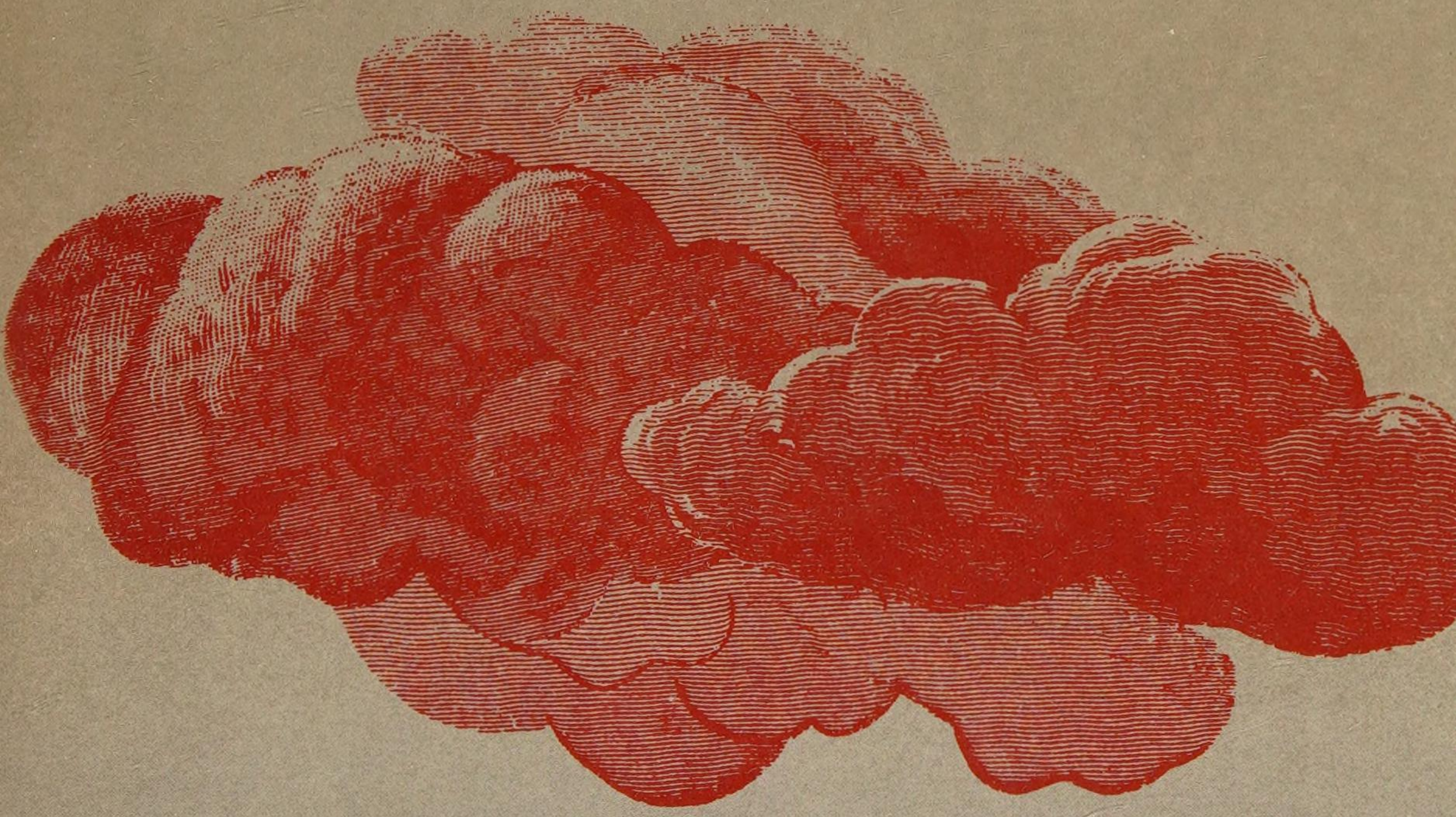
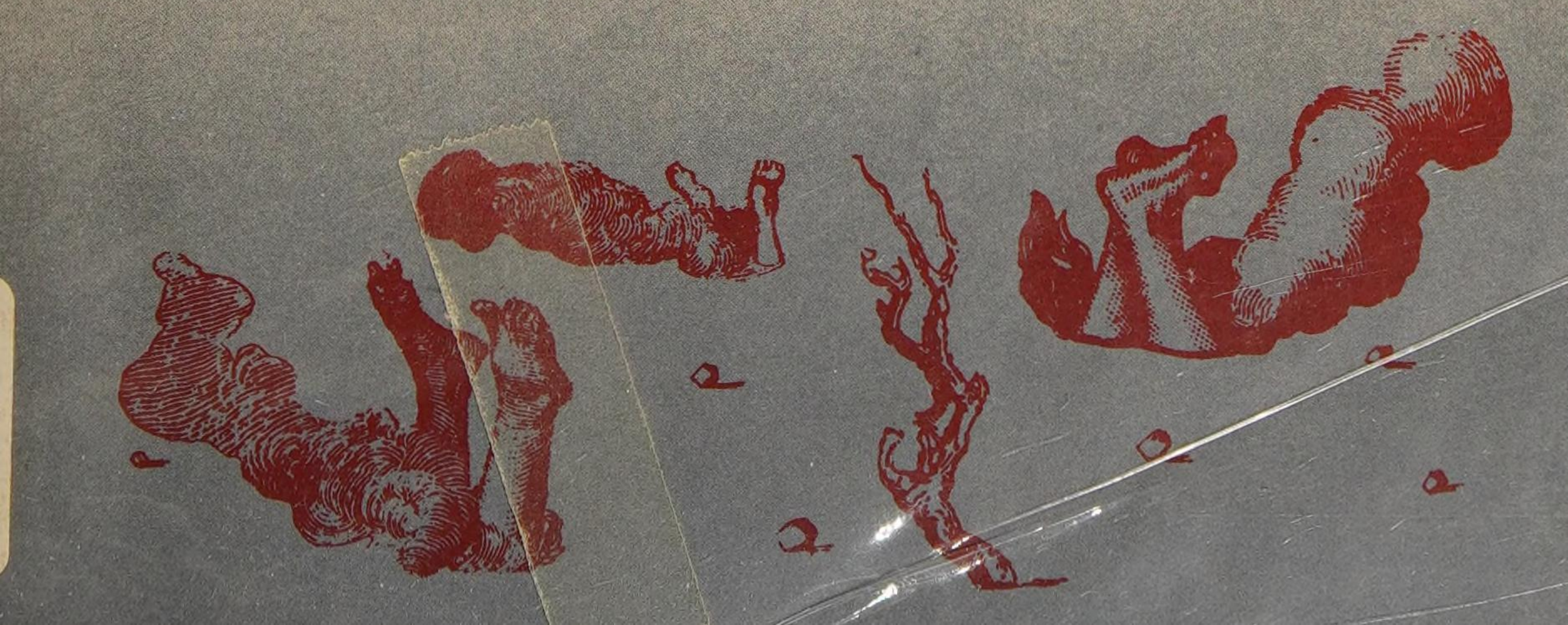
Ted Thomas and Kate Wilhelm

YEAR OF THE CLOUD

Doubleday Science Fiction





YEAR OF THE CLOUD

Ted Thomas and Kate Wilhelm

A tidal wave of 250 feet had swept over Hawaii leaving death and destruction in its wake. An earthquake had sheered away part of Peru. Battering rains were causing rampaging floods everywhere. And where Nature wasn't devastating the landscape and killing thousands, there was mass starvation. And it was common knowledge that the fate of mankind was hanging in precarious balance.

The earth had passed through a massive and inexplicable cloud formation and the result had been this rampage of Nature. What was more frightening was the condition of the water. It had suddenly become a gellike substance, unfit for consumption and contaminating all forms of life.

World governments who had been warring now found themselves pooling all their scientific resources to discover a means by which the water could be thinned so nature's balance could be restored and mankind saved from extinction.

(continued on back flap)

Book Club Edition

Year of the Cloud

Year of the Cloud

TED THOMAS *and* KATE WILHELM

Doubleday & Company, Inc., Garden City, New York

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February 26

Dr. Henry Spain looked up at the great barrel of the telescope and shivered. There was a cold dampness in the observatory that even his heavy jacket could not keep out. He shook his head and muttered to Charlie Porter, "One thing that should be abolished is the month of February. It's miserable, does no good for anybody, a totally wasted month of the year, should be abolished." He looked up at the domed roof and dreaded the moment when the great panels would open and the cold February night air would rush in and make it colder than it was now.

Charlie Porter shivered too, but he was anxious for the panels to open. He would then be able to leave this frigid, barren room and go to his warm darkroom and start making the enlargements of last night's photographic plates. There were advantages in being far down in the hierarchy of the observatory. As a darkroom technician, no one expected him to put up with the discomforts of winter observing. He breathed in deeply and coughed a little; he did not like the musty smell of mouse excrement that always seemed to fill the air out here.

Dr. Peter Yudkin clumped up the metal, circular staircase and came toward them. Both Spain and Porter turned to face him with the deference that befitted a greeting of the Director. Both of them immediately felt colder, for Yudkin was dressed in his usual business suit with the coat jacket open and his stomach protruding, no vest, no sweater, no coat. Yudkin rubbed his hands together, but it was not to warm them. He said, "The seeing is good tonight. Some good work we will do. Let us to begin." Yudkin's accent was an unconscious fraud, assumed because he instinctively felt that it impressed visitors who always seemed more respectful of foreign science. In moments of stress he forgot the garbled syntax completely. An assistant threw a switch, and the panels began to open. The cold night air

swept down on them with just enough moisture in it for maximum discomfort. Yudkin threw back his head and sucked air noisily, while the other men shivered.

"Well," said Porter. "I guess I'd better go and get to work. You'll have some more plates for me before too long."

Spain nodded pleasantly at Porter and said, "Don't get overheated in that darkroom of yours now." And he turned to mount the platform with Yudkin. Porter waved at him and headed for the circular staircase.

Porter left his jacket on when he entered his warm darkroom. He began to lay out his trays and set up his bottles of solutions, checking to make sure there was enough in each. With his preliminary chores done, he hung up his jacket and took down some of the dried plates to look at them. He held them to the bright fluorescent plate to inspect them. One after another he checked them out, looking for mechanical flaws in the photographic plate.

Now, Porter had a sensitive eye and a fine sense of composition. He came to a plate that did not seem quite right. The flaw was so subtle that at first he could not detect it. He made himself relax, and he blinked his eyes and looked at the ceiling for a moment. Then he carelessly looked at the plate along its top, not straining, not trying to focus his eyes. He pursed his lips and blew air through them, not quite whistling. He moved his eyes back and forth, vaguely focusing them along the top of the plate. And in a moment he had it.

Below the center of the plate and a little to the left was a faint blotch, so faint the eye could not normally see it. "Damn it," said Porter to himself. He snatched up the plate, turned on a bright overhead light and held the plate up to it. He turned it various ways to catch the reflected light from the face of the plate, trying to find the reason for the flaw. He turned it over and did the same with the back. "Not water spotting. No smear. Must be in the gelatin film itself." He thought for a moment. He selected the two plates that had been exposed next to it, one just ahead and the other just behind. A careful check showed the same blotch on each.

Porter rubbed his chin and reflected. By this time his eye was accustomed to seeing the blotch, and he was certain it was a trifle more pronounced on the last plate. The tray containing the entire series of plates was on the table in front of him, and he went right to the very last plate. It, too, had the faint blotch, perhaps a little more

discernible than the blotch on the earlier plates. Now he knew that the cameras had actually photographed something. Porter was reasonably certain the astronomers had not been looking for it. Perhaps it was a hitherto unknown comet. He grinned as he thought it. Photographers' assistants did not normally study astronomical plates, so maybe he was the first of his profession to discover a celestial object. He could see it now; the banquet hall, the head table, the bright lights, the speaker saying, "And it gives me great pleasure to present this honorary doctorate to Charlie Porter, discoverer of the greatest comet of them all, now known as Porter's Comet."

Porter shook himself back to reality and wondered what to do next. With the plates all replaced in their tray, he shrugged into his jacket and went to find Dr. Spain. Spain and Yudkin were quietly engrossed in their work. Porter said, "Dr. Spain, I think I've found something on the plates you took last night. Could I trouble you to come take a quick look at them?" He spoke softly.

Spain said, "Why, yes, Charlie. Wait for about ten minutes and we'll have a breaking point here for a few minutes. I'll be down then."

Porter went back down and busied himself doing some more chores until he heard the knock on the door. When he opened it, both Spain and Yudkin were there.

Yudkin pushed his way in and said, "Where are these plates with something on them we took last night? I want to see them."

Something in his voice irritated Porter, so he deliberately handed Yudkin the faintest of the plates without comment. Yudkin held it in front of the viewer and scanned it. He bent over it and tipped his head back to bring his bifocals into focus. He seemed to be stabbing the photograph with his chin as he pored over it.

Then he straightened and said, "I see nothing. What is it here you think you see?"

Porter had just begun to regret his impulse in trying to make Yudkin look foolish, when Yudkin's cutting voice made him mad all over again. He did something he should not have done. He tried to use Spain to make Yudkin look even more foolish. Porter said as he took the plate from Yudkin's hand, "I'm sure Dr. Spain can see it." He held it so the light struck the plate at the right angle for Spain, and he pointed to the area on the plate. "See it there, Dr. Spain?"

Spain was embarrassed, but his eye caught the faint blotch and

he said, "Why, yes." He took the plate and held it for Yudkin and pointed. "With the light like this. See it?"

Yudkin leaned forward, saw it, nodded and said, "Is it anything? Let me see the rest of the series."

One at a time Porter handed Yudkin the rest of the plates while Spain peered over Yudkin's shoulder, both of them growing more excited as they inspected plate after plate.

Yudkin finally almost shouted, "We discovered something last night. We must study it some more." Yudkin turned and rushed out of the darkroom. The other two followed him.

In the control room Yudkin gave the computer technician directions to retake some of the pictures, and in six minutes the coordinates were fed into the telescope controls and the great structure began to swing. Porter went with them to the domed room, and he was too excited to mind the chill. Yudkin snapped at him, "We do not need you here, Mr. Porter. Why don't you finish your work in the darkroom?"

Porter, momentarily taken aback, stared at Yudkin angrily for a moment, and then said, "I want to make sure the photographic end of this session is handled as best as it can be. I'll see to it that our highest quality plates are used. I want to use a coarser grain and a faster plate to bring out more brightness in the object."

Yudkin flushed and began to retort, when Spain said, "Let's try it in the short infrared, perhaps in the ultraviolet. Might give us more information right off the bat."

Yudkin nodded vigorously, quickly lost in consideration of the problem. "Yes. We will run a spectrographic analysis, too. Let us organize." And he turned and began shouting orders to the various people scattered around the dome. Porter personally took over the chores of selecting the plates, and he laid out for later use the IR and UV plates and the strips for insertion into the spectrograph.

In half an hour the routine of the photographic procedures had settled, and the staff members hardly spoke to one another as they did their jobs. Porter took the exposed plates down to his darkroom and set to work with fresh chemicals. In two hours he was able to check the first plates, and the blotch was there, dead center on the plates. He took them up to the dome in a padded tray and showed them to Spain.

"Fine. They are much clearer than last night's. We can position

it now, maybe get an idea of the distance. I think it's close; inside Mars' orbit. I'll take them." Spain took the tray and headed for the computer room. The technicians there were ready, and soon the typewriters were clicking away feeding the data necessary to fix the position of the object.

Porter at first started to go with Spain, reluctant to allow his precious plates out of his sight. But the photography was continuing, and he knew he was not needed on the floor of the observatory. He was completely immersed in the routine again when Spain was back with the news.

"It's in the path of the Earth," he said. "We're going to pass right through it. It seems to be a transparent Cloud of some kind. Any information yet on the IR and UV? We've got to find out what it is."

The others stared at him, openmouthed, except Yudkin. Yudkin turned cold and impassive and turned his back on the others while he thought out the situation, unaffected by the mounting excitement. Even Spain was caught in the unsettling tension, and he joined in the unproductive chatter: "Through it?" "What could it be?" "Dust, maybe. We'll get meteor showers."

Yudkin turned around and said, "We must call the National Observatory. We may be the first to see this, and we must warn them. Dr. Spain, have you an estimate of the distance?"

"Not yet, Doctor. It should be ready in a few minutes."

Yudkin nodded. "We will wait for it, then I will call. Meantime, let us continue taking pictures." They all scattered back to work.

In fifteen minutes Spain was back with the answer. "The Cloud is five days away from us, and we will pass through it dead center. It seems to be about three times larger than the Earth itself. It's an inert dust, thin, transparent. That's all I know at the moment."

Yudkin nodded. "It is enough. I will make the call."

Spain and Porter followed him down the stairs into the office and listened quietly while Yudkin called the National Observatory and told the chief astronomer, "I have found a Cloud of apparent dust in the path of the Earth, five days away. You have noticed this?"

Porter shifted his weight uncomfortably and looked at Spain. Spain shrugged while Yudkin continued to talk. It was apparent from the conversation that the other observatory had not found the Cloud. They heard Yudkin say, "Very good. We will wait. We will announce it not at this time." He hung up. Porter gritted his teeth.

Spain said, "What happened?"

"They will look and call us back. They want us to make no announcement at this time. They are afraid of a panic when people learn we will pass through a Cloud. Well, let us collect more data."

They had been up on the observatory floor for a half hour when a call came through from the National Observatory. The people had been busy over there. "We're sending a copter over to pick you up, Dr. Yudkin. NASA has a shoot ready to go in four hours to check the solar wind, and they can easily adapt it for some tests on that Cloud—take samples, animal tests, things like that."

"You have seen it already?" asked Yudkin.

"No. We pulled some plates made a day or two ago, and we saw it on them. It's pretty hard to spot; you've got sharp eyes over there. Well, we'll pick you up in a few minutes."

Spain had been busy during the telephoning. He read off some figures to Yudkin. "The Cloud is roughly circular in appearance with a diameter of about twenty-four thousand miles. As we estimate its mass, it runs about twenty-two times ten to the twelfth power short tons, if it's spherical. So this works out to a concentration of matter of something on the order of one pound of dust per seventy million cubic feet. That's pretty concentrated. No data yet on the composition. Rocket sampling should give us the best results. Are they all set over at National?"

"Yes. The copter will be here in five minutes. You will continue the analytical procedures?"

"Yes, and we will keep you posted as we learn things. Anything I can get for you to take with you?"

Yudkin shook his head gruffly; it was difficult for him to say a personal "thank you." He listened and said, "I hear the copter. I go now." He quickly shook hands with Spain and turned to trudge off to get his things and board the copter. The men he left behind slowly got back into their routine.

The copter flew Dr. Yudkin directly to the rocket launching site. The launch manager was an intense, young, black-haired man named Bensen. He had a habit of cocking his head when he was thinking, and he cocked it at Yudkin and said, "Can you think of any other tests we can make with this rocket, Doctor? Mind you, we have a pay load of only three hundred sixty pounds."

Yudkin had listened to the explanation of the sampling and ana-

lytical procedures that would take place when the rocket passed through the Cloud. Yudkin rubbed his chin and said, "Infrared, ultraviolet, flame spectrogram, plus live animals and collecting bottles. TV camera. Oh, yes. Can you send back the reaction of a sample in air? We then will have some idea if the Cloud matter can be exposed to air without reaction."

The cocked head straightened, and Bensen turned and snapped orders at the technicians at the liquid oxygen pumps. They ran to carry them out, and Bensen turned back to Yudkin and said, "Good idea, Doctor. I think we can do it and it will be a good idea to know in advance if the matter in the Yudkin Cloud is reactive with our atmosphere. Okay, let's get out of here. This bird's going to fly soon." He led the way to Central Control.

On the way they passed a group of reporters, held fifty yards from Control by a fence manned by guards. Bensen said, "I don't know how they do it. Those boys sense something special's up. I don't think NASA's going to be able to keep this one quiet very long. The word's out that something's up."

They went on in, took over the pre-shoot chores and in an hour and a half the bird flew. It was a good shot, right through the window, and the crew smiled as they went about their monitoring chores.

Spain called in. "Dr. Yudkin, the Cloud is receding from us, but at a slow rate. I'd estimate we'll be in the Cloud for about twenty-four hours—just time for one complete revolution of the Earth. Do you have any more information about it?"

Yudkin absent-mindedly shook his head over the phone, but Spain recognized what he was doing. Spain continued, "I've had some phone calls here from the press asking if anything is going on. Have you made any announcements over there?"

Yudkin shook his head again and said, "No, but they know something is up. Call later. Soon we will get some data." And without more he hung up.

Central Control took on a more tense atmosphere as the time for measurements neared. And when the data began to come in, there was no sound but the clack of spinning wheels, the whir of tapes, and the hum of the circuitry. When the preliminary data were in, they sat back and looked at what they had. They did not have much. The animals were unharmed. Infrared and ultraviolet were incon-

clusive. The matter in the Cloud rested harmlessly in air environment inside the collecting bottles.

Henry Ray, analytical chemist, looked at the traces of the several absorption spectra. "Well," he said, "seems to be large molecules, hydrocarbon moities, oxygen in the chain, like that. Can't get the end groups yet, or any side groups. Looks almost completely organic, though. What's that doing out there?"

Bensen turned to one of the other chemists and said, "What did he say?"

The chemist snorted. "He said he doesn't know what it is. We'll have to wait for the specimens to arrive. When we get them on a lab bench, we'll find out what's what."

A phone call came in from the Secretary of Defense, who wanted to be brought up to date immediately on the comet he had just learned about. Would it cause any trouble when they went through it? He listened to all they had to say, and then emphasized the need for secrecy. In half an hour they had a similar call from the White House, and they had to go through the whole thing again, with little more information than they had the first time. The switchboard began to stay lighted up from the flock of incoming calls. Nearby technical centers had heard that something big was up, and they wanted to know what it was.

The rocket returned at the predicted spot and was flown to Central Control by copter and carefully sterilized before it was opened. The mice, the pigeons, the two monkeys were all alive and well, although they had now been immersed in the Cloud's material for several hours. The analyses began.

Ten hours later Bensen pulled a meeting together. Yudkin was there. "Well," said Bensen, "any decent preliminary results?"

Henry Ray said, "Yes. By and large the Cloud material is a familiar material. Seems to be particles of a polymer, a big one, molecular weight on the order of ten million. I think I see ethylene linkages in the infrared, and I know I see ether groups. The structure seems to fit a polymeric ethylene oxide, but . . ." He stopped.

"What's the matter?"

"Well, there's an occasional group along the chain that I can't identify. Cyclic, three-dimensional. What's more, I can't get at it very well. It comes apart easily. I've got to come up with a new technique

or something, at least I think so. The group doesn't seem important, but I can't really say. It's there, or something's there."

Yudkin said, "This material in the Cloud—the Yudkin Cloud"—they all looked up at him—"have you fed it to animals?"

Bensen said, "I was coming to that. What do the biologists say? Frank?"

Frank Manner said, "No effects on any animals, so far. Mind you, we only have a few milligrams of the stuff to work with, so we're using mice, and we haven't seen anything yet. We've started sacrificing the experimental animals, too. Nothing shows on autopsy."

Yudkin said, "Good. Those amounts may be the same as we will be exposed to. We have the total amount measured, and a fraction of one percent is exposure rate." He nodded contentedly.

The chief of analytical summed it up: "Well, it doesn't look like the Cloud—oh, excuse me, the Yudkin Cloud—is going to cause much of a problem. It seems to be an inert material even though it's organic, which is really the only strange part of it. So far, it seems to be harmless, totally non-poisonous."

"What about that group we can't identify?"

"Doesn't seem to be a problem biologically, but we're following it."

They all sat quietly until Bensen said, "Okay, I'll go report this upstairs to see what they have to say about all this. Why don't you all go to the cafeteria and have some coffee for half an hour while I get the word from the top." They nodded and the meeting broke up.

Bensen explained to Headquarters what they had found and waited for twenty minutes while some kind of preliminary decision was made. The decision was simple. Keep studying the material from the Cloud, but make no announcements of any kind to anybody. No sense in throwing the public into a panic when it learns we are going to pass through a cloud of inert material that will do nothing more than produce a few gloriously colored sunsets.

Bensen called a meeting and explained the edict. "The press already knows something is up so this is going to be great trying to keep them out of this. But that's the word, so that's what we do. Keep after the dust, try to identify it down to the last atom. That's all."

Despite a night's work, nothing new had come out by morning. The Cloud matter was non-toxic in concentrations fifty times greater than predicted exposure when the Earth passed through the Cloud. Yet the secrecy lid stayed clamped on tightly out of fear that a pre-

mature announcement would start a panic. By 11 A.M., E.S.T. the decision had been made that the President would make a TV appearance at 9 P.M., E.S.T., calmly to tell the people about the Cloud. The talk would emphasize harmlessness and tell about the lovely sunsets everyone could watch.

But at twelve noon, one Charles L. Stephens, a gifted amateur astronomer, noticed the Cloud on a plate he had taken the night before and called the National Observatory to discuss it. He was at first rudely brushed off, so he hung up and talked to another amateur friend of his who happened to be an employee of the French Legation in Baltimore. The friend promptly reported it to his superiors, who promptly called Paris. By the time the people at the National Observatory called Stephens back to take him into their confidence, the damage was done. At 1:30 P.M., E.S.T., the French Government announced the situation to the world.

There was no panic.

March 28

Sam Brooks and Charlie Frazier steered their Boston Whaler into their slip, and Carl Loudermilch hailed them from the end of the pier. "Kind of windy out there today, wasn't it? You dedicated scientist types always awe me. Come hell or high water, you got to take your measurements. Now me, I'm the lazy type."

Loudermilch had a fishing pole in one hand and a can of cold beer in the other. He was leaning against a piling in the warm sun. The wind was gentle in the shelter of the harbor, and it rippled the brim of the great straw hat he wore. Loudermilch might call himself the lazy type, but Frazier saw that his notebook lay alongside him on the pier, and a pencil stuck out of the pages marking where Loudermilch had made his last notation. Loudermilch was a science writer for the New York *Times*. He was a soft-spoken man who talked a lot without seeming to. His fund of information kept the chemists and marine biologists running to the encyclopedias, and they had yet to catch him in a mistake. But he was so modest a man that none of them resented what he had to say. Even Sam Brooks, the dourest of them all, was able to smile and talk easily with Carl Loudermilch. Loudermilch was really in Nassau on a vacation, but the paper had assigned him to the marine project in order to make it a paying vacation. Nobody expected him to do much work and so he constantly referred to himself as a lazy man.

Loudermilch watched Brooks and Frazier unload their gear for a moment, then he got up and went over to help. Brooks handed him the long line of little bottles containing the samples of sea water. Loudermilch held it up and said, "Darndest fish I ever saw. Can't you fellows ever do any better than that?"

Brooks stepped out of the boat and took the samples. He said, "That's our bread and butter. And with this project, it might be your bread and butter too. If we have to rely on the oceans to feed all

the people in the world, we'd better start learning something about them." He looked at Frazier and said, "Finish unloading, will you? I'll take these in to Kramer."

Loudermilch walked with him as he headed in to the laboratory. Just before going in, Loudermilch turned to look out over the waters of Coral Harbor. The hot sun beat down through the wind, and the sun and the wind felt good. Loudermilch sighed. It was good to be alive in that place. He turned and went in.

Kramer was removing the sample bottles from the band that held them and he placed them all in a row to get ready for the analyses. Loudermilch said, "You don't waste any time. Do they change that fast?"

Kramer was a short, stocky man with the barest fringe of hair around the back portion of his head. He kept it cut so short he seemed totally bald. In the hot weather of Nassau he wore nothing but a pair of khaki shorts and rope sandals. His sandals whispered on the linoleum floor as he shuffled around the lab doing his work. He wore tinted glasses indoors and out. Loudermilch often came in to watch him work, fascinated at the way Kramer moved around the lab. There was never a single detectable wasted motion. He could carry several beakers in his hands at once, and there was no tinkle of glassware. He could place a large, heavy, liquid-filled flask down on the lab bench, and there was no thud. His hands were exceedingly dexterous, and they darted bird-like over his equipment, never really seeming to touch it.

He smiled at Loudermilch and said, "Ocean water begins to change as soon as you remove it from its environment. That's why I tried to get a larger boat for this project; I wanted to analyze the water samples within seconds after they were taken. But you know how it is to get money from the Howe Foundation. Perhaps in a few months I can prove to their satisfaction that we really need a larger boat." His voice was high, and he cut his words off short. He continued, "Always provided, of course, that we are still here in a few months. Any news on that Cloud we went through?"

Loudermilch shook his head. "No. The trouble seems to be that they can't get a good specimen of the material—too little of it. The Cloud was very thin. But they ought to learn something about it any day now. They keep saying there is certainly nothing to worry

about. The tests they've been able to run indicate the material is harmless. Sounds like they're still doing a lot of guessing to me."

Kramer nodded. "They should have had the whole answer days ago. The trouble is, it dropped between the chairs—nobody had a clear-cut responsibility to go all out and find the answers we need. Well, that's the government for you. Like anything big, it has trouble getting off its dead ass in a hurry. At least it's real colorful when the sun goes down."

Sam Brooks came in carrying the rest of his gear, and Kramer said, "Bad day out on the reef?"

"Yeah. Didn't get much done. Only one man diving, then the wind came up. Nothing went right."

"Well, you did pretty well to get the samples you did. March is a lousy time of year here for diving, anyway. Next month and the one after, we'll have things pretty good down here. You may even get me in the water then. Where's Frazier?"

"I don't know. Probably gone back to sleep to get ready for tonight. I hear there's a new act at Sloppy Joe's, and Frazier would never miss that."

Kramer said, "Well, he can work hard when it is necessary, and he's a good marine biologist. When we really shake down here, he'll be all right. You'll see."

Loudermilch said to Brooks, "If Frazier won't be in shape to go out with you tomorrow, and if the wind is not too bad, I'll go with you."

"Thanks, Carl. I may hold you to that." And Brooks went into the adjoining room to his desk to make out his report of the day's work, such as it was.

Next morning Sam Brooks got up again at six o'clock and took a dip in the harbor off the end of the dock. When he swam back to the ladder, Loudermilch was waiting for him. As Brooks dried himself, Loudermilch said, "Looks like I'm your man. Frazier and Harnish both got in late last night, and from the uproar I heard, they won't be rolling out until noon."

"Thanks, Carl. I'll take you up on that. What do you say we get going early and see if we can finish before the wind comes up."

"I'm ready now. I never eat breakfast, so whenever you're ready, I am."

Brooks said, "Good. Let me get a light bite and some coffee. I'll

get some sandwiches and beer too, in case we stay out that long."

"Now you're talking. I'll get my fishing gear and meet you at the slip."

In half an hour they were on their way out to Southwest Reef. It was a sharp clear morning, with the brilliant, colored sky they were getting used to, and the ocean was as smooth as a mirror except for the long smooth rollers that swept by at twenty-second intervals. The sun was to their left as they went out, and its reflection was bright on the sides of the rollers that lifted toward them. There was not the slightest trace of a wind. A school of six porpoises cut across their path as they went out, ignoring them. The porpoises slipped out of the surface and in again so smoothly that they left only the barest ripples behind them.

In the distance, out near the reef, a motor sailer was at anchor, but it had moved from where they had seen it the afternoon before. Brooks said, pointing at it, "Look, that boat has anchored right along the line of our instruments. I hope his anchor hasn't ruined any of them. He was further out yesterday."

Loudermilch said, "He must like the sea. He spent a rough night out here yesterday. Who is the owner, do you know?"

"No. I've seen the boat around. It comes in once in a while, but I don't know who owns it. I'd better tell him about our work here and tell him to stay clear of it."

Loudermilch started to point out that it was a free ocean, but knowing Brooks, he said nothing. He watched as they came up to the vessel from the stern, and they could read her name in large black letters, *Donado*.

Brooks pointed up at the masthead. A flag hung limply there, and as the vessel pitched gently in the rollers, it opened momentarily. It was a bright red flag with a diagonal white bar. "Look at that," Brooks said, "a diver's flag. They've got divers down right now." He cupped a hand around his mouth and called across to the other boat, "Ahoy there." There was no answer so he tried again. Still no answer. He said to Loudermilch, "Do you suppose they are down, leaving nobody to tend the boat? That's kind of stupid."

Loudermilch had been looking around over the surface of the smooth ocean. He stood up in the slow-moving boat to see better, and then he pointed out over the water to a spot two hundred yards away. "There are their bubbles. See them?"

Brooks stood up too and looked. "Yes," he said, "and they are right on our line of equipment. If they've ruined anything, I'll see that they pay plenty for it. Those meddling nincompoops. . . ."

"Hold it," said Loudermilch, "we don't know that they've done anything yet. They're probably just looking at your stuff; they've no reason to damage it. Wait until you get down there before you start blasting them. Your stuff'll be all right."

Brooks sat down, muttering, gunned the motor, and headed for the surface buoy that marked the start of the line of underwater buoys. He dropped the anchor, hurriedly put on his diving gear and hung on his pieces of equipment. Loudermilch helped him. As he went over the side Brooks caught the line that held his camera; it tightened and cut the back of his neck. The salt water stung the cut, Brooks rubbed it. He flung his hand away from his neck in annoyance, and his hand hit the viscometer dangling from another string and broke it. "Damn those people," he snapped. "Get me another viscometer, under the seat."

Loudermilch reached under the seat and hauled out another one. He looked at Brooks with concern, noted his flushed face and petulant manner. He almost suggested that Brooks come back into the boat for a few minutes, but he knew that Brooks would not do it, and that the suggestion would only irritate him further. As he handed Brooks the viscometer he took particular care to look over the gear that Brooks had on, looking for anything missing or anything wrong. He saw nothing. Brooks turned his head down into the water and flailed with his feet to drive himself toward the bottom. Loudermilch saw him start down, suddenly stop, and then fling himself up to the surface again, shooting out of the water up to his waist, spitting out his mouthpiece and gasping a great lungful of air. Loudermilch put both hands on the gunwale of the boat ready to hop over the side and grab him, but Brooks did not seem to need it. Brooks quickly kicked over to the boat and said, "Turn on my damned air, will you?"

Loudermilch nodded, restraining a smile, and opened the air valve on Brooks' tank. It was the oldest blunder in the books, and he did not want to make a kidding remark about it. He opened the valve all the way, and then closed it a quarter turn. He tapped Brooks on top of the head and said, "All set."

Brooks surface dived again with much splashing, and this time he

went straight to the bottom with only momentary stops to clear his ears. Loudermilch could see him swimming along the bottom with great streamers of bubbles behind him. Brooks was puffing from physical strain and mental turmoil; he would never get an hour out of the tank.

Brooks came to the first submerged buoy and quickly took his sample and his readings. At the next buoy Brooks broke the point on the crayon as he marked his viscosity reading on the slate. He had to stop and sharpen the point with his knife, kneeling on top of a brain coral twenty feet deep. Then he went on. He had a vague feeling that something was wrong, but he was too upset to stop and figure out what it was.

It was at the fifth buoy that he saw the two divers lying motionless among a mass of staghorn coral, with a great school of striped grunts clustered around them. One of the divers was right next to Brooks' buoyed equipment, and he kicked harder to get to it to chase them away. At fifty feet he saw what was happening. The diver near his equipment was a girl, and even in his anger Brooks could see that she was a remarkable girl. She wore an abbreviated bikini that was coal black; it was in sharp contrast to her tanned skin. Her hair was a light brown, just the color of the staghorn coral she lay in, and it was long and gathered with a silver clasp at the nape of her neck in a kind of pony tail. The end of it trailed behind her and coiled around the end of a coral. She looked as if she grew there. She was slim; there was no trace of bulging flesh at the tight halter or briefs. She wore a black face mask and black weight belt, and her tank was black. Her face was near the instruments that dangled from the white nylon buoy line, and the school of striped grunts surrounded her like a mantle.

The other diver was a man, deeply tanned, hair sunburned white, and his long length was intertwined among the coral. He held a camera, and he was sighting through the view finder at the girl. Even as he dove down on them Brooks realized that they must have been in that position for a long time; striped grunt normally shied away from divers, yet now they swarmed around the girl. But when Brooks was fifteen feet away, the entire school suddenly zigzagged up and away, and the picture was ruined.

The man came up out of the coral, and the girl lifted her head and looked at Brooks. He pulled up right in front of them and waved

them away from his instruments. Again and again he pointed first at the instruments, then at himself, and then waved them away. His meaning was clear: these are mine and you have no right here so go away.

The man shook his head at Brooks and pointed to his camera and the girl, and waved Brooks away. Brooks lost his temper and lunged at the man to push him away from the buoy. At the last moment the man slipped sideways a bit and rolled on his side, grabbing Brooks' arms as he went by. He twisted his body in a somersault that carried him first over and then under Brooks' body and then he launched Brooks straight on in the direction he had been heading. It was five feet before Brooks could overcome his own momentum and stop and empty his mask and turn to face the other diver again. But Brooks was now cautious. He had felt the strength in those hands that had turned him and then thrown him through the water. He saw a black smear on the man's ribs that had not been there a moment before. He recognized the smear and grabbed up his slate to look at it. All the data he had written on it with the black crayon were smeared out in an unrecognizable blur. The slate had rubbed against the other diver; Brooks' data were destroyed.

The fury rose in him, but the memory of the hands kept him in check. For an instant Brooks considered pulling his knife, but his common sense quickly took over. Instead he jerked his thumb toward the surface in the diver's signal to surface. The other man looked toward the girl and then he nodded to Brooks. Brooks shot for the surface and switched to his snorkle when he got there. The other two came up slowly and effortlessly, switching to their snorkles when they were still about ten feet deep, and then trailing a continuous row of bubbles.

As soon as their heads broke the surface Brooks began shouting, "What's the idea? Don't you know we are running some very important experiments down there? Who do you think you are?"

Neither the man nor the girl answered. They both kept their faces in the water, breathing through the snorkles, looking at Brooks through the water. The man raised a hand and pointed behind Brooks and then waved in that direction. Brooks turned and saw the motor sailer anchored fifty yards away. The other two began to kick slowly toward the boat, so Brooks swam toward it. He was the first there, and he went up the boarding ladder with some difficulty,

trying to keep all his gear from fouling the steps of the ladder. On deck he turned to watch the other two climb up. He heard the rumble of an outboard engine and turned to see Loudermilch coming toward them in their boat. Loudermilch pulled up alongside just as the man and the girl climbed into the cockpit. Loudermilch called, "May I come aboard, skipper?"

"Come ahead," said the man, and he stepped to the gunwhale to take the line that Loudermilch threw. He made it fast and helped Loudermilch into the cockpit.

Loudermilch said, "Well, I guess you've all met. My name's Carl Loudermilch." He stuck out his hand.

"Hugh Winthrop," said the man, "and this is Gail Cooper. No, we haven't met him yet." He nodded toward Brooks.

Brooks started to speak, but Loudermilch said to Gail, "I'm very pleased to meet you, young lady." He looked at the camera still hanging around Winthrop's neck, and continued, "With you as a model, I would think Mr. Winthrop here would be an internationally known photographer." He dropped Winthrop's hand and shook hers.

Gail smiled. Her teeth were even and startlingly white against her tan face, and her mouth was broad and curved. "Thank you. Coming from as renowned a newspaperman as you, that is pleasant to hear."

Winthrop was staring at Brooks, waiting for Brooks to say something. Loudermilch stepped into the tense silence. "Hugh Winthrop, I'd like you to meet Dr. Samuel Brooks, marine biologist. He's been running a series of experiments in these waters. They're trying to find optimum conditions for fish life—may be useful in the future when the world needs more food. You know, population explosion and all that."

Neither of the two men said anything, nor did they shake hands. The silence grew again. Loudermilch sighed and said, "Well, let's talk it out. What happened under the water?"

Brooks snapped, "He tried to ruin my measurements—disturbing buoy number five."

Winthrop said nothing, merely looked at Brooks. It was Gail who said, "I don't understand, Dr. Brooks. We did not touch any of your things. We simply used them as a setting for a photograph. How did we ruin anything?"

Brooks almost snapped at her, but he changed his mind and said,

"Well, you were right in among my equipment, and your body heat might change the temperature readings the recorder was making. Also, continued movements right on the spot might change the calcium ion concentration, and that's one of the most important parameters we are looking for."

Winthrop nodded and said, "Oh, I see. I guess I owe you an apology. I did not realize you were measuring such fine points. I'll clear with you in the future. That picture you broke up would have been a beautiful one, and I'd like to try it again soon. Can we arrange it?"

Brooks felt better, his anger was waning. He still felt disturbed at the ease with which Winthrop had avoided his rush and at the memory of the strength in those hands. But Loudermilch was smiling, and so was Gail, and Winthrop no longer had the attitude of quiet tautness. Brooks took a deep breath and said, "Yes; in fact, I'll take my readings at the buoy we just left, and then you can use it again. That'll give the station about twenty hours to settle down into normal ambient conditions."

