface.

A man was visible in the round port above, wearing a peaked cap of some kind, pointing downward with his finger and nodding his head. What on Earth—or the Moon—could it mean?

When the colonel came closer he saw that a thick-lidded

box had been hurriedly welded to the hull. It was labeled ?6/I6(£)GH in black Cyrillic characters. He loosened the large thumb screw that held the cover into place, then swung it open and took out the telephone handset that was on a bracket inside. When he pressed it hard against his helmet the vibrations of his voice carried through well enough, and he could understand the man on the other end.

"Can you hear me, Colonel?"

"Yes." The cord was long enough so that when he stepped back he could see the man with another telephone through the port above.

"Good, I'm Captain Nils Hansen, Danish Air Force, Senior Danish Captain with SAS. I'll introduce the others when you come aboard. Can you reach the deck above you?"

The colonel squinted upward against the glare. "Not now. But we can attach a rope, working together, or something. The gravity is very light."

"// *shouldn't be hard. Once on deck you will find that there is a hatch on top of the conning tower, unsealed. The conning tower is just big enough to hold three men, with crowding, and you will all have to come in at once since it is not a proper airlock. Get in, seal the top hatch just as tightly as you can, then knock three times on the deck. We'll let the air in then. Can you do this?"*

"Of course."

"Can you bring whatever oxygen you have left? We don't want to run short on the return trip. We should have enough, but it doesn't hurt to have some extra"

"We will do that. We have a last cylinder that we have just tapped."

"One final thing before you go. We have some—secret equipment aboard, out of sight behind a screen. We would like to ask you to avoid going near it."

"You have my word," the colonel said, drawing himself up. "And my officers will give you their word as well." He looked at the big-jawed, smiling man through the thick port and, for the first time, the reality of this last-minute

reprieve struck home to him. "I would like to thank you, for all of us, for what you are doing. You have saved our lives."

"We are glad to be here, and very happy that we could do it. Now ..."

"We will be back. In very few minutes."

When he returned to the capsule, the colonel could see the two faces watching him through the port, close together, pressed to the glass like children at the window of a candy store. He almost smiled, but stopped himself in time.

"Get your suits on," he said when he had cycled through the lock. "We are going home. Those Danes are taking us." He switched on the radio and picked up the microphone in order to silence their stammered questions. The distant band, now playing "Meadowland," moaned and died as his call went out.

"Yes, Vostok TV, *we hear you. Is there any difficulty? Your last message was interrupted. Over"*

The colonel frowned, then switched on.

"This is Colonel Nartov. This is a final message. I am switching off and closing communication now."

"Colonel, please, we know how you feel All Russia is with you in spirit. But the General wishes—"

"Tell the General that I will contact him later. Not by radio." He took a deep breath and kept his thumb on the switch. "I have his Kremlin telephone number. I will call him from Denmark." He switched off quickly and killed the power. Should he have said more? What *could* he have said that would have made any sense? Other countries would be listening.

"Oh hell," he snapped at his two wide-eyed companions. "Major, get the log books, film, records, samples, put them into a box. Lieutenant, close the oxygen cylinder and unship it so we can take it with us. We'll go on suit oxygen now. Any questions?" There was only silence, so he snapped his faceplate closed.

"Here they come," Nils called out a few minutes later. "The last one just climbed down, and they have closed the

airlock. They are bundled down with a lot of junk, records and such I imagine, one of them even has a camera. Say—he's taking pictures of us!"

"Let them," Ove said. "They can't learn a thing from *the* photographs. You know, we should have some specimens too. Before they climb aboard get the colonel on the phone again. Tell him we want some rocks and dirt, something to take home."

"Specimens brought back by the First Danish Lunar Expedition. Good idea, since we can't go outside ourselves. How is it going?"

"Fine," Ove said, opening a bottle of akvavit and placing it beside the little glasses on the map table. "We should have thought to bring some vodka, but I bet we'll hear no complaints about this *snaps/'* He opened one of the *smorrebrod* containers that the cook had packed that morning, and slid out the open-faced sandwiches inside. "The herring is still fresh, they'll like that, and there's liver paste here as well."

"I'll eat it myself if they don't get here pretty soon," Nils said, eying the food hungrily. "Here they come."

He waved cheerfully through the port at the three laden figures trudging across the lunar plain.

