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For A-M
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CONTENTS

CONTENTS 7
INTRODUCTION 10
PROLOGUE: THE BITE OF THE RAPTOR 13
FIRST ITERATION 18
ALMOST PARADISE 19
PUNTARENAS 22
THE BEACH 26
NEW YORK 27
THE SHAPE OF THE DATA 30
SECOND ITERATION 32
THE SHORE OF THE INLAND SEA 33
SKELETON 41
COWAN, SWAIN AND ROSS 46
PLANS 48
HAMMOND 52
CHOTEAU 56
TARGET OF OPPORTUNITY 57
AIRPORT 60
MALCOLM 62
ISLA NUBLAR 65
WELCOME 67
THIRD ITERATION 69
JURASSIC PARK 70
WHEN DINOSAURS RULED THE EARTH 73
THE TOUR 77
CONTROL 90
VERSION 4.4 97
CONTROL 102
THE TOUR 107
CONTROL 110
BIG REX 114
CONTROL 119
STEGOSAUR 122
CONTROL 127
BREEDING SITES 131
FOURTH ITERATION 140
THE MAIN ROAD 141
RETURN 148
NEDRY 150
BUNGALOW 153
TIM 158
LEX 162
CONTROL 168
THE ROAD 170
CONTROL 175
IN THE PARK 179
CONTROL 183
THE PARK 187
DAWN 192

THE PARK 199
FIFTH ITERATION 206
SEARCH 207
AVIARY 211
TYRANNOSAUR 219
CONTROL 227
SIXTH ITERATION 239
RETURN 240
THE GRID 261
LODGE 265
CONTROL 272
SEVENTH ITERATION 277
DESTROYING THE WORLD 278
UNDER CONTROL 279
ALMOST PARADIGM 287
DESCENT 291
HAMMOND 295
THE BEACH 297
APPROACHING DARK 299
EPILOGUE: SAN JOSÉ 301
ACKNOWLEDGMENTS 303

"Reptiles are abhorrent because of their cold body, pale color, cartilaginous skeleton, filthy skin, fierce aspect, calculating eye, offensive smell, harsh voice, squalid habitation, and terrible venom; wherefore their Creator has not exerted his powers to make many of them."

LINNAEUS, 1797

"You cannot recall a new form of life."

ERWIN CHARGAFF, 1972

INTRODUCTION

"The InGen Incident"

The late twentieth century has witnessed a scientific gold rush of astonishing proportions: the headlong and furious haste to commercialize genetic engineering. This enterprise has proceeded so rapidly—with so little outside commentary—that its dimensions and implications are hardly understood at all.

Biotechnology promises the greatest revolution in human history. By the end of this decade, it will have outdistanced atomic power and computers in its effect on our everyday lives. In the words of one observer, "Biotechnology is going to transform every aspect of human life: our medical care, our food, our health, our entertainment, our very bodies. Nothing will ever be the same again. It's literally going to change the face of the planet."

But the biotechnology revolution differs in three important respects from past scientific transformations.

First, it is broad-based. America entered the atomic age through the work of a single research institution, at Los Alamos. It entered the computer age through the efforts of about a dozen companies. But biotechnology research is now carried out in more than two thousand laboratories in America alone. Five hundred corporations spend five billion dollars a year on this technology.

Second, much of the research is thoughtless or frivolous. Efforts to engineer paler trout for better visibility in the stream, square trees for easier lumbering, and injectable scent cells so you'll always smell of your favorite perfume may seem like a joke, but they are not. Indeed, the fact that biotechnology can be applied to the industries traditionally subject to the vagaries of fashion, such as cosmetics and leisure activities, heightens concern about the whimsical use of this powerful new technology.

Third, the work is uncontrolled. No one supervises it. No federal laws regulate it. There is no coherent government policy, in America or anywhere else in the world. And because the products of biotechnology range from drugs to farm crops to artificial snow, an intelligent policy is difficult.

But most disturbing is the fact that no watchdogs are found among scientists themselves. It is remarkable that nearly every scientist in genetics research is also engaged in the commerce of biotechnology. There are no detached observers. Everybody has a stake.

The commercialization of molecular biology is the most stunning ethical event in the history of science, and it has happened with astonishing speed. For four hundred years since Galileo, science has always proceeded as a free and open inquiry into the workings of nature. Scientists have always ignored national boundaries, holding themselves above the transitory concerns of politics and

even wars. Scientists have always rebelled against secrecy in research, and have even frowned on the idea of patenting their discoveries, seeing themselves as working to the benefit of all mankind. And for many generations, the discoveries of scientists did indeed have a peculiarly selfless quality.

When, in 1953, two young researchers in England, James Watson and Francis Crick, deciphered the structure of DNA, their work was hailed as a triumph of the human spirit, of the centuries-old quest to understand the universe in a scientific way. It was confidently expected that their discovery would be selflessly extended to the greater benefit of mankind.

Yet that did not happen. Thirty years later, nearly all of Watson and Crick's scientific colleagues were engaged in another sort of enterprise entirely. Research in molecular genetics had become a vast, multibillion-dollar commercial undertaking, and its origins can be traced not to 1953 but to April 1976.

That was the date of a now famous meeting, in which Robert Swanson, a venture capitalist, approached Herbert Boyer, a biochemist at the University of California. The two men agreed to found a commercial company to exploit Boyer's gene-splicing techniques. Their new company, Genentech, quickly became the largest and most successful of the genetic engineering start-ups.

Suddenly it seemed as if everyone wanted to become rich. New companies were announced almost weekly, and scientists flocked to exploit genetic research. By 1986, at least 362 scientists, including 64 in the National Academy, sat on the advisory boards of biotech firms. The number of those who held equity positions or consultancies was several times greater.

It is necessary to emphasize how significant this shift in attitude actually was. In the past, pure scientists took a snobbish view of business. They saw the pursuit of money as intellectually uninteresting, suited only to shopkeepers. And to do research for industry, even at the prestigious Bell or IBM labs, was only for those who couldn't get a university appointment. Thus the attitude of pure scientists was fundamentally critical toward the work of applied scientists, and to industry in general. Their long-standing antagonism kept university scientists free of contaminating industry ties, and whenever debate arose about technological matters, disinterested scientists were available to discuss the issues at the highest levels.

But that is no longer true. There are very few molecular biologists and very few research institutions without commercial affiliations. The old days are gone. Genetic research continues, at a more furious pace than ever. But it is done in secret, and in haste, and for profit.

In this commercial climate, it is probably inevitable that a company as ambitious as International Genetic Technologies, Inc., of Palo Alto, would arise. It is equally unsurprising that the genetic crisis it created should go unreported. After all, InGen's research was conducted in secret; the actual incident occurred in the most remote region of Central America; and fewer than twenty people were there to witness it. Of those, only a handful survived.

Even at the end, when International Genetic Technologies filed for Chapter 11

protection in United States Bankruptcy Court in San Francisco on October 5, 1989, the proceedings drew little press attention. It appeared so ordinary: InGen was the third small American bioengineering company to fail that year, and the seventh since 1986. Few court documents were made public, since the creditors were Japanese investment consortia, such as Hamaguri and Densaka, companies which traditionally shun publicity. To avoid unnecessary disclosure, Daniel Ross, of Cowan, Swain and Ross, counsel for InGen, also represented the Japanese investors. And the rather unusual petition of the vice consul of Costa Rica was heard behind closed doors. Thus it is not surprising that, within a month, the problems of InGen were quietly and amicably settled.

Parties to that settlement, including the distinguished scientific board of advisers, signed a nondisclosure agreement, and none will speak about what happened; but many of the principal figures in the "InGen incident" are not signatories, and were willing to discuss the remarkable events leading up to those final two days in August 1989 on a remote island off the west coast of Costa Rica.

PROLOGUE: THE BITE OF THE RAPTOR

The tropical rain fell in drenching sheets, hammering the corrugated roof of the clinic building, roaring down the metal gutters, splashing on the ground in a torrent. Roberta Carter sighed, and stared out the window. From the clinic, she could hardly see the beach or the ocean beyond, cloaked in low fog. This wasn't what she had expected when she had come to the fishing village of Bahía Anasco, on the west coast of Costa Rica, to spend two months as a visiting physician. Bobbie Carter had expected sun and relaxation, after two grueling years of residency in emergency medicine at Michael Reese in Chicago.

She had been in Bahía Anasco now for three weeks. And it had rained every day.

Everything else was fine. She liked the isolation of Bahía Anasco, and the friendliness of its people. Costa Rica had one of the twenty best medical systems in the world, and even in this remote coastal village, the clinic was well maintained, amply supplied. Her paramedic, Manuel Aragón, was intelligent and well trained. Bobbie was able to practice a level of medicine equal to what she had practiced in Chicago.

But the rain! The constant, unending rain!

Across the examining room, Manuel cocked his head. "Listen," he said.

"Believe me, I hear it," Bobbie said.

"No. *Listen*."

And then she caught it, another sound blended with the rain, a deeper rumble that built and emerged until it was clear: the rhythmic thumping of a helicopter. She thought, *They can't be flying in weather like this.*

But the sound built steadily, and then the helicopter burst low through the ocean fog and roared overhead, circled, and came back. She saw the helicopter swing back over the water, near the fishing boats, then ease sideways to the rickety wooden dock, and back toward the beach.

It was looking for a place to land.