Gail rubbed her hand over the black smear on Winthrop's ribs and then looked at her fingers. "What's that?"

Brooks resented the character of her touch; it was almost a caress, right in front of them. He said, "That's black crayon from the slate I take my readings on. It smeared on him when I . . . when we . . ." He stopped and fumbled for his slate to hold it up to show them. Loudermilch looked quickly from one to the other of the two men, but neither one said anything more.

And it was while he was still looking at the slate that Brooks suddenly remembered the feeling of wrongness that he had felt. The water viscosity. It had been anomalously high. He frowned at the slate, lost in the problem, and he began chewing on his lower lip.

"What's the matter, Sam?" said Loudermilch.

Brooks shook his head and said, "I just realized that all the viscosity readings I had taken were too high. I'd better recalibrate my instrument." He shook his head again.

Winthrop was looking at him. Winthrop said, "Can you do it here? Perhaps I can help. I've been wondering . . ." He stopped.

Loudermilch looked around. The *Donado* was rolling slightly. The breeze was starting and the glassiness of the ocean was gone. Wind ripples were everywhere and small waves were making. He said, "I'm

just an observer around here, but I suggest you wait until tomorrow. The wind's coming up."

Brooks said, "Yes, let's wait. I want to check the viscometer and I have to do it in the lab. Let's go."

Winthrop said, "If you're diving alone, perhaps we can go with you tomorrow."

Brooks hesitated, and Loudermilch said, "Might be a good idea, Sam. You're having a difficult time getting any of your colleagues out here."

Winthrop said, "We can use the *Donado* as a base if you wish. That way we could dive right on into the afternoon, wind or not. I'll put into Coral Harbor tonight and we can leave at dawn, if you wish."

Brooks felt the rising wind and said, "All right."

Loudermilch said, "If you're coming in now, stop over at the laboratory later on and meet the rest of the group. We'll buy you a beer. You too, please, Miss Cooper."

Loudermilch helped Brooks out of his gear and tossed it into the Whaler. They climbed in, cast off, and the little boat turned and sped away.

Gail said, "Well, I'm a little surprised at you, Hugh. Since when are you interested in furthering the cause of science, particularly when it involves a neurotic like Sam Brooks. I don't trust him."

Winthrop shrugged and said, "He's a typical nut scientist, so wrapped up in his work he doesn't have any common sense. Did you see him down there? He almost went for his knife to attack me. I might have had to break his neck."

Gail put her arms around his neck and pressed close to him. "You haven't answered my question. Why do you want to dive with him?"

Winthrop held her around the waist, but he looked out across the water toward the shore eight miles away. He said, in a puzzled voice, "I don't really know. But something is happening to the water; it doesn't . . . doesn't *act* the same. I don't understand it. Maybe I can learn something if I dive with this idiot tomorrow. Now." He pushed her away and swatted her gently. "Let's go back down to that buoy and see if we can entice those grunt again."

They adjusted their gear and dropped over the side. They gently kicked their way to the buoy station and Gail took up her position among the staghorn coral. Almost motionless they waited for half

an hour, but no grunt collected. Finally Gail grew chilled, so they surfaced. After a leisurely martini, they took the *Donado* into Coral Harbor and put her in her slip.

"Dinner aboard? Lobster tail?" said Gail.

"Fine," said Winthrop. "Lobster tail and a salad."

She busied herself at the galley. Winthrop watched her light the alcohol stoves and put the water on to boil. She had changed to a blouse and shorts; the sun and the wind had dried her hair, and she was beautiful to watch in the galley.

Winthrop strayed out on deck. Across the harbor he heard the laughter of women having their cocktails on the porch of the yacht club. The sounds seemed loud and shrill to him, even muted by the wind. He shook his head and looked across the harbor to the limited area of the ocean he could see from their slip. The ocean reflected the gaudy sunset, with rosy froth on the waves, and streaks of deep red in the troughs. The white caps had appeared in the late afternoon, and he felt restless as he watched them. He would much rather be at anchor out on Southwest Reef than tied up here in a slip. The wind was salt and clean, and he loved the sounds it made in the rigging. It was good to get up during the night and check the hold of the anchor and feel the surge of the boat. And sometimes he would wake Gail, and they would put on their diving gear to roam beneath the clear black waters, surprising the night-dwellers on the reef.

Gail stepped to the companionway to ask what he was doing about her gin and tonic, but she saw the set of his body as he looked out over the strangely colored ocean, and she quietly returned to the galley. In one sense she understood him as well as she understood herself; she knew his views on people and events and she understood his love of the water and she felt with him in his moods. A stranger would look upon him as an irresponsible playboy, avoiding job, family, and serious function. He accepted without the slightest compunction the income from a rather large trust set up for him by his father; he used it to do exactly what he wished. He might have been a tennis bum, a golf bum, a ski bum, a diving bum, and he was really a little of all of these. Gail did not really understand him.

They sat down to the folding table in the cabin and ate their lobster tail. Gail brushed the white meat with butter touched with sage. They squeezed lemon over the lobster and dipped bite-size

chunks in hot melted butter. It squeaked between their teeth in a way Maine lobster did not, but it was delicious. They ate without talking, looking at their food, sometimes looking out a porthole, now smiling at each other. They finished their salad and leaned back and sipped steaming black coffee; it tasted strong and clean, even in the heat. Neither one of them smoked. They took a second cup of coffee up to the cockpit and drank it there, looking at the boats in the harbor under the rainbow sky, nodding to the occasional person who walked on the dock past their slip. They did the dishes, and Gail changed into a scarlet skirt and white blouse. Then they walked the mile to the laboratory.

"There you are," said Loudermilch as they came in the door. "We wondered what had happened to you. Let me show you around."

Brooks was just inside the next room examining equipment, and he said "hello," and went on with his work. In the next room Loudermilch introduced Kramer, who stopped tinkering with his analytical apparatus to shake hands and stare admiringly at Gail for a few seconds before going back to work. "You'll have to forgive the scientific types at work," said Loudermilch. "They don't even stop for a beautiful woman. Except Frazier. He's not here at the moment."

Winthrop said, "I want to see Brooks for a few minutes," and he turned and went into the next room where Brooks was. Gail and Loudermilch followed him.

Winthrop said to Brooks, "Your equipment check out all right?"

"Seems to."

"Exactly what is it you're measuring?"

"Well, it's pretty technical. I don't think you'd understand."

"Try me."

"Well," said Brooks, "we are trying to establish the conditions necessary for a reef to grow." Brooks unconsciously adopted a lecture platform manner. "New sources of food must be found if man is to continue as a race. Therefore, if we can learn to grow coral reefs in regions where they do not now grow, we will be able to bring in new food sources. Now"—he picked up a piece of coral—"coral is ninety percent of a reef and it is composed of calcium carbonate, with a little magnesium carbonate and calcium phosphate, and a very small amount of other inorganic salts. It is our view that an understanding of the functioning of the calcium ion will give us an understanding of coral reef formation. Follow me?"

"I think so. Are you measuring calcium ion in both organic and inorganic regimes?"

Brooks looked at him in surprise and said, "Yes."

"Since you're interested in food production ultimately, I should think you'd have to trace nitrogen, too. Have you seen the article by Goering and Dugdale on the conversion of nitrates to nitrogen in marine water? That's going the wrong way, isn't it?"

As it happened, Brooks was familiar with the article, but he was astonished to learn that Winthrop knew of it. Yet he couldn't bring himself to ask any questions, or to compliment Winthrop; to seem surprised or pleased would in some odd way minimize his own accomplishments.

Brooks said, "Yes, we too are following the history of nitrates in sea water."

"Would you like me to take on the chore of taking the pictures?"

Brooks hesitated, and Gail said, "He's good, you know. Professional."

Brooks said, "Well, keep an eye on me so you will take what I point out. We want photographs that go with our other data, not just glamor pictures." He looked pointedly at Gail.

Winthrop said smoothly, "That's all right. You're the boss." And that was exactly what Brooks had been wanting to hear. He warmed visibly and began talking about the rest of his equipment. Loudermilch, who had joined them to guard against Brooks' harshness, found he had nothing to do but listen and drink beer. It was half an hour before Winthrop pointed out that they were all getting up early, so they'd better be getting to bed. He and Gail walked back to the *Donado,* watched the wind for a few moments, and then went to bed.

Dawn was quiet and warm, and when Loudermilch and Brooks came to the *Donado,* Winthrop and Gail had long been up. The diesel and water tanks were full, there was plenty of ice aboard, and the larder was stocked with food and Heinekin. As soon as all the equipment had been handed aboard, Gail passed out cups of steaming coffee. Loudermilch sipped it standing up, then he said, "Now this is my idea of a scientific expedition. Why can't all of them be like this?" He sat down in the cockpit.

Gail and Winthrop moved about the ship without a word to each other, each doing the chores needed to get the boat under way. At

Winthrop's touch, the diesel purred to life. Gail threw off the last line, pulling the bow over to the piling and tossing the line over its top. Winthrop pushed the clutch forward, and the *Donado* eased out of her slip without touching a piling. It took them an hour to get out to position at the buoy that marked the beginning of the underwater line of instruments.

When Gail began to put on her diving gear, Brooks said to her, "Are you going?"

She looked at him in surprise. "Certainly. Any reason why I shouldn't?"

He hesitated. "Well, I guess not." Brooks looked at Winthrop, who paid no attention.

When they were ready to hit the water, the sun was two hands high on the horizon. Winthrop said, "You two go first, please. I want to see something when you enter."

Brooks stepped to the gunwale and waved at Loudermilch, who looked up from a fishing pole he was rigging. Brooks splashed into the water on a feet-first entrance while Winthrop stood over him to watch. Gail went in the same way. Winthrop stared thoughtfully at the water until Loudermilch said, "What's the matter?"

"I don't know." And Winthrop entered.

Loudermilch watched the three of them swim the twenty yards to the buoy and surface dive to the bottom. He saw the familiar splashing as Brooks flailed the water surface to drive himself down. And he saw the tiny gurgle as Gail and Winthrop simply lifted their feet over their heads and slid under. "Lovely," he muttered to himself, and he turned back to the chore of tying on the bait.

On the bottom, Brooks turned to see that the others were with him. They both were right beside him and they gave him the "okay" signal. As he swam to the buoy he pulled out the viscometer to take his first reading. It was much too high, so he took it again with the same results. Annoyed, he wrote down the results on his slate, took the temperature recording, collected his sample, and started for the next buoy. Halfway there he turned to see the others, and for the first time he saw how Winthrop and Gail moved through the water. He stopped and watched.

It was the languor of it that was so strange. They held their knees almost stiff in the manner of the racing free-style swimmer, and each kick was long and gentle. They rolled, a little to the right as

the right leg came down, to the left as the left came down. Their breathing was soft and shallow and infrequent, and it was perfectly apparent they were not under the slightest stress. Every now and then Winthrop would drop a hand to the top of a brain coral or thick staghorn coral and give himself a gentle push. Winthrop and Gail fell a bit behind Brooks as they kept to their leisurely pace, but their air consumption was a bare minimum. For the first time Brooks was able to see clearly what was required to make a standard tank of air last for two hours at forty feet. At the same time, their heads turned from side to side as they swam, looking at everything, missing nothing. There was a *feel* about their movements beneath the water that demonstrated even to the untrained eye that here were divers who belonged beneath the water, people who were perfectly at home in this environment. It showed in everything they did.

Brooks turned back and swam more slowly on to the next buoy. This time he removed the temperature recording first and then he collected his sample. He gestured for Winthrop to take a picture of a horde of wrasses hovering near by, and then he measured the viscosity. It again was way too high, so he took it again with the same results. Brooks became infuriated with his instruments and he reared upright and snapped the viscometer back and forth through the water. Winthrop swam up to him, and Brooks held up the viscometer with his right hand and shook his fist at it with his left. Then he jerked his left thumb toward the surface and immediately took off for it. Winthrop stopped to check with Gail—raising his thumb toward the surface—and on getting her nod he slowly kicked his way up. Halfway there, he and Gail removed their mouthpieces from their mouth and replaced them with their snorkles. So when they reached the surface they were already breathing through their snorkles, and were not wasting air from their tanks.

As soon as their heads breached the surface, Brooks pulled his mouthpiece from his mouth and said, "Damn viscometer's gone haywire. I keep getting readings that are off scale."

Winthrop said, "How far off is it?"

"It should read around nine point five millipoises. I'm off scale by a factor of at least a hundred. This damn thing is worthless." He raised it to throw it away into the sea.

Winthrop caught his arm. "Don't toss it."

Again Brooks felt the power of his hands, and he felt cold. He

said, "What's the matter? We're shot for the day again. This instrument's no good."

"We've got to make the rest of the run and collect the rest of the data. It may be important to your work. I think the water viscosity *is* way up."

As soon as Winthrop said it, Brooks recognized the need for continuing the run. The others would not be convinced if he stopped part way. So he said, "All right," put his mouthpiece in place, and drove himself to the bottom. Winthrop and Gail followed him down, replacing their mouthpieces halfway down.

The rest of the run went without any difficulty. At all of the buoys save one the water viscosity was too high to be measured. Brooks ran out of air before they came to the last buoy, so they all went to the surface and slowly snorkled their way back to the *Donado*.

Brooks pulled his mask off and said, "What is going on?"

Loudermilch had hooked a large pompano, and he was playing the fish. He called over his shoulder to Brooks, "What's the matter? You all right?"

Brooks did not answer him. Instead he looked at Winthrop and said again, "What in the hell is going on?"

Winthrop pulled his mask down over his face and said, mostly to Gail, "Now, you watch my splash as I enter the water. You notice how different it looks. Watch it, now."

He stepped off the side deck of the *Donado* and dropped into the water. Even Loudermilch backed across the cockpit to see him. The splash he made was different from a normal splash; it was thick and low, and no small droplets formed. It was as if Winthrop had dropped into a pool of molasses. Loudermilch looked at the others and said, "What's happened? The water's different."

Winthrop surfaced and pulled himself up the ladder to the deck. He said, "Did you see it?"

Brooks nodded, and Gail said, "What causes it, Hugh?"

Winthrop slipped out of his gear and said, "I don't know, but the viscosity of the water out here has gone way up. Like somebody's added a thickener."

There was a silence, and both Brooks and Loudermilch had the same idea at the same time. They looked at one another and said together, "The Yudkin Cloud."

Winthrop said, "What? What cloud? Oh, that thing the Earth

passed through a few weeks ago? Do you think that we could . . ." He fell silent. They all stared at the water. Winthrop backed down the ladder and swished his hand in the water, rubbing it between his fingers, throwing handfuls of it away from the boat, watching the splash. The others silently watched. Winthrop came back aboard and said thoughtfully, "Let's cruise around out here and see if the rest of the water has thickened. There's no reason why we should finish the run on your line of buoys, is there?" He looked at Brooks. Brooks shook his head, too stunned to talk.

Loudermilch said, "You have a radio aboard, haven't you? Turn it on. See if this has been noticed anywhere else."

Gail tried several stations and found one giving the news. Nothing was said about thickened water. At the end of the broadcast Winthrop said, "Let's pull the anchor and move around out here. Gail, will you stand by?"

Gail went up to the bow while Winthrop started the engine. Then he ran up the anchor rope while Gail pulled it aboard and piled it on the foredeck. When the line was straight up and down, Gail quickly took a turn around the cleat and allowed the way of the boat to pull the anchor out of the sand. Then she pulled it aboard and rejoined the rest in the cockpit. Winthrop headed out over Southwest Reef toward deeper water.

He asked Gail to take the tiller. He tied a line to a ring life preserver, threw it over, and towed it twenty feet behind the boat. It roiled the water, and they could see that the water seemed thick and heavy. They watched the preserver as they moved out over deeper water.

Brooks said, "That radio of yours. Why can't we call in to our lab and find out if they've heard anything?"

Winthrop said, "We probably could get them on the ship-to-shore. But everybody who owns a radio can listen in to what you say. Do we want everybody to learn about this water at this time?"

Loudermilch tugged at his lip. "Perhaps not. Let's collect some more information first. Put me on that radio in touch with our people in New York. I'll soon find out if anything is happening."

Winthrop said, "Gail, please go below with Carl and get his paper on the phone."

While they were below, the *Donado* pushed through a sea of thick soup. The sun neared the zenith, and the breeze began to stir.

They could feel the wind in their faces, but the sea remained glassy smooth, greasy. The water washing around the trailing preserver seemed thicker, if anything.

They could hear voices from below as Gail placed the call with the marine operator. In five minutes they came on deck. Loudermilch said, "Well, they don't know of anything. I was pretty guarded in my questions, but old Jonesy is a shrewd guy; he knows something is cooking down here, but I put him off by telling him we didn't know anything yet. How's the water?"

"Thicker," said Brooks, his voice high-pitched.

The others looked at him, surprised at the near panic in his voice. Brooks understood their looks. He said, "Do you realize what this means? Our whole series is ruined. This thickened water has ruined everything. We can't even start over. We just don't know where we are with this."

"If the Cloud caused this," said Winthrop, "why haven't other people noticed it?" He turned his face into the increasing wind and said, "I suppose there is no reason why it should affect all water on Earth at the same time. Maybe we happen to be in a position where it takes hold first." He said it half aloud, to himself. But the others looked out over the water as if to see what he saw. There was nothing there but the water, yet they nodded, each to himself. Winthrop said, "Here on Southwest Reef is where it hit first. That's all there is to it. It may be spreading on all sides of us as we sail along." His voice grew louder, less reflective. "Let's go in. We can come out tomorrow and see how far it has spread." He pushed the tiller and headed the boat toward Coral Harbor. Loudermilch quietly produced a bottle of Heinekin for everyone.

Half an hour later, a slow-moving school of porpoise slanted across their bow. Winthrop changed course slightly to parallel them. One porpoise left the school and swam closer to the *Donado*. It moved slowly, shaking its head from side to side, stopping in the water as if looking for something. Winthrop watched it for a moment, and then said to Gail, "Take the helm for a few minutes. I want to go in and see what it's doing."

He quickly put on mask, fins, and snorkle, and stepped to the rail. Gail said, "Hugh, is it safe to go in that water?"

He smiled at her, stepped over the rail, and entered the water with a sodden splash. He did not come up immediately and even the two

men leaned over the rail in concern. But when the bubbles had cleared they could see that he had simply started for the porpoise under water, with a long, slow kick. The porpoise paid no attention as Winthrop came near it.

Winthrop watched the porpoise dive in the twenty-feet-deep water. A school of gray snappers swarmed over the bottom. They panicked as the porpoise descended to them, but they did not scatter with the speed that Winthrop had seen in the past. They struggled in the thickened water, flailing more than normal. The porpoise too was handicapped, but it did not fight the water. It took its time and easily overtook many of the snappers and gobbled them up. To Winthrop's eye, the porpoise was moving in a manner different from normal. Its slowed motions made it seem more graceful than usual. Then, near the bottom, it began to move with its accustomed quickness. The snappers, too, moved more quickly. Winthrop took a deep breath and dived to the bottom. There was no doubt that the water near the bottom was more fluid than that near the top. Winthrop rubbed his hands together right above the coral sand, and there was a noticeable difference. He rose to the surface and rubbed his hands again. Yes, the water was thicker there, more slimy. He swam back to the boat and said, "Let's go in."

April 14

Gail lay on a straw mat and listened to Hugh's voice on the radio below decks. The air was pleasantly warm on her skin, and from her position she couldn't see the ocean at all, just the sky overhead, turning peach-colored in the sunset. She wished the sunsets didn't turn the entire sky red, or peach, or lemon yellow. The rhythm of Hugh's voice paused, and she heard the *phlop, phlop* of the strange waves against the hull. Suddenly she shivered and sat upright. She rubbed her arms briskly for a moment, then stood up and gathered together her mat, towel, and hairbrush, and went below to join Hugh.

He smiled at her without speaking, and she went past him to the galley where she made coffee. When Hugh signed off, she brought a tray with cups and coffee and put it within his reach.

"Thanks, honey. Don't go. That finishes it. Same thing just about everywhere."

"Carelli too?"

"Yes. The water is changing off Madagascar, as it is here. He's been in touch with a buddy of his on the Mediterranean, and it's the same story there." He sipped his coffee, his eyes remaining on Gail, but not seeing her at the moment. Finally he said, "Let's go find Loudermilch and see what's been happening."

She nodded in relief. They had been out for three days now, sailing around the islands, observing the water on the reefs, and then the deeper water away from them. She felt an unease that she never had known before on the motor sailer. It was the sound of the waves, and the way the fish barely cleared the water now when there was a flash of silver sail, or the sheen of porpoise back. It was the thought of the Gulf Stream carrying the thick water out into the ocean, crossing the ocean, spreading. . . .

"I wonder what the scientists are doing?" she said.

"So do I. Too bad they suddenly got stuffy about having an unauthorized civilian around. Too bad, we were just getting to be friends." Gail looked at him with amusement and he grinned back. Hugh and Brooks would never be friends, and Hugh had passed the worst judgment on Sam Brooks that he could give to another man. He had said that Brooks was not the man you would want to have along on a dive if there was an emergency. Brooks had sensed this and resented it, probably more so because he knew it was a thoughtful assessment of his ability in the water.

Hugh stood up and drained his cup. "Let's go," he said. "Loudermilch will know what they've been up to."

Gail returned the coffee tray to the galley, then went up to help take the *Donado* back to Coral Harbor. The sky was more vivid than before, casting a flush of color on Hugh's deeply sunburned face, making him look like an Indian with bright blue eyes and white hair. It was like technicolor gone crazy, she thought, staring at him.

When they were moving again, Hugh put her on the tiller and went below to place a ship-to-shore call to Loudermilch. Waiting for the marine operator, he called to Gail, "Feel like partying tonight? Let's gather as many of that crew as we can and wine and dine 'em."

"You bet," Gail answered, and she wondered why. Hugh was not easy to know; he avoided parties with strangers, and while most people were attracted to him, there were very few who ever got behind his polite façade. Hugh returned then and took the tiller from her; he put his free arm around her shoulders drawing her close and she rested her head contentedly on his shoulder.

"I reached Loudermilch," he said. "They're all staying at the Prince George, so he suggested that we meet at Sloppy Joe's. He'll place the reservation, and guarantees only his own presence. It seems that our scientists have been exceedingly busy and distraught this past week."

"Reasonable," Gail murmured. The light was fading quickly now, and soon there would be darkness all about them. She liked sailing at night with the sound of the sea, and its smell, and the sway of the boat, and the glow of the running lights, and the sky ablaze with stars. She sighed deeply, and Hugh's arm about her tightened. They stood side by side, swaying, not speaking again until they came into sight of Coral Harbor.

With the *Donado* docked, and the electricity on, they went below

to shower and change. Hugh, finished first, watched as Gail did things to her hair, brushing it hard, then winding coils high on her head and pinning them there. She was dressed in a pale green silk sheath, and with her shining hair and the deep golden sunburn, she looked very lovely. "I should bring you in and show you off more often," he said. Gail merely smiled, and he smiled back, very glad that she didn't seem to want to come ashore any more often than he did.

They took a cab to the Prince George Inn; they were both struck by the noticeable lack of tourists on the streets. "It's started," Hugh said softly. "In a couple of weeks there'll be only us natives and fish."

"Good evening," Hugh said to the doorman. "Looks like September already."

"Evenin' Mr. Winthrop. Evenin', Miss. I wish it were September, man. We'd know that in just a few weeks it would be October, but this . . ." He shook his head and they passed him and went inside the restaurant. They saw Loudermilch on the far side of the room waving to them. There were less than half the usual customers. The Lonely Islanders were playing softly, their music stirred echoes of loneliness and restless waves. That piece ended as Hugh and Gail crossed the room, and the calypso music sounded louder and gayer. A baritone voice carried above it without effort, and there were sly words about the girl who waited for the fisherman to return, but didn't get too lonesome while she waited.

"Miss Cooper, how beautiful you look!" Loudermilch kissed her cheek suddenly, and seemed as surprised as she at the action. He shook Hugh's hand and motioned them to the table. It was set for five. "Sam Brooks and Stan Kramer will be here, when they get through at the lab," he said. "Drinks?"

They ordered and listened to the singer while they waited. He was very good, a tall man built like a welterweight fighter, with close-cropped hair and gleaming white teeth. There was an irresistible good-natured grin on his face as he sang his songs that bordered on indecency without ever going too far.

As soon as their drinks had arrived, and they'd had time to taste them, Loudermilch leaned on the table, his face very serious. "Now that the amenities have been handled," he said, "you want to know what's going on? Right?" Winthrop nodded, and he said, "I don't know. The research team has been recalled, and they are dismantling

their equipment now, I think. If not tonight, then tomorrow. . . ." He waved toward the door and stood up again. "Here they are now. Let them tell all of us."

Kramer and Brooks moved purposefully across the room, not even noticing the singer. Brooks had an ugly look on his face, as if they had been arguing and he had lost. He nodded to Gail and Winthrop without speaking and snapped up the menu. Kramer shook Winthrop's hand, bowed to Gail slightly, then sat down with a tired sigh.

"I want two martinis, on the rocks, without vermouth. Fast," Kramer said. Loudermilch motioned the waiter back and gave the order.

"Scotch and water," Brooks said brusquely. He continued to study the menu.

"Trouble?" Loudermilch asked.

"We asked to have one of our team left here to carry on as much as possible, and we were turned down," Kramer said, after one quick glance at Gail and Hugh, and an evident decision that it didn't matter any longer if they knew what was going on. "No more funds will be forthcoming. I am to close out the account we opened here, dismantle the equipment, store it in readiness for shipping it back home, and leave by the eighteenth. We are due back at Howe Institute on the nineteenth. This new thing has taken precedence over everything else. As it should."

"But they can't study these effects back on dry land," Brooks said bitterly. "What they want is for someone to open a book and say, hey, here it is and here's what we do about it. And that's just what won't happen."

"That isn't exactly what they have in mind," Kramer said gently. "We will have to consolidate our efforts, however, and that does take planning. No doubt some of us will be sent back here."

"Not sent back," Brooks said. "Stay." The waiter arrived with their drinks, looked inquiringly at Winthrop for dinner orders, and left again when no one paid any attention to him.

"What does that mean?" Kramer asked.

"It means that I quit." Brooks picked up his scotch and water and took a long drink of it. With a grimace he put it down again, and pushed it slightly away from him.

"You can't just quit and remain here. What good would that do?"

"I can't just quit and go back home," Brooks said. He leaned to-

ward Kramer and said earnestly, "Tell me, Stan, don't you see how important it is that one of us at least remain here? This is where it started, where the changes were first noticed and reported. This is the place to be now, not back there."

"I see it," Kramer admitted after a moment. "But, now you tell me what you hope to accomplish without equipment and funds."

"I don't know. I can rent a rowboat, or a fishing smack, or something, and I can dive and keep my eyes open. I'll let you know when the next change occurs."

Kramer stared at him for another moment helplessly, then raised his martini and drank most of it. "Let's forget it now, and have some dinner," he said. "I won't accept your resignation tonight, so let's forget it."

Brooks started to reply, but Winthrop spoke first. "Let's think about it a minute, Stan. How much equipment do you have to store? And do you have a place yet for it? I just happen to own a little shed that isn't being used right now. And I have a boat that is designed for diving, as you know. Why not let Sam have a leave of absence in lieu of an assignment for the time being?"

Gail looked quickly at Hugh, but his face told her nothing. She turned her gaze to Sam Brooks and saw the light that flared in his eyes. Kramer looked from one to the other of them and shrugged. "I am a starving man, aching from hunger, and you two want to talk, talk, talk. I don't care if you stay, Sam. I'll clear it. If the directors bitch about it, we'll have to put it down as a leave, but I'll try to get you assigned here for the present. Now can we please order some food?"

As they ate, Hugh told about the swing he and Gail had taken around the islands, and of his radio contact with friends scattered around the world. "Right now," he said, "it appears to be mostly in warm waters, but in all or most of them."

Loudermilch nodded, as if to himself, and there was a thoughtful look on his face through the meal and the rest of the evening. Brooks and Winthrop discussed lab space, and a schedule for diving, and made an appointment for the following morning to start the packing of the laboratory equipment. Kramer pretended not to know that most of the equipment would not be packed up at that time, but would simply be moved and reassembled.

As soon as he finished eating, Kramer left them, and Loudermilch

also stood up. He held out his hand to Winthrop saying, "I guess this is good-by, Hugh. It's been a pleasure. I'll be in touch by radio. . . ."

"Are you leaving too?" Gail asked. "I wish you weren't."

He smiled down at her and said, "I do and I don't. I have a story to cover now, and although I agree with Sam that this is where it started, this isn't where decisions will be made in the coming days and weeks. That's where I belong now. But I am sorry to be leaving, and I'll be back." To Hugh he said, "I have your call number. Is there a time that is best?"

"Seven, eight in the evening," Winthrop said.

"Okay. I'll be in touch by mail until . . . Anyway, I'll keep in touch. I'll want to know about what you're doing here." He pressed Gail's hand warmly, said good-by to Brooks, just as warmly, and then left.

Gail watched until he was out of sight, and again she wished he hadn't left them. "Hugh," she asked, "do you think that things like the mail will be disrupted because of this . . . this . . . ?"

Hugh sighed and covered her hand with his gently. "I think that things are going to get very disrupted very soon if this keeps spreading and worsening."

She was glad that he didn't try to lull her, but irrationally she didn't want to hear this, didn't want to think about it. She nodded and withdrew her hand from his, picking up her coffee, which had grown cold. She put it down, however, without drinking any of it. And she knew it was her imagination that was responsible for the way the coffee suddenly looked slightly thickened, slightly viscous.

The next day Carl Loudermilch was among the reporters who gathered at the Wood's Hole Oceanographic Institute for a press conference. The director, Lawrence Buchanan, had a printed statement that he read to them in a monotone, never raising his gaze from the paper until he was finished. Loudermilch didn't bother to make notes; the statement would be circulated later. The director looked up expectantly: he had said nothing that wasn't already known. There was a substance that had fallen on Earth, that was responsible for the slight thickening of the water. The effect was believed to be temporary. The Yudkin Cloud had been left behind long ago, and what little of the dust remained in the upper atmosphere was believed to be too scant to add to the effects already noted. Loudermilch

pursed his lips and listened as the other reporters started in with questioning.

Q.: Have any fish been found dead yet from the stuff?

A.: Not that I have heard.

Q.: Are ships bothered by it? Are they able to attain normal speed?

A.: Absolutely. This is a very minor effect, gentlemen. Very minor.

Q.: Is it true that it had been reported from all over the world?

A.: I wouldn't say that. No, I don't believe that is so.

Q.: Is it in fresh water?

A.: No, it seems to react only with salt water. . . .

Loudermilch left with the others. His request to have a private interview had been turned down, and there seemed to be no point in asking questions if their attitude was still one of "say nothing that they can't find out anywhere else." Late that afternoon he was in the office of the United States Public Health Service talking to an old friend, Manfried Friedman, special assistant to the Secretary of Health.

"What is it, Manny? I just spent half an hour with our friend, Buchanan, who isn't talking yet. Give." They were in Manny's office where Loudermilch stood at a wide window watching clouds scuttle across the sky.

Manny sat at his desk. He shook his head slowly. "Not for release yet, Carl. Too many loose ends still."

Loudermilch held up his hand with his fingers outspread and ticked them off as he talked. "One, it can be dangerous to humans. Two, it mixes readily with fresh water. Three, fish aren't showing much effect yet, but they will in time, and they will die off when the water gets too thick for them to swim through. Four, it is spreading and thickening where it already has been found. Five, the upper atmosphere is lousy with the dust still. Take a look at a sunset if you doubt that." He looked at his hand and seemed surprised to find no more fingers. He held up the left hand then, but Manny stopped him.

"Hold it, Carl. So you've been in on something or other. So that doesn't mean that I can give you anything yet. . . ."

"I'll hold until you give the word," Loudermilch said, crossing before the desk, seating himself opposite it.

Manny knew he would hold the story if he said he would. He shrugged. "Why tantalize yourself that way?"

"I'm nosy, that's all."

"Okay. But not for release yet. I'll tell you when."

Loudermilch nodded once.

Manny still hesitated, however. He looked suspiciously at Loudermilch and said, "You don't seem at all surprised that I am willing to level with you. Why not?"

"I knew when you agreed to see me that you wanted to talk to someone."

"Yeah. That is God's own truth. We identified the dust last month as a polyethyleneoxide, a stable polymer with repeating -CH_2Ch_2O- units. You can also call it polyoxyethylene. So we have a stable, thin gel forming in the water where the dust falls."

"How stable?" Loudermilch asked.

Manny grinned mirthlessly. "Very. In the lab they found that the solution is relatively insensitive to electrolytes and other types of dissolved matters normally found in ocean water, and seldom if ever found in fresh water." He looked about helplessly as if seeking something to demonstrate his point. "You can reduce it by distillation, but some of it always comes over. So you can't get it all out. It is a colloidal suspension, by the way, not actually dissolved in the water."

"What viscosities can we expect?" Loudermilch asked after a moment.

"High. Very high," Manny said tonelessly. Loudermilch whistled between his teeth, and the two men stared at one another for several seconds.

"What is the dosage to thicken water to, oh, say the consistency of light oil?"

Manny thought for a moment, then said, "So far they haven't reached the lower limits of the stuff. It seems that any amount they use thickens the liquid to a certain extent. A solution of 0.005 percent gives a centipoise viscosity of sixteen thousand. But the molecular weight of the dust is heavier than we can account for, in the range of twenty million. There's something else, a side chain that

they haven't identified yet. Whenever we try to examine it, it degrades to carbon dioxide and ammonia."

Loudermilch watched his friend's face for several seconds then, and finally when Manny volunteered nothing else, he asked, "And the most important thing, Manny? The thing that made you agree to talk to me?"

Manny looked at him bitterly. "You should have been a God damned head shrinker," he said. "Yes, there's more. The polyethyleneoxide polymer goes right through impermeable membranes, along with fluids like lymph, glandular secretions. . . ." He leaned back in his chair then and said very quietly, "That's it, Carl. All of it. Let's go get drunk."

Loudermilch was looking past him, out the window, and Manny turned also. It was raining and from the ledge above the window the drops gathered and fell, not singly as rain, but sheeting together to form enlarged droplets, globs of transparent, jellylike liquid. Loudermilch looked down at the notebook on his knee where he had written a name for the stuff, polyoxyethylene, and he added after that, POE Jelly.

They didn't go out to get drunk, but sat talking quietly for several hours, now and then lapsing into silence to watch the new rain that was falling on Earth.

April 28

Sam Brooks kicked himself through the water more easily than he had two weeks earlier. He felt the difference, and knew that even though he was more efficient now, he still was no match for the girl and the man who both seemed at times to move by will rather than by any physical act. He saw Gail at her station, almost invisible against the brain coral behind her. She moved one hand very slightly acknowledging his presence. He searched for Hugh Winthrop and finally spotted him almost directly across from Gail. Winthrop was as motionless, and as camouflaged as Gail. Not camouflaged, he corrected himself. Both of them wore ordinary bathing suits; both had the black masks and flippers. It was their stillness that concealed them. They could hold their breaths for surprising periods. He took up his spot, then motioned to Winthrop with a hand over hand rolling motion that he could start the camera.

The area they had selected for the film looked like an artificially cleared circle surrounded by brain coral. The bed was snow white and nothing stirred at the moment on its exposed surface, but the walls of coral were alive with fish, with waving white-armed anemones that looked like prize dahlias in motion, and there was a small butterfly ray gliding up and down the wall, like a winged window washer inspecting his work. Spotted along the base of the wall were small fish traps, and one by one Brooks pulled the nylon leads to them, opening them to release the reef fish. The tiny fish left the traps sluggishly and headed toward the concealment of the upper reef in slow motion. The ray swooped, also in slow motion. From nowhere a pair of amberjacks appeared, and Brooks realized that they had been there all the time, waiting for a morsel such as they now had found. Their motions were so effortless that he couldn't tell if they were moving at a normal rate or not. He doubted that Winthrop actually had been able to tell from watching them that

they were slowing down. Like all his ideas, this one was based on nothing more than a hunch. Winthrop's idea of scientific research seemed to confine itself to sitting on the ocean floor as long as possible without moving. Brooks pulled the last trap open, and then caught his breath as a large shadow crossed the clearing. He resisted the temptation to raise his head, waiting for it to come down instead. For four days a tiger shark had dogged their work, and even Brooks had had to admit that it gave the appearance of being in trouble somehow. He had seen sharks before, shy, elusive, avoiding man whenever possible, and racing off if man came too near most of the time, but this one was different.

It circled down within his line of sight, and it appeared to be centering in on the jacks. One of them darted away, but again its motion was not that of a frantic fish. The shark made a pass at it and missed. The other amberjack swam closer to the coral wall, but the shark got it. Brooks suddenly expelled his breath, and a small explosion of bubbles broke through the water. The shark left, swimming faster, but not as fast as it normally would. When Brooks again turned his gaze toward the wall, there was no life to be seen.

Winthrop signaled that it was over and began to dismantle the camera. Gail floated toward him, keeping to the side of the clearing as the fish did. Angrily Brooks started to cross it, kicking hard. The shadow returned, this time over him, and he turned on his side and thrashed his arms about and blew out bubbles. The shark left again, and Brooks joined Gail and Winthrop. He pointed to his watch and indicated fifteen minutes, then started to gather his traps. Let them go in now. That was the way they worked. All Winthrop wanted to do was sit and look, and now and then take a few pictures. Brooks finished collecting his traps and looked again for Gail and Winthrop, but they were swimming lazily toward the shadow of the ship. He set the traps carefully and hauled in the three that he still had left with marine life in them. Towing them behind him he started toward the *Donado*.

Winthrop was holding a bottle of Heinekin from his apparently inexhaustible supply when Brooks climbed aboard. Gail was toweling her hair. She had tossed a short terry robe over her shoulders, her feet were still bare.

"Beer, Sam?" Winthrop asked, but not moving. He knew the answer would be no. He was looking past Brooks at the ocean, and

there was a thoughtful expression on his face. He pulled at the bottle and continued to stare out over the sea as Brooks took his catch to his makeshift lab in the galley and started to examine the creatures he had caught. Going back on deck he released a couple of shrimp and surrendered a large lobster to Gail, who accepted it matter of factly and placed it in a pail of water until time to cook dinner. Brooks knew that later, after they were finished with the galley for the evening, Winthrop would develop the films he had taken, but it annoyed him to see the other man sprawled out so indolently while he was still hard at work. He dissected a fish without noticing what kind it was and collected the blood. He dropped the internal organs into formalin for later study and prepared a slide of the blood for immediate usage. The more refined tests that he would like to make were impossible aboard the *Donado*, but since they did go back to Coral Harbor every other day, that was no real hardship. When he got back to the full lab he would have several days' worth of work ahead of him, and meanwhile he could make a cursory examination for any new anomaly. He pursed his lips over the blood. . . . He was startled by the appearance of Winthrop at his elbow.

"Anything?"

"I don't know yet. I think the blood might be thickening a bit, but it's a guess only at this point."

"How much you want to bet it is?"

Brooks glanced at him with annoyance. "It isn't enough to think it is, Hugh. I have to know, and I can't say I know unless I have made the proper tests. . . ."

"I know," Winthrop said. "I don't need a test tube to tell me. I can see how they're acting. And I know how thick their blood will get, too. As thick as the water they're in."

Brooks shrugged and turned again to his work.

"I'm taking the boat back tonight," Winthrop said. "Anything underwater that should be picked up first?"

"But we're supposed to stay out until tomorrow night," Brooks said, and hearing the peevish note in his voice, he felt a surge of anger at Winthrop. He said, "What's wrong, bored already by the scientific method?"

"Wrong. Take a look at the ocean. Feel the air, and wind. . . ."

"There isn't a breath of wind. . . ."

"Yeah, and that's wrong. It's a painted ocean, and that's wrong.

There's the smell of a storm coming, and that's wrong. It's the smell of a hurricane, or major storm, and that's wrong for April."

"For God's sake," Brooks said, "now you are the weather prophet too? There wasn't a storm warning as late as last night."

"I know. Gail is checking now. But we're heading back."

Brooks continued to stare at the slide in the microscope field, but he wasn't seeing it. "You're the captain," he said in a tightly controlled voice. "It's your boat."

"Yep," Winthrop said pleasantly, and Brooks could hear him moving away. There was the soft sound of his voice mingling with Gail's then, and presently the sounds they made when they were both working to get under way. Wordlessly Brooks pulled on his gear again, adjusted his air, and jumped back into the ocean to collect the rest of his traps, and the equipment he would need back at the laboratory. He decided to discontinue the relationship with Winthrop and his girl friend.

When they docked at Coral Harbor the ominous calm was still with them. Heat that felt heavy and thick seemed to smother the island, and the boats at dock were motionless. Hugh stood at the rail and stared seaward as Brooks gathered his samples and specimens. The rented car that Hugh had parked at the dock was ready to go.