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COPENHAGEN

The Minister of Foreign Affairs shuffled through the notes he had made during the conference with the Prime Minister, finally finding the quote he wanted.

"Read back the last sentence, will you please?" he said.

"The Prime Minister does appreciate your exceedingly kind communication, and . . ." His secretary flipped the

page in her steno book and waited, pencil poised.

"And has asked me to thank you for the good wishes you expressed. He feels that it was very gracious of you to offer access to all of your advanced technologies in space engineering and rocketry, in addition to the use of your extended

network of tracking stations around the globe. However, since we have little or nothing that we could contribute to a rocketry program, we feel that it would be unfair of us to enter into any agreements at this time. That's all. The usual salutations and close. Would you read the whole thing back to me?"

He swung his chair around and looked out of the window while she read. It was dark, the streets empty with the rush-hour crowds long gone. Seven o'clock. Too late for dinner. He would have to stop for something before he went home. He nodded his head as the pontifical weight of the words rolled out. All in order, just right. Thanks a lot but no thanks. The Soviets would happily turn over all their billions of rubles of useless rocket hardware in exchange for a peek at the Daleth drive. They weren't getting it. Neither were the Americans, though they seemed *to* have a stronger case; ties of brotherhood, NATO partners, and the sharing of defense secrets among partners. It had been something to watch the American ambassador getting redder and redder as the Prime Minister ticked off on his fingers ten American major defense projects that the Danes knew nothing at all about. The whole world wanted a cut from the cake.

"That's fine," he said when the girl stopped.

"Should I type it up now, sir?"

"Not on your life. First thing in the morning, and have it on my desk when I get in. Now get home before your family forgets what you look like."

"Thank you, sir. Good night."

"Good night."

She click-clicked out, her high heels sounding clearly across the outer office in the silence of the empty ministry building. The door slammed. He yawned and stretched, then began to stuff papers into his briefcase. He sealed it

and, before he put his coat on, phoned down for his car. The very last thing, he checked the file cabinets to see that they were all locked, and gave the lock on his safe an extra spin. That was enough. He set his big black hat *squarely* on his head, picked up his briefcase and left. It had been a long day and he was tired; he walked with a heavy, measured pace.

The slow footsteps passed by outside the door and Horst Schmidt shifted in the darkness. His knees were stiff and sore, while his legs burned like fire from standing still so long. He was getting a little old for this kind of thing. But it paid so well. In fact he looked forward to being paid exceedingly well for this night's work. He lifted his arm and examined the glowing face of his watch. 7:15. They should all be gone by now. The two sets of footsteps he had heard were the only ones in over a half an hour. Perhaps he should wait longer, but his legs wouldn't let him. Over three hours standing in this damn supply closet. He took up his thick briefcase and felt for the lock, turned it silently and opened the door a crack, blinking at the sudden light. The hall was empty when he looked out.

No security these Danes, no security at all. He closed the door behind him and walked, swiftly and soundlessly on his gum soles, to the office of the Minister of Foreign Affairs. The door was unlocked! They almost invited one in. A name—taken from the phone book—and an imaginary appointment had gotten him by the concierge at the front door. They had not even asked for a card, though he had one ready, but had settled simply for the false name he gave. Danes! The Minister's private office was unlocked as well—and the door did not even have a bolt on the inside. He opened his briefcase and, feeling in the darkness, took out a wooden wedge which he jammed into the crack between the door and the frame.

There were two thin, but completely opaque, plastic sheets in his case, and he draped these over the door and window, sealing them down with sticking tape. Only then did he turn on the powerful torch. The files first, there were sure to be a lot of interesting items in the files. The

Daleth drive was of course the main interest, but there were plenty of other things he would like to know, information that could be fed to his employers, bit by bit, to assure a steady income. Spreading out his tools, he selected a chrome steel jimmy with a razor-sharp end. One twist of this opened the file cabinet as though it were a sardine can. With quick precision he flipped through the folders. A little pile of paper grew on the table next to him.

The safe would be a little more difficult—but not very. An antique. He studied it for a few moments, pulling the wrinkles out of his thin gloves as he considered the quickest way to open it.