It was a big-bellied Sikorsky with a blue stripe on the side, with the words "InGen Construction." That was the name of the construction company building a new resort on one of the offshore islands. The resort was said to be spectacular, and very complicated; many of the local people were employed in the construction, which had been going on for more than two years. Bobbie could imagine it—one of those huge American resorts with swimming pools and tennis courts, where guests could play and drink their daiquiris, without having any contact with the real life of the country.

Bobbie wondered what was so urgent on that island that the helicopter would fly in this weather. Through the windshield she saw the pilot exhale in relief as the helicopter settled onto the wet sand of the beach. Uniformed men jumped

out, and flung open the big side door. She heard frantic shouts in Spanish, and Manuel nudged her.

They were calling for a doctor.

Two black crewmen carried a limp body toward her, while a white man barked orders. The white man had a yellow slicker. Red hair appeared around the edges of his Mets baseball cap. "Is there a doctor here?" he called to her, as she ran up.

"I'm Dr. Carter," she said. The rain fell in heavy drops, pounding her head and shoulders. The red-haired man frowned at her. She was wearing cut-off jeans and a tank top. She had a stethoscope over her shoulder, the bell already rusted from the salt air.

"Ed Regis. We've got a very sick man here, doctor."

"Then you better take him to San José," she said. San José was the capital, just twenty minutes away by air.

"We would, but we can't get over the mountains in this weather. You have to treat him here."

Bobbie trotted alongside the injured man as they carried him to the clinic. He was a kid, no older than eighteen. Lifting away the blood-soaked shirt, she saw a big slashing rip along his shoulder, and another on the leg.

"What happened to him?"

"Construction accident," Ed shouted. "He fell. One of the back-hoes ran over him."

The kid was pale, shivering, unconscious.

Manuel stood by the bright green door of the clinic, waving his arm. The men brought the body through and set it on the table in the center of the room. Manuel started an intravenous line, and Bobbie swung the light over the kid and bent to examine the wounds. Immediately she could see that it did not look good. The kid would almost certainly die.

A big tearing laceration ran from his shoulder down his torso. At the edge of the wound, the flesh was shredded. At the center, the shoulder was dislocated, pale bones exposed. A second slash cut through the heavy muscles of the thigh, deep enough to reveal the pulse of the femoral artery below. Her first impression was that his leg had been ripped open.

"Tell me again about this injury," she said.

"I didn't see it," Ed said. "They say the backhoe dragged him."

"Because it almost looks as if he was mauled," Bobbie Carter said, probing the wound. Like most emergency room physicians, she could remember in detail patients she had seen even years before. She had seen two maulings. One was a two-year-old child who had been attacked by a rottweiler dog. The other was a drunken circus attendant who had had an encounter with a Bengal tiger. Both injuries were similar. There was a characteristic look to an animal attack.

"Mauled?" Ed said. "No, no. It was a backhoe, believe me." Ed licked his lips as he spoke. He was edgy, acting as if he had done something wrong. Bobbie wondered why. If they were using inexperienced local workmen on the resort construction, they must have accidents all the time.

Manuel said, "Do you want lavage?"

"Yes," she said. "After you block him."

She bent lower, probed the wound with her fingertips. If an earth mover had rolled over him, dirt would be forced deep into the wound. But there wasn't any dirt, just a slippery, slimy foam. And the wound had a strange odor, a kind of rotten stench, a smell of death and decay. She had never smelled anything like it before.

"How long ago did this happen?"

"An hour."

Again she noticed how tense Ed Regis was. He was one of those eager, nervous types. And he didn't look like a construction foreman. More like an executive. He was obviously out of his depth.

Bobbie Carter turned back to the injuries. Somehow she didn't think she was seeing mechanical trauma. It just didn't look right. No soil contamination of the wound site, and no crush-injury component. Mechanical trauma of any sort—an auto injury, a factory accident—almost always had some component of crushing. But here there was none. Instead, the man's skin was shredded—ripped—across his shoulder, and again across his thigh.

It really did look like a maul. On the other hand, most of the body was unmarked, which was unusual for an animal attack. She looked again at the head, the arms, the hands—

The hands.

She felt a chill when she looked at the kid's hands. There were short slashing cuts on both palms, and bruises on the wrists and forearms. She had worked in Chicago long enough to know what that meant.

"All right," she said. "Wait outside."

"Why?" Ed said, alarmed. He didn't like that.

"Do you want me to help him, or not?" she said, and pushed him out the door and closed it on his face. She didn't know what was going on, but she didn't like it. Manuel hesitated. "I continue to wash?"

"Yes," she said. She reached for her little Olympus point-and-shoot. She took several snapshots of the injury, shifting her light for a better view. It really did look like bites, she thought. Then the kid groaned, and she put her camera aside and bent toward him. His lips moved, his tongue thick.

"Raptor," he said. *"Lo sa raptor* ..."

At those words, Manuel froze, stepped back in horror.

"What does it mean?" Bobbie said.

Manuel shook his head. "I do not know, doctor. *'Lo sa raptor'—no es español*."

"No?" It sounded to her like Spanish. "Then please continue to wash him."

"No, doctor." He wrinkled his nose. "Bad smell." And he crossed himself.

Bobbie looked again at the slippery foam streaked across the wound. She touched it, rubbing it between her fingers. It seemed almost like saliva. ...

The injured boy's lips moved. "Raptor," he whispered.

In a tone of horror, Manuel said, "It bit him."

"What bit him?"

"Raptor."

"What's a raptor?"

"It means *hupia*."

Bobbie frowned. The Costa Ricans were not especially superstitious, but she had heard the *hupia* mentioned in the village before. They were said to be night ghosts, faceless vampires who kidnapped small children. According to the belief, the *hupia* had once lived in the mountains of Costa Rica, but now inhabited the islands offshore.

Manuel was backing away, murmuring and crossing himself. "It is not normal, this smell," he said. "It is the *hupia*."

Bobbie was about to order him back to work when the injured youth opened his eyes and sat straight up on the table. Manuel shrieked in terror. The injured boy moaned and twisted his head, looking left and right with wide staring eyes, and then he explosively vomited blood. He went immediately into convulsions, his body vibrating, and Bobbie grabbed for him but he shuddered off the table onto the concrete floor. He vomited again. There was blood everywhere. Ed opened the door, saying, "What the hell's happening?" and when he saw the blood he turned away, his hand to his mouth. Bobbie was grabbing for a stick to put in the boy's clenched jaws, but even as she did it she knew it was hopeless, and with a final spastic jerk he relaxed and lay still.

She bent to perform mouth-to-mouth, but Manuel grabbed her shoulder fiercely, pulling her back. "No," he said. "The *hupia* will cross over."

"Manuel, for God's sake—"

"*No*." He stared at her fiercely. "No. You do not understand these things."

Bobbie looked at the body on the ground and realized that it didn't matter; there was no possibility of resuscitating him. Manuel called for the men, who came back into the room and took the body away. Ed appeared, wiping his mouth with the back of his hand, muttering, "I'm sure you did all you could," and then she watched as the men took the body away, back to the helicopter, and it lifted thunderously up into the sky.

"It is better," Manuel said.

Bobbie was thinking about the boy's hands. They had been covered with cuts and bruises, in the characteristic pattern of defense wounds. She was quite sure he had not died in a construction accident; he had been attacked, and he had held up his hands against his attacker. "Where is this island they've come from?" she asked.

"In the ocean. Perhaps a hundred, hundred and twenty miles offshore."

"Pretty far for a resort," she said.

Manuel watched the helicopter. "I hope they never come back."

Well, she thought, at least she had pictures. But when she turned back to the table, she saw that her camera was gone.

The rain finally stopped later that night. Alone in the bedroom behind the clinic, Bobbie thumbed through her tattered paperback Spanish dictionary. The boy had said "raptor," and, despite Manuel's protests, she suspected it was a Spanish word. Sure enough, she found it in her dictionary. It meant "ravisher" or "abductor."

That gave her pause. The sense of the word was suspiciously close to the meaning of *hupia.* Of course she did not believe in the superstition. And no ghost had cut those hands. What had the boy been trying to tell her?

From the next room, she heard groans. One of the village women was in the first stage of labor, and Elena Morales, the local midwife, was attending her. Bobbie went into the clinic room and gestured to Elena to step outside for a moment.

"Elena ..."

"*Sí,* doctor?"

"Do you know what is a raptor?"

Elena was gray-haired and sixty, a strong woman with a practical, no-nonsense air. In the night, beneath the stars, she frowned and said, "Raptor?"

"Yes. You know this word?"

"Sí." Elena nodded. "It means ... a person who comes in the night and takes away a child."

"A kidnapper?"

"Yes."

"A *hupia?"*

Her whole manner changed. "Do not say this word, doctor."

"Why not?"

"Do not speak of *hupia* now," Elena said firmly, nodding her head toward the groans of the laboring woman. "It is not wise to say this word now."

"But does a raptor bite and cut his victims?"

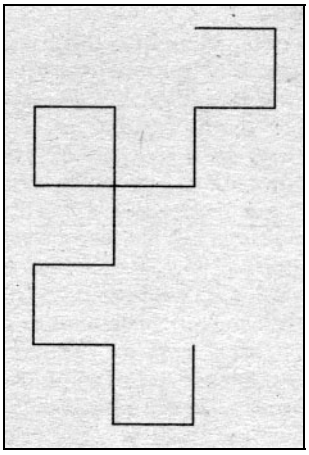
"Bite and cut?" Elena said, puzzled. "No, doctor. Nothing like this. A raptor is a man who takes a new baby." She seemed irritated by the conversation, impatient to end it. Elena started back toward the clinic. "I will call to you when she is ready, doctor. I think one hour more, perhaps two."