"Storm comin, Hugh," one of the dock boys said simply.

"Okay, Cal," Hugh said. "Give us a hand with this stuff to the car, will you?" Cal nodded and the three of them loaded the car. Watching from the deck of the *Donado* Gail shivered. Hugh would have to go with Sam. This work, all the equipment, it couldn't be risked now. Ten miles across the island, ten miles back, half an hour to unload the car at the lab. . . . She would be alone on the *Donado* for the next hour. She turned her face toward the sea, but the air was not stirring yet; the storm was holding off, holding its breath for the moment.

"Gail, would you rather come along?" Hugh asked. It was rhetoric only, and both of them knew it. The car was too loaded to allow for another passenger. She shook her head, smiling slightly. Hugh kissed her quickly and sprinted away, and she wondered if he would be able to get back before the storm began. Watching the car scream around the corner at the end of the dock drive, she knew that he was wondering the same thing.

Other boat owners were arriving by then, and the dock was alive with purposeful activities: men boarding boats, untying restraining lines, gunning motors, some shouting, some whistling, and now and then a boat pulling away, leaving the dangerous area for more open water where each pitch wouldn't result in a grinding of boat against immovable dock. Gail did all the preliminary things that she could do, and then she could only wait.

Sam Brooks braced himself as the car squealed its way around the last curve before the straight narrow road that ended at the cottage where he had set up his lab. Early in the fantastic ride he had said bitterly, "You should have stayed back there on the boat."

"I know I should have," Hugh had answered.

Brooks wondered moodily if he had done one damned thing right since first meeting Hugh Winthrop, and he knew that the answer was no. As soon as the car came to a whiplash stop, he was out of it, running toward the cottage, the key in his hand. He propped open the door and returned to the car where Winthrop had the trunk opened and was unloading one of the covered tubs. The trunk was wet and smelled of the sea. Brooks started to say that the specimens probably had been bashed to death along the way, but he held his tongue and leaned over to haul out the second of the tubs. When he straightened, a blast of wind hit him in the face, and for a moment he thought Winthrop was being cute and throwing something at him. Then he realized that it was hail, driving against his face and chest. Winthrop yanked out the last tub and set it on the ground, then began to pull stuff out of the back seat. Brooks opened the other door and quickly they got the car unloaded, and as they finished, the wind velocity increased, and the hailstones were larger, hurting now where they hit. Winthrop pushed the last of the boxes from the car and slammed the door. He was around it and behind the wheel so fast that Brooks hardly had time to realize that he was leaving again when the motor roared above the sounds of the pounding hail and the wind.

Winthrop waved one hand and was backing out of the drive then; the tires screamed as he made his stop and reversed his direction, heading back toward the dock. The hail was so thick that Brooks couldn't see the car fifty yards away, and he turned again to his equipment and specimens. Materializing out of nowhere a figure

appeared at his side and he could make out the grinning features of Tommy Alton, the teen-aged son of a retired British publisher.

"Need a hand, sir?" Tommy asked.

Faintly there was a squeal of tires and suddenly Brooks asked, "Tommy, can I borrow your car?"

Tommy hesitated, a worried pucker appearing on his forehead.

"I'll buy you a new one if it's damaged," Brooks said recklessly. "I have to go help Mr. Winthrop get his boat off the dock."

Tommy's reply was lost in the wind, but he held out his keys, and with many motions and flourishes indicated that he would take the equipment inside the cottage. Brooks ran across the yards to where the ancient Ford was parked and within moments he was on the road following Winthrop.

The wind rocked the car, and where the hailstones had piled up, the car skidded precariously, almost going out of control into a row of shops. Brooks fought with the car and got it righted again, but didn't slacken his speed. With the wind driving the hail against the windshield there were stretches where he couldn't see the road at all, but he drove on knowing the road was straight here. He finally arrived at the dock and left the car on the run. Other boat owners were there also, and here near the ocean the wind was blowing the hail almost horizontally. The boats at the docks groaned and grated together, hit the dock with resounding crashes of noises. Waves were washing up over the dock, and the pounding of the sea added to the other noises of the storm was deafening. The dock flooring was very slippery and he ran, slipping and sliding to the *Donado*. It hadn't occurred to him that the boat might have gone already; he simply had gone back to it and it was there. He had a few bad minutes until he got aboard. The boat kept heaving up and down, and it swung around to crash into the yacht on the left, then rebounded to strike the finger pier on its right, then straight into the dock prow first, and all the while it plunged up and down violently.

Winthrop thrust a life jacket at Brooks then, and he tried to push it aside thinking he was being treated like a tourist, but he saw that Gail had one on, and there was a third one on Winthrop's arm, and he realized that they might lose the *Donado*. Hastily he pulled the life jacket on and tied it, one arm looped around the rail to hold him steady enough so that he could manage it. Gail and Winthrop wasted no time, and without speaking or even looking at each other

they worked quickly, clinging to the boat when it pitched particularly hard, but getting the dock lines off and free, getting the motor started. Brooks didn't try to help with any of those chores; he knew he would be in the way, but he stayed close to Gail and once when she slipped and slithered across the deck, he was there to grab her and pull her upright before she crashed into the rail. He held her until that flurry was over, then let her go again. She returned to the task she had been doing without a backward look. He realized with a start that she was why he had returned. They ran into the wind, and for the next seven hours Winthrop held the *Donado* straight in the wind. The ship lifted and dropped and took on a layer a foot deep of hailstones, and pitched and tossed and yawed, but she stayed head on into the wind until the wind dropped. The hail stopped abruptly without ever turning to rain. One minute they were being bombarded and the next minute there was only the sound of the maniacal wind. It died just as abruptly, blowing hard one second and gone the next. The skies were leaden still, and it took longer for the sea to smooth itself again, but the storm was over.

The three of them stood at the tiller and looked at each other without speaking for a long moment. Winthrop held out his hand to Sam Brooks and they clasped hands for what seemed to Gail to be at least a minute. Neither of them said anything. When the long handshake was over she kissed Brooks on the cheek. "Just thanks," she said. Then she started to shiver.

"Okay, inside," Hugh ordered. "Coffee and dry clothes, now." He helped Gail with the life jacket and her shaking increased until she could only stand helplessly and let him manage the ties. She was very pale. Winthrop led her inside.

"You take care of her," Brooks said. "I'll get coffee going." He got out of his preserver quickly and, whistling, started to make the coffee. He hadn't felt so good in a long time.

Later they inspected the boat, and found that where the hail had melted there was a trace of crystalline substance, like powdered glass. Brooks gathered some of it and added it to a glass of water and shook it slightly. Almost immediately the water changed and soon the water was so thick that it no longer poured at all, but oozed like slightly heated tar.

Gail stared at the gelatinous water fixedly. "Is it going to keep

on falling?" she asked. "How much can the oceans take? How much is up there?"

Winthrop shrugged and it was Brooks who answered her. "They keep changing the data," he said. "At first, you know, they said that all the damage that would be done had been done, that there was no more of the dust. Now they are saying that it doesn't matter how much of it there is, it causes no damage anyway. I hope they are out when that storm hits the coast. I hope they see how much dust there still is. . . ."

Winthrop was staring toward the west and he said, "I hope no one is standing on any wooden piers when it hits. They haven't had much experience with the thickened water yet, and it could come as a surprise to them."

The storm moved westward at a rate of eighteen miles an hour. The weather bureau kept track of it, issuing bulletins every half hour. Small craft and gale warnings fluttered in a stiffening breeze.

At Homestead, Florida, the storm touched the mainland. Winds were clocked at forty-five miles an hour, but mountainous waves belied the wind speed. The waves didn't break out in the water among the sand bars; they grew heavier and deeper and wider and they roared toward the land like express trains. There was no spray, only solid water until the waves accumulated in shallow water and broke their backs there. They crashed with explosive sounds, thundering and piling up to ten feet, then twelve, fifteen feet high. They continued to mount, crashing higher onto the beaches, hurling themselves against sea walls and piers. Boats at dock churned helplessly under their mass, and here and there docks swayed, righted, swayed again, and finally collapsed. The hail, like machine gun fire, kept up a steady barrage; the walls of waves were like cannon blasts against the land and the things man had built there. The sea poured over the sea walls and it raced down the streets and entered the boarded-up stores and hotels and homes. It floated cars along with it and smashed them against poles and buildings and each other. Windows that were not boarded up against the freakish, out-of-season storm were smashed by the driven hail. Hail collected on the flat roofs of houses and caved them in. Green water poured through the town swirling at the corners, and where it was trapped between buildings, it gouged out the sandy lawns, and undermined the streets

and some of the buildings, and there were great stretches of roadway that sagged lower and lower and fell in.

When the storm passed, the town counted its dead and estimated its damage and the grim word was announced on airways throughout the world. One hundred twenty of the population had succumbed to the storm; one-third of the buildings had been destroyed. Up the coast the rest of Florida braced for a similar blow. And in the British Isles worried meteorologists tracked a squall line that was still hundreds of miles out at sea, but was headed north, northeast. The squall line was seven hundred miles long, and contained winds of fifty miles an hour, with seas running twenty feet high. On the evening newscast, BBC announced: "It is feared that the occurrence of this storm front will coincide with the spring tide, in which event there will be severe flooding of lowlands. The government is hastening its efforts to transport sand to those areas that can expect high water. Please stay tuned in for further announcements."

From Normandy to Bergen, Norway, the coast was assaulted by the storms. The English Channel swelled and went inland through the low-lying lands on both sides of it. Belgium, the Netherlands, Germany, England, Denmark, all suffered from storms that raged for a week. The Channel Islands were swept repeatedly, as was the land surrounding the Irish Sea, and the North Sea. Dikes and flood walls gave way to the pounding seas and the water swept across fields and valleys claiming them. As far south as Bayonne, France, the ocean invaded the land, and where it entered, unrestrained, it destroyed: farms, villages, roads, all the structures of man were threatened, and often obliterated. Then it was over, and for another week the skies remained sullenly gray and threatening, now and then opening to torrential rains, but without the devastating winds and crashing seas, and slowly the ocean retreated once more. It left behind it traces of a powdery crystalline substance that coated the ruined land and the buildings. The powder and salt and silt and the detritus of the sea discolored the earth and the trees that lay in heaps, uprooted, splintered. It covered the swollen bodies of livestock, and, sometimes, the swollen bodies of people. The survivors, dazed and unbelieving, listened to their radios and heard of storms that were raking the Earth, from east to west, from north to south. There was no place where the storms did not strike with furious strength, with awesome results.

Aboard the *Donado*, Gail and Hugh listened to the radio while Sam Brooks studied a slide under the microscope. All three were tired. Twice during the week they had battled storms, and they had watched the sea thicken daily, and had seen boats capsize and sink, sometimes releasing bobbing humans, sometimes not. Gail was thinking of Charles Willis at the moment. Charles worked on the dock at Coral Harbor. He was tall and thin and wore a smile out of habit, but this week he was not smiling.

"It's no good, Miss," he said. "The smacks don't dance on the water now. They wallow like old ladies who grow fat after too many children. The fish, the conch, they change; the turtle no longer fights when he feels the net. The storms come too early and send the seas too high, as if they want back the land, and all of us poor ones on it. It's no good at all."

Winthrop turned off the radio and leaned back against the rail of the boat staring over Gail's head at the oily ocean. It was unmoving, gray under a gray sky. It looked impenetrable.

"Same thing everywhere," he said. "They'll have to remake every damn map."

Gail visualized the map they had pored over the night before, and again saw the black lines Hugh had penciled on it, showing where the sea had reclaimed lowlands, here fifty feet, there half a mile, another place two miles. . . . She was looking toward New Providence and the island was there, a dark blob against the gray that was both sea and air. "The islands are so unchanged, and yet the shores all over the world suffered so much damage," she said. "It seems as if the islands should be the first to go, not the other way."

"The beaches are a mess," Winthrop said, "but they'll come back. It's where there is soil and sand inland that the ocean takes it all away, not where there's only rock."

She knew he was thinking of the Outer Banks of North Carolina that had been virtually erased by the seas. She said nothing. After a moment Brooks joined them.

"About what we expected," he said sourly. "There's practically no mobility below the size of a brine shrimp. But they'll probably adapt in time. If they have time. They're still reproducing." He looked at Winthrop with respect. "You hit it right that time," he said.

"So we have a static diatom world now," Winthrop said thoughtfully. "It isn't rising and sinking like it used to every day. It has set-

tled at about the fifteen-foot level and there is little movement within that world. Those little one-celled bodies can't get through the thick water. A lot of creatures are going to have to change their habits if they expect to keep eating."

Gail thought of the endless food chain, with each creature eating smaller ones, being eaten by larger ones, each indispensable for the continuation of marine life. "What do you think will happen?" she asked.

"Probably a lot of fish will have to leave the deeps to find food. We may see some very strange fellows out there from now on."

Brooks waited but when Winthrop didn't add anything else, he said, very precisely, "More than that, Gail. The rise and fall of the diatom level helped distribute heat, and now, if this is correct, that will be ended. The upper layer will be hotter and the lower depths will be colder. Without the moderating influence of heat distribution, the weather probably will undergo still further changes. Warmer, wetter, more storms, more snow in northern latitudes, more of the dust falling out of the atmosphere."

"And the water will keep on getting thicker and thicker," she said, when he stopped. She stood up then. "Are you through in the galley for a while? I'll start making dinner."

Brooks started to protest, but he caught a warning movement from Winthrop, and he let her go without saying anything. Winthrop motioned him to the rail and when Brooks joined him there, he said in a low voice, "She is very frightened, but she has to face it. We're all frightened."

"She doesn't have to face it alone," Brooks said, keeping his voice as low as Winthrop's. "You aren't even trying to help her understand what's going on."

"Because I don't know what the hell is going on. And neither do you."

"At least I can interpret some of the results for her, let her know that we're aware of the changes that are taking place."

"Don't you think she's aware of the changes? She has eyes, and a damn good brain. Don't underestimate her. Don't treat her like a child. She won't appreciate that after she's had a chance to think about it."

Brooks turned away from him. Winthrop was still staring out over

the water that looked like wet cement, and for a moment Brooks wondered if Winthrop was warning him away from his girl.

Inside the galley Gail gripped the faucet handle tightly and closed her eyes hard, praying that when she turned it on the water would not be thick, would be light and sparkling and pure. Why weren't they doing something about it? They must be able to do something. They could always do something. She opened her eyes and saw the microscope Sam had left on the counter, and she thought: At least he is trying. Very carefully she moved the instrument and she felt glad that they had Sam Brooks aboard. When she returned to the faucet to fill the coffee pot, she didn't hesitate, but turned it on full and let the water splash into the pot without examining it first, without repeating her prayer.

May 5

Sam Brooks looked out over the undulating surface of the water and said, "We've fallen a long way to come down to this." There was disgust in his voice.

Gail did not answer; she continued spreading the blankets on the rocky shore. Hugh dropped a scuba tank on each corner of a blanket as soon as Gail pressed it to the sand. The tanks held the blankets down in the wind. Hugh looked at Sam and said, "There's nothing wrong with working in shallow water off the beach. I'm not taking the *Donado* out in these storms, not until I understand them better. Even the conch fishermen aren't out, and those boys know as much about small boat handling in these waters as anyone ever will. We all have to learn how to take the new waves in a sea; they're different; boats don't behave the same. Why do you keep fighting it? Relax and do the best you can."

Brooks turned his back on the strangely heaving bay and looked at the sea wall that separated the narrow beach from the land. The coconut palms bent back and forth in majestic sweeps as the wind swelled and subsided. "I know," said Brooks, "but somehow diving off Cable Beach is not my idea of accomplishing anything. Look at us, blankets and all. We look just like that bunch down there." He waved at a group of four people lying on the sand in front of the club a quarter mile down the beach. The two girls in ribbon-narrow bikinis were draped over the two men while they poured drinks into their mouths.

Gail said, "We don't look quite like that, now do we?"

"Well, perhaps not. But it looks as if we are getting ready for the same thing." Brooks looked significantly at the two cases of Heinekin that held down the front of one of the blankets.

"Sam," said Winthrop, "I'm a little surprised that a man of your intelligence hasn't yet figured out this beer-drinking business. You see,

when you drink beer, you don't have to drink water. Simple as that."

Brooks turned to him. "You mean all this beer drinking is to avoid drinking thick water? For god's sakes, why didn't you tell me?"

"You didn't ask. Well, let's get to work. We won't need scuba for a while, just mask, fins, and snorkle. This bay doesn't usually have much marine life in it, but I suspect fish may be moving in. We want to see if we can spot any changes in any of the smaller animals. What we see here will tell us what will happen in the weeks ahead in the rest of the world. We've got a head start." He slipped into a shorty suit and strapped on a weight belt. He picked up his mask, fins, and snorkle. "I think I'll start out without a camera. I'll cruise around those grassy areas," he waved at the black patches fifty yards from shore, "and see if anything unusual is happening. Coming Gail?"

She nodded and picked up her gear and the two of them stepped to the water's edge, waded out a few yards, and completed putting on their gear. Even though the water was up only to their knees, they lay down in it and moved toward the shallow grass. They rose and fell in the waves, and the water flowed greasily over their backs. When they cleared their snorkles, the water shot three feet into the air in a single gob, almost retaining its cylindrical shape, and then dropped back with a sodden plop. Their fins made no splash, and the sound of a hollow clump, clump, clump was easy to hear as the water caved in on the depression made by the downstroke of each fin. Sam Brooks shook his head and picked up his sampling gear and his mask, fins, and snorkle. He did not wear a shorty suit or jacket. He entered the water and worked his way out a hundred yards to where the water was just slightly over his head.

Hugh and Gail hovered over the swaying grass and watched the marine life that surged back and forth under the effect of the waves. A small pipefish hung upended in its usual position and a cloud of gobies swarmed nearby. Hugh pointed to a juvenile sergeant major, and Gail stared at it. She could not see anything wrong with it; she looked over at Hugh questioningly. He did not return her glance, but continued to stare at the tiny fish intently. Gail relaxed, bobbing up and down in the sticky waves, watching the baby fish, and gradually she began to see that something was strange about it. It moved in its customary flittery manner, jerking ahead in small darts, then hanging motionless. But as it hung motionless, it would start to turn on its side, then it would recover and lunge forward three or four

inches. As she watched, the fish more and more often began to turn on its side, as it moved spasmodically among the grasses. There came a time after a few minutes when it did not lunge forward. It slowly rolled over on its side, then on its back; it hung in the water and slowly began to sink. It was dead. Only then did Hugh look over at Gail. He pointed to the dead fish, nodded, then slowly moved away looking at other marine life. Gail followed him, wondering all over again at his ability to detect behavior that departed ever so slightly from the normal. She looked around as she swam, but particularly she watched Hugh to see the things that he paid close attention to. It was a fan worm that attracted him next.

The waving fronds of the worm did not disappear into the sand as Hugh swam over it, and he stopped to watch. The normally alert animal was no longer alert. Its fans dropped and finally settled on the sand like fallen leaves. It was dead, Hugh moved on. Twice more he watched tiny marine animals in their death throes, then he headed for the beach. Gail followed.

Sam Brooks saw them wading out of the shallow water. At first he decided to ignore them and continue with his work, then he reconsidered. There was always a reason when Hugh Winthrop did something out of the ordinary. This time Hugh had planned on staying in the water a while unless he saw something worth photographing. Brooks grunted in the water and swam toward the beach himself. When he arrived at the blankets Hugh was sitting on the edge drinking a Heinekin, staring out over the oily waves, and making no effort to pick up his camera gear. Brooks said sarcastically, "Through for the day?"

Winthrop nodded without looking at him.

"What's the matter with you, man? We got work to do, something besides sitting here and drinking beer."

"Beer tastes pretty good," said Winthrop.

"How much of that stuff have you got, anyway?"

Winthrop turned to look at him. "Beer? Well, about a five-year supply, something like twenty-five hundred cases of Heinekin, so there's enough. Have a few."

Brooks' jaw dropped. "You mean you bought . . ."

Gail smoothly interrupted. "It's an old colonial trick—safer than drinking the water. There's nothing sinister about it. I'm even drinking some beer now."

Brooks thought about it a moment, and then shook his head. "Well, I'm going back to work. I came out because I thought you had found something."

"I did," said Winthrop.

Brooks hesitated, afraid to ask for fear of getting a wisecrack in reply. He looked at Winthrop and waited. Winthrop had gone back to staring out over the slick waves. Finally Brooks said, "What did you find?"

Winthrop nodded his head, still looking out over the waves, then he said, "People are going to die. Millions of people are going to die. If we can't find an answer to the thick water, most if not all the people on the face of the Earth are going to die. That's what I found out." He turned and looked up at Brooks.

Brooks stared back at him, eyes wide, mouth open. He started to ask Winthrop if he was serious, but it was clear that he was. He said, "What makes you think that?"

"I saw the small marine organisms dying strange deaths, one after the other. It can only be due to the thick water. I know of no reason why whatever is killing them shouldn't happen to men, after a suitable delay. If we don't get with it, we will follow the worms." And he swung back to stare out over the water again.

Brooks shook his head, dumbfounded. "You mean to say that because a few minor marine organisms die—which they do all the time, I would remind you—you go and draw a wild conclusion like that?"

"Yup."

"But where's your evidence? You haven't tried cause and effect. You can't possibly draw such a conclusion."

"I just did."

"Not scientifically, you didn't. Your conclusion is worthless." He turned to go back into the water.

Winthrop said, "Just a minute, Sam." He spoke mildly, and Gail was surprised that he even bothered to continue the conversation. "Let me put it to you this way. I watched a series of marine organisms die in an unusual place under unusual circumstances in an unusual manner. At the same time there has been a drastic change in their environment, one that we thought might slowly kill them in some manner. So when the thing we half expected happens, it is entirely reasonable to conclude that the environmental change is responsible.

Now, wait a minute." Brooks had started to talk. "I am only saying that my conclusion is entirely reasonable. It satisfies me, and it will satisfy many reasonable people. It is not scientific proof by the scientific method, but it'll do until your scientific method comes up with something different. Well, that's all." And he turned to stare out over the slick waves again. Gail continued to look at him; it had been a long speech for Winthrop.

Brooks said slowly, "On such an important matter, reasonable conclusions are not good enough. We've got to *know*. Where the lives of people may be in the balance, only the utmost proof is enough." He started to say more, but realized Winthrop was not really listening. Brooks turned and slowly went back into the water.

Winthrop watched him go, not so much looking at him as thinking. "You know," he said to Gail, "we ought to let people know that the fish are dying here. I suppose most of them are going to react like Brooks; they won't believe it, or they won't believe what it means. But we ought to let them know anyway."

Gail said, "Yes. I think that's the right thing to do. Better to warn them and have them ignore it than never to warn them at all."

Winthrop smiled at her. "You sound something like Wordsworth. Well, the next question is to decide how best to do it. It isn't the easiest thing in the world to reach two hundred million people." He turned to look out over the water. Brooks plopped face down into the oily water.

Gail said, "Carl Loudermilch?"

Winthrop nodded slowly. "Yes, I think that's our best bet. We can explain it to him and he will understand the importance of it and do what is best to see that everybody learns of it. I think I'll go call him now." He got up and headed for the stairs up through the sea wall. He called back. "Want to come?"

Gail looked out at Brooks in the water and said, "Maybe we shouldn't leave him here alone."

"Oh, he probably won't drown. Come on and say hello to Carl."

Gail shrugged her shoulders and followed Winthrop up the stairs, through a passageway to the phone at the Cable Beach Manor foyer. It took ten minutes to get Loudermilch on the phone, another ten minutes to explain in detail the things they had seen in the shallow water that morning. Then Winthrop went on to explain the con-

clusions he drew from the dying fish. Loudermilch said, "And you think that will begin happening to people?"

"Yes, I do. You seen the logic of it. We're getting a kind of preview down here. It may take a year for men to be exposed to enough POE Jelly to die from it. Maybe longer. These fish are getting it first and strong, and they're dying from it." The two men were quiet over the phone for a few seconds, thinking.

Loudermilch said, "I suppose you're telling me all this so I can do what I can to let the proper people know."

"That's the idea, Carl. Oh, I ought to tell you that Brooks doesn't agree with me. He says we don't yet have proper scientific proof, so he's not buying it."

"Yes, I can see where he'd say that. He has a point, but we ought to move as soon as we can. It's like the lung cancer-cigarette smoking thing. The connection looks quite possible, and it's your lungs you're fooling with, so you'd better believe it. Unscientific, perhaps, but sensible. Forgive my thinking out loud, Hugh, but these are phrases I may use in my piece. How's Gail?"

"She's right here to talk to you." He put Gail on, and Loudermilch and Gail talked for a moment. Gail asked him to come back to Nassau and Loudermilch said he'd try.

Gail said, "I think Hugh's right about this place. We will get advance notice here of the things that are going to happen elsewhere. It all starts here."

Loudermilch fell silent, and Gail said, "What's the matter, Carl?"

"You know? I think you're right about that. I'm going to check in with you more often, about twice a week. I have a friend named Manfried Friedman in the U.S. Public Health Service. Between us, we may be able to get the word around as you learn it down there. Ask Hugh what he thinks of that."

Gail turned and explained it to Winthrop. Winthrop took the phone and said, "I'm not sure that's enough, Carl. We ought to do everything we can to let people know what's going to happen to them. Can't you do something to get another team down here to speed up Brooks' work?"

"I'll try, Hugh, but I don't think much will come of it. But we've got to do what we can. I told Gail I would be checking in with you more often."

"All right. We're going to learn more all the time, and I think most of it will be bad. Okay, Carl. Good luck."

"Good-by, Hugh. Say good-by to Gail." And as Loudermilch hung up, the words that stood out clearly in his mind were the words, "most of it will be bad."

May 21

The *Donado* heaved through the short, stiff waves on the way out to Southwest Reef. The violent storms had subsided, and the weather was almost back to normal. Hugh Winthrop looked up at the sky and said, "The Yudkin Cloud may be all out of the atmosphere now, all down on the surface, all in the water and on the land. Maybe our weather patterns will go back to normal. Will the warm air pick up as much moisture from the stiff water as it did from normal water?" He directed the question to Sam Brooks, who was sitting in the forward part of the cockpit.

"Interesting question. Now, let me see." Brooks fell quiet, thinking out the problem.

Winthrop said, "Yes it will. The partial pressure of the water isn't changed much by its gel content, so the air'll pick it up as it always did."

"How do you know that?"

"Just stands to reason."

Brooks shook his head and said, "When will you stop leaping to unwarranted conclusions? You're going to get a lot of people into trouble with this predisposition of yours to go off halfcocked. Loudermilch believes everything you tell him, and he's passing it on as if it's scientific conclusion. I tell you, you're going to make a lot of trouble for someone. You've got to start . . ." His voice trailed off as he looked at Winthrop. Winthrop was looking out over the oily waves, not listening to him.

Suddenly Winthrop snapped his fingers and said, "My god." He stood up at the helm and looked out over the water more intently. Brooks jumped up to see what he had seen. There was nothing there. "Well," said Winthrop, "I think that answers my first question. The weather on this fair planet is going to be a mess. It will *not* be the same."

Brooks looked wildly out over the roiling waves. "What is it? I don't see anything."

Winthrop nodded and waved Gail up out of the companionway where she had been standing looking at him. He said, "See any difference in those waves?"

She looked and said, "Well, they're steeper, closer together than they should be in this wind, but that's— Wait, there's no foam, no froth."

Winthrop nodded grimly. "That's right. No foam, no little water droplets in the air. No *more salt nuclei.*"

They looked at him, and Brooks understood first. He looked back at the waves, and his mouth opened, but he didn't say anything. Winthrop said to Gail, "Raindrops form in the air on a nucleus of some kind. Without a nucleus, they don't form. Smoke supplies a lot of the nuclei; but most of the nuclei are tiny salt crystals that get into the air from the salt spray of the sea. No spray, no nuclei. No nuclei, no rain."

Brooks said, "Interesting theory. I don't know offhand how we can prove it. Do you?"

"No, but I think we won't have to wait very long to tell. Look. The moisture keeps going into the air at the same old rate, but it doesn't fall out as rain. So the air becomes supersaturated. You can then make it rain by discharging your own nuclei into the atmosphere. Silver iodide. Been done for years. Only now when somebody does it after a dry spell, he should get a real cloudburst. This could be a disaster if it isn't controlled. I'd better call Loudermilch. Take the helm, Gail."

"Wait a minute," said Brooks. "You can't call him on this; it's just an idea you have. There's no proof."

"If we wait, it may be too late. At least we'll let him pass the idea around where it may do some good. Look, by adding our own nuclei, for the first time maybe we can control the weather. Maybe some good will come out of this Yudkin Cloud after all." He went down the companionway to make his call, not listening to Brooks' protests. Then he came up and took the helm from Gail. They were a mile from Southwest Reef.

As Winthrop worked the *Donado* over the waves, he kept an eye to windward, watching the waves as they developed and slammed at the boat. "You know what's happened?" he said. "The ocean waves

are now like the waves on the Delaware Bay—they're steep and close together instead of being long and rolling. Out here on the open ocean you have to handle the boat as if we were in some of those shallow areas. That's what stiff water has done for us." He worked hard on the tiller, dropping the bow of the *Donado* back into the trough beyond each wave that was big enough to cause the boat to pound. It was an effective technic, but it was hard work, and by the time they reached the spot where they wanted to anchor, Winthrop was covered with a fine sweat. As soon as the anchor was set, Winthrop stepped up on the gunwale and dropped overboard. Gail hung the boarding ladder while he lay in the water and cooled off. Then he climbed aboard and began laying out diving gear.

Brooks straightened from helping him, looked out over the water, and said, "There's a big shark coming this way." Brooks stepped up to the side deck and swung out over the water, one foot on the gunwale, one hand holding the side stay, looking at the great fin slicing the water. Winthrop joined him. Brooks said, "I wonder if it's a man-eater."

Winthrop said, "Why don't you check it out?" and he casually knocked Brooks' hand off the side stay. Brooks wildly flailed his arms and contorted his body in an effort to stay on the boat, but it didn't help. He splashed into the water and instantly was back on the surface thrashing his way to the boarding ladder and throwing his way up it as if he were sprinting on dry land. He stumbled into the cockpit and turned on Winthrop. "You gone crazy or something? What's the matter with you? That thing could have killed me." He flung an arm toward the great animal in the water alongside the boat. "I've never been exposed to anything so stupid in my life. I just can't . . . I don't . . ." He choked on rage and stood staring at Winthrop, his chest heaving, his breathing coming in sobs.

Winthrop was mildly surprised at his violent reaction, he stared back at Brooks. Then without a word he stepped to the gunwale and dropped into the water within ten feet of the great shark. The fin lurched as Winthrop hit the water, and then it turned toward him. Winthrop lay with his face in the water, gently kicking his feet and paddling with his hands, looking at the shark under water. The shark swept past him and turned back and circled him in a graceful, leisurely manner, seeming to touch him as it passed between him and the boat. Then it continued beyond him out past the bow

of the boat and on out toward the deep ocean, it's fin periodically disappearing as waves broke over its back.

Winthrop swam to the boarding ladder, climbed up it into the cockpit and bent over his diving gear without saying anything. Brooks stared down at his back, he started to speak, but thought better of it. He picked up a towel and began drying himself while he walked to the bow and stood looking out over the water.

Gail, in the companionway, said softly to Winthrop, "Why were you so harsh?"

Winthrop shrugged. "Seemed like a good way to demonstrate my kind of proof. Sharks in these waters are harmless. Not scientific maybe, but . . ." He shrugged again.

Gail came out and began putting on her scuba gear. She called up to Brooks, "Going to take some specimens? We're going down in a minute."

Brooks had brought himself under control. He nodded to Gail and came down the port side deck and began putting on a tank. Winthrop finished dressing first. He looked around and reached over and placed Brooks' slurp gun near him, and laid a sample bag on top of it. Brooks recognized the gesture as a kind of apology, and he said "Thanks." Gail and Winthrop waited until he was finished and had all his gear hanging on him. Then, one after another, they all stepped overboard.

On the bottom Winthrop headed in a southerly direction, out toward deeper water. They went past the anchor where it was caught in a coral head, and Winthrop stopped to examine it and make sure it was fast. Then he led them on.

Brooks moved along last, behind Gail, who swam to one side and just a little behind Winthrop. Brooks moved more slowly than he once had, taking longer strokes with his legs. He had reached the point where he could get almost an hour out of a tank at forty feet. He was a better diver by far than he had been when he had first met Winthrop, and he knew it.

They crossed a patch of white sand. A school of yellow tail snapper swam in front of them. The one nearest Winthrop suddenly darted out of the way. It swam through the school to get away from him. Halfway through it stopped swimming and hovered motionless and then slowly turned on its side and began to sink. Winthrop swam to it and picked it out of the water as the rest of the school

parted to let him through. Winthrop turned and handed the dead fish to Brooks, signaling that Brooks was to put it in his sample bag. Brooks nodded and slipped the fish in, and they went on.

They reached a depth of sixty feet and Winthrop reared up and settled to his knees on the sandy bottom. The other two knew he had seen something, so they stopped and watched in the direction Winthrop was looking. In a moment a school of porpoise came by, changing their direction to pass close to the three divers. The porpoise moved slowly, with none of the wriggling exuberance that usually characterized their swimming. There were fifteen of them, five of them swimming in pairs. Three of the females had young, and the baby porpoises swam in the same leisurely manner as the parents. Winthrop nodded his head in an exaggerated manner as he watched the porpoise. Gail, at least, knew that he meant he understood something, and she felt he understood the new manner of swimming. The porpoise lingered near them, rising slowly to blow and breathe then returning. While they were on the surface they remained longer than normal, spending more time to take in air. Winthrop had his camera up and was rapidly taking flash shots of the closer animals, and normal light shots at a distance. A porpoise followed one of Winthrop's used flash bulbs as it bobbed its way to the surface. The porpoise flipped it with its head and then came down to the bottom. In a moment, as if at a signal, they all turned and swam out of sight. The divers moved on.

Near the edge of a long stand of coral was a large school of striped grunt, and clouds of reef fish swam nearby. Winthrop swam over and settled down to watch. The other two settled near him. Three or four minutes passed, and then a grunt died. Another two minutes and then a mud-belly died. Brooks collected them in each case. Gail saw a trumpet fish she thought was acting strangely, so she slowly backed away from her spot and swam down the coral toward the trumpet fish. Before she reached it a great lassitude overcame her. She stopped swimming and drifted to the bottom. Her vision blurred and the things about her took on a gray hue. Her body felt light, and she tried to move her legs to turn back. She feebly kicked herself to face in the direction from which she had come, and through a blurred haze she could see Winthrop and Brooks. Vaguely she saw Winthrop turn his head toward her. She gritted her teeth and painfully raised a hand to her head and moved a forefinger in a circular

motion around her ear. It was the diver's signal for dizziness. She saw Winthrop lunge from his position and drive toward her, and then she fainted.

She regained consciousness alongside the *Donado*. Winthrop was supporting her and handing her tank up to Brooks, who was standing in the cockpit. She said, "What happened?"

"Welcome back," said Winthrop. "You passed out down there. I thought we were going to have to hoist you back aboard, but maybe we won't have to. How's your strength?"

She moved her arms and legs. The light feeling was gone. "Fine, I think. What do you suppose happened? I've never done that before."

"I don't know. Can you climb up?"

"I'm sure I can." Gail swarmed up the boarding ladder with no difficulty and stepped into the cockpit. Brooks took her arm as she came over the gunwale, but she did not need it. She smiled her thanks at him anyway, and Brooks felt a tightening in his throat.

Winthrop came aboard and said to Brooks, "Will you check these specimens and see if there is any change in the viscosity of their blood?" He held up the specimen bag that Brooks had been carrying. Gail shook her head ruefully. Even in the emergency involving her life Winthrop had thought to make certain the specimens were safe.

For a moment Brooks hesitated as he looked doubtfully at Gail, but she said to him, "Go ahead." He took the specimen bag and went below with it to make the tests.

Winthrop made Gail sit down and relax, and when she wanted a glass of water he insisted she drink a bottle of Heinekin instead. They sat quietly, looking at the short chop on the ocean, until Brooks stuck his head out the companionway and said, "Got it on two of them. Thirty percent above normal in viscosity, all other properties normal. I think that's what killed them all right, although we haven't really proved it yet."

Winthrop said, "I would like to know if the viscosity of the blood of those porpoises has gone up. I'm sure it has, but I'd like to know."

"Want to get one and try it?"

Winthrop said, "Let's think about that. Maybe in a week or so would be better."

Brooks paused, staring reflectively at Gail, then he said slowly,

"I wonder how Gail's blood is making out. Maybe we ought to test it. Maybe we ought to test all of our blood."

Winthrop shook his head and said, "No need, not yet. You don't have sterile equipment now anyway. Look, let's head in. We've done all we're going to do out here today. You can take more precise measurements ashore than aboard. You finish your work and then we'll check in with Loudermilch. Gail, will you stand by the anchor?" And he watched her closely as she went up the side deck to the bow. The trip back to Coral Harbor went smoothly.

They secured the *Donado* in her slip and Brooks collected his specimens and analytical gear and loaded them into the car. He waved and said, "See you in a couple of hours." He drove off.

Winthrop went down into the cabin and sat down on the lounge, stretching his long legs out across the cabin. Gail came down and said, "Coffee?" He shook his head. "Heinekin?" He nodded, so she opened two of them and handed him one. She stood nearly in front of him and tilted her head and took a long drink. She said, "I don't think I'll ever get used to drinking out of a bottle. How do men do it so easily?"

Winthrop smiled up at her and said, "Two things women never learn: how to drink out of a bottle, and how to spit. I don't know why."

"Well, I only plan on learning one of those." She turned to go. He followed her up on deck, and they watched the wind come up over the harbor. A forty-five-foot cruiser went by too fast, and its wake rolled the *Donado*. Gail put her hand on Winthrop's arm to steady herself. When the *Donado* stopped rolling, Winthrop said, "I think I'll check the bow lines. A wake like that and a good wind could shake a line loose." He put down the bottle and went forward to the bow. Gail sipped her beer and looked at the ruffled water in the harbor. She heard a loud "damn" from Winthrop, followed by a splash. She stepped to the side of the cockpit and bent over to look forward. Winthrop floated in the water.

She would have laughed at him, but the splash had been a sharp, hard one, made by a body hitting flat on the water. Even in a fall Winthrop would not have hit the water like that; he was agile enough to twist in the air to avoid hitting flat.

He floated near a piling, face down in the water. Gail caught her breath. "Hugh," she called, but he did not move. She dropped her

beer and jumped to the side deck. She ran forward, jumped into the water next to him and rolled him to his back. She held his face out of the water and looked at him. His eyes were closed, but there were no marks on his face or forehead. She pulled him to the stern and grabbed the slack line that held the *Donado* to a piling. She raised Winthrop's arms and hooked them over the line while she held them. He hung on the line, head lolling forward, his face out of the water.

Gail clung to him there, panting from her exertion, wondering what to do next. There was no one in sight, so she called as loud as she could, "Can anyone hear me?" There was no answer. She called again—no answer. Something kept her from screaming. She considered it, but she found the thought repugnant, undignified. She placed her ear next to Winthrop's mouth and could hear his shallow breathing. She looked around to see what to do next.

The stern of the *Donado* was near the piling; a timber fastened the piling to the next one. She twisted the mooring line around the timber so she could stand on it and work her way back into the cockpit while she supported Winthrop. When she got her breath back she tried to lift him higher. He groaned and opened his eyes and said, "What happened?"

She helped him aboard and then leaned back and closed her eyes to rest. He said, "You all right?" He sat up anxiously.

"I'm fine. You're the one who's supposed to be injured. What happened to you?"

He shrugged his shoulders. "Beats me." He got up lightly and picked up his bottle of beer and took a long swig. He grinned at her.

She stepped up to him and said, "Hugh Winthrop, you tell me what's going on." She turned his face back to her when he tried to turn away.

"Well," he said finally, "you fainted today and I was worried about you. I had to be sure your blood wasn't thickening, and I didn't want you to know about it. Well, you're in good shape or you would have fainted again now with all that exertion." She stepped back. "You mean . . . you dared to . . . how could you?" She grew more angry as she spoke. She stalked away from him and went below slamming doors. He could hear her arrange the shower curtain.

He called out to her, "I had to know, and I didn't want you to worry, too."

She didn't answer, but the shower made her feel better. When she came out she said, "It was my fainting on the dive that worried you? Why did I faint then?"

"Sometimes happens. Too tired, too cold, head down too much. Could have been many things. At least we know it wasn't thick blood."

She looked out over the harbor. "It was a dirty trick, worrying me like that."