Because of the soundproofing on it the drill was bulkier than most. But it was geared down and powerful. His bits were diamond tipped. He slapped a handful of clay onto the lock and pushed the bit into it: this would absorb most of the drilling sound. There was just the thinnest whine and vibration when he switched it on. It took only moments to hole through the steel plate.

What came next could be dangerous, but Schmidt was very experienced in taking care of his own skin. With Teutonic neatness he put all of his tools back into the case before taking off his gloves and laying them on the top of the safe. Then, with infinite caution, he tugged on the string around his neck and pulled, up out of his shirt collar, the tiny bottle that was suspended from the string. The rubber cork was jammed in tightly and he had to use his teeth to prize it loose. Gently, ever so gently, he poured the contents of the bottle, drop by drop, into the little dam he had made in the clay, so it could run down inside the mechanism of the lock. When it was half empty he stopped and resealed the bottle, then carried it to the far end of the room. He used his handkerchief to wipe the glass free of all fingerprints, then rested the bottle on the wadded-up handkerchief on the floor, tucked neatly into the corner of the floor. The handkerchief had been purchased earlier in the day from an automatic machine.

He sighed, relaxing a bit, when he stood up. He had made it himself, so he knew that it was good

nitroglycerine. But it was unreliable stuff at best, ana n nice *to* be around. He put his gloves back on.

There was a rug on the office floor, but it was tacked down and would be too much trouble to try and lift. However the shelves were filled with books; thick tomes, annual reports, weighty, important things. Just what he needed. With silent haste he stripped the shelves, piling the books in a pyramid against the door and sides of the safe. He had left an opening in front of the lock. The very last thing, he slid the tiny metal tube of a detonator into the hole and unrolled the wire across the room. Then he sealed the open space with the thickest of the books.

"Langsam . . . langsam ..." he muttered, and crouched behind the desk. The building was silent. There was a small outlet that he had built into the case of the flashlight. The two-pronged plug on the end of the wire fitted neatly into it. Schmidt bent lower and jammed in the plug.

The explosion was a muffled blow that shook the floor. The pile of books began to topple, and he ran to catch them. He stopped most of them, but *Annual Fisheries Report 1948—1949* landed with a resounding thud. Smoke curled up and the lock mechanism was a twisted ruin. With careful speed he began moving the books so the safe door could be opened—then froze as heavy footsteps sounded in the outer office. They came closer, right up to the door, and the handle turned.

"Who is in there? Why is this door locked?"

Schmidt put down the books he was holding and turned off the flashlight, then moved to the door. The tape pulled away soundlessly and the plastic sheet rustled as it fell to the floor. He waited until the knob turned again—then reached out and pulled the locking wedge free.

The door burst open with dramatic suddenness and the large form of the night watchman stumbled through, gun in hand. Before he could bring it up there were two coughing reports and he kept on going, forward, down to sprawl full length on the floor.

Schmidt put the muzzle of the silenced revolver against

the back of the man's coat, over his heart, and pulled the trigger a third time. The figure jerked convulsively and was still.

After checking the outer office and hall to make sure the watchman had been alone, Schmidt closed the doors and went back to work. He hummed happily as the safe door swung open and he searched through it, ignoring completely the dead man on the floor beside him.

13

ELSINORE

"Look at that!" Nils said. "Just look at it." He had the early edition of *Berlingske Tidende* propped up against the coffeepot while he sawed away angrily at his breakfast bacon. "I'm just not used to seeing headlines like that in a Danish paper. Shocking. Night watchman killed . . . foreign minister's office burglarized . . . documents missing. It's like reading the American papers."

"I don't see why you mention the States," Martha said. "These things happened right here, not in America. There's no connection." She took the pot to pour herself some coffee, and his newspaper fell down.

"I would appreciate it if you would keep my paper out of the preserves, it makes it hard to read." He picked it up and brushed at the red smears with his napkin. "There is a connection, and you know it. The U.S. papers are always filled with murders, rapes, and beatings because that sort of thing always happens there. What was the figure? There are more murders in the city of Dallas in one year than in all of England, Ireland, Scotland, and Wales combined. And I'll bet you could throw in Denmark too."

"If you hate Americans so much—why did you ever

marry me?" Martha asked, biting into her toast

He opened his mouth to answer, found that there was absolutely nothing he could say to this fine bit of female logic, so he growled instead and opened to the soccer *scores.* Martha nodded as if this was just the kind of answer that she expected.