Bobbie looked at the stars, and listened to the peaceful lapping of the surf at the shore. In the darkness she saw the shadows of the fishing boats anchored offshore. The whole scene was quiet, so normal, she felt foolish to be talking of vampires and kidnapped babies.

Bobbie went back to her room, remembering again that Manuel had insisted it was not a Spanish word. Out of curiosity, she looked in the little English dictionary, and to her surprise she found the word there, too:

raptor \ *n* [deriv. of L. *raptor* plunderer, fr. *raptus*]*:* bird of prey.

FIRST ITERATION



"At the earliest drawings of the fractal curve few clues to the underlying mathematical structure will be seen."
IAN MALCOLM

ALMOST PARADISE

Mike Bowman whistled cheerfully as he drove the Land Rover through the Cabo Blanco Biological Reserve; on the west coast of Costa Rica. It was a beautiful morning in July, and the road before him was spectacular: hugging the edge of a cliff, overlooking the jungle and the blue Pacific. According to the guidebooks, Cabo Blanco was unspoiled wilderness, almost a paradise. Seeing it now made Bowman feel as if the vacation was back on track.

Bowman, a thirty-six-year-old real estate developer from Dallas, had come to Costa Rica with his wife and daughter for a two-week holiday. The trip had actually been his wife's idea; for weeks Ellen had filled his ear about the wonderful national parks of Costa Rica, and how good it would be for Tina to see them. Then, when they arrived, it turned out Ellen had an appointment to see a plastic surgeon in San José. That was the first Mike Bowman had heard about the excellent and inexpensive plastic surgery available in Costa Rica, and all the luxurious private clinics in San José.

Of course they'd had a huge fight. Mike felt she'd lied to him, and she had. And he put his foot down about this plastic surgery business. Anyway, it was ridiculous, Ellen was only thirty, and she was a beautiful woman. Hell, she'd been Homecoming Queen her senior year at Rice, and that was not even ten years earlier. But Ellen tended to be insecure, and worried. And it seemed as if in recent years she had mostly worried about losing her looks.

That, and everything else.

The Land Rover bounced in a pothole, splashing mud. Seated beside him, Ellen said, "Mike, are you sure this is the right road? We haven't seen any other people for hours."

"There was another car fifteen minutes ago," he reminded her. "Remember, the blue one?"

"Going the other way ..."

"Darling, you wanted a deserted beach," he said, "and that's what you're going to get."

Ellen shook her head doubtfully. "I hope you're right."

"Yeah, Dad, I hope you're right," said Christina, from the backseat. She was eight years old.

"Trust me, I'm right." He drove in silence a moment. "It's beautiful, isn't it? Look at that view. It's beautiful."

"It's okay," Tina said.

Ellen got out a compact and looked at herself in the mirror, pressing under her eyes. She sighed, and put the compact away.

The road began to descend, and Mike Bowman concentrated on driving. Suddenly a small black shape flashed across the road and Tina shrieked, "Look! *Look!"* Then it was gone, into the jungle.

"What was it?" Ellen asked. "A monkey?"

"Maybe a squirrel monkey," Bowman said.

"Can I count it?" Tina said, taking her pencil out. She was keeping a list of all the animals she had seen on her trip, as a project for school.

"I don't know," Mike said doubtfully.

Tina consulted the pictures in the guidebook. "I don't think it was a squirrel monkey," she said. "I think it was just another howler." They had seen several howler monkeys already on their trip.

"Hey," she said, more brightly. "According to this book, 'the beaches of Cabo Blanco are frequented by a variety of wildlife, including howler and white-faced monkeys, three-toed sloths, and coatimundis.' You think we'll see a three-toed sloth, Dad?"

"I bet we do."

"Really?"

"Just look in the mirror."

"Very funny, Dad."

The road sloped downward through the jungle, toward the ocean.

Mike Bowman felt like a hero when they finally reached the beach: a two-mile crescent of white sand, utterly deserted. He parked the Land Rover in the shade of the palm trees that fringed the beach, and got out the box lunches. Ellen changed into her bathing suit, saying, "Honestly, I don't know *how* I'm going to get this weight off."

"You look great, hon." Actually, he felt that she was too thin, but he had learned not to mention that.

Tina was already running down the beach.

"Don't forget you need your sunscreen," Ellen called.

"Later," Tina shouted, over her shoulder. "I'm going to see if there's a sloth."

Ellen Bowman looked around at the beach, and the trees. "You think she's all right?"

"Honey, there's nobody here for miles," Mike said.

"What about snakes?"

"Oh, for God's sake," Mike Bowman said. "There's no snakes on a beach."

"Well, there might be. ..."

"Honey," he said firmly. "Snakes are cold-blooded. They're reptiles. They can't control their body temperature. It's ninety degrees on that sand. If a snake came out, it'd be cooked. Believe me. There's no snakes on the beach." He watched his daughter scampering down the beach, a dark spot on the white sand. "Let her go. Let her have a good time."

He put his arm around his wife's waist.

Tina ran until she was exhausted, and then she threw herself down on the sand and gleefully rolled to the water's edge. The ocean was warm, and there was hardly any surf at all. She sat for a while, catching her breath, and then she looked back toward her parents and the car, to see how far she had come.

Her mother waved, beckoning her to return. Tina waved back cheerfully,

pretending she didn't understand. Tina didn't want to put sunscreen on. And she didn't want to go back and hear her mother talk about losing weight. She wanted to stay right here, and maybe see a sloth.

Tina had seen a sloth two days earlier at the zoo in San José. It looked like a Muppets character, and it seemed harmless. In any case, it couldn't move fast; she could easily outrun it.

Now her mother was calling to her, and Tina decided to move out of the sun, back from the water, to the shade of the palm trees. In this part of the beach, the palm trees overhung a gnarled tangle of mangrove roots, which blocked any attempt to penetrate inland. Tina sat in the sand and kicked the dried mangrove leaves. She noticed many bird tracks in the sand. Costa Rica was famous for its birds. The guidebooks said there were three times as many birds in Costa Rica as in all of America and Canada.

In the sand, some of the three-toed bird tracks were small, and so faint they could hardly be seen. Other tracks were large, and cut deeper in the sand. Tina was looking idly at the tracks when she heard a chirping, followed by a rustling in the mangrove thicket.

Did sloths make a chirping sound? Tina didn't think so, but she wasn't sure. The chirping was probably some ocean bird. She waited quietly, not moving, hearing the rustling again, and finally she saw the source of the sounds. A few yards away, a lizard emerged from the mangrove roots and peered at her.

Tina held her breath. A new animal for her list! The lizard stood up on its hind legs, balancing on its thick tail, and stared at her. Standing like that, it was almost a foot tall, dark green with brown stripes along its back. Its tiny front legs ended in little lizard fingers that wiggled in the air. The lizard cocked its head as it looked at her.

Tina thought it was cute. Sort of like a big salamander. She raised her hand and wiggled her fingers back.

The lizard wasn't frightened. It came toward her, walking upright on its hind legs. It was hardly bigger than a chicken, and like a chicken it bobbed its head as it walked. Tina thought it would make a wonderful pet.

She noticed that the lizard left three-toed tracks that looked exactly like bird tracks. The lizard came closer to Tina. She kept her body still, not wanting to frighten the little animal. She was amazed that it would come so close, but she remembered that this was a national park. All the animals in the park would know that they were protected. This lizard was probably tame. Maybe it even expected her to give it some food. Unfortunately she didn't have any. Slowly, Tina extended her hand, palm open, to show she didn't have any food.

The lizard paused, cocked his head, and chirped.

"Sorry," Tina said. "I just don't have anything."

And then, without warning, the lizard jumped up onto her outstretched hand. Tina could feel its little toes pinching the skin of her palm, and she felt the surprising weight of the animal's body pressing her arm down.

And then the lizard scrambled up her arm, toward her face.

* * *

"I just wish I could see her," Ellen Bowman said, squinting in the sunlight. "That's

all. Just see her."

"I'm sure she's fine," Mike said, picking through the box lunch packed by the hotel. There was unappetizing grilled chicken, and some kind of a meat-filled pastry. Not that Ellen would eat any of it.

"You don't think she'd leave the beach?" Ellen said.

"No, hon, I don't."

"I feel so isolated here," Ellen said.

"I thought that's what you wanted," Mike Bowman said.

"I did."

"Well, then, what's the problem?"

"I just wish I could see her, is all," Ellen said.

Then, from down the beach, carried by the wind, they heard their daughter's voice. She was screaming.

PUNTARENAS

"I think she is quite comfortable now," Dr. Cruz said, lowering the plastic flap of the oxygen tent around Tina as she slept. Mike Bowman sat beside the bed, close to his daughter. Mike thought Dr. Cruz was probably pretty capable; he spoke excellent English, the result of training at medical centers in London and Baltimore. Dr. Cruz radiated competence, and the Clínica Santa María, the modern hospital in Puntarenas, was spotless and efficient.

But, even so, Mike Bowman felt nervous. There was no getting around the fact that his only daughter was desperately ill, and they were far from home.

When Mike had first reached Tina, she was screaming hysterically. Her whole left arm was bloody, covered with a profusion of small bites, each the size of a thumbprint. And there were flecks of sticky foam on her arm, like a foamy saliva.