"Yes, but a little test now and then never hurt anybody. I'll take my shower now." He picked up a towel, went into the head, and showered and shaved. When he came out, Gail had poured two Heinekins. Winthrop settled back on the lounge and put his feet up on the table. He said, "I wonder where it will lead. If people begin acting like the fish, the human race will change. Everything slowing down, on penalty of death. People rolling over dead if they exert themselves too hard. I wonder how you'll know where your limit is. One man might be able to run up twelve flights of stairs, but the next man will drop dead after two. The strong man might die, and the weak man might live. We could have a survival of the fittest situation in reverse. Survival may be a matter of pure chance. That will be great for the human race." He took a long drink of Heinekin.

They were still discussing it when Brooks came back.

Gail said, "What did you find out about the fish?"

"Well, the blood viscosity was high, averaging about thirty percent high, and the blood was deficient in oxygen. Vital organs were oxygen starved. The animals died of anoxia."

Winthrop considered a moment, then he said, "How about the blood pressure? Any signs of heart strain, if you'll forgive the inelegant expression? What I mean is, how does the heart act while pumping such high viscosity fluid?"

Brooks nodded. "I know what you mean. Too soon to tell, but there should be some kind of cardiac breakdown. I haven't been able to look as yet." Both Winthrop and Gail recognized that what Brooks really meant was that he had not thought to look; he had been so involved in blood viscosity nothing else had occurred to him.

"Well," said Winthrop, getting up, "time to check in with Loudermilch." He turned on the radio and warmed up the transmitter tube.

The marine operator by this time recognized Winthrop and knew the stature of Loudermilch. She put the call through quickly, and Winthrop talked to Loudermilch for fifteen minutes.

Loudermilch said, "You think this is going to happen to people, Hugh?"

"I don't see why not, Carl. Marine animals are getting it now, and they're more strongly exposed than we are. I don't know why we won't be next, unless we do something. Offhand, I don't know what to do, except avoid exposure, and that's almost impossible."

Loudermilch whistled softly. "I've got some work to do, some people to warn. Wish me luck on this one. I'm going to need it."

June 8

On Kyushu, Japan, the rain fell and lay on the ground like a six-inch layer of translucent snow. The droplets were globular and if held in the hand, they melted, but on the ground they accumulated. Under the mass of the fallen rain globules pale green shoots were doubled over and mashed to the ground. Yoshikara Hirooka stared at the tiered fields in bewilderment as he drove his daughter's MG from Fukuoka to his farm slightly beyond the last recognizable subdivision. His daughter and her child, his wife, and his four other children waited for him at his home. They waited for him to bring word about how to subdue the wild rain, how to make it conform to nature and run in the streams and through the pipes, and soak into the ground. At the farmers' union meeting which he had attended there had been only teeth gnashing and wailing, but no helpful hints, no government decree, no hope for better things on the morrow.

Yoshikara Hirooka did not relish the greetings of the frantic females with which his life had been cursed. A wife and five daughters! He groaned to himself slightly as his own house came into view through the rain. And his daughter's daughter!

"Ai," he said soberly, parking the small car with great, overelaborate care, and taking his time about leaving it for the house entrance. He looked accusingly at the treacherous skies that loosed rain devils, but not rain; from there he looked, no less accusingly, at his own neat rows of tiered fields, only then taking on the overcoating of globules. His shoulders sagging, he started toward the house, but a gaggle of voices stopped him, and instead he ran to the fields, kicking at the offending rain-that-was-not-rain and shrieking at it.

Under his furious kicking, the globules broke up, and released the water and let it run into the ground. Laughing like a wild man he continued to run up and down the aisles between rows of rice

shoots, kicking and screaming, and the ground was taking the water in very meekly now. He turned and dashed to his house where the women met him in the manner of women greeting a man whose senses have departed to the gods.

"Out! All of you, out to the fields. We must beat the rain into the ground!"

His second daughter, dressed in coarse American Wild West pants and a shirt that not even her father would wear, turned from the door disdainfully, and his slender hand caught her backside in a slap that was as satisfying as had been his kicking of the rain moments before. The second daughter wailed, and would have run to the room she shared with the third daughter, but again his hand caught her where it did the most good, and this time she turned toward the door and the rain. Yoshikara Hirooka did not smile, but his wife caught his eye, and he thought he saw the ghost of a smile in her own. Very meekly she bowed and went outside and presently the farmer and his wife and his five daughters were all marching up and down the rows of new, green shoots, kicking and stomping the rain into the ground where it belonged.

In his Manhattan apartment Carl Loudermilch turned off his television with a sigh. In his mind's eye he could see the ground of Asia blacken with human beings out driving the rain into the ground. Where radio had reached them the farmers knew that was the only way to save their crops, and where the radios failed to reach, they were finding out the hard way. But they were finding out. He admired farmers for several seconds, then shrugged and walked to the wide windows overlooking the Hudson. It gleamed, solid, black, oily looking. Behind him the apartment felt strangely empty, as it had felt four years before when he came back to it the first time after Myra's death. He turned and looked about the room, but nothing was different there. The difference lay deep inside him. He was missing her now more than he had for the past year or longer. At first there had been the constant pain that her absence meant, but it had eased so gradually that he wasn't aware of when the change had come about, when the time came first that he had been able to think of her without the ache that tightened his throat. Through the first year he hadn't been able to consider leaving this apartment where her presence lingered long after she was gone;

then it had seemed that he thought constantly about moving, leaving the ghost of things gone and starting over somewhere else. That had passed also. He had been gone four months, and on returning, he had welcomed the old apartment and had found comfort in the photographs she had arranged here and there, and the Picasso she had bought before Picasso had become the one to buy, and the disarray of books and magazines that she used to sigh over, but never rearranged.

He smiled bleakly at the room and slowly went through it to the kitchen, where he got ice cubes out and mixed a drink. He wanted someone he could talk to the way he had been able to talk to Myra, without fear of revealing his fears, or his ignorance, or his cupidity, or whatever it was that made him who he was. She had understood and accepted all of it and with her there had been talk, but not since. Not since, except perhaps for his friends in Nassau. Hugh and Gail, now there was a pair. He drank deeply and put down the half full glass and forgot it. Again he wandered to the window and stared at the river that looked normal but wasn't. He had a column to do. He had been handed the latest news releases at the office late that afternoon, but he still hadn't read them. They were all almost alike, the usual officialese. Nothing new today, but promise of a break-through for tomorrow. Meanwhile don't panic, don't be alarmed. Nothing to be afraid of, and anyone who says there is, is a Commie dupe, or a troublemaker, or a fool. . . .

The shrill of the phone startled him, making him jerk, and he cursed himself briefly. "Loudermilch here," he said. It was Tatum, the night editor.

"Can you come in, Carl? Things are breaking tonight for some reason. Fighting upstate over a couple of dams. Farmers are patrolling them, not letting anyone in to open the gates. And there have been a couple of reports about trouble here in town. Some of the pumps are in trouble. . . ."

Carl Loudermilch was whistling tunelessly when he left the apartment. The attack of lethargy that had overcome him was gone, and he walked briskly to the subway and thought it was a lovely, mild June night, at that.

Throughout the city there were half a dozen private utility companies, all with small plants, with equipment that was barely sufficient to do the work required of it, understaffed for the most part,

forgotten or unknown by most of the populace. One such company serviced an area that was twenty blocks wide and fifty-two blocks long, in the Bronx. Although the water wasn't noticeably thickened as long as it moved, the pumping plant had become inactivated because the water thickened almost to a gel when it stopped moving. End of report.

Loudermilch read the news item thoughtfully, and he knew that this was the beginning of a breakdown that would make the blackouts of the past look like a lark. The night editor had called a leg man to follow up the story. He handed the second news item to Loudermilch. "That's from an A.P. man in Kingston," he said.

"Tonight a band of farmers, numbering fifty to sixty, closed the gates on the dam on the Neversink Reservoir, thus cutting off the flow of water to the Delaware River, and areas downstream, including Trenton, and New York City. The governor has promised to investigate, and if necessary, to take action."

Throughout the night the stories continued to come in. There were gun fights at three separate dam sites, and two more of the independent water companies admitted to having trouble with their pumping facilities. By 1:30 A.M. the state police had removed the farmers, and were guarding the dams.

Later that night Loudermilch wrote his column, outlining what the thick gel from very slow-moving water would do to machinery, pumps, filtration systems, the various settling basins, sewage systems. . . . When he finished and reread the column he had written he was frowning deeply. Just what no one wanted right now, he thought. This might do the damage that the government had been trying so hard to avoid. But they had to know, had to start making preparations now, not when the systems stopped functioning completely. Those who could leave should, now. If they had deep wells or spring fed wells somewhere away from the city, that was the place to be.

He thought of the deep wells and wondered if they were being affected, and he remembered his friend Corlie Jackson. He started to phone, remembered the time, it was three in the morning, and he withdrew his hand. Actually Corlie lived only an hour's drive from the city. He decided to wait until morning and drive out to see him. He shuffled together the pages of typescript, about ten times as long

as his usual column, he thought weighing it, but not counting pages then. But this needed that much space, maybe more.

Tatum glanced through the copy hurriedly, then looked at Loudermilch with a startled expression. "You leveling?"

"Dead serious," Loudermilch said. He sat on the edge of the desk while Tatum skimmed the material.

"You really think the pipes will get clogged all the way?"

"It will be a more complicated process than that," he said. "First there will be the thick gel in the dead spots in the piping system, and it will grow. As the water slows, the gel will spread through everything. Sooner or later there will be whole lengths of pipes maybe where the stuff will coagulate to such a degree that it won't be budged by the ordinary force of the running water. As more water stands without movement, more of the gel will collect and the water will continue to thicken. Nothing is going to move in those pipes before long. As far as the pumps themselves are concerned, they may just spin uselessly. The name of such fluid behavior is 'thixotropic.'"

"Can't they just hose it out?"

"What with? Distilled water?" Loudermilch laughed, but it was a grim sound. "It may help for a while, but they'll wind up the same way."

Tatum looked from him to the copy and back. "I just don't know about running this. They aren't giving out anything quite like it yet, you know. Scary as hell, the way you put it here, Carl."

"Yeah. That just about describes the way I feel. Scared as hell." Loudermilch hitched himself from the desk and waved nonchalantly toward the column. "I don't give a damn what you do with it. I'm going to get some sleep. I'm going to make some phone calls and get some sleep."

Loudermilch settled into a chair and pulled his address book out of his pocket. First he called Dr. Peter Yudkin at Palomar. "Dr. Yudkin, I think the country is in serious trouble. The problem of distributing water is going to get far, far worse." He went on to explain what would be happening.

At the end of his explanation Yudkin said, "That is not the way the government tells it. I think you are exaggerating."

Loudermilch talked another few moments with him, trying to persuade him, but he could not. He hung up and called Parker at

Ames, and this time he was believed. When Loudermilch hung up he had the satisfaction of knowing a high-ranking NASA chemist believed him. But Hoyle of Wood's Hole reacted as had Yudkin. Witman at Chicago wasn't so certain, but he mentioned that Spain was now presidential adviser. On the call to Dr. Henry Spain, Loudermilch ran into politics.

Spain said, "I think I agree with you, Mr. Loudermilch, but as a matter of policy, the President has decided not to alarm the people into a panic." They talked about the effect this policy might have, but it was not a fruitful discussion as far as Loudermilch was concerned. At least he had the satisfaction of knowing his warning had fallen on intelligent and understanding ears.

The last call went to Sanford at Austin, who agreed wholeheartedly with him. Loudermilch gratefully dropped on a couch and immediately fell asleep.

By nine the next morning the water company had flushed out its equipment and had it functioning again. But the water that came from faucets in the affected area had picked up iron deposits overnight, and it was thick. It looked like dirty laundry water that was starting to gel. Angry housewives picketed the mayor's office throughout the day, and a group of teen-agers overturned a water company truck that was left parked at a curb while the workmen had lunch.

Loudermilch drove out of town thankfully. There was an air that he didn't like, a feeling that if more of the water turned bad during the day, there might be real trouble. Thank God it wasn't raining again. Every time it rained the water worsened. On the other hand, if the drought resumed this year and the upstate reservoirs got too low the polymer would be more noticeable faster. There were no answers, he thought. Only time. And how much time would a city of ten million have when the water became undrinkable? If a smart politician ran on a platform of a still for every home, he would be a shoo-in.

Corlie Jackson lived on a fifty-seven acre farm in Orange County, New York. He had boasted often in Loudermilch's presence that his cattle drank water that was millions of years old, five, ten, maybe even fifteen million. The water had been put down, covered over by folding mountains, and left there untouched until he tapped it and up came a geyser of pure water. He had capped

the artesian well and the natural pressure was enough to run water through his three-story house, his barns and outbuildings, and to run irrigation hoses through his truck garden.

When Loudermilch approached the private road that led to Corlie's house, he was stopped by a log barrier on chains with some sort of pulley affair. A tall man carrying a rifle stepped out from the side of the road and, without getting closer than fifteen feet to the car, shouted:

"What's your business, mister?"

"I want to see Corlie Jackson. What's going on?"

"Just tell your name, mister, and I'll see if Corlie knows you."

Loudermilch saw that he had a walkie-talkie attached to his belt. Both hands continued to hold the rifle. He gave his name and lighted a cigarette while the man spoke into the walkie-talkie, never taking his eyes from Loudermilch. Finally he nodded and stepped back to the side of the road where he pulled the chain that raised the log out of the way. Loudermilch drove through and the man replaced the log.

Corlie met him at the drive before his house. He had a revolver strapped to his hip. Corlie was not yet fifty, but that morning he appeared sixty or even more. He was pathetically happy to see Loudermilch.

"Carl, we're in trouble. Real trouble," he said, leading Loudermilch inside the old frame house that sparkled under new paint. "Can't let the cattle out to graze, have to butcher half the herd. I have enough water to keep a small pasture green, but I have to divert the rain from it. . . ."

"Carl, this is a wonderful surprise." Janet, Corlie's wife, kissed Loudermilch and, ignoring her husband's continuing rambling voice, she led Carl to the table in the kitchen and poured coffee for him, also talking. Loudermilch had forgotten how hard it was to listen in that house where everyone talked at the same time.

". . . Henry, my brother, and his wife and their three children are here. . . ."

". . . show you the milk after while, and the calves. Never saw anything like it before. . . ."

". . . Bethie is a big help. She's fourteen now, you know. So she keeps the little ones in line. With all this canning, and curing. I think Corlie was the first one to know what to expect. . . ."

". . . three times in the last month. With trucks loaded with tubs and tanks. They'll be back with more men, but Janet's other brother is coming in in a week or two, and of course, Will is coming with his family. . . ."

Loudermilch looked from one to the other and wondered if either knew the other was talking. He stood up and said in a very loud voice, over both of theirs, "Corlie, are you telling me that you are gathering all of your family here, turning this place into an armed fort?"

Corlie looked surprised. "Haven't you been listening at all? What else do you think we been talking about?"

"Okay," Loudermilch said, more quietly, seating himself again. "Corlie, what is this about the grass?" Janet started to speak and he said, "Janet, you're next." She grinned at him and refilled his cup.

"The grass," Corlie said. "Yes. It isn't right. It looks all right, but you try to break it, you know the way grass should break, only it doesn't. It pulls like taffy, or something, long, thin rubbery bits of it pull and pull, but it doesn't want to break. I left half a dozen of the herd out to graze, but I kept the rest of 'em in the barn, or in the pasture I water myself. The ones that ate the grass dropped their calves all right, but the ornery little things— You'll just have to see them, what's left of 'em, anyway. Four of the six died right off. I'm letting the other two go just to see what they do. Nothing good, I'll tell you that. Ornery little things. . . ."

Loudermilch turned to Janet. "Now, why is Bethie here with the other children? School isn't out here yet, is it?"

"Nope," Janet said. "Wasn't out when we yanked the kids out of it either, back around the first of May. The water they were giving then was like soup, Carl. It wasn't fit for people to drink. I told them to let my kids have the lunches I packed for them, and not to give them any of the milk, but you know what they are like, the fools that run the schools. 'No discrimination. We have to furnish lunch for the kids or we lose the lunch allowance from the state.' Same with milk. They have to furnish it, or lose money. So I took them out. They've sent half a dozen people around, but Corlie won't let them in. The sheriff is next, I guess. But we won't let him in either. You think they'll call out the National Guard?" There was an impish twinkle in her blue eyes.

Later Loudermilch walked around the farm with Corlie and he

saw the calves that made the farmer shake his head. The calves were bloated-looking and spindly. They stumbled and fell often, and when they did move about it was awkwardly, as if gravity had been increased greatly and they were having trouble pulling their small bodies about. Corlie muttered something and turned from them abruptly.

"I have the one pasture that I can water," Corlie said a few moments later. "That's enough for four or five milk cows, and that's all I intend to keep. We've butchered the rest and canned and froze the meat. That, and the garden. . . . We'll get by here. Won't use meat, produce, nothing that the thick water gets to. We've got plenty of gasoline for power. But we can't let them others in with their trucks and tanks. I told them a hundred times that there was water, good water in those hills, and they wouldn't bother. Plenty of surface water they said. Well, let them have their surface water. I'll fight them to keep them out of here now."

Loudermilch stayed for the rest of the day and let himself be talked into staying overnight. He watched Corlie milk the cows that had been left out, and he watched wordlessly when Corlie threw the viscous milk away. The two calves stumbled and fell and hauled themselves to their feet again throughout the day. He played with the seven kids for a while, then talked again with Corlie and his brother-in-law, Henry. He was introduced to Henry's teen-aged son, who mumbled and ducked his head and vanished again very shortly afterward.

"He's making an alarm system," Henry said. "The kid knows electronics better than most."

The kid was putting up a series of electric eye warning circuits that were recorded on a console in his room. If a circuit was broken anywhere on the fence line of the farm, a bell would ring, and a light go on pin-pointing the site of entry. Loudermilch nodded respectfully at it and looked again at the boy curiously. He was fifteen. Loudermilch felt very old then.

Before he went to bed he asked Corlie, "And if they do come for water? What will you do?"

"We'll try to get them to leave peacefully, but if they don't, we'll shoot them."

Loudermilch got up early, when the Jackson family got up, and although he would have liked to linger over coffee to avoid the

morning rush into the city, he clearly was in the way of this busy group. He promised to return, and he held Janet's hand for an extra moment when she said softly, "You have a home here, Carl. If things start to get bad. . . ."

He listened to the morning news on his way back, and he found himself tightening up again, and only with the return of the tension did he realize how much he had relaxed during his overnight sojourn in the country. Water was being distributed in three sections of the city that morning. The companies involved in the newest breakdowns promised speedy return to service, but meanwhile the city was sending trucks into the areas. There were long involved directions about the priorities to be observed, and then there were descriptions of the latest violence that had taken place throughout the state as the farmers clashed with the urbanites over the scattered supplies of water that were as yet uncontaminated.

He drove slowly through the section of the Bronx that again had been cut off from water, and at the fire station he saw the lines of people. There were two tank trucks, and a patrol car on the scene, but mostly he studied the people. There were some kids playing while their mothers waited; there were some teen-agers who had used this as an opportunity to cut school; there were the women who carried pots and pails. He watched a young woman with two children struggling with a bucket of water, trying to hold the hand of a two-year-old, clutching a purse that kept slipping from her shoulder. She spilled and sloshed water every other step, and the second child, perhaps four, played in the small puddles she left as she made her way homeward. He saw resentment on faces, anger, weariness, bewilderment. No fear, not yet, and very little anxiety. At least they were spared awareness for now. It would be bad when it came, but a day or two of grace. . . . He hoped that no major fire would break out in any of the affected areas.

The first thing he learned in his office was that his last column had not been used. There was a national clamp on the news for the duration. Nothing that might adversely affect a situation already dangerous and likely to erupt into violence was to be printed. A special screening office had been set up and from there would come any news about the polymer and its effects.

He wrote his column about the calves born of heifers that ate grass affected by the polymer, and daily after that he wrote his

columns honestly, but they were not printed. They were sent to the screening office and never emerged from it again.

Two weeks after his visit to the Jackson farm, he read that there had been another water fight in Orange County, and that four men had been killed, seven wounded. None of the names given was known to him.

July 23

The wind blew hot, and the *Donado* rode sluggishly at anchor. Winthrop leaned over the gunwale and said, "The damn water sticks to the hull. There's an inch-thick layer of water two feet above the water line. I'll bet the hull is carrying an extra five hundred pounds out here. Damn stuff." He straightened and came back to the cockpit and sat down.

Gail was staring at the place where Brooks' bubbles broke the surface of the water, but she said, "If it becomes a hazard, we can squeegee it off the sides."

"Well," he said, "it shouldn't hurt anything. The weight is down low. As long as we're not overloaded or don't take any water through the hull, we ought to be all right."

Gail glanced around at the sky and said, "Think there's a blow coming?"

"Probably. We'll start in in half an hour."

"The new kind of waves don't bother you. . . . Hugh. The bubbles. Look!"

Winthrop leaped to his feet and looked out at the steady roil of bubbles. He kicked his feet into the flippers that lay on the deck, pulled a mask on, and dropped into the water. He kicked over to the bubbles, upended his feet, and slipped beneath the surface, diving straight down. Brooks was lying motionless on the bottom, his mouthpiece half out, bubbles pouring from his mouth. Winthrop jammed the mouthpiece back into Brooks' mouth. With one quick swipe of his hand he knocked off Brooks' weight belt and then started for the surface, slanting for the boat that rode off to one side. He surfaced alongside the cockpit, handed Gail Brooks' hands to hold, climbed quickly aboard, and then lifted Brooks into the cockpit with him and cleared Brooks' mouth. Before he could give resuscitation

Brooks flung out his arms and tried to sit up. Winthrop stepped back. Brooks looked wildly around and said, "What happened?"

Winthrop said, "You passed out. Feel all right?"

"I . . . I guess so."

Winthrop sat down on a cockpit seat, and he and Gail waited while Brooks got his wits about him. Finally Brooks hauled himself off the deck and dropped on the seat. "Well," said Brooks, "I wonder why that happened. Same thing as happened to Gail a couple of months ago."

Winthrop said, "You looked a little blue there before you came to."

"Did I?"

"Yes. Does that tell you anything?"

Brooks looked at him. "You trying to say anoxia? My blood's thickening?"

"Sounds reasonable to me. What do you think?"

"I don't know, but I can't think it's thick blood. I don't know."

Winthrop continued to stare at Brooks, without saying anything. Soon Brooks shifted uncomfortably under his stare, and finally Brooks blurted, "I don't know, I said, and neither do you. Don't sit there as if you knew all the answers. You don't, you know. You're only guessing." Brooks looked out over the water, at the short, steep chop, at the glassy wave tops. He jumped up and shook his fist at the water and almost screamed, "Damn you, damn you, damn you," and then he staggered and fell back to the seat, gasping for breath.

Gail jumped to his side and made him lean back and relax. He was visibly blue under his tan, and he lay and gasped for a minute before his breathing began to ease. Winthrop continued to stare at him, and soon Brooks sat up and stared back. Brooks said, "All right. There may be a good chance you are right on this. I almost passed out again. It could have been shortness of breath. Now what?"

Winthrop sat more upright from his languid position. He said, "It means no more diving alone. It means no more exertion. You and Gail probably are in worse shape than I am; you are worse than Gail. I think you've got to face the fact that until we find an answer to this—*if* we find an answer—you have to change your life. Things are no longer the same as they were. You've got to plan ahead more to avoid exertion. You might faint from excitement. You see what I mean?"

Brooks nodded glumly. "My ability to work is cut down just when I need it most."

"Yes. And it's going to happen to most people all around the world. The old days are gone." Winthrop stood up and looked out over the rising waves. "The sooner we accept the fact that the world has changed, the better off we'll be. In our lifetimes, things will never be the same. New ways, new thoughts, new actions are the only ways men will be able to survive. We change or die. It's as simple as that." He continued to stare out over the thick waves, balancing lightly on his feet as the *Donado* tossed and pitched in the sea.

Brooks said, "Oh come off it. It isn't that bad. The water's just thickened, that's all. We'll work our way out of it. Things will get back to normal, you'll see."

Winthrop began putting on scuba gear. He said to Brooks, "*You're* not normal, are you? Have you any evidence that you ever will be?"

Brooks began an angry retort, but Gail put a hand on his shoulder, and he looked at her and fell quiet. Just before Winthrop slipped into the water he said, "I saw a young green turtle the other day, and it didn't behave right. I also saw a tern fall unconscious right after a long rest. I'm afraid we haven't seen the end of it yet. There's more to this than just thick water and thick blood. Watch my bubbles." And he made a feet-first entry and went to the bottom and took up a comfortable position on the white sand at the edge of a coral cliff. By this time Winthrop could recognize behavior brought on by increased blood viscosity. He now looked for behavior different from that. He lay comfortably on the sand, beneath a twenty-five-foot blanket of water, rolling slightly with the waves above, his mind and body relaxed as he watched the play of the fish on the reef. It was good to be there, and Winthrop was fully aware of his enjoyment of being at that place and doing what he was doing. His thoughts were only of fish behavior, for he did not know with any certainty what he was looking for. His mind absorbed the patterns of fish movements and balanced them against what he thought they should be. There were little differences. He tried to make a pattern out of the differences but could not. To himself he muttered, "Slowing down, but more than that. Stop and start is more like it." He shook his head slowly in puzzlement, and the slow movement did not disturb the waving frothy lace of a fan worm reaching out of the white sand two feet from his left side. Fifteen

minutes later Winthrop suddenly realized something: he had not seen a fish die for many days. The realization was exciting as he thought about its implications. The reef fish were adapting. The new generations were not dying off. Something was happening, but at least the fish were no longer dying. He lay on the bottom for another fifteen minutes, and then the waves on the surface began rolling him appreciably. He looked up and saw how rough it was on the surface and decided to go up even though his tank was still half filled.

The *Donado* was tossing so badly it was hard to board. As soon as he was in the cockpit Winthrop said, "Let's go. Gail, stand by the anchor. I think we'll sail in. Save fuel." Brooks helped him set a shortened mainsail and the storm jib. Winthrop turned on the engine to run up the anchor rode so Gail could free the anchor. Then he turned off the engine.

It was a bad trip. The short, steep waves took the *Donado* on her starboard bow and threw strings of water up to the deck where they ran down the side decks a little way and then stiffened. There was no spray, no white caps. They watched the water build up on the starboard side, ever thicker. Brooks said, "It's more thixotropic than ever."

"What's thixotropic?" asked Gail.

"A property of liquids that makes them thin when agitated, but stiff when they're not agitated."

Gail still seemed puzzled, so Winthrop said, "A good paint should be thixotropic. It runs well and spreads out thin when you work it with a paint brush, but as soon as you stop working it, it turns thick and will not run off vertical surfaces." Gail's face brightened, and she nodded.

The weight of the water accumulating on the starboard side of the *Donado* made itself felt before they were halfway in. The bow became heavy and began taking more of the seas. The water ran further back down the side decks as the bow dipped deeper. The heel of the boat changed and she became sluggish. Winthrop finally shook his head and said, "We've got to get that water off. Another half an hour and we'll founder. Gail, take the helm."

While Gail steered, Winthrop went forward on the pitching deck and shoved the water overboard with the mop. It was hard work, and the stiff water was slippery underfoot when it turned to a thin liquid

as he walked on it. As fast as he pushed it overboard, a new series of waves would pile more on the decks. The water began getting ahead of him. Winthrop shouted to Gail through the rising wind, "Fall off, about thirty degrees further north." Gail fell off and took the seas more on the beam. The *Donado* rolled mightily in the beam seas, and only the steadying effect of her sails kept her from lying down in the water. Winthrop continued to shove the water back over the side, and now he was able to get ahead. In twenty minutes he came back to the cockpit, the decks almost cleared of the stiff water. He said, "Like ice. It builds up the way ice accumulates on a ship in rough water in very cold weather. You have to keep removing it or it will sink the ship. This will make a serious problem for small boats all around the world. Small-boat fishing fleets will be in trouble."

He took over the helm from Gail and held the course. They passed into the lee of New Providence Island, and the waves subsided, but when Winthrop came about to work his way over to Coral Harbor, water began to build up again. Time after time Winthrop had to ease off while he went forward to clear the water away. Once Brooks went forward with him, but in ten minutes Brooks began to feel faint, so Winthrop helped him back to the cockpit to rest and regain his breath. When they finally pulled into the Coral Harbor channel, Winthrop was exhausted. They put the *Donado* in her slip and hosed her down with fresh water and used a squeegee to remove the stiff fresh water. The three of them then sat in the cockpit. Winthrop produced three Heinekins and they sipped the cold beer quietly.

"Time to check in with Loudermilch, I guess," said Winthrop. "The pattern is forming up again, and I ought to alert him." He turned to Brooks, expecting an argument, but Brooks simply shook his head at him.

Brooks said, "Go ahead. You seem to be pretty much right in some of these guesses of yours, and I don't see where they've done any harm. Go ahead."

Winthrop nodded and warmed up the radio and placed the call. "Two pieces of information for you, Carl, one good and one bad. The POE Jelly may have some additional effect on living creatures beyond merely thickening their blood. I don't know what it might be yet, but it seems to slow fish down. That's the bad information. The

good one is that no more fish are dying; the effects seem to have leveled out."

Loudermilch said, "I see. I'll try to get some of the labs to start a watch for the other effects you say may be coming along. I think I know one or two that might go along. I'll also hold out the hope that once we find out this new feature, that may be all there is."

"Well, Carl. You might want to consider this: in my view the world and everything in it will never be the same."

"You think it's like that?"

"Yes, I do. Men won't be able to work the way they used to, or travel. Well, you can carry these things as far as I can, probably further."

The two men talked another fifteen minutes, expanding their thoughts. Winthrop finally said, "I was going to urge you to come on back to Nassau, Carl, but I think you've got important work to do there first. You've got to convince as many people as you can of the things we are finding out here. You might try to get our government to send some responsible scientific people down here so we can bring them up to date and convince them. That might be helpful. When that's done, then come down to stay."

There was silence on the phone, then Loudermilch said, "Thanks, Hugh. I'm in complete agreement with you. I'll do the best I can. Be in touch." They hung up.

Hugh left the receiver on, and they listened to the news broadcast from the States. There were water riots in Cleveland and Camus, and there was speculation about the future in view of the worsening water shortage. There was a commercial for a hand lotion in which it was pointed out that the lotion could take the place of water in keeping the hands soft and lovely. Then the announcer came back on to report the deaths of several hundred people around the United States the day before, apparently of overexertion. Two dozen of the deaths had taken place in cities and autopsies had been performed. The diagnosis: histotoxic hypoxia—oxygen starvation of all body tissues.

August 14

August had hit New York City with a sullen heat wave that deepened day by day until there was nothing to be seen on the faces of its people but despair, and nothing on the streets but dirt and dust that swirled in the wind stirred by lethargic children and the occasional car that dared the city now. Never had the streets looked so broad, never so dirty in a city known internationally for its dirt. Car owners who left their automobiles returned to find that the radiators had been drained, so most people stopped driving, drained the water for their own use, and parked the cars until the situation was cleared up. No one doubted that eventually the situation would be cleared up. No one dared to doubt out loud.

Daily the lines snaked into the public buildings where the water was rationed out, and the people in the lines, dark and light alike, were numbered by the heat and dirt. The city stank from the streets that had not been cleaned since early spring, from people who had not bathed for a time almost as long, but for the first time in twenty-five years there was a noticeable lack of fumes in the air. Only the buses and trucks emitted clouds of smoke now, and the buses were running at half their usual number.

The water being received in open pails and buckets, cans, pans, anything that would hold it, was thick and foul-looking and foul-smelling. The Board of Health said that it was potable, and it was all that was available. Some buildings had installed large distillation plants to improve the water, and usually the presence of the unit was kept secret. Distillation didn't remove all the gel, but it helped, and most people believed it completely eliminated the polymer. There were many stills set up in the city, and some of them distilled water that sold for more than the liquor being made to order in the rest of the stills. Freshly distilled water was bringing two dollars a quart,

and with the continuing heat wave the price was certainly going to keep rising.

Carl Loudermilch had a still of his own operating in his apartment, and with the Hudson River across the street and a strip of grass away, he knew that he would not suffer as were the millions of other people in the city. At least not from a lack of water. Not soon. He thought it very possible that he, and many millions more, would starve to death in the next six months to a year.

He walked about his apartment slowly, not wanting to become soaked again with perspiration before he could dress even. The air conditioner he had installed, when the water-cooled large unit supplied by the building was stopped, was not turned on then. Electricity was off for three to seven hours daily, some days it was just off, period. He thought of the coming winter and shrugged the thought away just as quickly. Think today of today. Not even that, if you can help yourself.

Today. He had to get to the U.N. Building for a meeting that might be important, and he dreaded the thought of the trip. There would be a bus, sometime, and it might be possible to get aboard it, and be wedged between people for the next hour or two. Reluctantly he started to dress, moving very slowly. He had not slept much the night before, or the night before that, or for the past two weeks. The meeting was to start at 11 A.M., the President of the United States to address the Special Assembly at eleven-fifteen. But it would be late in starting. Everything was late now.

The bus was as behind schedule as he had known it would be, and it was more crowded than he had expected. Once on it, he couldn't move again. All the way to the East Side, through the four bus rides he endured, the people he smelled and tried not to see, he thought of places where he had been in the past. They were all places where it was fresh and green and water ran briskly, sparkling and alive in cool morning air. When he left the last bus three blocks from the U.N. Building, he was dripping wet, and he wondered if he smelled as terrible as the people he was leaving. He hoped not.

The U.N. meeting was almost exactly one hour late in getting started. The Secretary General was closeted with the President and the ambassadors from Great Britain, U.S.S.R., France, Japan, India, and other countries not mentioned in the release that was handed out to the reporters when they entered their own section of the

audience. Loudermilch mulled it over and wondered if they were going to stop pretending that nothing was going on, nothing out of the ordinary at all was occurring. It wouldn't surprise him, he decided, and began matching pennies with an A.P. man and a woman from the Washington *Post*. The woman won seventeen cents before the meeting was called to order.

The Secretary General wasted no time, but introduced the President as soon as possible under the rules of the U.N. The band played and everyone rose to his feet and the President with his escort marched down the center aisle. The President looked neither to his right nor his left. There was a grim expression on his face, and deep lines that hadn't been there in the spring. He was just as perfunctory about protocol as the Secretary General had been, brushing aside everything but a brusque, "Thank you," to the Secretary General, and an even briefer salutation to the delegates and guests. He addressed his remarks to the television cameras after that.

"Ladies and gentlemen, today I address myself to every man, woman, and child on this stricken world of ours on behalf of the United States. Today humanity faces a threat to its continued existence such as has not beset it ever before in history. Today hunger walks the Earth, not only in isolated farmhouses, or in small rural villages in remote lands, or even in scattered metropolitan areas. Hunger stalks every living creature on Earth today. Famine and starvation threaten millions of persons today, on every continent, in every country alike. In the face of a catastrophe of such magnitude as we face there can be no national boundaries. There can be no have nations competing with have-not nations. We are one people on this Earth threatened with mass, perhaps complete, destruction. As one people we must strive to understand the nature of the substance that has fallen on Earth to bring about this threat. As one people we must pool our resources whether they be manpower, scientific equipment and the understanding of that equipment, food, water, medical supplies and personnel, whatever they may be.

"In the name of the people of the United States of America I offer the following program, and I urge you, those of you who sit in this august hall today, and those of you who see, or will see, this telecast, or will read of it in newspapers, I urge you to keep uppermost in your hearts and minds as you consider these points the one ulti-

mate reality: this Earth as we know it could become barren of life within this decade."

Loudermilch sighed and leaned back in his chair, weak with the sudden realization that now it was out. Someone had said it finally in public, and there would be no way to unsay it, no way to undo the shock that millions must have felt with the words. He continued to make notes, not of the points being made by the President now, because that would be handed out in printed form, but of the reaction he could gauge on the faces of the delegates, and the visitors present in the hall.

He noticed absently that the woman reporter two seats away from him was weeping as she scribbled in her notebook. The glint of light on an oversized tear that rolled down her cheek unnaturally caught his gaze. He turned his attention to the Russian delegation. There was no surprise there, no discernible shock, only the same deep concern that scarred the face of the President of the United States. It was the same with most of the delegations, he realized. No one was surprised. They had accepted even before the terms were given publicly. The home governments must have approved everything in secrecy, and others were now ready to agree in public to the necessity of the proposal.

The points were very simple, as outlined by the President: an agency to make an inventory of available foodstuffs, and to set up a system for distribution to alleviate the hunger that already was following the crop failures being reported all over the Earth. A second agency to study the POE Jelly and initiate action as quickly as possible to offset its effects, or to rid the Earth's waters of the substance.

Other agencies and departments were named, and the general purposes for such agencies outlined. The serious problems of health and sanitation, distillation processes and facilities, and personnel to build them, and teach others in their usage, proper control of land usage to ensure the maximum yield of foods. . . .

It went on for a long time, both the speech of the President, and the speeches of major ambassadors accepting the proposal fully, unconditionally. The Assembly would remain in session throughout the night, and there would be a vote before the next morning. It was expected that there would be no dissent of any consequence.

Loudermilch left the U.N. Building before it was all over. The President hadn't declared a national emergency; it was all still talk

and study groups, despite the solemnity of the delegates. He started to walk back to his own section of the city. The buses were either out of service completely, or were all bunched at some uninhabited corner. The heat hadn't let up, and there was no wind at all as he walked, carrying his coat under his arm, with his tie stuffed in its pocket. There was an unnatural silence in the city, and although there were many people clustered on fire escapes, and on stoops before the filthy tenements, they were quiet, as if they were all in mourning. Even the children had stopped their play and were in small clumps, or walking, or squatting singly, staring at nothing, making meaningless marks in the dust, tossing stones idly from hand to hand.

He walked on Lexington Avenue to Thirty-sixth Street and turned west. There was a bitter smell of fire in the air, but no smoke, no alarms now. He passed the scene where a fire had raged sometime recently, raged and burned to the ground a block of tenements, leaving black skeletons that were contaminated with East River water. It was the choice in the case of fire: let it burn and dare the destruction by flames, or douse it with river water and face contamination by polluted waters. Here they had decided on both, it appeared. The area would stink for a long time, he thought, at least until the next hard storm washed down the blackened ruins and settled the ashes. Filthy children played in the ruins happily. He walked faster, trying not to think of typhoid and diphtheria and hepatitis.

He passed a line of men and women waiting for water at a school, and he longed for a drink, even of the viscous stuff they were receiving. He didn't pause, however. Men had been killed for wanting someone else's water, and more would be killed for the same reason. His breath was coming harder now, and he was panting, as if he had been climbing stairs for a long time. He slowed down as soon as he had gotten past the water station. He wouldn't have been given a drop by the men in charge anyway. He didn't have the right sort of card. Each neighborhood had a different code, and his wouldn't be accepted anywhere but the corner of Ninety-fifth and Riverside Drive. He hadn't gone there yet, had been content so far with the water distilled from the river water, which was closer to his apartment.

He reached Central Park finally, and he was reeling with dizziness. He sat down on the lush grass and put his head down

between his knees and waited for the attack to pass. He wondered if it was his heart, and he was amazed at the distance he was keeping between his thoughts and what he was feeling then. He wondered if he were dying there. The dizziness passed and he lifted his head again, and there was a bitter smile on his face when he thought of the many long blocks he still had before him. A patrol car crept by, and he cursed himself for not asking for help. Probably his identification would have been enough; they would have given him a lift. By the time the thought became lucid enough to have acted on however, the car was out of sight, and again the street was empty. He rested another ten minutes and then started to walk again, this time even slower. It was cooler in the park, and that was a blessing. Also, it was starting to get dark. He hesitated about walking through the park in the dark, then shrugged and continued. It wouldn't matter too much if he got mugged and knifed. He heard himself saying the words and felt surprise. All this, he thought consciously, goes with the dizzy spell. It is connected somehow, but I don't know how. With that he felt somewhat better, and he began to notice the other people walking also.

A child materialized at his side, a small girl, not more than twelve or thirteen. She clutched his arm and turned herself so that she was partially in front of him, walking sideways.

"Mister, you got water, canned stuff? Huh?" She looked about hurriedly, then pulled her ragged dress open to show that she was naked beneath it. She was a child, he thought again. No breasts yet, merely swollen tissue; no pubic hair yet, merely a shadow. Her hip bones looked like razor blades that would cut through the taut skin with any sudden motion on her part.

"Go home," he said tiredly. "Go home, kid. I've got nothing for you."

She spat at him and whirled away, to be lost almost instantly in the underbrush at the side of the path. He wanted to be sick.

Gradually he realized what it was that was so strange about the park. The people had taken it back again. It had been years since he had walked there, and at that time, it had been a daring thing to do. No one seriously expected to be able to get from one end to the other without being accosted, mugged, robbed, or somehow violated. This time it was different. Men and women and children walked slowly on the paths, and in the roads. There was no fast

movement anywhere, as if everyone shared Loudermilch's lethargy and heaviness. But they were there, and they were not acting at all frightened. At the first lake he paused and watched for a short while as boys dipped buckets into the water and attached them to shoulder poles, then swung away with them, walking easily under the burden. They had found new employment obviously. At the sound of the police motor bike they melted into the shrubbery, to reappear only when the patrolman was again out of sight and hearing.