"Shouldn't we get going?" she asked.

Nils glanced up at the clock over the kitchen door. "A few minutes more. We don't want to get there before the post office opens at nine." He put the paper down and reached for his coffee. He was wearing a dark brown suit instead of his uniform.

"Won't you be flying any more?" Martha asked.

"I don't know. I would like to, but Skou keeps talking about security. I suppose we had all better start listening a little closer to Skou. You better get your coat now. I'll wait for you in the car."

A door led from the utility room into the garage, which made this bit of deception easier. Skou had agreed that the chances were slim that Nils's home was under surveillance, but one could never be sure. The way Skou talked, he made it seem as though every flight into Denmark had more secret agents than tourists aboard. He might be right at that; there wasn't a country in the world that didn't want the Daleth drive. He opened the back door of the big Jaguar and slid in. His knees crunched up, and he realized that he had never sat in the back seat before. Martha came in, looking chic and attractive in the brown suede coat, a bright silk band on her hair—and a lot younger than her twenty-six years. He rolled the window down.

"Child-bride," he called out. "You never kissed me goodbye."

"I'd cover you with lipstick." She blew him a kiss. "Now close the window and hunker down before I open the garage door."

"Hunker down," he grunted, forcing his massive frame down on the floor. "American. You learn new words every day. Can you hunker up too?"

"Be quiet," she said, getting into the car. "The street looks empty."

They pulled out, and all he could see were the treetops along Strandvejen while she closed the door again. When they started up there was just sky and an occasional cloud.

"Very dull back here."

"We'H be there soon. The train is at nine-twelve, is that right?"

"On the button. Don't get there too early, because I don't feel like standing around the platform."

"I'll go slow through the forest. Will you be home for dinner?"

"No way to say. I'll call you as soon as I know."

"Not before noon. I'll do some shopping while I'm in Birkerod. There's that new little dress shop."

"There's some new little bills." He sighed dramatically and unsuccessfully tried to shift position.

, It was nine minutes past nine when she pulled into the parking space next to *the* railroad station, just across the street from the post office.

"Is there anyone around?" he asked.

"Somebody going into the post office. And a man locking up his bike. He's going into the station, now—no one is looking this way."

Nils pushed up gratefully and dropped into the seat.

"A big relief."

"You will be all right, won't you?" she asked, turning about to face him. She had that little worried pucker between her eyes that she used to have when they were first married, before the routine of his flying pushed the concern below the surface.

"I'll be just fine," he assured her, reaching out and rubbing the spot on her forehead with his finger. She smiled, not very successfully.

"I never thought that I would wish you were back at flying those planes all over the world. But I do."

"Don't worry. Little Nils can take care of himself. And watchdog Skou will be with me."

He watched the graceful swing of her figure as she

crossed the road—then looked at his watch. One more minute. The street was empty now. He climbed out of the car and went to buy a ticket. When he stepped out on the wooden platform the train was just rounding the bend *on* the outskirts of town, moaning deeply. There were a few other people waiting for the train from Copenhagen, none of theim looking at him. When the coaches squealed to a stop he boarded the first one. Ove Rasmussen looked up from his newspaper and waved. They shook hands and Nils sat down in the empty seat next to him.

"I thought Arnie would be with you," Nils said. "He's going up with Skou in some other complicated and secret manner."

"It's stopped being a game, hasn't it?" "You're right about that. I wonder if they'll be able to find the swine who did it?"

"Highly unlikely, Skou told me. Very professional, no clues of any kind. The murdering bastards. Did them no good either. There was nothing about the Daleth drive in the office."

They were silent after that, all the way to Hillerod where they had to change trains. The Helsingor train was ready to leave, a spur line, one track, and just three cars. It rattled off through the beech and birch forests, skirting the backyards of red-roofed white houses where laundry blew in the fresh wind from the Sound. The woods changed to fields and, at Snekkersten, they saw the ocean for the first time, the leaden waters of the Oresund with the green of Sweden on the far side. This was the last stop before Elsinore and they climbed down to find Skou waiting for them. No one else got off the train at the tiny fishing village. Skou walked away without a word and they followed him. The old houses had high hedges, and the street was empty. Around the first corner a Thames panel truck was waiting, KOBENHAVNS ELEKTRISKE AR-TIKLER painted on the sides, along with some enthusiastic lightning bolts and a fiercely glowing light bulb. He opened the back for them and they climbed in, making themselves as comfortable as they could on the rolls of

heavy wire inside. Skou got into the driver's seat, changed his soft hat for a workman's peaked cap, and drove off.