He carried her back down the beach. Almost immediately her arm began to redden and swell. Mike would not soon forget the frantic drive back to civilization, the four-wheel-drive Land Rover slipping and sliding up the muddy track into the hills, while his daughter screamed in fear and pain, and her arm grew more bloated and red. Long before they reached the park boundaries, the swelling had spread to her neck, and then Tina began to have trouble breathing. ...

"She'll be all right now?" Ellen said, staring through the plastic oxygen tent.

"I believe so," Dr. Cruz said. "I have given her another dose of steroids, and her breathing is much easier. And you can see the edema in her arm is greatly reduced."

Mike Bowman said, "About those bites ..."

"We have no identification yet," the doctor said. "I myself haven't seen bites like that before. But you'll notice they are disappearing. It's already quite difficult to make them out. Fortunately I have taken photographs for reference. And I have washed her arm to collect some samples of the sticky saliva—one for analysis here, a second to send to the labs in San José, and the third we will keep frozen

in case it is needed. Do you have the picture she made?"

"Yes," Mike Bowman said. He handed the doctor the sketch that Tina had drawn, in response to questions from the admitting officials.

"This is the animal that bit her?" Dr. Cruz said, looking at the picture.

"Yes," Mike Bowman said. "She said it was a green lizard, the size of a chicken or a crow."

"I don't know of such a lizard," the doctor said. "She has drawn it standing on its hind legs. ..."

"That's right," Mike Bowman said. "She said it walked on its hind legs."

Dr. Cruz frowned. He stared at the picture a while longer. "I am not an expert. I've asked for Dr. Guitierrez to visit us here. He is a senior researcher at the Reserva Biológica de Carara, which is across the bay. Perhaps he can identify the animal for us."

"Isn't there someone from Cabo Blanco?" Bowman asked. "That's where she was bitten."

"Unfortunately not," Dr. Cruz said. "Cabo Blanco has no permanent staff, and no researcher has worked there for some time. You were probably the first people to walk on that beach in several months. But I am sure you will find Dr. Guitierrez to be knowledgeable."

Dr. Guitierrez turned out to be a bearded man wearing khaki shorts and shirt. The surprise was that he was American. He was introduced to the Bowmans, saying in a soft Southern accent, "Mr. and Mrs. Bowman, how you doing, nice to meet you," and then explaining that he was a field biologist from Yale who had worked in Costa Rica for the last five years. Marty Guitierrez examined Tina thoroughly, lifting her arm gently, peering closely at each of the bites with a penlight, then measuring them with a small pocket ruler. After a while, Guitierrez stepped away, nodding to himself as if he had understood something. He then inspected the Polaroids, and asked several questions about the saliva, which Cruz told him was still being tested in the lab.

Finally he turned to Mike Bowman and his wife, waiting tensely. "I think Tina's going to be fine. I just want to be clear about a few details," he said, making notes in a precise hand. "Your daughter says she was bitten by a green lizard, approximately one foot high, which walked upright onto the beach from the mangrove swamp?"

"That's right, yes."

"And the lizard made some kind of a vocalization?"

"Tina said it chirped, or squeaked."

"Like a mouse, would you say?"

"Yes."

"Well, then," Dr. Guitierrez said, "I know this lizard." He explained that, of the six thousand species of lizards in the world, no more than a dozen species walked upright. Of those species, only four were found in Latin America. And judging by the coloration, the lizard could be only one of the four. "I am sure this lizard was a *Basiliscus amoratus,* a striped basilisk lizard, found here in Costa Rica and also in Honduras. Standing on their hind legs, they are sometimes as tall as a foot."

"Are they poisonous?"

"No, Mrs. Bowman. Not at all." Guitierrez explained that the swelling in Tina's arm was an allergic reaction. "According to the literature, fourteen percent of people are strongly allergic to reptiles," he said, "and your daughter seems to be one of them."

"She was screaming, she said it was so painful."

"Probably it was," Guitierrez said. "Reptile saliva contains serotonin, which causes tremendous pain." He turned to Cruz. "Her blood pressure came down with antihistamines?"

"Yes," Cruz said. "Promptly."

"Serotonin," Guitierrez said. "No question."

Still, Ellen Bowman remained uneasy. "But why would a lizard bite her in the first place?"

"Lizard bites are very common," Guitierrez said. "Animal handlers in zoos get bitten all the time. And just the other day I heard that a lizard had bitten an infant in her crib in Amaloya, about sixty miles from where you were. So bites do occur. I'm not sure why your daughter had so many bites. What was she doing at the time?"

"Nothing. She said she was sitting pretty still, because she didn't want to frighten it away."

"Sitting pretty still," Guitierrez said, frowning. He shook his head. "Well. I don't think we can say exactly what happened. Wild animals are unpredictable."

"And what about the foamy saliva on her arm?" Ellen said. "I keep thinking about rabies. ..."

"No, no," Dr. Guitierrez said. "A reptile can't carry rabies, Mrs. Bowman. Your daughter has suffered an allergic reaction to the bite of a basilisk lizard. Nothing more serious."

Mike Bowman then showed Guitierrez the picture that Tina had drawn. Guitierrez nodded. "I would accept this as a picture of a basilisk lizard," he said. "A few details are wrong, of course. The neck is much too long, and she has drawn the hind legs with only three toes instead of five. The tail is too thick, and raised too high. But otherwise this is a perfectly serviceable lizard of the kind we are talking about."

"But Tina specifically said the neck was long," Ellen Bowman insisted. "And she said there were three toes on the foot."

"Tina's pretty observant," Mike Bowman said.

"I'm sure she is," Guitierrez said, smiling. "But I still think your daughter was bitten by a common *basilisk amoratus,* and had a severe herpetological reaction. Normal time course with medication is twelve hours. She should be just fine in the morning."

In the modern laboratory in the basement of the Clínica Santa María, word was received that Dr. Guitierrez had identified the animal that had bitten the American child as a harmless basilisk lizard. Immediately the analysis of the saliva was halted, even though a preliminary fractionation showed several extremely high molecular weight proteins of unknown biological activity. But the night technician

was busy, and he placed the saliva samples on the holding shelf of the refrigerator.

The next morning, the day clerk checked the holding shelf against the names of discharged patients. Seeing that BOWMAN, CHRISTINA L. was scheduled for discharge that morning, the clerk threw out the saliva samples. At the last moment, he noticed that one sample had the red tag which meant that it was to be forwarded to the university lab in San José. He retrieved the test tube from the wastebasket, and sent it on its way.

"Go on. Say thank you to Dr. Cruz," Ellen Bowman said, and pushed Tina forward.

"Thank you, Dr. Cruz," Tina said. "I feel much better now." She reached up and shook the doctor's hand. Then she said, "You have a different shirt."

For a moment Dr. Cruz looked perplexed; then he smiled. "That's right, Tina. When I work all night at the hospital, in the morning I change my shirt."

"But not your tie?"

"No. Just my shirt."

Ellen Bowman said, "Mike told you she's observant."

"She certainly is." Dr. Cruz smiled and shook the little girl's hand gravely. "Enjoy the rest of your holiday in Costa Rica, Tina."

"I will."

The Bowman family had started to leave when Dr. Cruz said, "Oh, Tina, do you remember the lizard that bit you?"

"Uh-huh."

"You remember its feet?"

"Uh-huh."

"Did it have any toes?"

"Yes."

"How many toes did it have?"

"Three," she said.

"How do you know that?"

"Because I looked," she said. "Anyway, all the birds on the beach made marks in the sand with three toes, like this." She held up her hand, middle three fingers spread wide. "And the lizard made those kind of marks in the sand, too."

"The lizard made marks like a bird?"

"Uh-huh," Tina said. "He walked like a bird, too. He jerked his head like this, up and down." She took a few steps, bobbing her head.

After the Bowmans had departed, Dr. Cruz decided to report this conversation to Guitierrez, at the biological station.

"I must admit the girl's story is puzzling," Guitierrez said. "I have been doing some checking myself. I am no longer certain she was bitten by a basilisk. Not certain at all."

"Then what could it be?"

"Well," Guitierrez said, "let's not speculate prematurely. By the way, have you heard of any other lizard bites at the hospital?"

"No, why?"

"Let me know, my friend, if you do."

THE BEACH

Marty Guitierrez sat on the beach and watched the afternoon sun fall lower in the sky, until it sparkled harshly on the water of the bay, and its rays reached beneath the palm trees, to where he sat among the mangroves, on the beach of Cabo Blanco. As best he could determine, he was sitting near the spot where the American girl had been, two days before.

Although it was true enough, as he had told the Bowmans, that lizard bites were common, Guitierrez had never heard of a basilisk lizard biting anyone. And he had certainly never heard of anyone being hospitalized for a lizard bite. Then, too, the bite radius on Tina's arm appeared slightly too large for a basilisk. When he got back to the Carara station, he had checked the small research library there, but found no reference to basilisk lizard bites. Next he checked International BioSciences Services, a computer database in America. But he found no references to basilisk bites, or hospitalization for lizard bites.

He then called the medical officer in Amaloya, who confirmed that a nine-day-old infant, sleeping in its crib, had been bitten on the foot by an animal the grandmother—the only person actually to see it—claimed was a lizard. Subsequently the foot had become swollen and the infant had nearly died. The grandmother described the lizard as green with brown stripes. It had bitten the child several times before the woman frightened it away.