Loudermilch suddenly realized that he was ravenously hungry when he saw other boys, young teen-agers, huddling on the edge of the lake with sandwiches and bottles of something or other. He skirted them widely, and now he hurried a bit. He left the park at Ninety-sixth Street and headed toward the Hudson River through city streets that were dark. He hoped the electricity would come on by the time he got to his apartment. He had an alcohol burner for his still but he had hoped to be able to save his supply of alcohol for later when the electricity would be scarcer than now even. He wondered if he would stay in the city through the coming winter, and he thought probably he would. He'd stick and see it through to the end, or until there was no doubt about what the end would be. And then?

Janet had said he could go there, to the Jackson farm. He knew he wouldn't. If they did hold off the county, the national government would step in sooner or later and confiscate what they had. Until then they would need it all themselves, especially if all the family did congregate there. He knew that Janet had a couple of brothers, and a sister, and Corlie had at least one brother. The thought of being prisoner on the farm with all of them and all of their children was something he shied away from hurriedly. There were other friends, a few relatives even, but he doubted that any of them would be any better off than he was now. Longingly he thought of the lovely boat, the *Donado*, sailing serenely on the azure waters of the Bahamian reefs, and he knew where he would like to be. He began to smell the river then, still a dozen blocks from it.

By the time he got to his apartment on the fifth floor of the building, his clothes were a sodden mess, and his feet burned as if they had been in fire. Tiredly he pulled on clean clothes and left once more, taking his two buckets with him. He filled them with the turgid water, trying to hold his breath until he left the evil-smelling

river. His arms ached from the buckets before he got across the street even, and he almost failed to realize the significance of the two men who drifted after him toward his building. At the entrance he stiffened with awareness, and he looked hurriedly around for help. No one else was in sight on the dark street. The two shadows he had caught a glimpse of had vanished now, and he wondered if he was as hard to see as they were. He doubted it. He knew of the scavengers who trailed those with polluted water, beat them senseless and stole their distillery apparatus. He had outmaneuvered two of them a couple of weeks ago, in fact. But this time, if these were the same men, they were using different tactics, keeping themselves invisible, staying at a safe distance, probably hoping to take him on the stairs, or even at his own doorway, saving themselves that search. He had to admit that with the buckets in his hands he was at a disadvantage. He entered his building, and the pause had been so slight while he weighed the possibilities, that no one could have known from watching him that he was aware of the men following him. He turned toward the stairs, knowing that he would be visible from the front door. They must have jammed it so that the automatic lock wasn't working. Or they had a key. At the stairs he pushed the door open with his shoulder and started to ascend. The swish of the door closing again effectively masked any sound from the outer door. As soon as the stair door was closed, he put his water down and stepped back to the bottom of the stairs. He was holding a Police Special .38. He didn't think of the gun as he waited in the stifling heat of the stair well.

The door didn't open as he had expected it to. It moved slightly and there were four quick snaps of a gun with a silencer on it being fired. He shot without thinking, and someone screamed and fell. The gun with the silencer clattered against the parquet floor. The second man ran and was out the front door before Loudermilch could get to the lobby. The man he had shot was writhing and moaning on the floor. For a second Loudermilch stood over him cursing. Then he turned and again went to the street, to the corner where there was an emergency police call phone. He reported the incident and gave his room number in the building and returned, retrieved his water, and went to his room, leaving the man on the floor in the lobby. There was nothing he could do for him. The man was unconscious,

and by matchlight he hadn't even been able to tell where he had been hit.

The detectives who arrived half an hour later seemed unsurprised at his report. The guy would be okay, one volunteered, but he'd probably die in the pen. They were having a bad time with guys in the pen. Some kind of epidemic. Shooting at Loudermilch in the dark seemed normal to the detectives also. The latest dodge, the loquacious one said. Wait until the victim gets in a spot where both hands are full and he's a sitting, or in this case, a standing duck, then shoot him. Grab his key and get inside his rooms and take everything that can be carried away. They all knew he meant the still. They'd be in touch, he said then, and the two detectives left. Shortly afterward the lights came on and Loudermilch turned on his air conditioner and made himself dinner of canned hash and peaches, followed by three shots of scotch. He made coffee, rigged his still and starting processing water for the next day, then he turned to his column. He didn't think the special efforts of the U.N. would be fast enough, or effective enough, but he didn't put that thought in his column. He did say that until the government declared a national emergency and took over the entire country, using troops if necessary, the crisis at home would continue to worsen.

That night, as if Loudermilch's act of violence was the signal, the city erupted. A too prolonged heat wave, the restlessness of enforced inactivity, the vile water that was doled out, the hopelessness of the people who heard in the President's words nothing to relieve the despair of the situation, whatever was the catalyst, the reaction was explosive.

Fires burned out of control in Queens and in Harlem. The Bowery came alive from one end to the other with looting, vandalizing teenagers. A gang of desperate men ambushed the truck convoy bringing water to the parched city and overturned seven of ten trucks, hijacking the other three with their tanks of precious water. Three of the men were left at the scene, shot down by the armed guard of state troopers, but two of the troopers also were killed, and four others wounded.

Throughout the night violence raged in the city, and by dawn a pall of smoke shrouded the upper floors of the skyscrapers. The hospitals had called for police protection, fearful of losing the generators and the distillation machinery they had installed. They could

admit no more patients, turning away everyone who came, from maternity cases to appendectomies. There were no more beds, no more hall floor space.

The heat wave continued, starting its third week with a forecast of temperatures in the high eighties or low nineties for the day, with no rain in sight, no change in sight. The roving gangs swelled throughout the morning, and by noon a state of emergency had been declared and the National Guard started to move in.

September 19

Loudermilch drove slowly, nursing the '54 Volkswagen along with care. The highway was practically empty with only an occasional army vehicle or state trooper's automobile speeding past him. A horse drawing a wagon of hay looked incongruous on the wide, smooth concrete. There was a bite in the air that morning, a touch of fall that showed more here in the country than it did in the city. Maples had started to flush out in reds and oranges, and sumac blazed along the road. Fields of corn and wheat were brown, ready for harvesting, and in the orchards the apples dotted the trees thickly. A good year. He laughed bitterly.

Only the night before he had written of the new crop and its effects. "After eating any of the grains and cereals, wheat and its products, oats, corn, rye, potatoes, etc., you must lie down for an hour at the very least, preferably two hours. This allows the system to eliminate the POE Jelly through the urine. High protein foods: meat, eggs, milk, cheese, etc., should be accompanied by at least eight ounces of water per serving of solid food, or by two apples, two oranges, or eight ounces of juice. . . ."

There was more. Each day the special advisory committee of the U.N. Health Agency issued bulletins with the latest findings. But there were too many of the bulletins, and the findings were contradictory, depends not only on the kinds of food, but also on the location of the farms that produced them and the amounts of rain, and the soil composition of the farm. What was perfectly good from one area might be toxic from another. Grapes from upper New York had been declared unfit for consumption, but grapes from lower New York and from other states were edible with no ill effects. The bad grapes had to be destroyed at the source, and it was too late for that by the time the effects were discovered. They had gone to market

already where no one could tell grapes from one area from grapes from another.

And so it went.

But the fields looked beautiful, and the fruit trees bowed under a vividly dotted canopy. He left the main highway, taking a blacktop road that wound into the hills, and presently he came to a small bridge. After crossing it he stopped the car and walked down the short distance to the brook. The water was discolored by rotting logs, and it flowed and looked like wild honey. Dark and viscous it ran heavily over rocks without making a spray, without the pleasant gurgle that should have accompanied the movement. There was instead a deeper toned sloshing sound. It was the only sound. Loudermilch realized that there were no bird noises anywhere. He leaned against a tree and waited, but they didn't come. He wondered if the birds all had died already. He felt very tired then and slowly he climbed back up the bank and got in his car. He waited for the pounding of his heart to subside, then he drove on toward Corlie's farm.

At the private road that led to the farm he was stopped twice. The first time was at a point about twenty feet from the state road, and then again at the checkpoint where he had been halted the last time he had been there in June. He didn't recognize either of the boys who were posted on guard duty. He was shocked by the appearance of Corlie Jackson when he arrived at the house. Corlie had lost weight, and there was a haunted look in his eyes. He had a sling supporting his left arm.

"I'm glad to see you," he said simply, grasping Loudermilch's hand in a grip that had lost none of its strength. Looking past him, Loudermilch saw a black swatch of field that came almost to the barn. Corlie nodded toward it grimly. "They keep trying," he said. "That was last week. Rolled down a drum of burning oil from the hill up there."

The black trail led almost to the cover of trees high on the hillside, and the fire had spread fanlike from a narrow point until it had covered almost the whole field.

"They know they won't hurt the water supply none, no matter what they do, so they keep trying something new," Corlie said. He nudged Loudermilch toward the house and fell silent. Inside, Janet met him with a kiss, but she, too, had changed. There were two other women in the kitchen, and Janet introduced them absently:

Elaine and Wanda, her two sisters-in-law. From a distance came the sound of children's voices, and other sounds of hammering. The three women had been peeling apples, and as soon as coffee had been poured, Janet returned to her chair.

"We have the three trees that are good," she said matter of factly. "We are canning the fruit and making jelly from the skins and cores."

"I brought you some stuff," Loudermilch said. "It's in the car. All from . . . before. It's good." He didn't add that he had stolen it from an apartment where the owner had hoarded enough food to last for five years. Nor did he add that he had found the apartment dweller dead in the hallway and had taken his key and raided the place even before he reported the death. No one asked where it had come from. There were two cases of tuna fish, two five-pound sacks of salt, four twenty-five pound bags of sugar, twenty cans of coffee. That was all he had been able to get in the small car, stored out of sight so that it wouldn't be too tempting for hijackers. Packed between the food boxes he had stuffed pieces of wire, batteries, tubing, everything that he had been able to find that he had thought they might use. Janet kissed him again and there were tears in her eyes. She turned away quickly.

"You and Corlie go sit and talk," she said. "Make him sit still, Carl. He's supposed to be resting."

The two men sat in the shade of the wide porch and Corlie began to talk. "It's going to get worse, isn't it? We've been hearing the news every day, and what they aren't saying is more important than what they are. You know that, don't you." His voice was toneless, but when he turned to look at Loudermilch, there was a stricken, tortured expression on his face. "I don't know what to do, Carl. So help me God, I don't know what to do. There are kids out there going hungry, little kids, babies. And I got food. In Middletown, Newburgh they aren't getting near enough in from the farms. Hijackers from the city beat them to the trucks. They meet them and take the trucks, everything. . . . Only when the Army is here doing escort do they get through. Not enough though."

"Yeah," Loudermilch said, equally tonelessly. An echo of an explosion sounded and resounded through the hills. He looked at Corlie questioningly.

"They're going in after the water that's under the mountains," Corlie said.

They were both silent for several minutes then. There was a race going on such as the world had never experienced before. It was a race to save humanity from death by thirst. Deep wells were being sunk; distillation plants were being built at a backbreaking speed, small stills were being produced by thousands, but men could only work for short periods, and while they worked they needed the precious stuff they were attempting to create, not only for their own consumption, but to run the plants that were needed to turn out the metal and the glass and the concrete. It was a race that man might not even finish, much less win. Another blast shook the house and reverberated through the hills.

"They'll ruin what water there is," Corlie said. "They'll open the earth and let the rain get to it, and that'll be that."

"Have you got a still set up yet?"

Corlie nodded. "We'll get by here," he said. "We have five men, three women, and fifteen kids. We have four milk cows, and plenty of food in jars and the freezer. We're processing that as fast as we can, though. Freezer won't be any use to us when the generator goes, and it will."

Loudermilch wanted to tell him that he was doing what he had to do: saving his own family. The words wouldn't come out. Corlie knew that, and still he was tortured. He asked, "What happened to your arm?"

"Busted ribs," Corlie said. "Shot in the side. Bullet went through, thank God."

Loudermilch had dinner with the families, and he was pressed to leave before it started to get dark. He would not be allowed to leave after the sun set, Corlie told him.

"We lock up pretty tight after dark," Corlie said.

"I'll be staying until morning," Loudermilch said. "Maybe I can help out. . . . I used to be pretty good at guard duty, back in World War Two."

Corlie grinned. "You were pretty good with a rifle, too, as I recall."

The defense system was simplicity itself, Corlie explained to him after dinner. "We have the walkie-talkies, and we keep a patrol out all night, on bikes. They can cover the ground that way, and it's quiet. They don't have to say a word if anyone does get through the

electric eyes. We all learned Morse code, and there are keys on the walkie-talkies, so the guard keeps low and gives the location where there's trouble, and in a minute or two we can be on the spot." He grinned again. "They must be having the devil of a time trying to figure out how we can be everywhere at once the way it must look to them."

Because Loudermilch was unfamiliar with the terrain, he was posted at the side of the road from midnight until three in the morning. It was unlikely that anyone would try to come by road, but if he saw a car or truck going on the state road, he was to report it immediately. They couldn't take water away with them without transportation.

At this point, Corlie's brother added, "They probably won't try to take anything away with them. They want to take the farm itself now. But there might be a car or a truck."

Loudermilch dozed until it was time to leave the house. It was very dark, no moon, and the starlight obscured by a cloud layer that seemed perpetually over the Earth now. Again Loudermilch was struck by the silence of the woods and fields. No crickets chirruped, no frogs called out, no night birds trilled. There was enough wind to send an occasional leaf fluttering softly, and now and again to rustle in high grasses, and the whisperings of the wind were the only sounds.

Loudermilch seated himself on a log as comfortably as he could, with the rifle across his legs and a tree against his back. It would be a long three hours, he knew.

He thought of the various cults that had sprung up here and there, and he could almost understand them. The need to do something, even if the act were irrational, overpowered men in the face of helplessness, so they joined nut cults. Or turned to hijacking. Or, rumor had it, some turned to cannibalism here and there in areas where it hadn't been so long in the past that cannibalism had been forsaken. There were the food cults that adhered rigidly to strict rules about diet and fasting and prayer. They were the least objectionable, and from the spate of bulletins issued by the Health Agency, perhaps they weren't even irrational. But the others. . . . In the dark of the woods Loudermilch reviewed what he had read and had seen for himself.

The Black Lady group, who mixed a bit of the Ceres-Persephone

myth with witchcraft and games theory, and came up with a lulu that included blood-letting sacrifices and orgies when conditions were right. No one outside the group knew exactly what constituted right conditions, so that it appeared that the ones within the group simply staged orgies when the spirit moved them. Loudermilch shrugged. Maybe it was better to go out with an excess of energy consummating sex than to keel over staggering under the burden of foul water in a scummy pail.

There were the Swimmers, who met in the open and prayed, then stripped and offered themselves to the water of the ocean, or rivers, or lakes, depending on where they were at the time. The thick water demanded so much energy from a swimmer that it, too, was almost an act of suicide to partake of the services of the cultists.

Loudermilch decided to research them all and, when the madness ended, to write a book about them. Scratch the skin and find superstition, he said to himself. Then he froze. Horses were coming up the road.

He cursed under his breath and fingered the walkie-talkie, but he didn't signal yet. No one had given him a key to use if the attackers arrived on horses. One if by foot, two if by car, three in trucks. Repeat the signal three times, then give the number of men, again to be repeated three times. Finally the number of vehicles. But nothing had been said about horses.

There was a clump of riders, six or eight, he thought, but couldn't count them as they moved past the turn-off private road. There were two wagons, each with a team of two horses, and with an indeterminate number of men on them. He waited until they all passed the turn-off, then he signaled the alert call, S O S, repeated three times. He left his post and started to run toward the house. They had to be warned that the men were mounted, and he would certainly botch it if he tried to signal with the walkie-talkie unless he was certain he was out of earshot of the men on horseback. When he stopped, he could still hear the muffled sounds of the hoofs, but he spoke quietly into the mouthpiece, keeping his mouth very close to it, keeping his voice as low as he could.

Before he could get an answer, he let the walkie-talkie drop from his belt again and raised the rifle. There was a horse in the woods to his right, picking its way quietly through the underbrush. He listened intently, but he was certain there was only the one. They had

spread out then, would ride in from many different points at once. He thought of Corlie with his broken ribs, a shot through his body, and he thought of the fifteen kids, some of them belonging to the family, some of them taken in from friends. When he raised the rifle, he knew he wouldn't be aiming at the horse, as his first thought had suggested to him. From off to his left there was a flurry of gunshots, and at the same moment the rider appeared at his right. He shot once and the man fell. The horse bolted and ran. There was a shot from the ground that went wide by ten feet, and Loudermilch fired again, and this time there was a scream and then silence. Loudermilch didn't wait to check, but ran on toward the house, knowing that he had to get clear of the woods if he expected to see anything else. There were sounds of rifles and shotguns on both sides now. He got to the clearing at the end of the road, and he paused, trying to spot another rider. There was only deep dark, the house and barns deeper patches of black in the distance. A horse came from the woods to his left and he whirled about, firing as he turned. The horse reared and kicked, then streaked away toward the open ground. It was riderless. Before Loudermilch could get back to the cover of the trees behind him, a shot screamed past his face, only inches away. He dropped without thought. Another shot followed the first, this time too high. He crawled back to the woods and began circling to get behind the invader. They were being very clever, he thought grimly. They were sending horses without riders through the farm, drawing fire with them, shooting at the source of flashes. He heard the other man then, he was breathing very hard and nasally. He shot through the dark at the noise, and there was a yelp of pain and the sounds of someone groping through underbrush, with much falling and thrashing about. He didn't follow him, but turned again to the clearing.

He had no idea of where Corlie and his men were, or of how close to their objective the attacking men had been able to get. Shots were still sounding, but more sporadically now, and the galloping horses had gathered in a small herd at the far end of the pasture. They would have to try for the horses sooner or later, he thought. They must have planned for defeat as well as for success, and if they were routed, they would want the horses. He began to edge around the clearing, keeping close to the woods.

He tried the walkie-talkie, but there was nothing on it now, no

orders, no response of any sort. He continued to creep toward the pasture. Suddenly the walkie-talkie hanging at his side came to life and he answered the soft buzz quickly.

"Carl, are you all right?" It was Janet. He answered, and although he was burning with questions, he waited. "They are closing in on the house, probably will try to burn us out. Take care."

That was all. He realized that they couldn't take the chances of issuing directions now, that the other men might also have walkie-talkies. He turned toward the house, uncertain now of what he should be doing, and at the same moment floodlights came on. Hidden in the ground were powerful lights that revealed the men who were doubled low, approaching the house. Instantly gunfire broke the stunned stillness and the men turned and ran. Loudermilch's eyes were blinded by the light as much as theirs must have been, but he fired also, and he knew that this was the main thing, to fire and keep them running.

Quiet descended again then, and he returned to his post overlooking the state road. Half an hour later he reported that the men were passing, the two wagons were fuller than they had been on the way in, and there were three men on foot. Corlie's voice came back to him over the unit and he was being told to come back to the house. He realized that dawn had come.

"We got Clyde Amory," Henry said during breakfast. "Not bad, but enough to keep him out of here for a couple of months." To Loudermilch he added, "He's the leader of that bunch. Too busy trying to steal what we got to make his own still and provide food for his kin." He drank deeply of his coffee.

Loudermilch felt numb as he watched them. The kids had been up, and those who could handle a gun had been given one, and a window to protect. The women had manned guns. Only the very small children had been herded to the basement and kept there. The rest of the clan was protecting its homestead. They could have been Indians out there, or Redcoats, or outer space aliens, he realized. These people would fight them off, and by God, they would hold onto what they had. He started to feel better than he had in a long time. They must be doing this all over the Earth now, he thought. Little groups of determined people reshaping their lives, adapting to the new conditions that they had had no control in making. He asked about the wounded, and there were none caused by gunfire

this time. One of the older boys had ripped his cheek open diving to earth to avoid being hit, and another younger one had got a black eye, running into a low tree branch. The other side had sustained at least four injuries from gunfire, possibly as many as six had been hit, but it was hard to tell. Sometimes when the shooting started some of them simply took to the ground screaming until it was over and then crawled back to the others and left. They would know when they sent out a patrol to check. But Loudermilch wasn't going to be up and around for that. Janet ordered him to bed sternly, and when he protested, she told him to go take a look at himself in a mirror.

"You are as white as a ghost," she said, "and I can see how your heart is pounding even from across the room. You've been drinking that thick water and eating food cooked in it, and grown in it, and it's getting into your system, isn't it? You have the symptoms."

He allowed her to bed him down for three hours only. He had to leave before noon. As soon as he stretched out on the bed, he fell asleep and slept without dreams until Corlie's hand on his shoulder wakened him.

Corlie gave him a map that he had marked with a roundabout route for him to take back. "They might be watching for you," he said simply.

"What can I bring you, if I can get back?"

"Probably you won't get through again, and if you do start, you should plan to stay the next time," Janet said.

They told him things they could use, just in case he came again, but he realized that it was a gesture only. They didn't expect him back.

The drive back took him through unfamiliar and beautiful country where again the bountiful harvest gave a deceptive look of plenty to the area. He passed a pasture with cows that were dashing madly about, and as he stopped to watch, he saw the farmer with a shotgun ready to shoot if they broke down the fence. They had eaten of fodder that was heavily laden with the POE Jelly. As he watched, one of the cows collapsed and fell, then lay jerking convulsively. The farmer shot it. Loudermilch started the car and left. Still miles from the city, he saw the pall of smoke that hung over it. He knew that in the city was where the real nightmare started.

He stopped by a road block at the Tappan Zee Bridge and his car was searched thoroughly. He was glad that he had turned down all

offers of food and good water, and that he had eaten the only bit of evidence that there could have been, an apple plucked from the tree outside Janet's kitchen.

"What's going on?" he asked the trooper who handed him back his identification.

"Fires mostly," the trooper said. He was in his twenties, but he had the look of a man who has aged rapidly. Almost shyly he asked, "Would you have a couple of minutes, Mr. Loudermilch? We have coffee. . . . Distilled water," he added quickly.

Loudermilch shrugged and followed him to the side of the trooper's car. The trooper was pathetically eager for news from upstate, where his folks lived on a farm. Loudermilch told him what he knew and in turn was filled in on news of the unquiet city.

"They got nowhere to turn, nothing to hope for, and they know it's going to be a bad winter. So they are looting and burning. Don't know what good they think it'll do when the weather gets bad, having half the city burned down, but every night there's a new batch of fires and there's no way to put them out now. Looks like the whole goddamn city's got to go before they're satisfied."

"The Prophets still at it?"

"Yeah. With the Bible and the torch they are scourging the earth," the trooper said. "Only then will the new day dawn. But we won't be here to see it."

Loudermilch felt sorry for the youngster, but there were many youngsters he felt sorry for that morning. He advised him to go join his family and help them hold the farm for that new day, but the kid shook his head.

"Can't. I married a Jewish girl and they won't let her in the house." He shrugged and looked toward the road. There was the sound of an approaching automobile. Loudermilch left him and drove into the city, where the heat and smoke and the feeling of death met him with a blast as soon as he turned south onto the Henry Hudson Parkway.

October 26

Carl Loudermilch stared from his window at the convoy heading downtown on the West Side Highway. There were jeeps, trucks covered tightly with green tarps, filled troop carriers, half a dozen dairy tank trucks; it looked very much like an army moving in to occupy a territory. He turned from the window after several minutes and pulled the draperies across it.

"There they go in," he said to his guest.

The other man in the room was fifty, bald, fat, rumpled, and probably the world's greatest authority in the field of ethology. "Bionomic forces that we can't even imagine will come to the fore," he said, resuming a conversation interrupted by the noise of the convoy, "and the results will be chaos of the order that we have taken for granted." Dr. Lee Mann, with more letters after his name than in it, was extremely drunk.

Loudermilch grinned at him and picked up his highball. "More chaos than this I don't need."

"A foretaste only," Mann said. "Grazing animals will be the first to vanish. Grazing, reacting to the intoxicants in the fodder, the excessive displays of frenzy, and phttt." He snapped his fingers with a sharp crack.

"And man will follow, unless he can change his entire pattern of living," Loudermilch said.

"Some of them will change, but not most. I will. I already had adapted to the new way. Plenty of rest, never move fast, lie down to do all your thinking, sleep after each meal, don't run if you can walk, don't walk if you can ride, don't stand if you can sit, don't sit if you can lie down. . . . That's hard?"

"Yeah, that's going to be hard."

"But why are we always in such a hurry to go, when there is only more of the same thing after we arrive?"

"Human instinct?" Loudermilch said.

"Bah! Cultural conditioning. So now we slow down, and the next generation won't be able to believe the films they will see of the frenetic past."

"Is there going to be a next generation?"

"Of a sort. Of a sort." Mann heaved himself from the deep chair, and he moved as slowly as he advocated. He had shed his coat on entering the apartment, and somehow since then his shirt had come partially out, one button was missing leaving a gap low down just above the belt. His trousers were baggy and ten years out of date, wide in the legs, crumpled-looking. His head was very pink. He poured himself another drink from the shaker and let himself collapse once more into the chair. "It won't be us again, you know. We are the new dinosaurs. Our days are numbered."

"You're already a relic," Loudermilch said.

Mann chuckled and drank deeply. "Now you tell me what is going on. You have everybody here sooner or later, including me, and God only knows who else. What's going on out there?"

"There? The Army?"

"No, no," Mann said, wagging a fat finger impatiently. "I know about the Army and the cities. I came from Chicago, which is even worse than New York. You wouldn't believe. . . . But, no, not there. Out there in the world. The earthquakes, the floods, the mud slides. That out there."

"You've just said it," Loudermilch said. "Claud Viaux was here for two weeks, on his way to Peru, but with an interim report to write in the meantime. There are more earthquakes, regardless of what you read in the releases. And they aren't in the usual places for earthquakes. They are happening in places where there is a limestone layer that the water used to drip through, the cave areas in the middle states, for instance. The water is pooling now, building up pressures, and eventually something has to give. That's one of the new kinds of quakes; the other is happening on slopes. The POE Jelly has penetrated to the depth of a foot in most places, with an overlay of up to three feet in those places where there has been excessive rain. Where there are tremors that used to vibrate the surface of the earth only, like one of those machines at fairs that causes you to tingle all over, there are now major slides if there has been any vertical shift at all. Even a shift of an inch, on ground

that is wet enough, will start an avalanche of mud that grows and grows, scouring the earth as it moves. When this occurs on mountain slopes the havoc is at a maximum, and most of the earthquake zones are in mountainous areas. That is, most of the serious shifts occur there. But there are one hundred thousand tremors of varying intensity each year, and that means one hundred thousand chances of major catastrophies now."

"One hundred thousand," Mann repeated soberly.

Loudermilch went to the window and stared at the convoy again. It was a gray day, not cold yet, but with no warmth in the air either. It had rained almost every day for a week, and the sun had not shone for almost a month. Not looking at his guest, he said, "I went down to a couple of the hospitals last week. I tried to get someone from the maternity wards to talk to me and none of them would say a word." He looked obliquely at Mann, who was watching him, but saying nothing now, the trace of humor completely wiped from his face. Loudermilch continued, "I tried to find a pregnant woman who would talk to me, but, you know, suddenly, they're very scarce in the city, very scarce."

Mann finished his drink quickly and heaved himself to his feet to replenish it. Still he said nothing. He looked as gray as the day.

"I kept thinking about it," Loudermilch said, supported by the window frame, flicking his gaze from Mann to the street below and back. "No more pregnancies? I did some arithmetic. Those who were pregnant before the water got bad were already delivered, or should be ready now. And what about the intervening months? No new pregnancies? Aborted? All of them?" He pressed his forehead against the glass and shut his eyes. "So," he said, when Mann still remained silent, "I went to the zoo. Funny, you'd think someone would have thought of passing the word to them to clam up, but no one has yet. Mammals are having a hell of a time reproducing right now, Lee. You know that?"

Lee Mann sighed. Suddenly he was an old man, the drunkenness that had made him seem cheerful and resigned gone abruptly. "God damn!" he said. "I have to start over." He lifted the decanter and measured the contents. Regarding the bottle he held, he said, "I'll pass the word to the zoo people. In any event, zoos are doomed." He poured out the rest of the mixture into his glass and held it high. "Cheers, Carl. Cheers." When he finished drinking it, he said, in a

mock-cheerful manner, "Those little spermatozoa that used to go wiggle, wiggle, wiggle, speeding to their destiny, now go wag, wag, and keel over. Where the milk used to flow and even spurt, now it pools and stiffens, and the little fellow that should be satisfied in five minutes is exhausted in less than one, and gives up." Loudermilch made a noise that could have been a groan, and Mann said, "We have given out bulletins to doctors. They know what to do with their pregnant women. Complete bed rest, special foods, the best water available, and special diets that have been worked out for the infants. It isn't the end, Carl. Not yet."

"What about the other nine-tenths of the world, where there are no OB's, where there is no water that's fit to drink, where there's no special food?"

"Yes," Mann said. "That is the problem." Almost to himself he added, "And getting drunk doesn't seem to help."

After a moment Loudermilch left the window and in passing his friend he clasped his shoulder for a second, and then sat down. "You're on your way to the symposium at Berkeley? Can I get a pass to attend?"

Mann shrugged. "Probably. We're all working in the dark, no one knowing what the others are doing, what results they are discovering in their own special fields. I didn't know about the earthquakes; Viaux doesn't know about my work; none of us knows about the oceanographic studies. It is time for a symposium. I'll get the Foundation to appoint you special reporter to cover it. No problem."

Three days later Loudermilch sat in an audience of four thousand eighty-five and listened again to Mann outline the consequences for life on Earth resulting from the fall of the polymer. "The birds will go, in the main," he said, after a rather long rehash of what most of them already knew about the effects on drinking water, plant life, and the circulatory systems of animal life. "They will die by the millions, possibly be eradicated as a form of life on this planet. Insects and disease take over one-third of man's crops now, and with the birds gone, that ratio will rise to one-half, two-thirds, three-fourths. They will be hurt least of all. In mammals the rule will be: the faster the heart rate, the faster the demise of the species. Small mammals, rodents, monkeys, up through the hominids, including man, will be affected rather quickly. Only those who have the

ability to understand the situation and take preventive measures will be able to counter them. Among wild animals the carnivores will suffer less than the ruminants, but they will eventually show much the same symptoms, if perhaps to a milder degree. . . ."

Mann had been one of the first speakers, leading off with a general overview of the possible future contingencies. There followed the many specialists whose talks became more and more esoteric and concerned more and more minute studies. Loudermilch left the third day's meeting with a throbbing headache. He had called his old friend Hal Mumford, who ran the San Francisco office of the *Times*, and who lived high on one of the many hills ringing the city. Mumford met him at the auditorium and drove him to the house that seemed perched like an aerie. Loudermilch started to comment on the perilous position of the house in the event of a quake, but then didn't. He knew there was nothing he could tell Mumford that the other, older man didn't already know. He greeted Sue Mumford with a kiss and the three of them sat on the screened porch and looked at the darkening city for a while in silence. Loudermilch was grateful for the silence after the day of nothing but talking. He knew that he and Mumford would stay up late comparing notes, but it was nice to put it off and just sit quietly.

When Sue excused herself to finish preparing dinner, Mumford said, "Hell, isn't it." But that was all.

She had brought out goodies that she'd been saving for a real occasion, and this was it. The dinner was delightful: smoked turkey, a mixture of fruits in a honey sauce that had been heightened by lime, a salad that was crisp and fresh. Nothing, Sue said, that wasn't one hundred percent okay, either from before the water got bad, or from a place back in the mountains where a farmer she knew raised stuff on well water.

"He's still selling produce?" Loudermilch asked in astonishment, thinking of Corlie Jackson and his family.

"Not exactly," she said. "He's my father." With a quick glance at her husband, she added, "Sooner or later we'll go over there and stay. When Hal thinks it's time."

Contrary to his expectations, Mumford and Sue ushered him off to bed shortly after ten, and for a long time he listened to the wind in the barren hills, and he thought of the small pocket Sue's father had found somewhere, where he and his kin could survive, possibly.

There must be thousands of such pockets scattered throughout the nation, he thought. Throughout the world maybe. He slept better than he had for months.

During the next day's afternoon session the news broke that an earthquake of great intensity had sheered another slice off Peru, sending it into the ocean. Loudermilch left the auditorium and went to Mumford's office, where he found his friend drinking bourbon and listening to the radio. "Santiago lists one hundred thousand dead or missing in the Valparaíso area," Mumford said. "No communications yet. Shh . . ." He turned toward the radio as the announcer read the latest communiqué: "Meanwhile United States seismograph stations have picked up another shock that is reported to be approximately seven hundred miles to the west of the stricken area. With an intensity that registers up to nine, this is the most severe earthquake recorded to date. . . ."

Mumford turned the sound down slightly and raised his glass, pointing generally toward the bottle on his desk. "There'll be a hell of a wave," he said. Loudermilch nodded and lifted the bottle.

Two hours later the radio informed the world that a tidal wave of gigantic measurements was racing from the epicenter of the latest earthquake toward the Hawaiian Islands. It was predicted that it would also touch the West Coast of the United States with its eastern edge. It was a wave that was estimated to be at two hundred fifty feet or higher in the center, and the edge that would brush the coast of North America was estimated to be twelve to twenty feet.

Neither Loudermilch nor Mumford said anything. They both knew what a wave twenty feet high would do to the coast line. They went down to the bay area and watched the evacuation that was taking place, orderly now, but hurried. Ships were putting out to sea as quickly as they could, and the owners of shops, bait houses, restaurants, were closing, taking away what could be removed, leaving what they couldn't truck out with whatever help was available. The sea was a deep, grayed green, tranquil, giving no hint of the tremendous energy that was surging hundreds of miles to the south. There was a gentle wind blowing. Loudermilch and Mumford walked on a beach before they returned to the office. Here the waves were coming in heavily, the way they now did. They rolled to shore, made a flopping sound, foamed, and sank down into the

sand. The sand had been coated with the polymer so that each grain was rounded, larger than before, whiter than normal. The beach up to the high-tide mark was dazzling white, but no one played there. The rounded sand made an uneasy footing, and when the tide came up, the water here was strange, heavy, giving the impression of a threat of quicksand that would pull one down and down. Loudermilch turned away first, but he continued to hear the flop, flop of the incoming waves for a long time after they had left the beach behind.

Sue was waiting in the office when they got back. Mumford held her tightly for a long time. Neither of them mentioned the wave. It was due to hit the coast before midnight, but no one could predict closer than that. The major part of it was expected at Diamond Head an hour earlier than the arm that would brush the States. They didn't talk about it while they waited. They compared notes about conditions in general, and they drank the beer that Sue had brought and later had sandwiches.

It was very good. Loudermilch hadn't thought about being hungry, but suddenly, with the first bite, hunger pains struck and he ate without speaking. Fatigue would strike that way, he knew. Suddenly he would want to fall over and sleep a week or more. But not yet.

At nine a call came through from Honolulu. It was Smitty Bronson, one of the *Times* correspondents. Smitty read his story, and in the background there was a steady beep-beep that meant recording, and there were sirens wailing continuously, warning people away from the beaches.

"There is an air of absolute serenity," Smitty said. "Temperature is seventy degrees, wind, five miles an hour, sun setting right now, turning the ocean blood red. The clouds that obscure the sun most of the time have turned scarlet, with streaks of aquamarine and apple green throughout, and down at the horizon the colors are violets, more blue than red, like pansies, deepening to a purple that is virtually black. There are small cylinders of water, the new-style waves, rolling up the beaches, leaving foam piled up behind them. The waves are different these days; they don't break and rush back out, but rather they hit and roll up the beaches on the diagonal, and where the water foams on the sand, it is left there. When the tide goes out, there are ruffles of lace left behind in regular pat-

terns. These ruffles sparkle in the sun, when there is sun, and they look like ruffles set with diamonds." There was a pause then and when Smitty's voice resumed, his tempo had picked up slightly.

"The authorities have done a magnificent job of evacuating the people from low areas. The beaches are empty. The boats have put out to sea, or have been beached high on hills out of reach of the water when it comes. Everywhere the people are on roof tops, in high trees, clustered together on the hills, and they are watching and waiting for the monstrous wave they have been told to expect. There is excitement in the air, but no fear; anticipation, but no anxiety. Aircraft have been out scouting the swell that is the tidal wave and the report is in that the wave will hit here in the next half hour. This is Smith Bronson speaking to you from Honolulu."

Smitty Bronson put down his phone and folded his paper once and put it in his shirt pocket. He went to the window where his wife and daughter were watching the sea, far down the hill. His wife shivered under his hand, and he tightened his arm about her shoulders. They stood unmoving for the next fifteen minutes. Then Shelley, his daughter, drew a quick breath and moved closer to him. It was starting. They stared at the beach in fascination. It looked as though someone somewhere had pulled a plug and was draining the water away, sucking it back to sea at an increasing rate. The water receded from the beaches with a faint sound, and as far as Smitty could see in either direction the beaches were being exposed. Here a sand bar caught water momentarily, and the waves swirled about it and formed a deep whirlpool, then it was gone; there a row of gleaming shells lay arranged as if by man, so neatly were they aligned. And the water continued to go out to the sea. Then he saw the wave and when he heard a gasp of pain from his wife, he realized how tightly he was holding both his women. He loosened his grip slightly. The wave was a bright wall of light reflecting the garish sunset on its presenting face. As the waters from the shore reached it, it swelled and raised itself from the sea and advanced on the land like a red glaring snowplow being driven by a powerful engine.

Smitty's impressions of it were gathered too fast for coherency; the wall was coming in at a rate of four hundred miles an hour, but while it came, he thought of the way it looked as each instant it towered higher and higher. The roar now filled the air, and there

was a strong new smell of exposed beaches. He saw ripples in the sand where the waters had receded and crabs were digging furiously, seeking cover. He felt a change in the air pressure that was like slamming closed a car door where the body was very tight. He felt as if he were being squeezed all over at once. The air that assailed him was hot. Then the wall was on the beach and the noise struck with painful intensity. His daughter covered her ears, and didn't know she was screaming. He pulled her to his chest. His wife pressed tight against him, but she watched, as he did. Only there was nothing to see now. The wall of water smashed the land and covered it. Gone were the palm trees, and the beach houses, and the Majesty Hotel, and the roads that paralleled the beach. There was nothing to be seen but the water that surged inland, and when its forward thrust was exhausted, continued to flow. The house shuddered as if the land had suffered an earthquake, and Shelley screamed again, more softly, muffled against his chest. The surge of water pressed up the hill and the trees and shrubbery that had covered it were uprooted and churned with rocks and timber from buildings lower on the hill. It was a liquid avalanche that attacked the land and leveled everything before it, grinding the parts and tumbling them over and over before the forward edge of the water. The crashing thunderous roar of moving water was intolerable; Smitty felt that he could stand no more of it when the sound began to diminish. There was another shudder under his feet, and accompanying it was a closer sound of a crash. The hill was coming apart. He could see the water a dozen feet below the house, and now it looked still, but the debris that it carried still moved forward. Then the water began to retreat, and with its movement back toward the sea, more of the hill crumbled away. The flow back to the sea was slow, and where the water receded, pools of thick liquid coagulated in every dip, every low spot. Below them was no vegetation left, no building remained upright, although here and there stones in jumbled heaps and irregular lines indicated where buildings had stood. The land had been scraped to the bone, and in the place of soil and the things that had grown in it, and the structures of man, there were only the thickening pools of water, and a heavy coating of the gelatinous substance, and rubble.

Smitty led his wife and daughter away from the house after the sea had returned to its banks, and later that night the hill collapsed

some more, and their house tilted, then fell. The islands would be many weeks in assessing the damage. The three-hundred-foot wall of water, moving at jet speeds, had gone inland for twenty miles in some spots, in others only hundreds of feet before meeting the hills that sapped its energy and stopped it. Where the wall had advanced across the land, nothing stood, and where it had hit the mountains and hills, they had been weakened, and for months there would be landslides and rock falls, and shifting masses of land until the weakened places were again stabilized. The wave continued to roll in the Pacific, maintaining the speed of four hundred ten miles an hour, heading toward the Kurile Islands on the left, and the Aleutian Islands on the right, with passing blows directed at the American mainland north of Santa Barbara, California.

Loudermilch and Mumford were still in the office when the wave hit the bay. They could see nothing, but they heard the roar it made, and they heard the sirens. The wave was only twelve feet, but it smashed into the quays and wharves and beaches and onto the lowlands with the same intensity that the major portion had displayed. Later when Mumford led Loudermilch over the slippery coating that was left by the water at the dock area, they knew that the wave had done what they had feared most. It had not been a threat to life here, had not threatened the destruction of the city and its remaining water supplies and food stores, but it had been a threat to the docks, and it had wrecked them thoroughly.