Skou took the back roads into Helsingor, then skirted the harbor to the *Helsingor Skibsvaerft.* The guard at *the* gate waved him through and he drove into the shipyard. There were the skeletons of two ships on the ways. Riveting machines hammered, and there was the sudden bite of actinic light as the welders bent to their work. The truck went

around to the rear of the offices, out of sight of the rest of the yard.

"We have arrived," Skou announced, throwing wide the back door.

They climbed down and followed Skou into the building and up a flight of stairs. A uniformed policeman saluted them as they came up and opened the door for them. There was the smell of fresh-brewed coffee inside, mixed with rich cigar smoke. Two men were seated with their backs to the door, looking out of the large window that faced onto the shipyard. They stood and turned around when the others entered, Arnie Klein and a tall middle-aged man dressed in a rusty black suit and vest with an old-fashioned gold watch chain across the front. Arnie made *the* introductions.

"This is Herr Leif Holm, the shipyard manager." Coffee was produced, which they accepted, and thick, long Jutland cigars, which they refused, although Holm lit one himself and produced an immense cloud of blue smoke that hung below the ceiling.

"There you see it, gentlemen," Holm said, aiming the cigar, like some deadly weapon, out of *the* window. "On the central ways. Denmark's hope and future."

A rain squall swept across the harbor, first clouding the battlements of Kronborg Slot, Hamlet's castle, then the squat shape of the Swedish Halsingborg ferry. It threw a misty curtain over the red ribs and plates of the ships under construction before vanishing inland. Watery sunlight took its place. They followed Holm's directions, looking at the squat, almost ugly ship that was nearing completion. It was oddly shaped, like an inner tube that had been

stretched into an oblong. Bow, stern, and sides were fat and rounded; the superstructure, now being assembled on the deck in prefabricated units, was low and streamlined.

"That's the new hovercraft, isn't it?" Nils asked. *"Vik-ingepuden.* Being built for the Esbjerg-to-London run. Supposed to be the biggest in the world." He wondered to himself what the raft had to do with Denmark's hope and future.

"You are correct," Holm said. "Plenty of articles in the papers, publicity, bigger than the British Channel ferries. What they do not mention is that we have been working on her around the clock and that some major changes have been incorporated in her design. And when she is launched she will be christened *Galathea,* and will sail uncharted seas just like her namesake. If she does not plumb the deepest of the ocean deeps, perhaps she will have a better head for heights." He laid his finger alongside his nose and winked broadly. "You don't mean . . . ?"

"I do indeed. The Moon, the planets, the stars—who knows? I understand that the professors here have been preparing her motive power, while we of the shipbuilding industry have not been idle. Major changes have been made in her plans. Internal bracing, hull, airtight hatches, airlocks—I will not bore you with the details. Suffice to say that in a few short weeks the first true spaceship will be launched. *Galathea."*

They looked at her now with a new and eager interest. The rounded hull, impossible in any normal ocean vessel, was the ideal shape for a pressure hull. The lack of clearly marked bow and stern of no importance in space. This rusty, ugly torus was the shape of the future.

"There is another bit of information that you gentlemen should know. All of the operations of the program have been transferred to a new ministry, which will be made public after *Galathea* is launched. The Ministry of Space. I have the honor of being the acting minister, for the time being. It is therefore my pleasurable duty to ask Captain Hansen if he will request a transfer from the Air Force to

the Space Force, with equivalent rank, of course, and no loss in benefits or seniority. If he does, his first assignment will be as commanding officer of this magnificent vessel. What do you say, Captain?"

"Of course," Nils said, "of course!" without an instant's hesitation. He did not take his eyes off the ship even when he accepted his friends' congratulations.

*** * ***

Martha had not been exactly truthful with Nils when she had left him off at the station in Birkerod. She was not going shopping for dresses today but, instead, was keeping an appointment in Copenhagen. It was a small white lie, not telling him about this, one of the very few she had ever told him since they had been married. Seven years, it must be some sort of record. And the foolish part was that there was no reason why she shouldn't tell Nils. It wasn't very

important at all.