"Strange," Guitierrez had said.

"No, like all the others," the medical officer replied, adding that he had heard of other biting incidents: A child in Vásquez, the next village up the coast, had been bitten while sleeping. And another in Puerta Sotrera. All these incidents had occurred in the last two months. All had involved sleeping children and infants.

Such a new and distinctive pattern led Guitierrez to suspect the presence of a previously unknown species of lizard. This was particularly likely to happen in Costa Rica. Only seventy-five miles wide at its narrowest point, the country was smaller than the state of Maine. Yet, within its limited space, Costa Rica had a remarkable diversity of biological habitats: seacoasts on both the Atlantic and the Pacific; four separate mountain ranges, including twelve-thousand-foot peaks and active volcanoes; rain forests, cloud forests, temperate zones, swampy marshes, and arid deserts. Such ecological diversity sustained an astonishing diversity of plant and animal life. Costa Rica had three times as many species of birds as all of North America. More than a thousand species of orchids. More than five thousand species of insects.

New species were being discovered all the time at a pace that had increased in recent years, for a sad reason. Costa Rica was becoming deforested, and as jungle species lost their habitats, they moved to other areas, and sometimes changed behavior as well.

So a new species was perfectly possible. But along with the excitement of a new species was the worrisome possibility of new diseases. Lizards carried viral diseases, including several that could be transmitted to man. The most serious was central saurian encephalitis, or CSE, which caused a form of sleeping sickness in human beings and horses. Guitierrez felt it was important to find this new lizard, if only to test it for disease.

Sitting on the beach, he watched the sun drop lower, and sighed. Perhaps Tina Bowman had seen a new animal, and perhaps not. Certainly Guitierrez had not. Earlier that morning, he had taken the air pistol, loaded the clip with ligamine darts, and set out for the beach with high hopes. But the day was wasted. Soon he would have to begin the drive back up the hill from the beach; he did not want to drive that road in darkness.

Guitierrez got to his feet and started back up the beach. Farther along, he saw the dark shape of a howler monkey, ambling along the edge of the mangrove swamp. Guitierrez moved away, stepping out toward the water. If there was one howler, there would probably be others in the trees overhead, and howlers tended to urinate on intruders.

But this particular howler monkey seemed to be alone, and walking slowly, and pausing frequently to sit on its haunches. The monkey had something in its mouth. As Guitierrez came closer, he saw it was eating a lizard. The tail and the hind legs drooped from the monkey's jaws. Even from a distance, Guitierrez could see the brown stripes against the green.

Guitierrez dropped to the ground and aimed the pistol. The howler monkey, accustomed to living in a protected reserve, stared curiously. He did not run away, even when the first dart whined harmlessly past him. When the second dart struck deep in the thigh, the howler shrieked in anger and surprise, dropping the remains of its meal as it fled into the jungle.

Guitierrez got to his feet and walked forward. He wasn't worried about the monkey; the tranquilizer dose was too small to give it anything but a few minutes of dizziness. Already he was thinking of what to do with his new find. Guitierrez himself would write the preliminary report, but the remains would have to be sent back to the United States for final positive identification, of course. To whom should he send it? The acknowledged expert was Edward H. Simpson, emeritus professor of zoology at Columbia University, in New York. An elegant older man with swept-back white hair, Simpson was the world's leading authority on lizard taxonomy. Probably, Marty thought, he would send his lizard to Dr. Simpson.

NEW YORK

Dr. Richard Stone, head of the Tropical Diseases Laboratory of Columbia University Medical Center, often remarked that the name conjured up a grander place than it actually was. In the early twentieth century, when the laboratory occupied the entire fourth floor of the Biomedical Research Building, crews of

technicians worked to eliminate the scourges of yellow fever, malaria, and cholera. But medical successes—and research laboratories in Nairobi and São Paulo—had left the TDL a much less important place than it once was. Now a fraction of its former size, it employed only two full-time technicians, and they were primarily concerned with diagnosing illnesses of New Yorkers who had traveled abroad. The lab's comfortable routine was unprepared for what it received that morning.

"Oh, very nice," the technician in the Tropical Diseases Laboratory said, as she read the customs label. "Partially masticated fragment of unidentified Costa Rican lizard." She wrinkled her nose. "This one's all yours, Dr. Stone."

Richard Stone crossed the lab to inspect the new arrival. "Is this the material from Ed Simpson's lab?"

"Yes," she said. "But I don't know why they'd send a lizard to *us*."

"His secretary called," Stone said. "Simpson's on a field trip in Borneo for the summer, and because there's a question of communicable disease with this lizard, she asked our lab to take a look at it. Let's see what we've got."

The white plastic cylinder was the size of a half-gallon milk container. It had locking metal latches and a screw top. It was labeled "International Biological Specimen Container" and plastered with stickers and warnings in four languages. The warnings were intended to keep the cylinder from being opened by suspicious customs officials.

Apparently the warnings had worked; as Richard Stone swung the big light over, he could see the seals were still intact. Stone turned on the air handlers and pulled on plastic gloves and a face mask. After all, the lab had recently identified specimens contaminated with Venezuelan equine fever, Japanese B encephalitis, Kyasanur Forest virus, Langat virus, and Mayaro. Then he unscrewed the top.

There was the hiss of escaping gas, and white smoke boiled out. The cylinder turned frosty cold. Inside he found a plastic zip-lock sandwich bag, containing something green. Stone spread a surgical drape on the table and shook out the contents of the bag. A piece of frozen flesh struck the table with a dull thud.

"Huh," the technician said. "Looks eaten."

"Yes, it does," Stone said. "What do they want with us?"

The technician consulted the enclosed documents. "Lizard is biting local children. They have a question about identification of the species, and a concern about diseases transmitted from the bite." She produced a child's picture of a lizard, signed TINA at the top. "One of the kids drew a picture of the lizard."

Stone glanced at the picture. "Obviously we can't verify the species," Stone said. "But we can check diseases easily enough, if we can get any blood out of this fragment. What are they calling this animal?"

" '*Basiliscus amoratus* with three-toed genetic anomaly,' " she said, reading.

"Okay," Stone said. "Let's get started. While you're waiting for it to thaw, do an X ray and take Polaroids for the record. Once we have blood, start running antibody sets until we get some matches. Let me know if there's a problem."

Before lunchtime, the lab had its answer: the lizard blood showed no significant

reactivity to any viral or bacterial antigen. They had run toxicity profiles as well, and they had found only one positive match: the blood was mildly reactive to the venom of the Indian king cobra. But such cross-reactivity was common among reptile species, and Dr. Stone did not think it noteworthy to include in the fax his technician sent to Dr. Martin Guitierrez that same evening. There was never any question about identifying the lizard; that would await the return of Dr. Simpson. He was not due back for several weeks, and his secretary asked if the TDL would please store the lizard fragment in the meantime. Dr. Stone put it back in the zip-lock bag and stuck it in the freezer.

Martin Guitierrez read the fax from the Columbia Medical Center/Tropical Diseases Laboratory. It was brief:

> SUBJECT: *Basiliscus amoratus* with genetic anomaly
> (forwarded from Dr. Simpson's office)
>
> MATERIALS: posterior segment, ? partially eaten animal
>
> PROCEDURES PERFORMED: X ray, microscopic, immunological RTX for viral, parasitic, bacterial disease.
>
> FINDINGS: No histologic or immunologic evidence for any communicable disease in man in this *Basiliscus amoratus* sample.
>
> (signed)
> Richard A. Stone, M.D., director

Guitierrez made two assumptions based on the memo. First, that his identification of the lizard as a basilisk had been confirmed by scientists at Columbia University. And second, that the absence of communicable disease meant the recent episodes of sporadic lizard bites implied no serious health hazards for Costa Rica. On the contrary, he felt his original views were correct: that a lizard species had been driven from the forest into a new habitat, and was coming into contact with village people. Guitierrez was certain that in a few more weeks the lizards would settle down and the biting episodes would end.

The tropical rain fell in great drenching sheets, hammering the corrugated roof of the clinic in Bahía Anasco. It was nearly midnight; power had been lost in the storm, and the midwife Elena Morales was working by flashlight when she heard a squeaking, chirping sound. Thinking that it was a rat, she quickly put a compress on the forehead of the mother and went into the next room to check on the newborn baby. As her hand touched the doorknob, she heard the chirping again, and she relaxed. Evidently it was just a bird, flying in the window to get out of the rain. Costa Ricans said that when a bird came to visit a newborn child, it brought good luck.

Elena opened the door. The infant lay in a wicker bassinet, swaddled in a light blanket, only its face exposed. Around the rim of the bassinet, three dark green lizards crouched like gargoyles. When they saw Elena, they cocked their heads and stared curiously at her, but did not flee. In the light of her flashlight Elena

saw the blood dripping from their snouts. Softly chirping, one lizard bent down and, with a quick shake of its head, tore a ragged chunk of flesh from the baby.

Elena rushed forward, screaming, and the lizards fled into the darkness. But long before she reached the bassinet, she could see what had happened to the infant's face, and she knew the child must be dead. The lizards scattered into the rainy night, chirping and squealing, leaving behind only bloody three-toed tracks, like birds.

THE SHAPE OF THE DATA

Later, when she was calmer, Elena Morales decided not to report the lizard attack. Despite the horror she had seen, she began to worry that she might be criticized for leaving the baby unguarded. So she told the mother that the baby had asphyxiated, and she reported the death on the forms she sent to San José as SIDS: sudden infant death syndrome. This was a syndrome of unexplained death among very young children; it was unremarkable, and her report went unchallenged.