The next day the cleanup began, but it would be an agonizingly slow job. No one could work more than an hour without resting, and for the hour on the job there had to be at least two hours off, without any great exertion being made at any time. There were streets to be cleaned, and storehouses and warehouses to be cleaned, and docks to be repaired, and there was not enough man power to do it, not enough energy to care that it didn't get done.

Smitty Bronson called back from Honolulu, but his recorded story of the devastation there, along with Loudermilch's story, was taken by the government. It would all be released later, the spokesman for the information agency said. The reports of death and damage were channeled through the information office. It was rumored that over nine thousand deaths had been listed officially, but no one reacted any longer to such rumors. No one reacted at all.

October 30

"What are you going to do now?" Mumford asked Loudermilch when he finished the first draft of the report on the symposium. Loudermilch was staying in the Mumford house now. Downtown was a shambles in the aftermath of the wave. With many roads cut off by the water and resulting slides, many of the people had fled to the city from north and south, and the conference had ended abruptly.

"Get a plane back east, I guess. Why?"

"I'm sending Sue over to her father's place this week. I think it's time. Why not come along?"

"Are you going?"

"Not yet. Soon, though."

"Yeah. I know. And that's why I'm going back east." He tapped the report that he had spent two days writing. "The Foundation wants a copy of this for the President's advisory board. God knows it's time they looked at it as a unity, not just a bunch of isolated facts to be handled separately. I hope that this report will kick them off their cans."

They both stopped and listened for a moment. She was arguing with someone. Mumford excused himself and Loudermilch returned to the bulky report that he had hammered out. He heard Mumford's bass override two female voices angrily, then silence. In a moment Mumford was back in the bedroom-office.

"Keerist!" he said. "Women!" Loudermilch grinned sympathetically. "Dinner's ready," Mumford reported.

Standing on the terrace staring down at the city was the woman Sue had been arguing with. She was tall and strong-looking, possibly thirty, but it was hard to tell. She was deeply sunburned, and had long dark auburn hair that was loosely held back from her face by a

rubber band. Her eyes were brown. Loudermilch suspected Indian or Mexican blood.

"Joan Soren," Sue said. "This is Carl Loudermilch." He held her hand briefly. It was hard and cool and her grip was firm. Looking past her, he could see a VW bus parked in the driveway.

Sue had sandwiches and salad and baked potatoes. There was coffee. Loudermilch knew that he had to get away from them before he depleted their stocked goods further, but Sue's food was the best he'd had in ages and he ate hungrily. Joan hardly touched the food. He felt that she was studying him intently, but not openly enough for him to catch her at it. So far, after her initial "How do you do," she had said nothing.

Sue was eying him too, Loudermilch realized. He put down his coffee cup and leaned back, looking from Sue to her husband to the newcomer. "Well?" he asked finally.

"Carl, can you get clearance for someone else to go back with you?" Sue said finally.

"Joan? Why?"

"No questions. Just can you do it?"

"Hell, I don't know. Have you tried to get a flight without pulling strings?" He addressed this to Joan. Her mouth tightened and she nodded. "Yeah." Slowly he reached into his breast pocket and pulled out a packet of papers and fanned them open slightly. "See what I had to get just to fly out here and back? It took me four days, and the good offices of the paper, and special assignment of the National Science Foundation."

A slightly lopsided grin appeared on Joan's face and she shrugged. "Okay, okay. I get the picture. Forget it. A wild idea, that's all."

Mumford stood up abruptly. "Joan, you can't drive all the way across the country! I won't let you start. You know how far you'd get?"

Again the grin that might have been mockery appeared and vanished. Mumford turned to Loudermilch. "We could try," he said. "She could be listed as your assistant. You'd have to pick up papers in L.A., but I can make some calls. . . ."

"Carl, if it can be arranged, will you do it? Joan is rather special to us. She'll get herself killed. . . ."

There was a touch of hysteria in Sue's voice and Loudermilch understood the reasons. No one could react any longer to death on

a grand scale, but everyone overreacted to smaller tragedies now. He spread his hands in defeat. "I always wanted an assistant," he said mildly. Only Joan didn't act as if it had been settled then and there. He realized that she still didn't believe for a second that she had obtained passage across the country. Her celebration would wait until after it was done.

Mumford didn't finish eating, but went to the phone and began making his calls. An hour later it was fixed. Joan Soren and Loudermilch would drive down the coast to the Los Angeles office, pick up her papers there, and catch a flight to New York, via Chicago.

"Why do we have to go to L.A.?" Joan asked. "Why can't we just cut out from here?"

"The papers, your travel clearance," Mumford answered. "They'll need a picture of you. It's worse than getting a passport, trying to get a flight any longer."

Joan looked tense and angry about it, and Loudermilch heard himself cursing silently. Just what he needed, to chaperone an angry woman across the country. He inspected her car. It was a fully outfitted Volkswagen bus, with sleeping bags, a stove, sink, storage space. And she had a still, and food to last for several months. She really had planned to drive across. "We'd better leave in the morning," he said. "Might take longer than a day to get you fixed up. Do you have extra tires, tools?" He looked at her curiously. "What will you do with the car?"

"If you don't mind a slight detour, I know a kid who'll bring it back up here for Sue and Hal. We can pick him up and let him take us to the airport." Loudermilch nodded and inspected the extra tires. Brand new.

There was more traffic on the roads than there had been in the East. When he commented on it, Joan said, "When they give up their cars out here, they curl up and die. But it's more than that now. They're all hunting for someplace to go, where it's better, where there's water and plenty of food."

"There's no such place," Loudermilch said flatly.

"I know that. But still, we'll all try to find that place."

They talked little until they got to an intersection where Joan said he was to turn west. "The kid I was talking about. He lives up in the canyon area. Save time if we get him first."

Loudermilch wanted to ask who the kid was, but he held his

tongue. If she'd wanted to tell him, she would have. He followed her instructions and made a second turn, this time to a little traveled road that was probably one of the first divided highways in the area, long since superseded by the ten- and twelve-lane roads. He drove steadily for another half hour, now and then glancing at the straight profile of the girl, but stubbornly not asking her any questions. Los Angeles was now forty-five miles or more to the west of them.

The car shimmied suddenly and skidded sideways before righting itself. Before them, they could see the land waver, as if it were a canvas that was being shaken gently, causing ripples to come and go quickly. Again the car shimmied, but less noticeably this time. Loudermilch pulled over and stopped without turning off the motor.

"Earthquake," he said. "God help them."

Joan stared ahead at the land that suddenly had gone crazy. "Damn, damn, damn," she said softly. Loudermilch watched other cars pulling off the highway, but there weren't many of them. They felt a third shock, and this time behind them there was the sound of a great explosion that reverberated through the foothills and canyons, echoing after the initial sound died. Loudermilch pushed the car door open and jumped out to stare in the direction of the city that was invisible from where they were. One of the low hills they had skirted was moving in a slow-motion landslide, and faintly the sound of grinding rocks and the thunderous crash of the shifting earth came to him. What had the first explosion been then? he asked himself. Dust and smoke were rising from the ground, and he could see nothing but the clouds ascending to the sky. He got back in the bus and pulled out, making a turn through the depression of the median, heading back. Beside him Joan moaned softly, but said nothing. He glanced at her and she was staring dully ahead.

"See if there's anything on the radio," he said to her.

She began to turn the dial, still without speaking. The next tremor turned the car around, and before them, fifty yards down the highway there was a fissure that raced south with the thunder of a jet liner. The ground on the other side was three feet lower than their side and at the edges of the road there was a displacement of almost two feet. Loudermilch stared at it in awe. The car was turned sideways on the road, and down the center of the road, following the yellow line there was a crack. The lane in the middle

was raised several inches. The ground beneath them continued to shudder, now and then with a paroxysm that built enough to displace more of the road, but mostly with an almost gentle trembling.

Loudermilch got the car around, and they were tilted with the right side higher than the left. He started to drive again, heading away from the fissure.

"We can't go back, can we?" Joan asked.

"That's right. And it looks to me like we're sitting on a pretty dangerous piece of real estate right now." He drove fast, but watching the road closely for more holes and cracks. Several times he screeched to a stop, then picked his way around such places, and all the while the ground continued to groan and shake. At one place, Joan's fingers dug into his arm suddenly, and he hit the brake hard, but she was paying no attention to him. She was staring off to the left of them, to a road that was crumbled and ruined, and, in the distance, covered with a slide of rocks and earth. Her face was gray, but expressionless. The pressure of her fingers loosened and he drove on. Neither of them spoke. They were paralleling a slowly collapsing hill then, and he was trying to keep an eye on the slopes as well as the road. Boulders crashed down the hillsides, avalanches roared downward. At one point the road was almost blocked entirely by the earth slides, and they had to get out and clear enough of the rubble to get through. Joan was very white and breathing heavily when they finished. Half a mile from the spot, they heard another crash, and this time the road behind them was blanketed completely. Loudermilch drove faster, but he realized that they were out of it then. The ground was quiet here, and all the noise was behind them. They were climbing steadily, and now there were other cars again, going in the opposite direction, toward the city. They were army cars and police cars. Loudermilch knew they should get off the road or risk having their bus taken for rescue work, or simply because a trooper decided he could use it, so he had Joan search the road map for a turnoff where they would be relatively safe for the rest of the afternoon and night.

By midafternoon they had wound their way up a hill to park under scrub pines, out of sight from the highway below them, as well as from the secondary road they had turned onto.

"And now?" Joan asked.

"You should get some rest," Loudermilch said. "It looks like we'll

do some driving, after all. We'll get on the way again before dawn, if possible. Right now I'm going to walk over there to the ridge and see if I can see anything."

Joan shrugged and left the bus also. "I'll come with you."

They picked their way over the rough ground until they came to the top of the ridge and then edged forward to the outer slope where they could see out over the low growth. There was a cloud cover still hanging over the ground; smoke, smog, dust, obscured everything, but the clouds glowed dull red here and there. Both Joan and Loudermilch were winded by the time they seated themselves where they could watch the scene below.

"You've been drinking the polymer?" Loudermilch asked, after a moment.

"Some. I'm okay, though."

He nodded. A few minutes later he pulled a small tape recorder from his pocket and began to speak into it. Joan watched him without expression as he described the earthquake and the scene below them.

When he was finished, she asked, "Are you going to try to get back in?"

"No. I thought I should at first, but we'd be two more to feed and water and bed down. The Army will handle it without me."

"Let it all fall right into the ocean," she said suddenly. He looked at her quickly and there were hard lines about her mouth and her eyes were narrowed as she stared at the dust and smoke in the distance.

"You really hate the place, don't you? What happened to you there?"

"Look, I don't psychoanalyze you, you don't psychoanalyze me. Deal?"

"Sure."

"I'm going to the bus and get us something to eat. You particular?"

"Not a bit."

"It's a damn good thing. If you'd said yes, I was going to resign and let you take over K.P." She grinned and the change was such that she looked like a teen-ager. "I'll whistle when it's ready."

She swung away from him and he watched her out of sight musingly. She was tall and slender, with muscles like a boy's, and a grin of a kid, and the vocabulary of a dock hand, and the experience of

a courtesan. That much showed on the outside. What was inside might stay there. He grinned briefly, then turned his attention again to the glowing cloud that boiled about Los Angeles.

When her whistle sounded, he grinned again, this time wider. She whistled the opening bars of *Grand Canyon Suite* exactly on pitch. They ate tuna fish sandwiches and had coffee, and they listened to the radio all afternoon, again perched where they could watch the scene below. Seattle stations were the only ones they could get that had any details about the earthquakes that had ripped California apart from San Francisco to San Diego. There was no estimate of how many lives had been lost, or of the damage done. Fires were consuming San Francisco, and a series of gas explosions had rent Los Angeles.

Toward dusk they could see some of the fires in Los Angeles; flames towering hundreds of feet in the air dotted the landscape and began spreading out like blazing pseudopods along the ground. There was still an occasional explosion, but the ground continued to remain quiet. Loudermilch knew there would be after shocks and could only hope that they would be mild. He was startled by Joan's voice.

"It's like watching a movie. I don't feel like there's any real person down there. I know they're suffering, burning, scared to death, but I can't feel any of it. Three-D movie. A beautiful Japanese horror movie in brilliant color."

Her voice was too tight, too hard. "Take it easy, kid," Loudermilch said warningly. She understood.

She laughed, again too sharply. "I told you I'll be okay. I don't care, you see. I don't give a goddam what happens down there, or anywhere else. I know you'll get us through. I don't care, and you don't, so we'll make it. The ones who care won't."

"You think I should have gone back, don't you? That's bugging you?"

She shrugged with the gesture that had already become familiar to him.

"Now you listen, Joan. I could get us back, but for what? We could pour our cup of water on the fire, and we could, maybe, drive to within fifteen miles of the city itself. Maybe. I don't think so, but maybe. They would take the bus and our food, and we would be among the refugees from then on. And, Joan, the refugees are going

to die. By the thousands, they are going to die. Would that help anything? Save them from the fires and the ruins only to die of hunger or thirst in some damn crowded refugee camp."

She shuddered and hugged herself. "I know they'll die. I know it." Her voice was duller, as if she had again erected a barrier that she could crawl behind. "Let's leave here now, get over the mountains so that they can't stop us."

Loudermilch stood up and turned away from the fire scene. "Okay. I want to mark a route through the mountains and stay off the damn freeways. It might take some time. We'll take shifts driving. I'll start if you think you can sleep."

She stood up also and nodded, not looking directly at him.

By the time they left the area, darkness had fallen, and through the dark the glowing clouds and the shooting fires looked larger, more ominous, more devastating than they had before.

Loudermilch drove along the winding road, climbing steadily, and from the back of the bus where the girl had rolled up in the sleeping bag, he could hear muffled sobs for a long time before her breathing became deep and regular. Real tough kid, he thought, and wondered why she felt such urgency about getting East again. Was it true what she had said: that he didn't care? He didn't know. He understood what she had meant about not feeling it, any of it. There had been too much, too soon, and there was too much to come for anyone to begin caring now. For a long time the question plagued him: Did he care really? He had attended the symposium, had mailed one copy of his report back to the Foundation, where it would be read, or not read; acted on or not acted on. There was a paragraph from the report that he repeated to himself: "It is no longer sufficient to examine isolated aspects of the disaster that continues to spread. It is time to enact national martial law in order to save what we can. We must undertake a comprehensive study to evaluate all of the effects and their interactions and the far-reaching conclusions that indicate that all of Earth's life will change. Such a change might have been the cause of the extinction of the dinosaur in another era; it might bring about the extinction of human life in this era. . . ."

The report might be filed unopened, unread, and then? Did he care? He personally, Carl Loudermilch. Did he care? He didn't know. He supposed that if life were terribly important to him, he

would have gone back to the islands, joined Hugh and Gail, and sailed the blue waters for the rest of his life. He had that option, he reminded himself. And he had not taken advantage of it. The car hit a soft shoulder and he cut off his wandering thoughts, slowed down, and paid attention to his driving.

He drove until three and then pulled into a small roadside park. There had been some traffic earlier, but none for the past two hours. All the cars had been heading toward the city. Gathering of the ghouls, he had thought. And, of course, relatives and lovers and homeowners, all looking for what probably was lost forever. He got out of the bus and stretched his legs. They ached, as did his back, and now that he had stopped and realized it, as did his head. He walked back and forth by the car for several minutes, then was amazed to smell coffee brewing. He went back inside to find Joan huddled in the blanket making coffee over the tiny sterno stove.

"Smells good," he said and she nodded. She looked very tired. "Time for a strategy meeting," Loudermilch went on, sitting cross legged beside her on the floor. "How long does it take to distill a gallon of water with your equipment?"

"Two to four hours, depending on the fire. Why?"

"I want to drive in shifts all the way through. One driving, one sleeping. And we'll stop every day to distill the water using a fire outside. There's plenty of wood just about all the way through. We won't have fires at night when they can be spotted from all over. Too many people around who'll guess what's going on. So we'll drive by night and purify water by day. Okay?"

"But I have enough sterno to last months. Why outside fires?"

"You'll need the sterno. Some days we might have rain and then we'll need it, but we'll save it as much as possible."

"But that'll take twice as long! Gathering wood, making the fire, waiting for it to get hot enough. . . . That's crazy!" Before he could say anything, she said, "Besides, you can get a flight from almost anyplace where there are planes still landing. Denver, for instance."

"I know I could," he said. "And you can't. New York or L.A. could clear you, but there's no one in between who can. So shut up and listen to me. I'm boss of this expedition. Right? It's going to be a long haul, made longer because I'm routing us on secondary roads for most of the trip. I don't want to be stopped on one of the highways

and have everything confiscated, and that's about what would happen."

"They won't bother you," she said, interrupting him.

"Okay, maybe they won't, but I don't want to give them the chance. And I want to see the country for myself all the way back."

The look she gave him then was hard-eyed, but she nodded finally.

"Another thing. If you see anything at all that looks like trouble, slow down, or stop even, and wake me up."

Very slowly she said, "I have a gun and ammunition."

"I know you do. Can you shoot?"

She nodded. "How did you know?"

"It figured you would. You're too bright to start a trek like this without one."

They drank their coffee and he went over the map with her and then crawled into the sleeping bag and was drifting off before she had the car out on the road. He slept only three hours, and by the time it was fully daylight, he was seated beside her on the front seat. They were on U.S. 91 driving toward Hoover Dam, and they were both tense. The desert was very still and reflected back the gray of the sky with a sullen cheerless light. Signs along the road had announced proudly the presence of Hoover Dam fifty miles ahead, then twenty miles, then two miles and turn right. Joan took her foot from the accelerator and the bus slowed gradually, but they both saw a truck and a huddle of men under a tarp at the same time and before Loudermilch could say, step on it, she hit the accelerator hard and they drove past the turnoff doing seventy-five miles an hour.

"Good girl," Loudermilch said, twisting around to watch behind them. Joan grunted and didn't slow down until they were out of sight of the truck.

"What were they up to?"

"They could have radios posted, telling them of traffic approaching. Maybe they're only guarding the lake. I don't know, but they weren't Army."

"I know they weren't," she said. "That was a 'fifty-nine Dodge truck. Definitely not Army." She grinned at him, and the kid was back for a moment. "This might be more exciting than I had thought. Why do you suppose they aren't blocking the highway?"

"Too risky right now, I guess. There's probably an air patrol still

and an army truck blocking the road would stand out. The paint job has it pretty well camouflaged on the side road, I'd say. We might have to revise our plans though. Stick to U.S. 91 to 89 and we'll see."

They drove through Mesquite and Santa Clara, and they were both ghost towns with no cars, no people, nothing but the gray light from the sky and blowing sand. At Santa Clara Loudermilch and Joan stopped the car and he got out and tried a door or two, but everything was locked up tight. The wind made a faint whistling sound; over the whistle of wind, dry bushes rubbed against houses, and a traffic light swung back and forth with a creaking noise.

"Where did they go?" Joan asked in a whisper.

The town made you feel like you had to whisper, Loudermilch thought. He motioned for her to start the car again and they left the town behind them. "St. George is ahead. It's on the Virgin River. I guess they went there. We'll see."

Joan muttered something beneath her breath and he squinted to see what it was making her go through her repertoire of forbidden words. A road block.

"What now?" she asked, slowing down.

"Keep going unless they flag us down. That's a state cop's car, and a couple of motorcycles by the side. If they want us, they can get us."

They approached warily, and when the car rolled to a stop, Loudermilch found that his hand was on the butt of the .38 in his pocket.

"Identification," the state trooper said. He was thick, and very hot, fat beads of perspiration breaking and rolling down his cheeks and off his forehead continually.

Wordlessly Joan held out her driver's license and he examined it minutely. He turned to Loudermilch. "Yours too."

Loudermilch pulled out his wallet and handed his cards over. There were two more of the troopers keeping a short distance between themselves and the bus. One of them carried a rifle. "What's going on?" he asked.

"Just mind your business, mister," the trooper reading his license said. He thrust it back across Joan. He put both hands on the window and looked at Loudermilch and said, "You listen hard, mister, and you do like I say. You tell the lady to drive straight through without stopping. Hear that? Without stopping at all. We have radios

and we'll be watching you. You just go on through and you'll be all right." He turned to leave.

Loudermilch said, "Hey, wait a minute. We need things. Food, gas. We have ration cards. I have priority orders. . . ."

The trooper looked back at him. "I'm telling you, mister. You stop and you stop for a long time, for all the time in the world." He returned to the car and picked up the radio mike and began speaking into it in a tone too low to hear.

Joan started the car and they drove slowly from the road block, aware of the icy stares of the troopers following them until they were around a curve out of sight. Joan let out a long sigh then. "Will they let us out of here?"

"I don't know. I suppose they will. Play it by ear."

She drove through the small town slowly, not stopping, and there were men on the corners, and at the other side where the highway straightened once more there was another cruiser with another road block. Loudermilch caught a glimpse of the river as they went through. It looked oily and dark. At the intersection of U.S. 91 and 15 there was another road block, and yet a fourth one where they turned onto U.S. 89. Joan picked up speed after making the last turn, and she cursed fluently for a minute.

"I don't blame them," Loudermilch said. "They probably have a small store of food, and some water, and they intend to keep it. At least they understand what's happening. That's more than a lot of them know."

"Rotten, lousy crud," she said vehemently. "They couldn't tell if we had water or gas or not. They didn't care. They probably have lookouts posted to call back in and pass the word if we do run out of gas, and they would come like scavengers and pick the pieces."

"But they'll be here in the spring," Loudermilch said. "They'll survive." He sighed deeply, feeling very tired and depressed. "When conditions change, only those who adapt to the new set will survive. The adaptation might not be pretty to watch. But it's necessary."

Sullenly she said, "I could write a book on our friends the cops."

They stopped an hour after turning on to U.S. 89, and sheltered by an abandoned shack that had turned silver-gray and blended into the background of gray sand and sky, they built a fire and started the still. Loudermilch filled the gas tank of the bus with the reserve they carried, and Joan got out the cans of meat and fruit for dinner, but

neither of them was hungry yet. The skies had lowered as they moved north, and it looked as though it might rain, or even snow, as they continued toward the mountains.

"With both of us driving we'll make five or six hundred miles a day. Won't take long to get to the East Coast. Where are you heading back there?"

Joan stood up and turned her back without answering. She was wearing faded denim pants and a hip length jacket with a hood, and as she stood facing away from him she looked very much like a tall slim boy. Only her hair gave her away. He waited for an answer, but she said, "Too bad I never did get back to my place and pick up a carton of books that I planned to toss in the bus. Do you whittle?"

"Sorry," he murmured.

She turned and grinned briefly at him. "How about chess?"

"You have a set?"

"I have a cloth board, and we could use coins. Didn't you ever do that?" At the shake of his head she squatted beside him and dumped out the contents of a fat change purse. "Pennies for pawns, nickels for knights, dimes for bishops, half dollars for rooks, and silver dollars for the king and queen, one face up the other face down. You mark one side for black, leave the other clean for white and you're all set. Okay?"

She went inside the bus and returned with a pink fingernail polish and proceeded to mark the coins with a cross. They played for the next hour, Loudermilch tending the fire between moves. The game was a draw. Joan cooked on the small fire outside and presently the aroma of coffee in the chilling air was maddeningly tantilizing. After they had eaten, the fire out, and the distilled water put away, they were ready to travel again. It was dark by then.

"I'll stop just this side of Denver," Loudermilch said. "It might be awfully late, so I won't wake you. I'd like to go through the town early in the morning in daylight. We'll have to buy gas, and we have to replenish our water. You might dig out the second sleeping bag and have it in a convenient spot where I can find it easily."

Joan nodded. "I put a thermos of coffee on the front seat," she said. "You'll need it later."

He drove through several more small towns before midnight, and as before either they were deserted, or they were heavily guarded by state troopers who saw to it that the bus continued straight through

without stopping. At about ten Joan crawled into the back and after a few minutes of rustling sounds there was quiet in the bus. The road became more mountainous and more crooked. Once he thought there was a car following them and he watched the rearview mirror almost as much as the road ahead for thirty miles until the headlights behind them turned off and vanished. He let out a sigh when it was gone. It became very cold and he had to stop to find a jacket when the heater proved to be less efficient than the rest of the bus. Joan stirred, and he could tell by the change in her breathing that she was awake and alert very quickly.

"Just getting a jacket," he said softly. She didn't answer as she feigned sleep, but he knew that she was aware of his presence in the back of the bus, and he thought she probably had one hand curled about the gun butt. He returned to the driver's seat and pulled out again and soon he heard the deep breathing that meant she had gone back to sleep. He stopped again a little later and got out to stretch his legs and shake off the fatigue that was settling in on him. He felt jumpy with tiredness. The cold air, and hot black coffee roused him again, and when he got back in, he heard her voice without surprise.

"Would you like for me to drive for a while now?"

"No. Another hour and I'll be stopping for the rest of the night. It's okay."

He was smiling at the road ahead, glad that she was in the back, glad that she could waken like that and be coherent, gladder that she could fall asleep again in a minute. He knew that he wouldn't have to worry about his own deep sleep habits. When he stopped thirty miles from Denver, he felt his way to the back of the bus and collapsed into the sleeping bag. At eight-thirty she woke him up with a gentle shake of his shoulder. She had made a fire and had breakfast almost ready. They ate quickly and then continued into the city.

Denver was more like Los Angeles and New York than like the small towns dotting the highway. Here the Army had taken over the functions of the city, and the people appeared willing to let them. It was very cold that morning, but the lines had formed for water, and for the food rations. Loudermilch drove to the army administration building and, leaving Joan to guard the bus, went inside to talk

briefly to the officer in charge. When he came back out, half an hour later, his face was bleak and set in hard lines.

"What is it?" Joan asked. "Can't we buy gas here?"

"Oh, sure. No problem there. And since we both have water cards that haven't been punched in weeks, we can fill the tank. Read this." He pulled a folded four-sheet newspaper from his pocket and handed it to her.

The headline read: "President Says Water OK By Spring." The story went on to say that boiling the water rendered the POE Jelly harmless, that by shaking boiled water briskly if the jelly did settle in it, it was potable again. Food distribution had been a problem, but the trains and trucks were running again, so it would ease. The people were not to be alarmed. Hoarding would be punished by confiscation and jailing of the guilty persons.

Joan read it through, now and then reading a passage aloud, but mostly keeping it to herself. "Hogwash," she said finally. "Do they believe all this?"

"God knows what they believe. I asked the colonel in charge if the people here had been warned about the meat causing euphoria, and he looked blank. Also, he seems not to have heard of the effects of the wheat crop and its destruction. He warned me not to spread any rumors in this town about a scarcity of food—or else."

They got their gas and water, and then drove to the office of the Denver *News*. The editor, Guy Warren, greeted Loudermilch warmly. He returned to the bus with him and directed them to a private garage where it would be safe to leave the bus, and at Joan's insistence, he posted a man to watch it. Even so Joan was clearly uneasy about leaving it.

"Admired your columns for a good many years," Warren said as he led them past an empty news room to an inner, small office. "Here, miss, this is a good chair." He brushed a pile of newspapers to the floor from a leather cushioned chair for Joan and indicated a second straight chair to Loudermilch. He perched on the corner of his desk, which was piled high with papers and books and odds and ends until there was no wood showing at all on the top side.

When they were all seated he leaned forward and asked pleadingly, "Mr. Loudermilch, what's going on all over the country? You been to the Coast?"

Loudermilch filled him in with details about New York, then

about what he had seen of the earthquake and the small towns they had passed through. He talked steadily for an hour, and Warren's eyes never left his face. The editor hardly breathed as he listened. Finally Loudermilch said, "And that's the whole picture, as I've seen it. How about here?"

Warren took a deep breath then and pushed himself away from the desk. "The bastards," he said. "Oh, those no good, lousy lying bastards. You saw that filthy thing they call a newspaper now? You read it? That's what I've got to print for them. Lies from start to finish. Censorship like Russia or China. You know, I can't help any of that, but, you know, I'd like to do a column of yours, Mr. Loudermilch. Just one paragraph of the truth, slip it out under their noses, let the people know what's going on. I'd like that! By God, I'd like that. . . ."

"Why?" Joan asked brusquely. "You've got a quiet town, no fires, no riots, everything under control. Why start trouble. What good would it do to tell them the world's going to hell right now?"

Warren had no answer, nor did Loudermilch. They talked a while longer and then left, and when they drove from the city, they felt a great relief to get away from it, away from the apathetic people who watched their bus with no interest, who lined up quietly for water and food and waited for the better things in the spring.

Joan drove now and soon they were far out on the plains and the mountains were a dark silhouette against the gray sky. It started to rain and the road became slippery; Joan slowed down. Everything became coated with a layer of POE Jelly, and now the fields and road were as gray as the sky they reflected. Beside her on the front seat Loudermilch fiddled with the radio from time to time, but there was too much static, with sporadic music and more of the pap that was being read every hour or so under the guise of news. He dozed, but came awake abruptly feeling Joan's fingers digging into his arm.

"Cops," she said. "I passed them a while back, going the other way. They turned around and are coming up behind us."

He looked out the rear window and saw the cruiser closing the gap between them fast. "Okay, slow down. If they signal you to stop, do, but don't pull off the road."

The cruiser pulled closer and the red light flashed at them. He could see the driver wave, and he muttered to Joan, "Don't turn off the engine when you stop."

She slowed gradually and touched the brake, bringing them to a

stop, and the trooper pulled around the car and stopped in front of it. There were two of them. Loudermilch's throat tightened when he saw them leave the car and come toward the bus. "Phonies," he said through tight lips. He caught an answering grunt from the girl, and he knew she had noticed too. One of the "troopers" was wearing boots under his uniform, and the other one had trousers that were cotton rather than regulation wool. The one with the boots on was grinning slightly. He went to the window on Joan's side of the bus while the other man came around toward Loudermilch. Loudermilch unlocked the door and released the catch as he rolled down the window, as if in order to talk to the man.

"What is it, Officer?" Joan asked brightly. "I don't think I was speeding, not on that road as slippery as it is."

Loudermilch saw, with satisfaction, that her right hand had gone to her pocket. He turned his attention to the second fake officer, and kept his voice and face as innocent as Joan's when he asked what the trouble was.

"You better get out and let me see your identification," the man said. He sounded less assured than the one on Joan's side.

"Turn off the key, miss."

"Oh, I can't do that. We have a bad battery. It won't start again. Unless you could give us a push. . . ."

"Yeah, we'll do that."

Joan turned it off. She pushed open the door on her side and Loudermilch stepped out on his side of the bus. The trooper had a gun leveled at his stomach. Loudermilch fired through his pocket and the man fell with a moan. Loudermilch whirled to see Joan holding her gun on the second one, who had backed up several steps and stood with his hands high over his head. He had not pulled his gun at all.

Loudermilch went around the car and took the gun from its holster, then waved the man over to the other one on the ground. "Drag him over there in the field," he said. "Then sit down beside him. I'm going to let the air out of the tires of the cruiser. If I see your ugly head before we get out of sight, I'll shoot it off." He searched the police car quickly and collected another gun, a rifle, and four boxes of ammunition. He pulled the radio wires loose and then let the air out of the tires. He got in behind the wheel of the bus and drove away. Joan had said nothing from start to finish.

November 7

He drove fast, not liking the uncertain feel of the road in the rain, but unwilling to stay in the area any longer than he had to. He had been afraid they would take over the police cars sooner or later, and they might be in charge of the towns and cities around here. He asked himself who he meant, and he knew he meant the ones who knew that they couldn't trust the official news any longer, the ones who had no place to turn except inward. He compared them to the citizens of Denver and he couldn't answer the question of which way was best. Denver probably would die, quietly, a few people at a time, and here it would be swift and violent. So in the end it wouldn't matter which way.

"I went to Hollywood to be an actress," Joan said suddenly, puncturing his thoughts. "I'm pretty good, but my first role was that of an Indian girl, and that's all I was able to get afterwards."

Loudermilch waited, and presently she went on, "I made the mistake of falling in love with my agent. A slimy, rotten, two-bit crook. But I loved him. We . . . got in trouble and got sent up. He's still away. I was in a year and got off for good behavior." She said it in a rush and kept her eyes straight ahead.

Loudermilch reached over and patted her arm twice. She pulled away and said angrily, "Don't patronize me! And don't forgive me! I just wanted to tell you. I broke parole to leave Los Angeles, and again, worse, I guess, when I left the state. So you're an accomplice."

He chuckled, then laughed harder, and suddenly she was laughing also. Neither of them mentioned it again. She asked, "Was that man back there hurt bad?"

"No, shoulder wound. But I wanted to kill him."

"Yeah, I know."

They stopped several hours later, long enough to stretch and eat and relax two hours before they switched places. Joan grumbled

about the scenery. "It's the most god-awful country I ever saw," she said. The fields stretched endlessly to the horizon in every direction. The corn had been harvested and destroyed, and there were no animals to be seen. Nothing but the bare fields that looked oily and black under the continuing rain.

The towns didn't change much throughout. Deserted, if they were very small with no water supply of their own; guarded or apathetic if they were larger, depending probably on the intelligence level of the man who had the power to enforce his decisions. The smart ones knew it would be a bad winter and that there was no real hope for the following spring; they were guarding jealously what they had. As they got farther east there were more army vehicles, more troops in evidence.

"They'll gradually spread out and be in charge everywhere," Loudermilch said. At least where the Army was, he could count on being able to stop for gas and water for the reserve tank. Even those infrequent times when the water appeared reasonably fluid, they continued to add it to the reserve and distill what they used. Three days later they were on the western end of the Pennsylvania Turnpike.

"I'll take you to the edge of the city," Joan said, "and drop you there. Can you manage after that?"

"And you? Where are you heading next?"

She shrugged briefly and didn't answer. Loudermilch turned to stare out the window, disappointed. She had been freer since her confession, had not guarded her secrets quite so closely. He felt that she had slammed the door, that she was preparing to take refuge again in the act that she had played to perfection in the first days of the trip. He told himself that he didn't care, but he wondered why he continued to feel hurt and bitter, and, most of all, angry with her. It was her right, he said to himself. He wasn't her keeper. He had gone nosy after all. But still he felt hurt, bitter, and angry.

She touched his arm and he turned to look at her.

She was driving then, and dividing her attention between him and the road as she said slowly, "I don't have any place to go, don't you understand? I can't go to the city openly. They will demand identification for ration cards and such, and they might still have wires open for things like wanted parole breakers. Probably they won't, but I can't take the risk. I'll never go back there. Never."

Loudermilch couldn't hide his relief. She stared at him a moment, then turned her gaze back to the road, but not before he saw a new expression on her face, a smile that could only be described as tender.

They drove quietly, stopped twice for road checks by the Army, and once to refuel and take water. They pulled away from the turnpike late in the afternoon, paying little attention to where they were, looking for a quiet place where they could park and cook their dinner and rest for several hours. They played chess with the coins marked with pink crosses, and when Loudermilch started to drive after dark, Joan sat next to him.

"We'll be there by morning, won't we?" she asked. He nodded. "I'll keep you company until then," she said. Later she said, "I wish we could just keep on like this, driving around, with no place to go, nothing to do."

"We've been lucky," Loudermilch said. "It wouldn't last much longer. Wouldn't have lasted this long without my travel papers and priority cards."

"I know that," she said with a trace of the impatience she showed now and then. "Wishes are cheap enough though."

He had forgotten how endless the turnpike seemed, how endless the black forests that marched across the hills, how few the towns and crossroads in this section of the country. Toward midnight Joan yawned and snuggled closer to him and soon her head dropped to his shoulder and he shifted, helping her get comfortable. He left the turnpike shortly after that and headed north following signs to a state park. Joan roused when he stopped the car.

"Where are we?" she whispered, staring about her.

"I'm not sure," Loudermilch said. "Off the road in a park."

She had pulled away from his arm on awakening, and now sat stiffly upright, not looking at him. It was very black under the trees, and very quiet. After a long silence, she said, "So?"

"Thinking. Sorry." Cold was already seeping into the bus. "It's going to be a bad winter," he said. "Do you have money?"

"Some. Enough. I'll sell the bus."

"Yeah." The silence returned. Neither of them moved until Loudermilch gradually became aware that Joan was shivering. He put his arm about her shoulders and pulled her close against him.

Her voice sounded muffled when she spoke next. "You're not to worry, honey. I'll manage. I always manage."

"I know. Do you have friends in the city?"

"Sure."

She lied. He was certain that it was a lie. Her arm muscle felt hard under his hand. She was a tough girl, he reminded himself. And she would manage. Sudden anger filled him. He said harshly, "I know hundreds of people who need help. Everyone needs help. I did what I said I would do. I got you East. What more do you want?"

What sounded suspiciously like a giggle was the only answer. After a moment he asked, the anger still thick in his voice, "Who was the kid back on the coast who was going to get the car?"

"My brother," she said.

"Oh, my God. Why didn't you say so?"

"For what? I was selling him down the river, sending him to Sue and Hal. They wouldn't have let him go again, and I knew that. I wanted to protect him, but he's a free agent. He knew their help was available and he already had said no to it. He wanted to ride it out alone. He'll manage."

"You Sorens are great little managers, aren't you?"

"You bet we are, buster."

Why was she laughing at him? He wished it weren't so dark in the bus, wished that he could see her face. Her shivering had stopped, but the cold was getting worse. They would have to turn on the motor, get moving again. "Damn it, I can't just drop you," he said, frustrated suddenly by all the alternatives he could see. If he told her that he wanted to take her home, her mocking laugh would deride him for being a lecherous old man, or she would stiffen and pull away, refusing to accept charity. She wouldn't believe him if he tried to tell her that he simply wanted her near him, that the attraction wasn't sexual—well, not entirely sexual anyway.

"Carl, baby, why don't you say some of those things that you're mulling over so we can mull together?"

"It's getting cold in here."

"It sure is." She didn't move however, didn't offer to free his arm so he could start the car.

"Joan, will you promise not to laugh at me? And not get angry with me?"

"But what if you say a funny? Or make me mad?"

"Damn it, Joan, I'm keeping you with me, and don't argue about it, and don't pull a goddamn Puritan act on me!"

"Why, Mr. Loudermilch, I do declare! You mean you want lil ole me. . . ." She broke it off and threw her arms about his neck. "You ape. You baboon. You blind idiot. I thought you weren't going to say anything at all. A firm handshake and a hearty good-by. I thought that was going to be it. Carl, didn't you realize that I told you I loved you days ago? Back on that wet Nebraska highway? Didn't you even see it?"

She nuzzled his neck and her nose was icy. "God," he said, "you're freezing." He reached forward to turn on the ignition, but she stopped his hand.

"Let's talk it over," she said. There was a lilt in her voice. "I'm afraid you'll find, Carl Loudermilch, that the Puritans never made much of a dent in my tribe."

They talked, in the cold and in the dark, and he told her of his first wife, and how they had struggled, and how he had thought he could never find someone else to tell his fears to. She listened and kissed him now and then as he talked, until finally it grew very late, and they crawled into the back of the bus and made love on top of the sleeping bags.

When he woke up at daylight, she was lying quietly in the crook of his arm, staring at the roof of the bus with a faint smile on her face. She turned to look at him, and her face was softer than he had seen it before.

"You look like a teen-ager," he said. She nodded. He touched her cheek and she caught his hand and held it against her face for a moment.

"Funny," she said. "The world's coming to an end, and we'll all die, and I'm happier than I've been since I was a kid with dreams that could still come true. You know, before you learn that they're only dreams?"

"I know." He freed his hand and ran his finger along the ridge of her cheek.

"You should ask why I feel so happy now," she said, looking at him directly.

"Why do you feel so happy now?" he asked obediently.

"Because you don't want anything from me, and that lets me try to give you everything I can. That's nice. I never knew before that it could be nice." He smiled and started to speak, but she placed her long fingers over his lips. "Wait a minute. I was thinking, and I've

got to say all of it before we get on to something else and I forget. The other half of that feeling is that I've got to have something to give in return, and all I've got is myself. So okay. That's cool. But, I stay with you only as long as that is enough for what I get. See? If I get to be a problem for you, or when things start getting rougher than they are now, or if you have to start sharing not enough water with me, then I pull out. No questions, no apologies, no explanations. I just melt back into the scenery."

His hand tightened on her shoulder and he said, "Don't even think of that. You can't do that, not now. You know what you've given me? I was thinking too. You've given me back a future. We aren't going to die. Not you, not me."

She smiled at him and said nothing.

"I'm taking you to the Bahamas, honey. Land of sunshine, blue waters, gentle breezes. . . ." She laughed and he settled back down. Sometime during her little speech he had sat upright without even realizing that he had moved. Now stretched out again next to her, he waited until she stopped laughing. "But it's true." He told her about the *Donado*. "It's a matter of transportation from the city to the islands, and after that, we're home free."

"Yeah. Why aren't you there now?"

"I'm not really sure. I kept telling myself I had a job to do, but I don't know if I believe it now. Maybe I didn't care enough."

"Now you care." She seemed to grow tighter. He remembered her almost superstitious belief that only those who didn't give a damn would get through, and he knew that she was thinking of that too.