Guilt, that's all, she thought, stopping for the light, then turning south on Kongevej. *Just my own irrational feelings of guilt.* Clouds were banking up ahead and the first drops of rain splattered on the windshield. Where would the modern world be without Freud to supply a reason for everything? She had been majoring in psychology at Columbia when she had met Nils for the first time. Visiting her parents here in Copenhagen where her father had been stationed. Dr. Charles W. Greene, epidemiologist, big man with the World Health Organization. Welcoming his daughter for her summer vacation, long-limbed, undergraduate, tweed skirts. Parties and friends. A wonderful summer. And Nils Hansen. Big as a mountain and handsome as Apollo in his SAS uniform. An almost elemental force. Laughing and fun; she had been in bed with him almost before she knew he had been making a pass. There was no time to think or even realize what had happened. The funny part was, in a way, that they had been married afterward. His proposal had come as a real surprise. She liked him well enough, he was practically the first man she

had ever been to bed with, because other college students hardly counted. At first it had been a httle strange, even thinking about marrying someone other than an American, another country and another language. But in so many ways Denmark seemed like the States and her parents were there, Nils and all her friends spoke English. And it had been fun, sort of instant jet set, and they had been married.

Even though she had never been completely sure why he had ever picked her. He could have had any girl that he wanted to crook his finger at—he still had to beat them off at parties. And he had chosen her. Romantic love she told herself, whenever she was feeling upswing, something right out of the *Ladies' Home Journal.* But when the rain set in for weeks at a time and she was alone she had to go see friends, or buy a hat or something, to get away from the depression. Then she would worry that he had married her because it was that time of life when Danish men got married. And she had been handy. And an American wife has some prestige in Denmark.

The truth was probably somewhere in between these—or took in parts of both. As she grew up she had discovered that nothing was ever as simple as you hoped it might be. Now she was a long-married woman, a homemaker and on the pill, a little bored at times, though not unhappy.

Yet she was still an American citizen—and that, perhaps, was where the guilt came in. If she loved Nils, as she was sure she did, why had she never taken the step of becoming a Danish citizen? In all truth she never thought much about it, and whenever her thoughts came near the subject she slithered them away in another direction. It would be easy enough to do. She was driving mechanically and realized suddenly that the rain had gotten heavier, that it was covering the glass, and she slowed and turned on the wipers.

Why didn't she do it? Was this a thin lifeline she held to, to her family, her earlier life? A fractional noncommit-ment that meant she still had some doubt about their mar-

riage? Nonsense! Nils never mentioned it, she couldn't recall their ever even talking about it. Yet still the guilt. She kept her passport up to date, which made her a foreign resident of Denmark, and once a year a smiling detective at the Criminal Police division stamped an extension into it. Perhaps it was the Criminal Police bit that bothered her? No, that was just a government office, it could have been any office and she knew that she would feel the same. Now the American embassy had some question about a detail in her passport and she was going there. And she had not told Nils about it.

With the morning rush hour over the traffic was light, and she was at the embassy before ten. There wasn't a parking place in sight and she finally ended up over two blocks away. The rain had settled down to a steady Danish drizzle, the kind that could last for days. She slipped on her plastic boots—she always kept a pair in the car—and unfolded the umbrella. Too short for a cab ride, too long to walk. Taking a deep breath, she opened the door. The rain drummed on the transparent fabric of the umbrella.

The lobby, as always, was deserted, and the receptionist behind the big desk looked on with the cold detachment of all receptionists while Martha juggled her closed, dripping umbrella and searched through her purse for die piece of paper.

"I have an appointment," she said, unfolding it and shaking out the crumbs of tobacco. "With a Mr. Baxter. It's for ten o'clock."

"Through those doors[x] there, turn left, room number one seventeen. It's down at the end of the hall."

"Thank you."

She tried to shake all of the water off on the mats, but still trailed a spatter of drops across the marble floor. The door to number 117 was wide open, and a gangling man with thick dark-rimmed glasses was bent over the desk, studying a sheet of paper with fierce concentration.

"Mr. Baxter?"

"Yes, please come in. Let me hang up those wet things