The university lab in San José that analyzed the saliva sample from Tina Bowman's arm made several remarkable discoveries. There was, as expected, a great deal of serotonin. But among the salivary proteins was a real monster: molecular mass of 1,980,000, one of the largest proteins known. Biological activity was still under study, but it seemed to be a neurotoxic poison related to cobra venom, although more primitive in structure.

The lab also detected trace quantities of the gamma-amino methionine hydrolase. Because this enzyme was a marker for genetic engineering, and not found in wild animals, technicians assumed it was a lab contaminant and did not report it when they called Dr. Cruz, the referring physician in Puntarenas.

The lizard fragment rested in the freezer at Columbia University, awaiting the return of Dr. Simpson, who was not expected for at least a month. And so things might have remained, had not a technician named Alice Levin walked into the Tropical Diseases Laboratory, seen Tina Bowman's picture, and said, "Oh, whose kid drew the dinosaur?"

"What?" Richard Stone said, turning slowly toward her.

"The dinosaur. Isn't that what it is? My kid draws them all the time."

"This is a lizard," Stone said. "From Costa Rica. Some girl down there drew a picture of it."

"No," Alice Levin said, shaking her head. "Look at it. It's very clear. Big head, long neck, stands on its hind legs, thick tail. It's a dinosaur."

"It can't be. It was only a foot tall."

"So? There were little dinosaurs back then," Alice said. "Believe me, I know. I have two boys, I'm an expert. The smallest dinosaurs were under a foot. Teenysaurus or something, I don't know. Those names are impossible. You'll never learn those names if you're over the age of ten."

"You don't understand," Richard Stone said. "This is a picture of a contemporary animal. They sent us a fragment of the animal. It's in the freezer now." Stone went and got it, and shook it out of the baggie.

Alice Levin looked at the frozen piece of leg and tail, and shrugged. She didn't touch it. "I don't know," she said. "But that looks like a dinosaur to me."

Stone shook his head. "Impossible."

"Why?" Alice Levin said. "It could be a leftover or a remnant or whatever they call them."

Stone continued to shake his head. Alice was uninformed; she was just a technician who worked in the bacteriology lab down the hall. And she had an active imagination. Stone remembered the time when she thought she was being followed by one of the surgical orderlies. ...

"You know," Alice Levin said, "if this *is* a dinosaur, Richard, it could be a big deal."

"It's not a dinosaur."

"Has anybody checked it?"

"No," Stone said.

"Well, take it to the Museum of Natural History or something," Alice Levin said. "You really should."

"I'd be embarrassed."

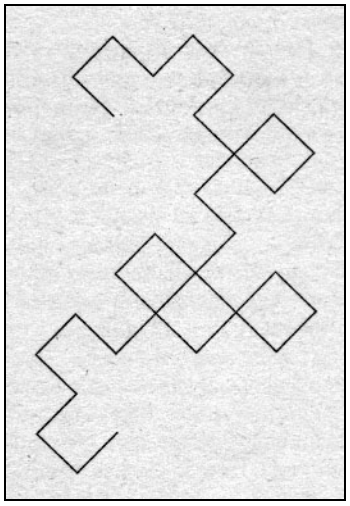
"You want me to do it for you?" she said.

"No," Richard Stone said. "I don't."

"You're not going to do anything?"

"Nothing at all." He put the baggie back in the freezer and slammed the door. "It's not a dinosaur, it's a lizard. And whatever it is, it can wait until Dr. Simpson gets back from Borneo to identify it. That's final, Alice. This lizard's not going anywhere."

SECOND ITERATION



"With subsequent drawings of the fractal curve,
sudden changes may appear."
IAN MALCOLM

THE SHORE OF THE INLAND SEA

Alan Grant crouched down, his nose inches from the ground. The temperature was over a hundred degrees. His knees ached, despite the rug-layer's pads he wore. His lungs burned from the harsh alkaline dust. Sweat dripped off his forehead onto the ground. But Grant was oblivious to the discomfort. His entire attention was focused on the six-inch square of earth in front of him.

Working patiently with a dental pick and an artist's camel brush, he exposed the tiny L-shaped fragment of jawbone. It was only an inch long, and no thicker than his little finger. The teeth were a row of small points, and had the characteristic medial angling. Bits of bone flaked away as he dug. Grant paused for a moment to paint the bone with rubber cement before continuing to expose it. There was no question that this was the jawbone from an infant carnivorous dinosaur. Its owner had died seventy-nine million years ago, at the age of about two months. With any luck, Grant might find the rest of the skeleton as well. If so, it would be the first complete skeleton of a baby carnivore—

"Hey, Alan!"

Alan Grant looked up, blinking in the sunlight. He pulled down his sunglasses, and wiped his forehead with the back of his arm.

He was crouched on an eroded hillside in the badlands outside Snakewater, Montana. Beneath the great blue bowl of sky, blunted hills, exposed outcroppings of crumbling limestone, stretched for miles in every direction. There was not a tree, or a bush. Nothing but barren rock, hot sun, and whining wind.

Visitors found the badlands depressingly bleak, but when Grant looked at this landscape, he saw something else entirely. This barren land was what remained of another, very different world, which had vanished eighty million years ago. In his mind's eye, Grant saw himself back in the warm, swampy bayou that formed the shoreline of a great inland sea. This inland sea was a thousand miles wide, extending all the way from the newly upthrust Rocky Mountains to the sharp, craggy peaks of the Appalachians. All of the American West was under water.

At that time, there were thin clouds in the sky overhead, darkened by the smoke of nearby volcanoes. The atmosphere was denser, richer in carbon dioxide. Plants grew rapidly along the shoreline. There were no fish in these waters, but there were clams and snails. Pterosaurs swooped down to scoop algae from the surface. A few carnivorous dinosaurs prowled the swampy shores of the lake, moving among the palm trees. And offshore was a small island, about two acres in size. Ringed with dense vegetation, this island formed a protected sanctuary where herds of herbivorous duckbilled dinosaurs laid their eggs in communal nests, and raised their squeaking young.

Over the millions of years that followed, the pale green alkaline lake grew shallower, and finally vanished. The exposed land buckled and cracked under the heat. And the offshore island with its dinosaur eggs became the eroded

hillside in northern Montana which Alan Grant was now excavating.

"Hey, *Alan!"*

He stood, a barrel-chested, bearded man of forty. He heard the chugging of the portable generator, and the distant clatter of the jackhammer cutting into the dense rock on the next hill. He saw the kids working around the jackhammer, moving away the big pieces of rock after checking them for fossils. At the foot of the hill, he saw the six tipis of his camp, the flapping mess tent, and the trailer that served as their field laboratory. And he saw Ellie waving to him, from the shadow of the field laboratory.

"Visitor!" she called, and pointed to the east.

Grant saw the cloud of dust, and the blue Ford sedan bouncing over the rutted road toward them. He glanced at his watch: right on time. On the other hill, the kids looked up with interest. They didn't get many visitors in Snakewater, and there had been a lot of speculation about what a lawyer from the Environmental Protection Agency would want to see Alan Grant about.

But Grant knew that paleontology, the study of extinct life, had in recent years taken on an unexpected relevance to the modern world. The modern world was changing fast, and urgent questions about the weather, deforestation, global warming, or the ozone layer often seemed answerable, at least in part, with information from the past. Information that paleontologists could provide. He had been called as an expert witness twice in the past few years.

Grant started down the hill to meet the car.

The visitor coughed in the white dust as he slammed the car door. "Bob Morris, EPA," he said, extending his hand. "I'm with the San Francisco office."

Grant introduced himself and said, "You look hot. Want a beer?"

"Jesus, yeah." Morris was in his late twenties, wearing a tie, and pants from a business suit. He carried a briefcase. His wing-tip shoes crunched on the rocks as they walked toward the trailer.

"When I first came over the hill, I thought this was an Indian reservation," Morris said, pointing to the tipis.

"No," Grant said. "Just the best way to live out here." Grant explained that in 1978, the first year of the excavations, they had come out in North Slope octahedral tents, the most advanced available. But the tents always blew over in the wind. They tried other kinds of tents, with the same result. Finally they started putting up tipis, which were larger inside, more comfortable, and more stable in wind. "These're Blackfoot tipis, built around four poles," Grant said. "Sioux tipis are built around three. But this used to be Black-foot territory, so we thought ..."

"Uh-huh," Morris said. "Very fitting." He squinted at the desolate landscape and shook his head. "How long you been out here?"

"About sixty cases," Grant said. When Morris looked surprised, he explained, "We measure time in beer. We start in June with a hundred cases. We've gone through about sixty so far."

"Sixty-three, to be exact," Ellie Sattler said, as they reached the trailer. Grant was amused to see Morris gaping at her. Ellie was wearing cut-off jeans and a workshirt tied at her midriff. She was twenty-four and darkly tanned. Her blond

hair was pulled back.

"Ellie keeps us going," Grant said, introducing her. "She's very good at what she does."

"What does she do?" Morris asked.

"Paleobotany," Ellie said. "And I also do the standard field preps." She opened the door and they went inside.

The air conditioning in the trailer only brought the temperature down to eighty-five degrees, but it seemed cool after the midday heat. The trailer had a series of long wooden tables, with tiny bone specimens neatly laid out, tagged and labeled. Farther along were ceramic dishes and crocks. There was a strong odor of vinegar.