"Okay," she said after a long pause. "So there is a safe spot after all. And glass mountains, and magic forests, and knights on chargers, and feathers that make you invisible. . . ."

"Joan, stop it! Why didn't you go with Sue Mumford to her father's place?"

She shrugged. "I didn't want to. Another kind of prison. I didn't believe it would be any different from everywhere else in a few months. I didn't care enough."

"If I can find a way to take you to the *Donado*, will you go with me? Even if I have to smuggle you aboard a plane in a gunny sack disguised as photographic equipment or something?"

"Yeah," she said softly. "I'll go with you, Carl, baby. But God help us both."

He knew that she believed that her acceptance of a certain death within the next months had shielded her from hurt, had brought her a certain invulnerability that she was deliberately shedding now. One day, he thought, not yet, but one day, he would ask her why. For now it was enough that she was accepting his terms, his plans, his future.

"Okay," he said, his voice jubilant as if everything had been settled. "Now, we'll get back to the city, to my apartment, and raise the *Donado* and see how they're making out. It's going to take some doing to get from here to there, but we'll do it, honey."

"Right now?" she asked in a meek small voice.

He turned to her laughing, and saw the smile that she was trying to keep submerged. "Well, not right now," he said.

November 14

The *Donado* rode easily at anchor, hardly moving under the calm sky. The sea was still and under the glare of the sun, a hard white light at midday, the water looked like glass. Sam Brooks hauled in a mixed catch, hand over hand very slowly, but even so when he leaned over the gunwale to draw up the trap after it cleared the water, he felt dizziness sweep over him, and he closed his eyes, clinging to the rail with one hand, to the trap with the other. He had worked only one hour, and already he was feeling it. He finished bringing the trap aboard with his eyes closed, and it felt as though the boat were pitching violently beneath his feet. A tub of water was at his side ready for the new catch. He let the trap slide into it and sat down waiting for the vertigo to pass. When his head had cleared, he scooped several of the small fish into a plastic box and took them below to the galley where he proceeded to kill them and dissect them. He had a sergeant major and two butterfly fish, all under six inches. The butterfly fish continued to purse their prissy mouths after he had killed them, and he closed his eyes again until that movement also stopped. It was getting worse every day; the dizzy spells came quicker and lasted longer and while his notebook swelled with data, there were no conclusions in it yet. He opened his eyes cautiously, then continued with his work.

In the cabin Gail heard his movements and felt herself stiffen. She relaxed again and glanced at Hugh, but he was still sleeping peacefully. She studied him and could find no trace of the fatigue that had lined Sam's face and was making her want to snap at every irritation. She wished that Sam would go back to bed and nap, as he was supposed to do, and she knew that he wouldn't. He was driven too furiously to take time out for sleeping. Again she looked at Hugh, and she hoped that he wouldn't wake up and have another fight with Sam when he learned that the scientist had again disobeyed orders.

Hugh shouldn't have ordered Sam to rest, she thought. That had been a tactical error, one which Sam could not forgive.

Hugh treated Sam like a child, she thought, staring at the ceiling, and that was a mistake, too. The ceiling of rubbed and gleaming mahogany was suddenly too close to her face; she felt stifled by it, by the smallness of the cabin she shared with Hugh. Everything was too close; she could reach out and touch the walls, the ceiling, the port. . . . She felt that she had to have more room, had to be able to stretch without touching anything. She lay without moving and fought off the sense of claustrophobia that came over her; she closed her eyes, but with them closed a new feeling was there, that of motion, and she knew the motion was in her imagination only, that the boat was unmoving on the calm ocean.

She looked again at Hugh, wishing desperately then that he would wake up and take her in his arms. Just that, take her in his arms and hold her close until the panicky feeling left. He didn't stir. She bit her lip and heard again the sounds Sam was making in the galley. They were soft sounds, not at all obtrusive, the sound of his microscope sliding across the counter top, a click of a slide against the stainless steel sink, the muffled sound of a stool being dragged across the floor. *Why don't you go back to bed?* She closed her eyes and, wishing she could sink again into the dreamless sleep from which she had roused, she found herself making excuses for Hugh. He knew it was pointless to drive oneself like that, that in the end more could be accomplished by those who rested methodically and regularly, but how could he simply sleep when there was so much to do? How could he shrug off everything and drift off like that? Why didn't he care more?

She realized that she had grown tense again, and reluctantly she started to ease herself from the bed. She would be certain to wake Hugh if she stayed there, and she knew that she was in no mood to face him at that moment. She could tell herself that logically he was right; reason was on his side. Emotionally she knew she couldn't accept it. Sam was working himself to death and Hugh was taking life easy, and she couldn't stand being in the middle.

It wasn't fair that she should feel guilty about Hugh, any more than she should feel apologetic about Sam. Ruefully she thought that if only they could start over at the beginning and divide the energy between them equally, then everything would be all right. Sam was

being stupid and he was wrong and in the end he would be sorry, but he couldn't stop. He cared too much. He might come up with something that would make it worthwhile. The image of his haggard face plagued her and she felt guilty about Hugh's laziness, and her own indecision and weakness that let her be swayed by Hugh whenever the subject of work came out in the open. At those times she could only agree with him, but now, alone, knowing that Sam was at work, that Hugh was sleeping, she lost the resolve that he instilled in her, and the reason and logic that he used seemed merely excuses to condone his own lack of concern.

She dressed very quietly, carrying her sandals to be put on after she had left the cabin. At the door she turned one more time, and this time her eyes fastened on the blown-up picture that was Hugh's favorite of all he had taken. It was a swarm of flying fish, lovely ten- to twelve-inch creatures caught after they had left the water, with droplets still shining on their diaphanous wings and slender bodies. They were silhouetted against a full moon, snapped from below, and the camera had caught moon bows by the hundreds where the light came through the rigid transparencies of their wings. A one in a million shot, probably never to be repeated, perhaps never even to be seen again by any man. She felt a catch in her throat then, and she knew that he was doing something that was also important, knew that he wasn't merely the playboy that the world thought him to be, knew he was making a graphic record of the sea and its creatures. He worked hard at it, and if his work was also his play, that couldn't be so wrong. He was fortunate in that he loved it so. It was important. She heard a slide drop and break, and she stumbled from the cabin. Once it had been important, not now. Maybe never again.

Sam was leaning over the sink and she thought at first that he was sick, but he turned to look at her, and there was a crooked smile on his face. It was a bitter smile that held no mirth.

"Phase three, or is it thirteen? Or even more? The fish are dying again now. Not just the little ones, but the four-inch ones, and bigger. They are stiffening and dying. Lack of oxygen in the water, I think. I'm not sure."

She moved to his side to look into the sink. A nine-inch pork fish swam sluggishly in a small plastic bowl there. She looked from it to Sam.

"In my catch this morning I got seven live ones, as alive as this fellow is, and nine that were dead either when caught, or shortly afterward. No signs of anything on them, just dead."

"What are you going to do? Can you run tests to find out what is killing them?"

He shrugged. "I don't know. I have dissected three so far, and haven't learned a thing. I suspect a lack of oxygen, but nothing definitive to prove it yet."

"Can I do something?"

He looked at her quickly, then involuntarily his gaze swung to the door of the cabin. "You'd better rest," he said, not looking at her again.

"I've had enough rest. I have to be doing something. Surely you can understand that, even if—" She stopped, hearing the strident note that had come into her voice. Very quietly she said, "I want to help you, Sam. Tell me what I can do."

Sam felt a lurch in his heartbeat and he turned to her, but she was staring at the unnatural movements of the pork fish. He didn't dare release his hold on the edge of the sink; he knew his hands might be trembling. He had to say something to her, he knew, but he could only think how lovely she looked frowning at the fish, unaware of herself at the moment. Finally he said, "I am going down to bring up some water from below forty feet. I want to see if the fish revive at all, how fast, how much, if there is a change in their blood if they are returned to normal water. . . . There's so much we don't know."

She hesitated only a moment, then said, "All right. I'll get ready." She turned to leave, but he caught her arm.

"You can't go down with me. I'll just go straight down and come back up as soon as I have the bags filled. I'll want you to pull them to the surface. Don't try to take them aboard, just pull them up. Okay?"

"You can't go down alone. You know the rule. . . ."

"Gail, forget the rules he's made for a while, will you? Don't you see that the time has come to start breaking some of the rules! Damn it, the world is dying, and you and Hugh think about rules." His anger flared hotter faster than he could control, and he was breathing fast and hard suddenly. Gail pulled her arm loose and took a step backward. Sam caught his breath in a deep gulping inhalation.

"I'm sorry," he said. He turned and headed toward the deck and slowly she followed.

He had prepared a line with deflated five-gallon bags on the end of it, along with a weight. "I'll fill them down there," he said, "and attach them to separate lines. When I give it a tug, just haul it up, slow and easy. I don't think you'll have any trouble pulling it to the surface, but if you do feel tired, just quit, secure the line where it is and stop. Understand?"

She nodded and watched as he strapped on the tank and adjusted the air nozzle. They both knew that it was almost impossible to swim through the heavy water at the surface with any bulky object. He went over the side and hit the water with a phlopp sound rather than a splash. When the sea was as calm as it now was the water was worse; it would be thinner when the wind started again and waves churned the surface. She could see him going downward, and she wished that he could learn to relax in the water. He always looked so awkward. She was standing in the sun, and while she was glad to have sunlight after a wet and cloudy fall, the sun at midday was too fierce. She shaded her face with her hand, and kept her gaze on the water below her, not wanting to see the oiled ocean that surrounded them. She could no longer see Sam. Presently she felt the tug on the first line and she started to draw it in. Within seconds she was breathing hard and a wave of faintness passed over her. She stopped to rest and bowed her head under the hot sun. When she raised it and scanned the ocean, it had come to life, undulating in a back and forth motion that made her clutch the rail for support. She shut her eyes quickly and the motion ceased. She began to pull on the line again, keeping her eyes closed.

"God damn it! What the hell are you doing?" Hugh caught her roughly and pulled her back from the rail, and she let the line slip through her fingers. She had no strength in her fingers suddenly; they felt numb and tingly. She sagged against Hugh and almost fell before she found strength in her legs again. The giddiness left almost as quickly as it had struck and she straightened and supported herself.

"Are you all right now?" Hugh asked, his voice rough with worry and anger.

"Of course. You nearly scared me right over the side, though."

"That's not what's wrong with you. You let that bastard talk you

into this? Are you going as crazy as he is? Just what do you two think you're doing?"

"At least we're trying to do something! We're not willing to sleep our lives away and hope things are better tomorrow. I had to help him, Hugh. I had to try. I was all right until you grabbed me and frightened me like that."

Hugh turned from her angrily and went to the side to look down. Sam was surfacing then and Hugh reached out and helped him back aboard. As soon as Sam had his mask off, before he could catch his breath, Hugh said, "If you involve her again, I'll put you ashore at the first island we reach. Do you understand that? I don't care if you kill yourself, but leave her out of it!" Gail ran to him and yanked on his arm.

"Hugh, stop that! He didn't involve me. I wanted to help. I asked him if I could help."

Sam stood helplessly leaning against the bulwark, sucking in agonizing breaths of air. His lips were blue and his face very pale and waxy-looking. Gail looked from him to Hugh and cried, "He's going to pass out. Do something, Hugh!"

With another muttered curse, Hugh half dragged, half carried Sam inside and down the stairs to the galley and through it to Sam's bunk. He got the diving gear off him and rubbed him down with a towel, then covered him and returned to Gail in the galley.

"He'll be okay. He has to rest an hour so so." Gail's gaze left him to fix on the door to Sam's room. Hugh turned to see him swaying in the doorway.

"What happened?" Sam asked in a croaking voice. "The line dropped. . . . I thought something happened to you. . . . Come up too fast. . . ."

"For God's sake!" Hugh yelled, "get back to bed and stay there, or I'll tie you there!"

Instead, Sam came into the galley unsteadily and sat on a stool. "It's passing now," he said, and his voice was firmer. "I'll lie down in a minute. What's eating you?"

"You God damned would-be martyr! Look at the three of us. Gail left in the hot sun to pull a weight through that heavy water. She nearly went over the side. You nearly collapsed just now with cyanosis." He drew a deep breath, and was aware that he was exerting himself more in anger than he had done for weeks in work. His

fury mounted. "I don't want to have to haul either of you around again. I don't want the three of us to fall into a heap from exhaustion and be too weak to get up again. I won't have you countermanding my orders aboard my boat. Do you understand what I'm saying?"

Sam was staring at Gail with an agonized expression. "I didn't realize . . ." he started to say, then stopped in the middle of it and looked down. "I didn't think about . . . I forgot how hard it would be. . . . Are you all right, Gail?"

She nodded, feeling sick with disgust for him, for Hugh, for herself. Fighting like savages, screaming at each other, anger flaring out of control over trivia. . . . "It was the hot sun," she said faintly. "I . . . I'm fine."

She couldn't look at either of them. Aimlessly she started to make coffee and there was Sam's pork fish, dead now, floating in the dish. With a cry she turned and fled back to the cabin to throw herself down on the bed. When Hugh came in a few minutes later, she pretended to be asleep, and he left quietly. She heard their voices raised in argument later, and then silence, and finally the sound of the motors and the feel of motion told her that they were heading back to Coral Harbor. Wearily she pushed herself from the bed and straightened her clothes. She went to the deck and asked Hugh if he needed help. He stared ahead and said, "No," curtly. She turned back toward the galley.

"Is Sam all right? Did he get his water up?"

"I got his damn water aboard. And yes, the brave little scientist is fine. Fine and dandy."

"Why are we going now? I thought we were staying out here until the end of the week."

"Ask Sam Brooks." He cursed suddenly and turned the wheel hard. The thickened water was carving new channels, making navigation difficult. She knew she shouldn't distract him then, so she returned to the galley and found Sam gathering his equipment.

"What happened with you and Hugh?" she asked.

"Nothing. I'm quitting this phase. We've collected enough specimens."

"That's not true. Sam, look at me! Why are you leaving now?"

His face was off color, his lips tinged with blue still, his cheeks a gray-tan that was like bad technicolor. He turned from her and

snatched a box of test tubes from the counter and put them inside a kit.

Gail knew that he couldn't tell her, or let himself even think the words, and she started to pass him on her way to the tiny cabin that she shared with Hugh.

"I love you," Sam said suddenly, the words all at once, more like a single word than like a statement.

She stopped, not looking at him, wishing he had said nothing, wishing him gone for good from her life.

"You and Hugh can come back out to sea after you drop me," he said to her back. "Loudermilch will join you eventually and the three of you will be fine until all this is over one way or another. I'll do my work back on the islands. It'll be better all around. . . ."

"You know the real work is out here. You've said so a thousand times."

"All right! But this John-loves-Mary-loves-George situation isn't working out. That's all." She started to move again and he said pleadingly, "Gail, at least try to understand me now, will you? I had to tell you before I left. I won't see you again. We both know that, but I couldn't just leave and say nothing to you."

She didn't know if he was finished or not, she had to leave, not hear any more. She went inside the cabin and leaned against the door with her eyes closed for a long time. What would happen to the work? Was anyone else doing anything so important as Hugh and Sam? From Loudermilch's reports they got the impression that the answer was no.

If she left, pleading with both of them to continue, promising to come back in a few months. . . . They did make a great team, each supplying what the other lacked. Neither of them working alone could hope to accomplish anything, and no one else was doing anything of comparable worth. She found small comfort in the thought, and touched her cheeks when tears wet them. She detested crying now. Even the tears were a reminder that the world was coming to an end. She wiped her fingers viciously, and then rubbed her eyes and cheeks dry. She couldn't write the note yet. Maybe later. She moved about the cabin, touching things lightly: his file of photographs, his books, the burnished metal of the porthole, the satiny door pulls on the lockers.

She tried again to write the note, and this time succeeded, but

only in saying that she couldn't stand being at sea any longer, that she had to have land under her feet. "For my sake, and the others who are depending on people like the two of you, please try to find the answers. Please. . . ." She put her head down on her arm and wept again, this time in frustration and anger at Sam Brooks for forcing this decision. If only he had kept his mouth closed, she thought wearily, had not said what she had already known, had not been the fool who needed her understanding when he already had it. She did understand the reasoning behind his declaration. He had been afraid that he might change his mind again, remain and continue the relationship that was torment to him. With the words out, he had sighed his decision, had made it irrevocable. She read the note again and then put it under Hugh's pillow.

She looked inside her purse and counted the money there, and found to her surprise that she had five hundred seventeen dollars. She didn't know when or where she had got it, but it was unimportant. Thank God, she found herself thinking with vehemence, neither of them really cared about money. Hugh was wealthy, she knew, but it never had been important. And her husband had left money in her bank account when they had called it quits. She thought about her husband and was relieved that she couldn't call up his face even. A name, that was all he was to her. At one time she had thought he was the reason Hugh never proposed marriage. She had obtained a divorce only after going with Hugh, but even after it was final, this relationship hadn't changed. It hadn't mattered then, and now she was glad it was as it was.

What would she tell her parents? Only when she phrased that question did she understand that she was planning to go home. They needed her now, and it felt good to be needed, and to know there was something she could do about the need. She could protect them. She understood what was happening and how to cope with the strange water and food; she would take care of them now, and there would be peace again. She yearned for peace with an ache that was all pervasive.

When they neared Coral Harbor, she returned to deck and helped bring in the *Donado,* and everything she saw, she examined with new eyes. Seeing things for the last time was almost the same as it had been seeing them for the first time. But the differences were stark. The gaiety of the Bahamians was gone, the flashing smiles of

spontaneous warmth and good humor, the nimble gracefulness of their movements, the poorly concealed mirth at their own and others' antics. Now there were only heavy-footed motions on the docks, and fatigue sagged the shoulders of the men who continued to work there.

Gail stood on deck and watched Sam and a dock hand unload his gear and take it to the waiting car. When it was done, Sam turned to come back, saw Gail standing watching, and instead of re-turning, he merely waved good-by. Hugh asked her if she wanted to go into town with him, and that was strange. Always before he had assumed that she wanted to go with him, and always before she had. She shook her head and he was relieved.

"It's just as well," he said. "I don't know how things are in town, but I suspect that they're not good. I'll get what I can now and be back in time for dinner. Don't cook anything. If there's any place to go, we'll have dinner out. Otherwise, I'll cook tonight. Okay?"

She smiled slightly at him and said, "Okay." He continued to look at her for another minute, and there was a puzzled look in his eyes. He brushed her lips lightly with a kiss and was gone.

Gail waited until he was out of sight, then picked up her bag and she, also, left the *Donado*. She went to the clubhouse, asked about a boat to the mainland, and was told that the *Oslander* was at dock and would leave that evening, docking at Miami. She had to wait an hour for a cab, and she spent the time staring out the window at the boats at dock and the intensely blue water beyond them.

When she boarded the *Oslander*, she went immediately to her cabin, which she had to share with another woman who had not yet put in her appearance, and she remained there until they were coming into Miami.

It was midnight when they docked, but the streets were thronging with people. She had forgotten such crowds existed almost. No one moved fast, but they were a solid mass, and it was impossible to get through them; she could only move with the people-wave. There were few cars on the streets. Where was everyone going? What were they doing here at the docks? The docks themselves had a temporary look, and she realized that they had all been hastily rebuilt after the numerous storms that had swept the coast. The air smelled bad, of rot and decay and filth, and a warehouse smoldered from a recent fire. She was pushed along, fighting to get to the edge of the crowd,

and only very slowly making her way through. Someone grabbed her suitcase and tugged, but reflex tightened her grip and she yanked it away. It was a small boy, no more than ten. He looked at her with very large dark eyes, and she shuddered under his stare. He reminded her of pictures she had seen of children from concentration camps, or refugees from one or another of the wars that had raged all her life. The hopeless eyes of a child who knows he won't grow into manhood. Then she saw the destination: an aircraft carrier. There were lines that were almost formless straggling up a metal walk onto the carrier, through a food or water line, and back out on a second walk. She shivered again, and tried harder to get free of the crowds. She understood the masses then, and the reasons for the carrier being the supply depot. In other places when the food or water was exhausted, the people stormed the armories, or the schools, or whatever the source had been, unbelieving and angry, only to find that there actually was no more. Here the carrier would put to sea when the supplies were gone. She looked at the people then and saw repeated countless times the hopelessness of the boy; they were dirty and noisome and hungry, and they were without hope.

She struggled harder, suddenly very afraid, feeling hysteria rising in her throat, and she knew that she was using too much energy but she couldn't stop. She had to get out of the jam, had to get away from the people surging toward the carrier. She was pushing blindly now, and someone stumbled near her. She didn't turn to see if she had knocked the woman down or not. She was running then, free of the crowd, and she reeled and collided with a building. She was knocked to her knees and she knelt there weeping violently.

"You have any dough, sister?" A rough hand hauled her backward and she was staring into the face of a dark-skinned man in his fifties probably. He looked her over carefully and nodded. "I been watching you. You got dough, right?" He spoke with an accent, one of the refugees from Cuba perhaps.

"Not in the suitcase," she said after a moment. If he had wanted to rob her, he could have done that already. She had been completely helpless for several minutes. He could have had her purse and the suitcase by now.

"Yeah, that's what I mean. Dough, in the bank. I take care of you. Okay?"

She nodded mutely. "Can you get me to a hotel?"

"And you pay, much. Okay?"

Again she nodded. "How much?"

He shrugged. "How much your life worth to you? You can't get a block from here alone. No cabs. They wait in the side streets, take water, food, everything."

The next hour was a nightmare. The man had propelled her through the crowds with a firm hand digging into her arm, brutally shoving aside those who moved too slowly. There was a small car that had three other people inside it already, and they had to wait for him to make one more foray into the masses of people before they could get started. He left a boy in charge while he was gone, and the boy, possibly sixteen, had hard eyes. He never took his narrowed gaze from the people beyond the alleyway where the car was parked. One hand remained in his jacket throughout. Finally two more people were herded into the car, and they were sitting on each other by then. The older man got in; the boy clung to the open window frame, swinging on the outside, and they maneuvered their way through the masses and turned away from the docks finally.

The small car made two stops before they got to a hotel where the driver took Gail. He waited until she had a room secured and paid for one week, then collected his hundred dollars.

"I come again, tomorrow, next day. You need water, food. Okay?"

She shrugged tiredly, and he left her. The hotel was dark except for candles on the registration desk. A clerk was on duty, an old man of seventy who looked at her vacantly after handing her the key to her room. It was 716.

"Where are the elevators?" she asked. She felt that she might fall over if she didn't get to bed soon and stay there for a long time. She was filthy and smelled of the dock and smoke and the grime of dirty people pressing against her.

"No elevators, miss. No electricity. Steps through there." The clerk motioned with his thumb.

She stared at him. There had been lights on the dock; although the city had been dark, she had assumed it was because of the hour. It was almost four then. "I can't climb seven flights," she said finally when the old man continued to stare at her. "Do you have anything on the first, or second floor?"

"Couple of vacancies, miss, but it'll cost you more."

"How much more?"

"Seventh floor, twenty-five per day. Fifth floor, fifty per day. Third floor, seventy-five per day. Second floor, a hundred per day. First floor, a hundred and fifty per day." He recited it in a sing song rhythm, as if he had been through it many times.

Gail swayed and let the high desk support her until the moment passed. "I paid you a hundred and seventy-five dollars for a week. Give me a second-floor room. Tomorrow I'll decide what I'll do."

He took back the key and handed her a different one. Two-eleven. "Check-out time, eleven A.M.," he said.

Gail found the room with the help of a flashlight that was two dollars extra. It was a child's toy flashlight, worth a quarter at the most. She felt like sobbing again when she opened her door and saw the room. The bathroom door was padlocked. No water in the hotel. She locked the door, and without undressing fell across the bed; then she wept, and fell asleep finally when the sky was lightening.

It was afternoon before she went outside again. She was faint with hunger, and felt that she was feverish with thirst. She went into the first restaurant she saw, and was blocked by a cashier who demanded to see her ration cards first before she could be seated.

"Another one," the fat blonde said in disgust. "Out, lady. Bring your cards back with you."

"I don't have any. What cards?"

"You kidding?" The fat cashier looked her up and down, then bellowed, "Milt! Come 'ere!"

Milt was in shirt sleeves rolled up to his biceps. His arms were hairy and thick. Gail didn't even notice his face. She felt curiously lightheaded and almost uncaring. She stared at his arms and listened to their conversation disinterestedly.

"She ain't got no cards, Milt. Look at her. Ready to pass out."

"You want I should doctor her, or something?"

"I want you should give her some coffee and a piece of toast, and I guess a drink of water."

"If you will tell me what kind of cards I need and where I can get them, I'll leave you and do it. I really did not know. . . ." She could hear herself speaking very carefully, and she was reminded of speech class when she had been five, when she had been required to pronounce each syllable clearly, as if alone. She felt herself being

caught before she knew she was swaying, and then she was seated and someone was holding water to her lips. She drank it thirstily. It was thick and tasted vile, but it revived her. Milt brought not only coffee then, but toast and jelly and an orange. They had taken her to the office of the restaurant. She finished eating and looked at Milt and the blonde who had been in and out of the office several times since helping get her there.

"Why did you help me? You must have other people collapse on your doorstep now."

"Lady," Milt said, "you got a hell of a day before you. I couldn't send you to the ration board looking the way you looked and if you don't get them cards, you'll be worse tomorrow." He shrugged, then said angrily, "And besides that, Doll here won't live with me if I don't give three-four meals out a day."

Gail smiled at Doll. "Thank you," she said. "It's not money. I can pay for it. . . ."

Doll nodded. "I know that. But without the ration cards, the money is so much paper unless you got connections. Maybe you got connections?" Her face brightened momentarily until Gail shook her head. "Oh, well. Now where you go is the City Hall Building, see. And you'll have a long line to wait in. They're open until dark, about eight now, I guess. Maybe a little sooner than that they leave."

They directed her to the street where there would be a bus, sooner or later, and gave her directions for finding the City Hall Building. She left them and walked down the street very slowly. She was in line for five hours, and at the end of it she was given her cards, but only after a long, bitter harangue about not having entry papers properly made out. She could find no open restaurant then, and she returned to her room very hungry and thirsty. There had been water available in the hotel dining room, but again it had been thick and evil-tasting, and she had swallowed only a mouthful or two. Very carefully she had carried the rest to her room with her, knowing that the time would come when even it would look inviting. The electricity was on until ten that night, and she sat at her window listening to the radio and staring at the city, wondering what she was going to do. She realized that she would not be able to leave Miami. There was transportation, of a sort, but the lines were such that it would be months before she could get a reservation on anything, and within weeks what little transportation there was would

have broken down. So she, and thousands of others in transit to somewhere else, would remain in Miami, and do what? Starve?

Then over the radio she listened to the latest report on the Dancers:

In front of the White House a group of about two hundred people, all with long hair curled at the ends, weaved in an elongated circle on the sidewalk. They hopped from one foot to the other as they went down the sidewalk and then back again. They had been at it for twenty minutes, and some of them were beginning to wobble on their feet. At the center of the circle stood a sign with large block letters, "LESS TALK MORE WATER."

A group of onlookers gathered and the catcalls started, "C'mon, fall over." "Go home, kooks." "Haven't you anything better to do?" "Filthy Commies."

An ambulance pulled up to the sidewalk, and then another, and the onlookers jeered and yelled at the driver to take it away. Another ambulance arrived, and another. Then the first Dancer fell unconscious, and the onlookers cheered.

An attendant went to her. It was a middle-aged woman. He felt her pulse and waved for a stretcher. They put her in an ambulance and waited. Soon the Dancers began to fall rapidly. One after another the attendants checked them and put them in ambulances until they were full, then they used army trucks.

An attendant bent over a young man, one of the last to fall; then he straightened and called to a driver, "Hey, Frank. Leave this one for a while. He's dead." And a cheer went up from the onlookers, followed by handclapping. There was always at least one among the Dancers who miscalculated the extent of his anoxia at one of their Dances, and he died instead of merely lapsing into unconsciousness. Yet the frequent deaths made the ritual seem more glamorous, and some of the Dancers found it a convenient way to commit suicide. The last person on his feet was an eight-year-old boy. He stood panting, looking down at the unconscious body of his mother, and then he began to cry. Two army men put him in a truck with his mother, along with an attendant who had also passed out. Gail turned the radio off.

The next day she would have to go to the bank and withdraw money. No one would take a check. The hotel manager had refused coldly, and had reminded her that rent was due in advance. So she

would go to the bank and withdraw money and decide then what to do. She went to bed when the lights went out, but sleep was a long time coming. She was too hungry to fall asleep. When she did doze, she dreamed vividly, of Hugh and the *Donado* and the lovely sparkling water they had swum through in and around the reefs. She dreamed of succulent lobsters sizzling with butter, and bubbling wines, and most of all, clear, fresh water.

She was weaker when she woke up. It was with great effort that she dressed and returned to the street to search for a restaurant that was open. Not many people were in the restaurants, and when she saw the prices, she understood. Breakfast cost her $12.95. She had one egg, coffee, toast, and water. She went from there to the bank, and learned that there was a government freeze on assets, and that she could withdraw only five hundred dollars a month, unless she was running a business. . . . The manager talked on at some lengths, but she didn't hear him. The little man who had saved her at the dock. He would be back. He would be able to find a cheaper place for her to live, a place with a stove so that she could cook her meals. Maybe a job. . . . She heard the manager of the bank bidding her good-by, and her own voice agreeing to return the following day to collect the five hundred dollars. The little man would want it all, she thought. It would cost her that much just to get a room located and get to it. She knew that she had less than fifty dollars in her purse then.

Later she stood in the food line and the water line, and she returned to her room carrying her dinner with her: a slice of hard bread, a piece of meat that she couldn't identify, and a small spoonful of cooked, dried beans. The next morning the weather had turned cooler, and the sun was again behind the familiar clouds. She shivered as she checked out of her room and turned in the key. She would have to buy a coat, or a sweater, at least, and she couldn't afford it until after she had found a room. She waited, shivering, in the food line. She was very hungry, and she wondered if her face had already acquired the look of hopelessness that was on the other faces all about her. No one talked much in the lines; they were all too tired all the time for talk. There was a rare scuffle when someone tried to break into the line, but even the brawls were halfhearted. She ate her ration, as did most of the other people, before getting out

of the building. They had received only bread and coffee that morning. There was an announcement posted: certain stores that were listed would be open that afternoon from two until six. It detailed what kind of ration cards would be needed in order to buy goods. Gail looked at the sign blankly. She would have to return to the line at City Hall for the proper ration cards. She had none of them. Why hadn't the stupid woman given her all she would need the first time through? She could have cried over it, but instead she started to walk toward the bank.

She was very cold, and her suitcase with her meager wardrobe became a weight that pulled and pulled on her shoulder. Her back ached with fatigue and there was a steady throbbing in her head that increased then receded regularly.

She heard a car horn and turned to see the man from the docks. He was grinning at her. "Want a ride, lady?"

She went to the car. "Can you get me a room with a stove in it? Cheap?"

"Lady, what's cheap? I can find such a room, maybe. Cheap?" He shrugged.

"How much?"

"Couple hundred, maybe. Room? Eighty a week, maybe?"

She bit her lip hard, and finally nodded. "First I have to go to the bank. Will you give me a ride there?"

"Give, lady?" He grinned wider. "Which bank?"

She told him and he said that since he was going in that direction he would take her. Ten bucks. She got in after handing the money to him.

At the bank she was counting the bills when she heard her name called and whirled about to see Hugh. She dropped the money and the man from the dock scrambled to pick it up for her. She clung to Hugh for a moment, then pushed herself back to stare at him.

"How did you get here? How did you find me? Where is the *Donado*?"

"Later, honey. Later. Let's get out of here." He reached for the man with her money. The man handed it back to Gail along with a grimy card. Hugh took the bills and started to count them, but Gail put her hand over his.

"He's honest," she said, smiling slightly. "Expensive, but honest."

The man said, "When the boy friend blows, you look me up, lady. Okay?" Then he turned and left.

Gail and Hugh left together. In the street Hugh said, "I have the *Donado* tied up down the coast. Brooks is guarding it. We'd better get started back."

He also had a car that he had hired. Gail didn't even want to think about the cost. He drove fast heading down the coast, and he said, "I covered the banks until I found the one that you had been to. The manager gave me your address, unwillingly, but for a price. I knew you would have to draw out money, and that was all I knew. You had already checked out when I got to the hotel. If I had missed you at the bank today . . ." He didn't finish it, but there was a hard line along his jaw, and he looked pale.

"Hugh, I'm sorry. I was so stupid. . . ."

"Don't be sorry. I'm almost glad you did this. I only thought I knew how I felt about you. But when I thought I might have lost you. . . . One hour later and I never would have found you again." He stopped the car and turned to study her. "It's going to be all right, honey. Sam and I had a long talk, and it's going to be all right." With a trace of his former biting humor he added, "Brooks is much better at romantic love than with concrete love anyway. So let him adore you from a safe distance. Okay?" He ran one finger lightly over her forehead, down her cheek, traced her mouth with it. Then he pulled her to him and held her very hard and tight for several minutes without speaking. She was weeping quietly when he released her again and said, "I love you quite a lot, Gail. Now, let's go home."

December 20

Loudermilch walked slowly through snow. He was on his way home, hoping to get there before dark. The snow drifted at the curbs, and was piled before the buildings, but it was not cleared from any of the streets, although it had fallen the day before. More was expected during the night, or early morning. It was a heavy mass that defied shoveling. It had the consistency of taffy almost; it would flow sluggishly, but wouldn't cake. A shovel full of it would trail streamers of the stuff instead of breaking clean. So it accumulated. Only the two arteries into the city were being kept open by the Army: West Side Drive and the Henry Hudson Parkway above it, and East Side Drive across the island. The streets were very quiet, and very clean. He never had seen the city so clean before. The towers and spires of the buildings and churches were clean outlines against the gray sky; there were no fumes in the air, only the bite of fresh, cold winds blowing in from the northeast. When the wind died, the city would smell again. In some places the stench was sickening, but now there was only the clean smelling cold air. He wished he were in his apartment; his legs were starting to ache from the exertion of trudging through the snow.

He passed the water depot in his neighborhood and nodded to some of the people standing there. The Debois woman, Stan Franklin, Svorsky, Fein. . . . All in the same fix now, all hungry most of the time, thirsty, cold. . . . He had seen too many lines to pause in thought over it. Some of the lines were of people huddling in blankets, in papers, in fur coats, in imported wools. . . . But they all stood in line now. And prayed the supply of water would not run out before each of them got to the front. Sometimes it did run out, and then the soldiers were there with guns and bayonets, backed up by more soldiers with tear gas bombs.

No one knew how many people had died in the city in the past

six months. Who counted any longer? No one knew how many more would die in the next six months. The number would be larger; they were weakening very fast now, from the effects of the thick water, and probably even more from too little food, from drinking polluted river water, from illness unrelated to the POE Jelly, but untreatable now.

Balance of nature, he had written some weeks before. In the past it was plagues and wars and crop failures that kept man's number under control, and once more it was a plague and crop failure that was weeding out, culling the weakest. The first sweep of flu across the country had taken millions of victims, would take more before it was done.

He had reached his building. He turned off his thoughts and started to climb to his floor, pausing to rest on each landing, breathing very hard by the time he got to his door. He stopped then and stared at it. Voices in argument? Someone bothering Joan?

He leaned against the door jamb searching for his key, listening to the voices. He could make out none of the words, only the inflections, and they were angry, derisive, mocking.

The door swung open, and Joan kissed him soundly as he entered. She had a glass in her hand. "You have the damnedest friends," she said, grinning.

Loudermilch pushed the door closed and locked it automatically. "Gerald Travis!"

Travis had come to his side and was pumping his hand, grinning broadly also. "It's good to see you, Carl. You look like hell."

"You too, you son of a bitch. What are you doing here? Why aren't you in London?"

"At the moment," Travis said with a look at Joan, "I'm trying to show enough restraint not to kill this wild woman."

Joan laughed. "It's not self-restraint that's keeping him at bay. It's the size of my muscles." She went to the table where a chafing dish was being heated by a candle. When she raised the lid, the aroma made Loudermilch feel faint. "You know what my mother always said? Eat first, then talk. Nothing looks so bad on a full stomach."

Travis pulled Loudermilch's arm toward the table where plates for three were waiting. "That's why I wanted to kill her," he said agreeably. "It's *my* food! I didn't see why I had to wait for you. I

asked the bitch what we would do if you didn't turn up at all tonight, and she said, wait. That's all, wait."

Joan served them an unnamed dish that was, she said, Gourmet Soup. No one argued. Besides the tins of meat that made up the body of the soup, Travis had brought wine into the country with him, and they had a party. Sipping the amber wine, Travis talked openly.

"There is something going on that has our boys in England looking alive for the first time in the past five months or more. They're onto something. I got the feeling that the same thing is known here. Just came from Wood's Hole, and they show the same sort of excitement. You know anything?"

Loudermilch shook his head. "I've been tied too close to the U.N. these past weeks, trying to get them to open up and give out with what they know. If there is something, that could all change fast." He frowned in thought and said, "Manny Friedman might know, but by God, the thought of trying to get to Washington is chilling." He didn't add that for a month he had been trying to find a way for two to get to the Bahamas, with no luck.

"My thought was that one of the agency chiefs at the U.N. should be in on it, if it's actually big enough to get excited about. Nothing there today?"

"I don't know. I was with Boronow's group today. They're still trying to find something they can put in the jelly to make it precipitate out. Without any luck, so far," he added. He tried to replay the day spent in the U.N. Building, and finally he nodded. "You may be right, though. There were newcomers there. More activity than usual on the staircases. And lanterns were being brought up when I left. They switch them from floor to floor depending on where the action is, you know."

"You're in no shape to walk back to the U.N. tonight," Joan said suddenly. At the look on Loudermilch's face, she said quickly, "I want to go too. I'll carry a camera and be your assistant."

After a brief argument the three started back toward the U.N. Building.

At Loudermilch's insistence, they were walking on the West Side Highway, in the cleared traffic lane used by the water convoys. Within half an hour they were picked up by a national guard car, and were given a ride most of the way. He admitted that although

he often got a ride on his way to the East end of the city, he never had been able to get one back.

The private generators were working that night, and there were lights on here and there all over the U.N. Building. Loudermilch led Travis and Joan to the seventh floor, taking the stairs easy, stopping often. Not enough electricity was available for the elevators. A meeting was then taking place in room 7002, he had learned, but no more than that. When he saw the names posted of the people at the meeting, he scowled.

"Vernon, Krasney, Ko— They're the ones who came up with the orders to scrap the wheat crop," he said. "If this is another discovery like that one was, heaven help us all."

They were seated in an outer room and they waited. A little later another man went into the conference room. He was Ciardin, the French geneticist. Loudermilch nodded to him. Ciardin hesitated, then shrugged, and went inside without speaking.

"He'll pass the word if no one else will," Loudermilch said after the door was closed again. "I've known him for thirty years." He caught Joan's eye and he smiled gently. "Thirty years," he repeated. She merely grinned.

Two hours later they were invited to talk with Krasney and Ciardin. It was the Frenchman who told them the news. "This isn't for release yet, of course. Not until we verify it, and that won't be for another week or two. But it appears that we have found the new food source that we have been searching for so desperately. It is an algae that has been found in South America, and presumably in your own Florida swamps, although this is less certain."

Joan stared at him with narrowed eyes, and suddenly she asked, "You say this isn't for release, then why tell us anything? You want it hinted at, don't you?"

Ciardin looked at Loudermilch in surprise. "She's my new assistant," Loudermilch said. "I'll explain to her later." Ciardin nodded, but still looked doubtful.

"We are equipping a vessel, a navy cruiser in fact, to make the trip to South America with a team of scientists who will investigate the algae and its habitat. Another expedition will start a search of other swampy, tropical areas. If these reports prove true, then the immediate problem of what to feed the world until we find a means of destroying the polymer. . . ."

"Take us with your trip to South America," Joan said suddenly. "Let Carl report it at the scene."

Ciardin looked murderously at her for a moment. He turned to Loudermilch, prepared to ignore her completely. Joan said, more fiercely, "If you don't, I'm going to blab it all over the city, that you've found a perfect food, and that you and the others at the U.N. are keeping fat on it, and keeping the armies going on it, but that you won't release it to the rest of the people until the population has been reduced by another third, at least."

Ciardin clenched his hands into very hard, white fists. Travis said softly, "Joan, stop. You'd set off a panic. . . ."

"You bet I would," she said. She wasn't taking her gaze from Ciardin's very pale angry face. "He knows what they'd do if they heard that. They'd believe it, wouldn't they, buster?"

"We had planned to take civilian observers along," Ciardin said slowly. "A renowned science writer like yourself, Loudermilch, would be welcome. But no photographers," he added, looking pointedly at Joan.

Joan laughed outright. "When do we start?" she asked.

A light snow had started to fall by the time they left the building. The three walked arm in arm, and suddenly Loudermilch started to chuckle. Travis joined him after a moment, and they laughed happily most of the way home.