Morris glanced at the bones. "I thought dinosaurs were big," he said.

"They were," Ellie said. "But everything you see here comes from babies. Snakewater is important primarily because of the number of dinosaur nesting sites here. Until we started this work, there were hardly any infant dinosaurs known. Only one nest had ever been found, in the Gobi Desert. We've discovered a dozen different hadrosaur nests, complete with eggs and bones of infants."

While Grant went to the refrigerator, she showed Morris the acetic acid baths, which were used to dissolve away the limestone from the delicate bones.

"They look like chicken bones," Morris said, peering into the ceramic dishes.

"Yes," she said. "They're very bird-like."

"And what about those?" Morris said, pointing through the trailer window to piles of large bones outside, wrapped in heavy plastic.

"Rejects," Ellie said. "Bones too fragmentary when we took them out of the ground. In the old days we'd just discard them, but nowadays we send them for genetic testing."

"Genetic testing?" Morris said.

"Here you go," Grant said, thrusting a beer into his hand. He gave another to Ellie. She chugged hers, throwing her long neck back. Morris stared.

"We're pretty informal here," Grant said. "Want to step into my office?"

"Sure," Morris said. Grant led him to the end of the trailer, where there was a torn couch, a sagging chair, and a battered end table. Grant dropped onto the couch, which creaked and exhaled a cloud of chalky dust. He leaned back, thumped his boots up on the end table, and gestured for Morris to sit in the chair. "Make yourself comfortable."

Grant was a professor of paleontology at the University of Denver, and one of the foremost researchers in his field, but he had never been comfortable with social niceties. He saw himself as an outdoor man, and he knew that all the important work in paleontology was done outdoors, with your hands. Grant had little patience for the academics, for the museum curators, for what he called Teacup Dinosaur Hunters. And he took some pains to distance himself in dress and behavior from the Teacup Dinosaur Hunters, even delivering his lectures in jeans and sneakers.

Grant watched as Morris primly brushed off the seat of the chair before he sat down. Morris opened his briefcase, rummaged through his papers, and glanced

back at Ellie, who was lifting bones with tweezers from the acid bath at the other end of the trailer, paying no attention to them. "You're probably wondering why I'm here."

Grant nodded. "It's a long way to come, Mr. Morris."

"Well," Morris said, "to get right to the point, the EPA is concerned about the activities of the Hammond Foundation. You receive some funding from them."

"Thirty thousand dollars a year," Grant said, nodding. "For the last five years."

"What do you know about the foundation?" Morris said.

Grant shrugged. "The Hammond Foundation is a respected source of academic grants. They fund research all over the world, including several dinosaur researchers. I know they support Bob Kerry out of the Tyrrell in Alberta, and John Weller in Alaska. Probably more."

"Do you know why the Hammond Foundation supports so much dinosaur research?" Morris asked.

"Of course. It's because old John Hammond is a dinosaur nut."

"You've met Hammond?"

Grant shrugged. "Once or twice. He comes here for brief visits. He's quite elderly, you know. And eccentric, the way rich people sometimes are. But always very enthusiastic. Why?"

"Well," Morris said, "the Hammond Foundation is actually a rather mysterious organization." He pulled out a Xeroxed world map, marked with red dots, and passed it to Grant. "These are the digs the foundation financed last year. Notice anything odd about them? Montana, Alaska, Canada, Sweden ... They're all sites in the north. There's nothing below the forty-fifth parallel." Morris pulled out more maps. "It's the same, year after year. Dinosaur projects to the south, in Utah or Colorado or Mexico, never get funded. The Hammond Foundation only supports cold-weather digs. We'd like to know why."

Grant shuffled through the maps quickly. If it was true that the foundation only supported cold-weather digs, then it was strange behavior, because some of the best dinosaur researchers were working in hot climates, and—

"And there are other puzzles," Morris said, "For example, what is the relationship of dinosaurs to amber?"

"Amber?"

"Yes. It's the hard yellow resin of dried tree sap—"

"I know what it is," Grant said. "But why are you asking?"

"Because," Morris said, "over the last five years, Hammond has purchased enormous quantities of amber in America, Europe, and Asia, including many pieces of museum-quality jewelry. The foundation has spent seventeen million dollars on amber. They now possess the largest privately held stock of this material in the world."

"I don't get it," Grant said.

"Neither does anybody else," Morris said. "As far as we can tell, it doesn't make any sense at all. Amber is easily synthesized. It has no commercial or defense value. There's no reason to stockpile it. But Hammond has done just that, over many years."

"Amber," Grant said, shaking his head.

"And what about his island in Costa Rica?" Morris continued. "Ten years ago, the Hammond Foundation leased an island from the government of Costa Rica. Supposedly to set up a biological preserve."

"I don't know anything about that," Grant said, frowning.

"I haven't been able to find out much," Morris said. "The island is a hundred miles off the west coast. It's very rugged, and it's in an area of ocean where the combinations of wind and current make it almost perpetually covered in fog. They used to call it Cloud Island. Isla Nublar. Apparently the Costa Ricans were amazed that anybody would want it." Morris searched in his briefcase. "The reason I mention it," he said, "is that, according to the records, you were paid a consultant's fee in connection with this island."

"I was?" Grant said.

Morris passed a sheet of paper to Grant. It was the Xerox of a check issued in March 1984 from InGen Inc., Farallon Road, Palo Alto, California. Made out to Alan Grant in the amount of twelve thousand dollars. At the lower corner, the check was marked CONSULTANT SERVICES/COSTA RICA/JUVENILE HYPERSPACE.

"Oh, sure," Grant said. "I remember that. It was weird as hell, but I remember it. And it didn't have anything to do with an island."

* * *

Alan Grant had found the first clutch of dinosaur eggs in Montana in 1979, and many more in the next two years, but he hadn't gotten around to publishing his findings until 1983. His paper, with its report of a herd of ten thousand duckbilled dinosaurs living along the shore of a vast inland sea, building communal nests of eggs in the mud, raising their infant dinosaurs in the herd, made Grant a celebrity overnight. The notion of maternal instincts in giant dinosaurs—and the drawings of cute babies poking their snouts out of the eggs—had appeal around the world. Grant was besieged with requests for interviews, lectures, books. Characteristically, he turned them all down, wanting only to continue his excavations. But it was during those frantic days of the mid-1980s that he was approached by the InGen corporation with a request for consulting services.

"Had you heard of InGen before?" Morris asked.

"No."

"How did they contact you?"

"Telephone call. It was a man named Gennaro or Gennino, something like that."

Morris nodded. "Donald Gennaro," he said. "He's the legal counsel for InGen."

"Anyway, he wanted to know about eating habits of dinosaurs. And he offered me a fee to draw up a paper for him." Grant drank his beer, set the can on the floor. "Gennaro was particularly interested in young dinosaurs. Infants and juveniles. What they ate. I guess he thought I would know about that."

"Did you?"

"Not really, no. I told him that. We had found lots of skeletal material, but we had very little dietary data. But Gennaro said he knew we hadn't published everything, and he wanted whatever we had. And he offered a very large fee. Fifty thousand dollars."

Morris took out a tape recorder and set it on the endtable. "You mind?"

"No, go ahead."

"So Gennaro telephoned you in 1984. What happened then?"

"Well," Grant said. "You see our operation here. Fifty thousand would support two full summers of digging. I told him I'd do what I could."

"So you agreed to prepare a paper for him."

"Yes."

"On the dietary habits of juvenile dinosaurs?"

"Yes."

"You met Gennaro?"

"No. Just on the phone."

"Did Gennaro say why he wanted this information?"

"Yes," Grant said. "He was planning a museum for children, and he wanted to feature baby dinosaurs. He said he was hiring a number of academic consultants, and named them. There were paleontologists like me, and a mathematician from Texas named Ian Malcolm, and a couple of ecologists. A systems analyst. Good group."

Morris nodded, making notes. "So you accepted the consultancy?"

"Yes. I agreed to send him a summary of our work: what we knew about the habits of the duckbilled hadrosaurs we'd found."

"What kind of information did you send?" Morris asked.

"Everything: nesting behavior, territorial ranges, feeding behavior, social behavior. Everything."

"And how did Gennaro respond?"

"He kept calling and calling. Sometimes in the middle of the night. Would the dinosaurs eat this? Would they eat that? Should the exhibit include this? I could never understand why he was so worked up. I mean, I think dinosaurs are important, too, but not *that* important. They've been dead sixty-five million years. You'd think his calls could wait until morning."

"I see," Morris said. "And the fifty thousand dollars?"

Grant shook his head. "I got tired of Gennaro and called the whole thing off. We settled up for twelve thousand. That must have been about the middle of '85."

Morris made a note. "And InGen? Any other contact with them?"

"Not since 1985."

"And when did the Hammond Foundation begin to fund your research?"

"I'd have to look," Grant said. "But it was around then. Mid-eighties."

"And you know Hammond as just a rich dinosaur enthusiast."

"Yes."

Morris made another note.

"Look," Grant said. "If the EPA is so concerned about John Hammond and what he's doing—the dinosaur sites in the north, the amber purchases, the island in Costa Rica—why don't you just ask him about it?"

"At the moment, we can't," Morris said.

"Why not?" Grant said.

"Because we don't have any evidence of wrongdoing," Morris said. "But

personally, I think it's clear John Hammond is evading the law."