On Friday they boarded the cruiser and were shown to quarters. Joan had a tiny cabin to which she immediately invited Loudermilch. He left his bag there along with hers. The food was good on the cruiser, and there was a large still turning out enough water for showers even. Joan washed her hair the first afternoon out and almost wept over the silky texture that returned with the shampoo. She had forgotten how nice hair could feel.

"How did you do this?" Travis asked when they met in the dining room later. He was looking about in disbelief. "Good water, coffee that is straight out of heaven, meat. . . . Joan, are you a witch?"

She laughed darkly. "That bastard wanted a prissy little leak here, and another prissy little leak there, just enough to keep up the hopes of all those poor people without really telling them anything. God, how I hate men like that! I knew he'd fall for it. He's scared to death they'll wake up and skin him and the others like him." She

sipped water daintily, as if it were champagne. "I slipped him the old shiv right in the guts, didn't I, fellows?"

After dinner Loudermilch began circulating among the scientists there, talking to them as one of them, and Joan was left behind. Still later, Loudermilch heard her singing, and when he looked, he saw that she had found a guitar somewhere and had a group of men clustered around her. She sang folk songs for the next hour and a half, and it appeared that whatever song was mentioned, she just happened to know it. She had a nice slightly husky voice that could reach for and hit the right high notes at the right time. It was very pleasant.

They passed within hailing distance of Bimini two days later, and by that night they had cleared the tip of the Florida keys. Joan had discarded the wool slacks and was wearing Bermuda shorts now, and her dark skin had picked up the suntan that she had had when Loudermilch first met her. By the time they had reached the coast of British Honduras, where the algae had been reported, she was very dark again.

"Look." Ciardin was standing at the rail with Loudermilch as the coast appeared on the horizon. He wasn't pointing to the coast line, however, but to a mass of what looked like dark sponges floating on the surface of the water. "Pete, you spot that?" he called. A voice answered in the affirmative, and presently hooks were bringing the stuff aboard. "Blue-green algae," Ciardin muttered, studying it. "Completely wild. Look at the size of it."

Joan was busily taking pictures of the stuff from different angles. When a voice called out that there was more of it, she turned to the sea and took pictures of it in the water. It surprised Loudermilch to learn that she was very good with a camera, and she grinned and said, "That's what got me in trouble before, honey chile."

"A camera?" he said. "How?"

"Would you believe dirty pictures?" He nodded that he would, and she laughed delightedly. "I think that's why I love you, you innocent," she said. He watched her work then, a serious, concentrative look on her face. When he turned again to the group studying the mass of algae, there was a slight smile on his face. Ciardin looked up just then and grinned.

"I think this is it, friend," he said. "Taste it."

Loudermilch took the pinch of algae from his fingers and put it

in his mouth cautiously. It had the same tangy crisp taste that fresh cabbage had, and the liquid that formed in his mouth from it was not thick, not almost chewy. He reached down and broke off another small bit; it broke clean, and in the broken edges drops of water glistened. He touched one of the water drops and it was thin the way water should be.

They gathered more of the algae until they had several bushels of it to work with, and throughout the night they tested its properties. It was edible and nutritious, loaded with vitamins and minerals. Although low in protein, along with fish meal, it would provide a completely adequate diet. It could be used fresh and uncooked, or cooked as a fresh vegetable, or dried and powdered. The cruiser had a celebration that night. The dinner consisted of sea bass taken from very deep water, and the algae prepared in several different ways. Afterward everyone aboard felt a gentle lassitude steal over him, and another property was added to those already discovered. It was a natural mild soporific.

"Just what the world needs most," Loudermilch said lazily to Joan, who was nodding at his side. They slept for two hours and woke to feel better than they had in months.

For two weeks they stayed in the warm waters off the coast of South America investigating the algae. It grew in sea water, and in the brackish tidal waters along the coast. It grew in the swamps that merged with the tidal waters and in the estuaries and spread inland up the rivers. In the fresher water the algae was smaller, but still had tissues that were eight inches long. Clumps of it grew together to form the large masses that had first been spotted. They learned that those masses were actually smaller than those to be found out farther, away from the forces of the breaking waves and coastal turbulence.

Then they turned and started back northward, and Loudermilch wrote the complete story of the discovery, building it around a dozen of Joan's photographs. Joan became more silent as they approached the keys again, and her face was wistful.

"What is it?" Loudermilch asked.

"I was just thinking," she said. "I was thinking, a miracle has come to pass. Just after all travel broke down and we were trapped in the city, we hitched a ride here to the Caribbean, where we wanted to be in the first place."

Loudermilch took her shoulders and swung her around. "You are a witch," he said hoarsely. "You had this in mind from the start, didn't you?"

She nodded mutely. She didn't flinch from his gaze. "That's practically treason," he said finally. "I'd be blacklisted for the rest of my life."

"Not with me," she said quietly without a trace of a smile.

He released her then and stared again at the strange ocean. "We would have to swim a hell of a long way," he said finally.

"Don't be a goddamn idiot! We'd swipe a lifeboat. Off Bimini. I'll sing and keep them amused and you lower the boat and have it ready to cut loose."

He started to laugh then and he had to hold the rail for balance when he became weak with his laughter. Two nights later they jumped ship and rowed quietly for an hour before starting the engine. They traveled all night and passed Gun Cay light at dawn, heading due east. They headed southeast at the North West Shoal light, with New Providence Island dead ahead. Late in the afternoon they spotted the *Donado* far in the distance, and as they got nearer, Loudermilch was not surprised to see nets of the algae hanging from the rail drying in the sun.

"Phase eleventy-seven starting as of now," he said happily to Joan.

January 10

The sky brightened and Hugh Winthrop rolled out of his bunk. He went down the main cabin and slapped a hand against the door of the forward cabin to wake up Joan and Carl Loudermilch, then he went up on deck and looked at the sky. The sun was not yet visible, but fluffy clouds hung motionless in the still morning air, lying against the sky like swans on still water. Winthrop studied the sky and smelled the air and thought about the day's work. In another few moments Loudermilch joined him. Loudermilch did not speak. He breathed in the clean air and looked across the land to the east and watched the gradually brightening sky. The two men did not talk. They watched the sun come up.

Without looking at Winthrop, Loudermilch said, "What are we going to do about Sam?"

Answering immediately, for he had been thinking of the same thing, Winthrop said, "The only thing I can think to do for him is to channel his measurements into some useful direction. I don't think we can possibly talk him out of this frenzied activity. I think we have to face it, Carl. Sam Brooks is no longer a stable man."

"You put it very gently, Hugh. I think in normal times Sam would be at least under medication, but I don't know how we can get him to a doctor. He thinks he's perfectly normal. Can we slip him tranquilizers in his food, or something like that?"

"Maybe. But I still think we'd do better to try and control his energy. He's bright, and he might come up with something yet. Why don't we . . . ?"

"What are we waiting for? Let's get going. The sun's up." It was Sam Brooks. Brooks had been sleeping on the foredeck in a sleeping bag, and he called back to them even before he was out of the sack. Brooks stood up and threw the sleeping bag over his shoulder and

walked down the wet deck toward them, saying, "The wind isn't bad. We ought to have a good day out on the reef. Ready to go?"

Winthrop said mildly, "Right. As soon as we get some breakfast. Would you make the coffee, Sam?"

"Okay, but let's get going." Brooks went down the companionway, and they heard him bustling around in the galley. They heard Gail's voice telling Brooks that she would get the coffee. Winthrop looked at Loudermilch and shrugged his shoulders. Then they heard Joan's voice shooing Brooks out of the galley so she could help with breakfast. Brooks came back up to the cockpit, and said, "Why don't we pull out while the girls get breakfast? We can eat on the way."

Winthrop sighed and said, "Okay, Sam. Pull the shore power connection and take care of the dock lines, will you? Carl, stand by the tiller. I'll start the engine."

In ten minutes they were out of the harbor and on their way out to Southwest Reef. In another fifteen minutes the girls brought up scrambled eggs and bacon and steaming coffee, and they ate while they sat around the cockpit. Winthrop steered the *Donado* with one leg draped over the tiller while he ate. In an hour they arrived at the reef, and Winthrop stood up to watch the color of the water to guide him to his anchorage. As soon as they arrived, Brooks dropped into the water, and Gail put on mask, fins, snorkle, and shorty suit to float above him and keep an eye on him as he measured temperature, viscosity, salinity, and conductivity. Brooks had a theory that there was a relationship between the conductivity of water and its viscosity as controlled by the POE. Without the slightest bit of evidence to back him up, he felt that if he took enough data he would eventually be able to establish a correlation. It might then be possible to eliminate the POE and produce normal water. So he went down with strings of equipment hanging all over him and took his measurements hour after hour until he exhausted himself. Then he spent the rest of the day making tables and charts, seeking his elusive correlation.

Winthrop made certain that Carl, Gail, and Joan would take turns keeping an eye on Sam, and then he put on his own scuba gear and dropped over the side with his camera. He kicked to the bottom and worked his way a hundred yards from the place where Brooks worked. Winthrop wanted to be certain that the marine life

he watched were not responding in any way to human activity. He came to a great stand of staghorn coral growing from brain coral debris, an unusual formation in waters as rough as those on Southwest Reef. Winthrop settled down at the edge of the growth, working his way a bit under the outer stand. And there he lay.

By this time he was aware of the normal behavior of all the creatures that swarmed on the reef. This normal behavior was the new normal behavior, the behavior into which the organisms had settled in response to the viscous water. Many of the creatures had been born into the viscous water; they had known nothing else. But many of them had lived several years before the water thickened, and these had changed their way of life. It had taken Winthrop many, many weeks of lying on the bottom watching the creatures to acquire the feel of normal behavior that he once had had. Now he watched again.

The day before, Winthrop had been puzzled by a slight departure from the customary movements of some of the larger fish. The parrot fish in particular would patrol the water in their stately and slow manner. But once in a while, rarely, one would suddenly dart ahead. The lunge would only be for a foot or so, and it would not be directed at any object that Winthrop could see. It was the unaccustomed suddenness that caught Winthrop's eye. Nothing moved suddenly on the reef any more, but here were the parrot fish making an occasional lunge. Nor were any fish dying the way they had when the water first became viscous.

Winthrop watched. A blue-headed wrasse lunged forward, a distance of its own body length, all two inches of it. A yellowtail snapper quickly turned end for end. A pair of little butterfly fish twittered near a jewel fish, and then settled down to their usual slow motion. In an hour and a half on his first tank Winthrop counted five separate instances of sudden movements on the parts of several different kinds of fish on the reef. It was different, it was unusual, and there were no deaths.

Finally his tank pulled hard and he knew he was running out of air. Gently he crawled out from under the staghorn coral and swam to the surface and snorkled back to the *Donado*. He climbed aboard without comment. He dropped his mask and pulled off his fins and did not respond when Gail said, "How was it?" He stared out over the water, forgetting to take off his tank. Gail looked at him, and

did not repeat her questions. Carl came out on deck, saw Winthrop and started to say something, but Gail waved him quiet. Gail and Carl stood, swaying slightly as the boat rocked in the waves, looking quietly at Winthrop as he stared out over the water. Absently he ran a thumb around the band of his trunks, brushing away some sand that had lodged there, and then he rubbed the sand between his thumb and forefinger and looked down at it. He became aware that Gail and Carl were watching him, and he nodded and smiled and slipped out of his scuba gear. He turned off the tank valve and laid the gear in a scupper. He straightened and looked out over the water again.

Winthrop said softly, "Something is happening, but I don't know yet what it is. I have the feeling that the effects of the thick water are lifting, but I don't really know. It still looks the same out there." He waved out over the rolling ocean. "But down on the reef the animals seem to be trying to get back to normal, the old normal. Nothing is dying down there the way it was at first. The fish move in spurts now and then, at least I think so. They seem to move fast and get away with it. I don't know. As far as I can tell some of them seem to leap forward just to see if they can do it. I want to try and get some pictures to make sure there's nothing there for them to leap at. Also, where's Sam?" He looked around. "I want to know if the water viscosity has changed any. If it has, that might explain the conduct of the fish."

Loudermilch said, "He went down again. Joan's watching him, there." He pointed fifty yards away to the other side of the *Donado*. Winthrop could see Joan lying on the surface of the gently rolling water, her feet moving slightly to keep her body flat on the water surface. She was staring toward the bottom, and Brooks' bubbles broke the water ten yards away from her.

"When'll he be up?" Winthrop asked.

"Anytime now," said Gail. "He's been down almost thirty minutes on the second tank."

"Good. I'll have a Heinekin while I wait for him." Gail was nearest the icebox so she handed him one. He took a long pull and then stripped off the rest of his scuba gear and sat down on a cockpit seat.

Loudermilch said, "You tell Sam that you think the effects are lifting, he's going to ask you what evidence you have. If you don't have anything he thinks is evidence, he's going to blow his stack."

Gail nodded and said, "He blows up easier and easier. If you upset him, things will be strained aboard all day. Is it worth it?"

Winthrop was staring out over the water, and he did not hear her. He had not heard Loudermilch, either. He said, "I don't know the source of it. I can't think of what it might be. Maybe Sam will know, but I doubt it. He doesn't want answers any more. He just wants to collect information. Funny, now that I think of it. I've known people like that and never really realized it—people who are so busy checking everything, gathering everything, discussing it, tabulating it, and just losing themselves in it so much they never face the real problem."

Loudermilch looked at him, nodding quietly. He, too, knew many people were like that, not as bad as Brooks had become, but basically the same. He started to mention it to Winthrop, but Joan's mask came sailing aboard over the gunwale and her dripping head appeared over the coaming; then she climbed aboard, saying, "He's on his way up. How about a beer?"

Loudermilch handed her one without comment. As Joan sat down she felt the quiet intensity in the cockpit. But she looked at Loudermilch and then poured and drank her beer without saying anything.

Brooks came to the side of the boat and called up. "Can someone take my gear?"

Gail took it from him and then reached down and pulled on his tank valve to help him up the boarding ladder. Winthrop watched him while he took off his gear. When Brooks sank exhausted to the seat to remove his fins, Winthrop said to him, "Any change in the water viscosity, Sam?"

Brooks nodded. "Yes." He had difficulty speaking he was so out of wind. "I've detected a slight increase. It amounts—"

"An *increase*? Are you certain? Are your readings accurate?"

Brooks looked up at Winthrop, insulted. "Of course they're accurate. I make it an average of one one-hundredth of a unit higher. I'll show you my graph of the trend as soon as I prepare it."

Winthrop left it there and turned to stare out over the water again. Brooks got up, still grumpy about being challenged, and went below to get out of the breeze and get a bite to eat. Loudermilch said softly so Brooks could not hear, "Does that shoot you down, Hugh? The viscosity is going the wrong way."

Winthrop heard him and shook his head. "Just the opposite. The

viscosity is increasing, if Sam's figures are right, yet the fish are behaving as if the viscosity is decreasing. More than ever that means something is happening to the marine life out here. They are coping with it. Carl, the answer is here, somewhere. All we've got to do is find it."

The others looked at him and at each other, and none of them doubted he was right. Gail said, "You know, I'm not doubting Sam's viscosity measurements, but I don't think this new increase means very much. The rate of increase is falling off anyway, I think, and he might be in the middle of a swirl down there, or at the wrong level, or something like that."

Joan laughed out loud, startling them. She said to Gail, "You are sounding just like one of these brain types. No, no, I'm all for it." Gail had started to speak. "Women behave like their men, just like you do. Pretty soon I'll start writing and speaking like him." She ran her hand fondly through Loudermilch's thinning hair.

Loudermilch straightened his hair and said to Winthrop, "You know what I'm tempted to do? I'm tempted to get half a dozen strategically placed people on the radiophone and assure them that an answer to the stiff water will be along any day now. You've got an enormous residue of good will built up, and I think they'll be inclined to believe us. They will quietly spread the word, and I think it'll do a lot of people a lot of good—give them hope which the official government position doesn't do. See anything wrong with that?"

Winthrop said, "Well, even I think it's a little soon for that. Let's wait a few days. Can't do any harm in waiting."

Loudermilch shook his head. "Hugh, you've been working too hard the last few months—spending just about all your time under water—out of touch with the world. You don't really know the state we're in. Let me tell you." Loudermilch sat down and stared out over the water. "About fifty percent of the world population has died. Do you realize that? One out of every two people, on the average. But the deaths have hit the poorest countries hardest. These are the people who have to work hard physically to stay alive normally. The death rate in many of these countries is eighty percent; nations have been effectively wiped out. Civilized countries where agriculture is largely mechanized have come through much better—death rate of maybe twenty percent. In the United States it runs about

fifteen. But even in the United States the death rate is growing, particularly among babies. Nursing mothers can't nurse—milk is too thick, so we're confronted with increasing death rate, again primarily among our poor."

Joan was staring at him. "Carl, why haven't you told us?"

"No reason to, and listen. Animal species are becoming extinct; the young of several species of mammals simply can't survive. We can see evolution at work already. Some Holsteins with enlarged udder openings are able to nurse their young, so we may have some changed species of cattle. But it's the changes in the lives of the remaining people that we have to think about. Many more are going to die even if we find an answer to the thick water right this minute. I personally think our governmental processes are beginning to break down. The government may be making a lot of mistakes, but these are preferable to anarchy—god knows what'll come out of that."

Winthrop said slowly, "You know what that means? Evolution will be at work among humans. In the future only some of those left alive will have children—the ones that don't have to work physically. What will that do to the human race? Make it weaker? Brainier? It's going to change it. Three hundred years from now the race will be much different from what it would have been without the Cloud." He shook his head.

After a moment Loudermilch said, "All right. If we can hold out some hope to enough people right now, we might help stabilize things until we find an answer. And I think you'll find it, Hugh. I think you will. Let me tell them that." He looked at Winthrop.

The two women waited for Winthrop to speak. He said, "I guess it may do some good at that. Go ahead." He did not even raise the question of their position if he should turn out to be wrong. In fact, not one of them there even thought of it. Loudermilch went below to warm up the radio, and then he began to place his calls.

First he called Spelmann at M.I.T., and he told him it was the opinion of the Nassau group that the end was in sight for overcoming the thick water. No, he could not at this time give him anything concrete, but the marine organisms here, where it hit first, were stable and overcoming the effects of the water. Spelmann understood the tentative nature of their opinion, but he would pass it around nevertheless.

Loudermilch rang off from that call and began to make another

one when Brooks yanked the microphone from his hand. "What are you doing?" Brooks was almost screaming. "Have you lost your mind? What are you telling people that for?"

Winthrop dropped down into the cabin quickly, landing next to Loudermilch like a cat, and he reached out and took the microphone from Brooks' hand. Brooks turned on him and shouted, "Are you responsible for this?"

"Easy, Sam. Yes, I'm responsible. That's the way I feel, that's all. Any harm in telling a few people how I feel?" Winthrop spoke surprisingly patiently and softly to Brooks.

"Where's your evidence? Where's your—"

Winthrop held up his hand. "Nowhere. None. It's just a thing I feel, and we're telling people we have no evidence, yet. That's all we're doing."

"But I'm in this. People will think I concur when I don't. How—"

"We'll tell them you disagree. Okay? Carl, why don't you place the rest of your calls? If anybody you talk to knows Sam is with us, tell them he disagrees." He handed the microphone to Loudermilch, who promptly placed another call to Whitman at Miami.

Brooks was wild-eyed and frantic, not at all resigned to what Loudermilch was doing. He was gasping for breath as Winthrop led him out to the cockpit and sat him down and talked to him while Loudermilch called. Winthrop told Brooks the many little things he had seen down on the reef that made him think the animals were pulling out of it. But nothing he said made any impression on Brooks. Brooks did not really hear what he said. Finally Brooks' shortness of breath became sufficiently acute that it became his major concern merely to get enough air to breathe. He lay and gasped. Winthrop placed a blanket over him, and since there was nothing more to be done, he sat back and sipped another Heinekin. And he stared out over the water and listened to Loudermilch talk to one person after another.

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The porpoise came in slowly, and behind it the rest of the school frolicked and rolled in the water. They must have fed recently for they ignored a school of amberjack that crossed in front of them. The lead porpoise effortlessly swam over to the stream of Winthrop's bubbles and playfully struck at them with his nose. Winthrop saw it then, and he rolled over on his side to see the animal better. The porpoise followed the larger bubbles right up to the surface, shattering them into small clouds of fine bubbles. Winthrop deliberately exhaled sooner than usual, and the porpoise took a breath at the surface and then somersaulted and headed down to where Winthrop lay at forty feet. He watched it come, and he caught the glimpse of the sun reflected from its flanks. He stared, puzzled. He saw, not merely a blaze of light on the side of the animal, but an actual image of the sun. As the porpoise spiraled down to him and turned away Winthrop saw that its sides were like a mirror, silvery, shiny, reflective. A reflective jelly seemed to coat the porpoise. He watched it roll in his bubbles right above his head, a seven-foot animal behaving like a young puppy, glad to be alive.

Moving slowly, Winthrop drew out the knife from its calf sheath and held it near the guard by his finger tips. He was careful not to hold it in the usual manner for holding a knife; the porpoise was an extremely intelligent animal and might recognize a hostile position. Then Winthrop took a deep breath and removed the mouthpiece from his mouth and stretched it out in front of him as far as it would go. He raised it slowly until the stream of bubbles just began to pour from it, and then he moved it up and down a trifle. The porpoise saw it and came close, looked at it, circled, and came back. Then it nudged it, and as it turned away momentarily Winthrop scraped the back of the knife blade along its flanks. The porpoise came back to nose the mouthpiece, and Winthrop scraped it again. Several more

times it happened before the porpoise tired of the game and sped off to join the rest of the school. Almost fainting from lack of air, Winthrop jammed the mouthpiece back into his mouth and took a series of deep breaths. When his vision cleared he looked at his knife. There was about twenty grams of gray jelly piled up on it. He touched the jelly carefully with his forefinger. It was firm, and it did not smear readily. He backed away from his position, carefully holding the knife in front of him as he crawled backward on the sand. Squinting past the jelly-coated knife up toward the sun, he thought he could see reflective differences in the water surrounding the knife. A pocket, two feet in diameter, seemed to form around the knife as he backed into water where the porpoise had not been. By catching the light just right he thought he could see the pocket forming. To himself he muttered, "Like heat waves in the air." He passed a hand through the pocket, but he could not feel any difference.

He breathed deeply to help himself float off the bottom, and he turned and swam very carefully on a long, slanting course up toward the bottom of the *Donado*. His head broke water just overside from the cockpit. He called up, "Brooks there?"

Gail looked down on him and said, "In the cabin, making graphs."

"Ask him to make two viscosity determinations right here at the boat, will you?"

Gail disappeared, and Winthrop could hear her talking to Brooks. Their voices grew louder. They argued. Finally Gail appeared and said, "He says he's busy and can't waste time." Her face was flushed and her eyes flashed.

Winthrop felt his own face begin to flush, and he prepared to climb into the cockpit. Then Joan's face appeared over the gunwale, and she said, "I'll run the tests for you, Hugh. I have his viscometer here, and I can use it. Where do you want them run?"

"Take one off the bow, quick, and write it down."

Joan went forward and scooped a water sample and timed the weighted plunger and wrote down the reading. She went back to where Winthrop hung on to the boarding ladder and said, "Where else?"

"Right here. Right under my chin." Winthrop had been careful to hold the jelly-coated knife under water in front of his chest.

Joan leaned over and took the sample and ran it through the viscometer and noted the time. She said, "Well, the time is shorter

here. I'll go look at the calibration curve and tell you the viscosity." She went below.

Winthrop held the knife up to Gail and said, "Take this, carefully. Just hold it in front of you until I get up there and get my gear off." Gail took it, and Winthrop quickly got aboard and dropped his scuba gear. He took the knife and said, "Get a bottle, please. I don't want this jelly to dry out." Gail got one. "Rinse it out in the ocean and fill it half full with water. There." With his finger he scraped the jelly into the bottle. Then he capped it.

Joan came back holding the calibration curve. She bent over it frowning in concentration. "Let's see. At the bow the viscosity is eight-o-six point nine centipoises. At your chin—let's see—it was one point o-two-two. Well, now, is something wrong? Why should it be that much less where you were?"

"Because," said Winthrop deliberately, "the marine life is producing something to thin out the water. The thick water is breaking down again."

Loudermilch looked at him and said quietly, "Is this the thing you were talking about last month? Is this the answer the reef organisms have developed?"

Winthrop nodded. "This is it. They all secrete a substance that breaks down the thick water. The porpoise down there was covered with it, and its effects seem to reach out through the water a surprising distance. I don't know what it is—a catalyst or an enzyme or something like that. It must be potent. Let's get Sam to see what he can do to analyze it for us."

Loudermilch shook his head. "I'm afraid Sam isn't with us any more, Hugh."

"What do you mean? He's down below."

"No, I mean he's not in touch with us, not really. You can't get through to him."

"Well we've got to try. Maybe he'll come out of it for this." Winthrop stuck his head in the companionway and called, "Hey, Sam. Come on up here."

Brooks' muffled voice came back from the forward compartment. "I'm busy."

Winthrop looked at Loudermilch and then went below and opened the door into the forward compartment. Brooks sat on a bunk, surrounded by papers. He didn't even look up. Winthrop said, "Sam,

we need you to do some work. We've got the answer to thinning out the water."

Brooks worked on. and Winthrop took him by the shoulder and shook him. Brooks looked up and said, "What are you doing?"

"Sam, we need you to do some work. We've got the answer. I have a specimen of a jelly that needs analyzing. Will you do it?"

"I got some bar graphs to make, Hugh. Some other time."

Winthrop grabbed the other shoulder and twisted Brooks around squarely, and then he shook him hard so that Brooks' head snapped back and forth. As he did it Winthrop saw how limp the neck was, and the head rolled on top of it like the head on a dead chicken. It was the limp neck that showed Winthrop more than anything the condition Brooks was in. Winthrop stopped shaking him, and Brooks said, as if nothing had happened, "Some other time." And he turned back to his sheaf of papers.

Winthrop thought for a moment, then he gently turned Brooks to face him once more, and then he smashed him hard in the face with his open hand. Brooks' head snapped back and his face took on a startled expression, and he looked into Winthrop's eyes. Winthrop said, "Sam, we need you. We have the problem solved; we know how to make the water thin again, but we need you to make an analysis for us. Will you do it?"

Brooks' eyes cleared. "What? You can do it? You know . . . you know. . . ." The faraway look returned. "Don't bother me, Hugh. I've got work to do. I think I'm getting close to the answer here. Go away and let me work." He turned back to his papers.

Winthrop went back to the cockpit and Gail said, "Was that a slap I heard?"

He nodded. Joan said, "Is his head still on his shoulders? That was some slap."

Winthrop said, "No, I'm afraid his head is no longer on his shoulders. We're going to have to have someone else make the analysis for us. How about the pathologist over at the hospital? He seems like a good man. Then we can send half our sample over to the mainland. There must be a good chemist in Florida somewhere."

Loudermilch said, "Well, let's see. At the University of Florida you've got Simpson. He's a good man, a polymer chemist. Wait a minute. We really want an analytical chemist for this, don't we?" Winthrop nodded. "Then the man we want is Silverton at

Georgia Tech. He does a lot of court work in drug cases. He's got the equipment and the ability to analyze anything. He has invented half a dozen analytical procedures. I've written him up many times. He's the one we want. Now, can we get our sample over to Atlanta?"

"I think so. We might even make some arrangement with the Army to get it over to him from Fort Lauderdale, if you two can throw enough weight around."

"We'll throw it. Let's call." Loudermilch went below and turned on the transmitter.

Joan said, "I'll walk it to Atlanta, if we have to. You think this is the answer?"

Winthrop smiled at her. "Yes. I've been seeing the effects of this substance for over a month now. I'm sure all the fish and other organisms down on the reef are secreting it. But it took a big animal like the porpoise to produce enough of it to show. Yes, I think this is the answer."

Gail said, "Quite a thing, isn't it? The animals take care of it just by living in it. Evolution must be like that. Or maybe antibody formation. I don't know."

Brooks burst up on deck and said, "I've got to have some measurements to fit into a time slot on the graphs." He began fitting a regulator to a tank.

"Just a minute," said Joan. "You can't go down now. We're leaving in a minute."

Brooks ignored her. Loudermilch came up and said, "Can't raise the marine operator. I'll try again in half an hour."

Joan said to Brooks, "Look, Sam. You can't go down now. We've got to leave soon."

Brooks ignored her and slipped into his tank harness. Winthrop stepped over to him and reached out for him. He grabbed him by the shoulder and snapped him to a sitting position on the cockpit seat and yanked on the safety hitch on the harness. It let go, and Winthrop slipped a hand under the regulator and started to twist the tank off Brooks' back. Brooks frantically crossed his arms over his chest to hold the harness in place, and he looked wildly up at Winthrop. He said, "I've got to go down. I've got to go down. I've got to go down. I've got to go down."

Winthrop snapped harshly. "You're staying here. We're pulling out soon."

Brooks struggled to get to his feet, yanking on the tank straps, trying to put the tank back on. Winthrop moved a little to one side, shifted his weight to his right foot and got ready to knock him out with a right. Loudermilch put a hand on Winthrop's shoulder and said, "Hugh, maybe we could let him go down for a few minutes. We might just as well wait here until we make our arrangements."

Winthrop considered. He looked at his watch and then stepped back and nodded. Brooks immediately continued to don his gear as if nothing had happened, concentrating on arranging the straps, muttering to himself, in a voice they could barely hear, "Temperature, viscosity. Temperature, viscosity," over and over.

Gail watched him, her concern showing in her face. She leaned toward Winthrop and whispered, "Is he in any condition to dive? I'm worried."

"He hasn't been in condition to dive for two months. You see what it takes to stop him."

Joan said, "I'll watch him." She slipped into her fins and perched her mask on top of her head and waited for Brooks to hang all his equipment on his belt. Without a word Brooks splashed over the side. Joan pulled her mask down, shrugged her shoulders at the others, and stepped daintily into the water.

Gail nodded approval. "She certainly took to skin diving."

Loudermilch nodded proudly. "She takes to everything."

Winthrop said, "Let's get shipshape. We may have a long run ahead of us to the mainland today."

They stowed gear from the cluttered cockpit, and sluiced it down with water. They went below and tidied the cabin. The forward compartment where Brooks had been working was littered with papers and notebooks and pencils and reference books. They arranged everything neatly. A half hour went by before they knew it. They heard Joan's voice screaming at them from the water outside. "Quick, something's happened to Sam. Get out here, quick."

They ran down the cabin and into the cockpit. Joan was halfway up the boarding ladder. "I was watching him. He was reading a thermometer for a long time, not moving, just staring at it the way he does. Then I realized something was wrong, but I couldn't think what it was at first. Then I saw—no bubbles. He wasn't breathing." She gasped out the words.

While she talked Winthrop pulled his fins and mask from the seat

locker and yanked them on. As Joan finished talking, he dropped into the water and kicked over above the place where Brooks was, took a deep breath and dived. As his slow, powerful kicks drove him toward the bottom he could see Brooks lying propped against a coral head, a hand in front of him clutching a thermometer, his chin down on his chest. Winthrop pressed his own mask to his face and sniffed into it to clear his ears as he continued to drive down. He came to Brooks and saw that the mouthpiece was loose in his mouth. He grabbed Brooks around the chest and squeezed and at the same time he tried to close Brooks' mouth around the mouthpiece. Then he freed Brooks' weight belt and headed for the surface with him, trying to keep the mouthpiece in place as he swam. At the surface the others helped him haul Brooks into the cockpit, and Joan immediately applied mouth-to-mouth resuscitation. Winthrop took off his diving gear and felt for a pulse. There was none. He listened for a heartbeat, but he could only hear the rush of air as Joan forced air into Brooks' mouth. Loudermilch covered Brooks with a blanket to warm him, and Gail brought up a glass of bourbon. Winthrop pushed on the heart region, massaging the region in an attempt to start the heart. They did not talk, and the only sound was the slap of water against the hull and Joan's deep breathing.

In half an hour they knew it was no use. They wrapped Brooks' body in a blanket and placed it on the floor in the forward compartment. Loudermilch stood in front of the radiotelephone, turned on the transmitter, stared at it and said, "You know? Somehow I don't feel the sorrow you usually feel when a friend dies. Sam was doomed—has been for months. Yet he died doing exactly what he wanted, collecting his precious data."

Winthrop said, "I feel the same way. I wonder if he's the first man who ever had a nervous breakdown under water?"

Joan said, "You think that's what it was? Do you?" She spoke anxiously.

Winthrop said, "I'm certain of it, all the symptoms. I've been waiting for it, but I never thought he'd have it under water. There's nothing you could have done." He smiled at Joan. "You can't blame yourself. I'm to blame if anyone is. I knew it was coming."

Joan shook her head doubtfully. "I watched it happen, though. I laid on the water and watched him freeze into position."

Gail put her arm around Joan and said, "I would have done the

same thing. Many times lately I've seen him motionless under water."

Joan threw back her head and threw off the gloom she felt and took a deep breath. They all saw what the gesture meant. Winthrop pulled out three Heinekins, Gail opened them, and Loudermilch took up the speaker and called the marine operator. This time he got through.

Dr. Silverton listened while Loudermilch explained what they wanted. He asked a few questions, so Loudermilch put Winthrop on the phone. By the time they were finished talking, Silverton was excited. "We've got to get that sample here as fast as possible. I think airplanes are out—too dangerous to fly. I can get the Army's cooperation, though. Look, can you get the sample to Fort Lauderdale or Miami or any other convenient place on the coast? I'll have a couple of fast cars to meet you and get the sample back to my lab here."

Winthrop set up a time schedule to meet the cars at Fort Lauderdale; he promised that the *Donado* would be there at dawn the next day.

"Why Fort Lauderdale?" asked Loudermilch when he hung up. "Miami Beach is nearer."

"A safer run at night," said Winthrop. "We can use the Great Isaacs Light to guide us halfway across the Gulf Stream at night. It'll give us a good estimate of the stream's current and we ought to be able to make a perfect landfall. Let's get cracking. First stop, Coral Harbor, to drop off Sam's body and part of the sample." They called the hospital pathologist on the way in and asked him to meet them at the dock.

They did not need fuel or supplies, so they remained in Coral Harbor only fifteen minutes while they explained to the police what had happened to Sam Brooks, and while they talked to the pathologist.

The run to Fort Lauderdale was pleasant. They tied down the sailing gear and went up on plane on their engine and held it there. Winthrop stood by the wheel until they left Andros Island behind and were abeam of the Northwest Shoal Light. They took turns keeping bow watch until they left Great Isaacs Light on the port beam and turned to the heading of 271 degrees. Winthrop spent an hour checking the light's position as they left it astern, taking bearings on it and checking them against his compass. Finally he

corrected his course to 268 degrees and relaxed. They made a perfect landfall.

The roaring crowd that met them at the dock came as a complete surprise. They had overlooked the fact that a radiotelephone call was a broadcast to anyone who wanted to listen. But Silverton was there and so were the police and a company of infantry. The talk among Silverton, Loudermilch, and Winthrop lasted only ten minutes before Silverton got into a command car and left for Atlanta. The mayor of Fort Lauderdale tried to arrange a celebration for Winthrop and Loudermilch, but after a quick look at each other Winthrop said that they had an enormous amount of work to do. The four of them fled to the *Donado*, pulled away from the dock, worked their way down the waterway out into the open ocean.

Winthrop said, "I'd thought we could get some sleep tied to the dock there, but that's out. Well, let's sail back, slow and easy." They broke out the sails and turned off the diesel and took turns dozing in the shade of the sails on the deck. They anchored that night between Great Stirrup and Little Stirrup Cays and slept for twelve hours. The four of them met at the galley when Gail began frying bacon.

"Well," said Loudermilch, "where do we go from here?"

No one answered. Winthrop washed his face preparatory to shaving. Joan beat the eggs. Loudermilch watched them, one at a time. No one answered, and he shrugged his shoulders and waited. Winthrop dried his face, wound up his shaver and began to shave. Loudermilch washed his own face and shaved with soap and safety razor. They ate breakfast at the table in the cabin instead of going out into the cockpit. Winthrop took his first sip of hot coffee and said, "Now, what was that question of yours, Carl?"

"Come on. You don't need coffee to get going in the morning. You've been thinking. What are your thoughts?"

"First, let's find out if Silverton's made any headway. If something's gone wrong there, our work may not be over."

"You're right, but nothing is going to go wrong. We'll check after we finish breakfast. But let's assume he's well on the way to completing his analysis. Then what?"

Winthrop looked down at his plate. "I don't know, but I think this: the four of us make up too good a team to break up lightly."

He looked up and the other three were all nodding. "Let's finish, and call Silverton."

The call went through quickly, and Silverton was ecstatic. "Infrared ellucidates most of the molecule, and I'm using paper chromatography right now to pick up the rest. It's an enzyme, all right, one of the hydrases, I think, and it seems to be a very stable simple protein, which is why a little of it goes a long way. I've got a synthetic group working already to put it together, and I'm in constant touch with Ray up at Michigan and Sweet at M.I.T. We'll have this thing beat in two days. We ought to be able to synthesize it by the ton and start freeing up lakes and reservoirs very soon. Anything else? I got work to do."

"No," said Loudermilch, "we'll check back in a few days to make sure everything's under control. So long, Fred." He hung up and stared at the speaker for a moment and said, "Looks like they don't need us any more." He walked out into the cockpit and looked over at the Great Stirrup Light in the distance. The red bands on the lighthouse were hard to distinguish in the morning light. He turned and looked north at where East Point of Little Stirrup Cay disappeared into the green water. Harbour Rock lay low in the distance. Winthrop, Joan, and Gail joined him.

They quietly looked at the sun-drenched scene. Then Joan said, "I know what has to be done. Why are you all avoiding saying it?"

They looked at her.

She said, "I know of no person anywhere better equipped to write an account of this . . . this disaster the Earth has been through than Carl. Furthermore, I know of no people better suited to assist him than the three of us."

They went back to looking at the sea and land around them. Winthrop said, "The thing to do, then, would be to live aboard the *Donado*. We'll take her down to the Exumas, hundreds of cays, most of them unpopulated, a few settlements with fine people. We could get back to Nassau or even the mainland every few months if we wanted. Let's do it."

They all looked at Loudermilch. He said slowly, "I thought I was going to retire, but," he shook his head, "this is better. Yes, we'll write a book on this."

They wrote it, and when it was published it had four authors. The book traced in some detail the things that had happened to the

complex of life on Earth. The blocking out of the changes that had taken place during the year of the Cloud made it possible to estimate some of the changes that would have to take place in the future. It was apparent that the human race would not be the same. But whether it would retrograde or renovate was not clear; much would depend on the choices men made.

The book considered the source of the Cloud, and here, too, the answers were not clear. One thing seemed certain. The Cloud had not happened by chance. It had been put there. So when men looked up, the question in their minds was not *whether*, but *who*. Was the Cloud a weapon? Or a gift?

It would be a long time before anyone knew.

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Thomas, Ted
AUTHOR

Year of the cloud
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Thomas 230335

(continued from front flap)

Through the experiences of five people the horror of the situation is clearly and chillingly revealed. Carl Loudermilch is a science writer for *The N.Y. Times* and watches the population of the world's largest city slowly starve and the city itself slowly disintegrate. On a trip to California he meets Joan Soren who wants to get back east—together they drive across a country, once vitally alive, slowly dying.

Down in the Carribean three friends of Loudermilch frantically probe the depths of the ocean for even the slimmest clue which could lead to the ultimate survival of man. Dr. Sam Brooks, a brilliant marine biologist, belligerently works beside sometime playboy Hugh Winthrop, an acute observer and photographer of marine life. And finally there is Gail Cooper, a beautiful girl with whom both men are in love.

Even if Sam and Hugh arrive at a solution or the world scientists discover something before it is too late, one thing is prominently evident—man's way of life will be dramatically altered. It could be a strange rebirth or it could be unbelievable chaos.

JACKET BY FRANÇOIS COLOS

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"That night, as if Loudermilch's act of violence was the signal, the city erupted. A too prolonged heat wave, the restlessness of enforced inactivity, the vile water that was doled out, the hopelessness of the people who heard in the president's words nothing to relieve the despair of the situation, whatever was the cat
explosive.

"Fires burned out of control in
The Bowery came alive from on
looting, vandalizing teenagers. A gang of desperate men ambushed the truck convoy bringing water to the parched city and overturned seven of ten trucks, hijacking the other three with their tanks of precious water . . .

"Throughout the night violence raged in the city, and by dawn a pall of smoke shrouded the upper floors of the skyscrapers. The hospitals had called for police protection . . . They could admit no more patients, turning away everyone who came, from maternity cases, to appendectomies. There were no more beds, no more hall floor space . . .

"The roving gangs swelled throughout the morning, and by noon a state of emergency had been declared and the National Guard started to move in."

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Ted Thomas and Kate Wilhelm

YEAR OF THE CLOUD