"I was first contacted," Morris explained, "by the Office of Technology Transfer. The OTT monitors shipments of American technology which might have military significance. They called to say that InGen had two areas of possible illegal technology transfer. First, InGen shipped three Cray XMPs to Costa Rica. InGen characterized it as a transfer within corporate divisions, and said they weren't for resale. But OTT couldn't imagine why the hell somebody'd need that power in Costa Rica."

"Three Crays," Grant said. "Is that a kind of computer?"

Morris nodded. "Very powerful supercomputers. To put it in perspective, three Crays represent more computing power than any other privately held company in America. And InGen sent the machines to Costa Rica. You have to wonder why."

"I give up. Why?" Grant said.

"Nobody knows. And the Hoods are even more worrisome," Morris continued. "Hoods are automated gene sequencers—machines that work out the genetic code by themselves. They're so new that they haven't been put on the restricted lists yet. But any genetic engineering lab is likely to have one, if it can afford the half-million-dollar price tag." He flipped through his notes. "Well, it seems InGen shipped *twenty-four* Hood sequencers to their island in Costa Rica.

"Again, they said it was a transfer within divisions and not an export," Morris said. "There wasn't much that OTT could do. They're not officially concerned with use. But InGen was obviously setting up one of the most powerful genetic engineering facilities in the world in an obscure Central American country. A country with no regulations. That kind of thing has happened before."

There had already been cases of American bioengineering companies moving to another country so they would not be hampered by regulations and rules. The most flagrant, Morris explained, was the Biosyn rabies case.

In 1986, Genetic Biosyn Corporation of Cupertino tested a bioengineered rabies vaccine on a farm in Chile. They didn't inform the government of Chile, or the farm workers involved. They simply released the vaccine.

The vaccine consisted of a live rabies virus, genetically modified to be nonvirulent. But the virulence hadn't been tested; Biosyn didn't know whether the virus could still cause rabies or not. Even worse, the virus had been modified. Ordinarily you couldn't contract rabies unless you were bitten by an animal. But Biosyn modified the rabies virus to cross the pulmonary alveoli; you could get an infection just inhaling it. Biosyn staffers brought this live rabies virus down to Chile in a carry-on bag on a commercial airline flight. Morris often wondered what would have happened if the capsule had broken open during the flight. Everybody on the plane might have been infected with rabies.

It was outrageous. It was irresponsible. It was criminally negligent. But no action was taken against Biosyn. The Chilean farmers who unwittingly risked their lives were ignorant peasants; the government of Chile had an economic crisis to worry about; and the American authorities had no jurisdiction. So Lewis Dodgson, the geneticist responsible for the test, was still working at Biosyn. Biosyn was still as reckless as ever. And other American companies were

hurrying to set up facilities in foreign countries that lacked sophistication about genetic research. Countries that perceived genetic engineering to be like any other high-tech development, and thus welcomed it to their lands, unaware of the dangers posed.

"So that's why we began our investigation of InGen," Morris said. "About three weeks ago."

"And what have you actually found?" Grant said.

"Not much," Morris admitted. "When I go back to San Francisco, we'll probably have to close the investigation. And I think I'm about finished here." He started packing up his briefcase. "By the way, what *does* 'juvenile hyperspace' mean?"

"That's just a fancy label for my report," Grant said. " 'Hyper-space' is a term for multidimensional space—like three-dimensional tic-tac-toe. If you were to take all the behaviors of an animal, its eating and movement and sleeping, you could plot the animal within the multidimensional space. Some paleontologists refer to the behavior of an animal as occurring in an ecological hyperspace. 'Juvenile hyperspace' would just refer to the behavior of juvenile dinosaurs—if you wanted to be as pretentious as possible."

At the far end of the trailer, the phone rang. Ellie answered it. She said, "He's in a meeting right now. Can he call you back?"

Morris snapped his briefcase shut and stood. "Thanks for your help and the beer," he said.

"No problem," Grant said.

Grant walked with Morris down the trailer to the door at the far end. Morris said, "Did Hammond ever ask for any physical materials from your site? Bones, or eggs, or anything like that?"

"No," Grant said.

"Dr. Sattler mentioned you do some genetic work here. ..."

"Well, not exactly," Grant said. "When we remove fossils that are broken or for some other reason not suitable for museum preservation, we send the bones out to a lab that grinds them up and tries to extract proteins for us. The proteins are then identified and the report is sent back to us."

"Which lab is that?" Morris asked.

"Medical Biologic Services in Salt Lake."

"How'd you choose them?"

"Competitive bids."

"The lab has nothing to do with InGen?" Morris asked.

"Not that I know," Grant said.

They came to the door of the trailer. Grant opened it, and felt the rush of hot air from outside. Morris paused to put on his sunglasses.

"One last thing," Morris said. "Suppose InGen wasn't really making a museum exhibit. Is there anything else they could have done with the information in the report you gave them?"

Grant laughed. "Sure. They could feed a baby hadrosaur."

Morris laughed, too. "A baby hadrosaur. That'd be something to see. How big were they?"

"About so," Grant said, holding his hands six inches apart. "Squirrel-size."

"And how long before they become full-grown?"

"Three years," Grant said. "Give or take."

Morris held out his hand. "Well, thanks again for your help."

"Take it easy driving back," Grant said. He watched for a moment as Morris walked back toward his car, and then closed the trailer door.

Grant said, "What did you think?"

Ellie shrugged. "Naïve."

"You like the part where John Hammond is the evil arch-villain?" Grant laughed. "John Hammond's about as sinister as Walt Disney. By the way, who called?"

"Oh," Ellie said, "it was a woman named Alice Levin. She works at Columbia Medical Center. You know her?"

Grant shook his head. "No."

"Well, it was something about identifying some remains. She wants you to call her back right away."

SKELETON

Ellie Sattler brushed a strand of blond hair back from her face and turned her attention to the acid baths. She had six in a row, at molar strengths from 5 to 30 percent. She had to keep an eye on the stronger solutions, because they would eat through the limestone and begin to erode the bones. And infant-dinosaur bones were so fragile. She marveled that they had been preserved at all, after eighty million years.

She listened idly as Grant said, "Miss Levin? This is Alan Grant. What's this about a ... You have what? A *what?"* He began to laugh. "Oh, I doubt that very much, Miss Levin. ... No, I really don't have time, I'm sorry. ... Well, I'd take a look at it, but I can pretty much guarantee it's a basilisk lizard. But ... yes, you can do that. All right. Send it now." Grant hung up, and shook his head. "These people."

Ellie said, "What's it about?"

"Some lizard she's trying to identify," Grant said. "She's going to fax me an X ray." He walked over to the fax and waited as the transmission came through. "Incidentally, I've got a new find for you. A good one."

"Yes?"

Grant nodded. "Found it just before the kid showed up. On South Hill, horizon four. Infant velociraptor: jaw and complete dentition, so there's no question about identity. And the site looks undisturbed. We might even get a full skeleton."

"That's fantastic," Ellie said. "How young?"

"Young," Grant said. "Two, maybe four months at most."

"And it's definitely a velociraptor?"

"Definitely," Grant said. "Maybe our luck has finally turned."

For the last two years at Snakewater, the team had excavated only duckbilled hadrosaurs. They already had evidence for vast herds of these grazing

dinosaurs, roaming the Cretaceous plains in groups of ten or twenty thousand, as buffalo would later roam.

But increasingly the question that faced them was: where were the predators?

They expected predators to be rare, of course. Studies of predator/prey populations in the game parks of Africa and India suggested that, roughly speaking, there was one predatory carnivore for every four hundred herbivores. That meant a herd of ten thousand duckbills would support only twenty-five tyrannosaurs. So it was unlikely that they would find the remains of a large predator.

But where were the smaller predators? Snakewater had dozens of nesting sites—in some places, the ground was literally covered with fragments of dinosaur eggshells—and many small dinosaurs ate eggs. Animals like *Dromaeosaurus, Oviraptor, Velociraptor,* and *Coelurus*—predators three to six feet tall—must have been found here in abundance.

But they had discovered none so far.

Perhaps this velociraptor skeleton did mean their luck had changed. And an infant! Ellie knew that one of Grant's dreams was to study infant-rearing behavior in carnivorous dinosaurs, as he had already studied the behavior of herbivores. Perhaps this was the first step toward that dream. "You must be pretty excited," Ellie said.

Grant didn't answer.

"I said, you must be excited," Ellie repeated.

"My God," Grant said. He was staring at the fax.

* * *

Ellie looked over Grant's shoulder at the X ray, and breathed out slowly. "You think it's an *amassicus?"*

"Yes," Grant said. "Or a *triassicus.* The skeleton is so light."

"But it's no lizard," she said.

"No," Grant said. "This is not a lizard. No three-toed lizard has walked on this planet for two hundred million years."

Ellie's first thought was that she was looking at a hoax—an ingenious, skillful hoax, but a hoax nonetheless. Every biologist knew that the threat of a hoax was omnipresent. The most famous hoax, the Piltdown man, had gone undetected for forty years, and its perpetrator was still unknown. More recently, the distinguished astronomer Fred Hoyle had claimed that a fossil winged dinosaur, *Archaeopteryx,* on display in the British Museum, was a fraud. (It was later shown to be genuine.)

The essence of a successful hoax was that it presented scientists with what they expected to see. And, to Ellie's eye, the X ray image of the lizard was exactly correct. The three-toed foot was well balanced, with the medial claw smallest. The bony remnants of the fourth and fifth toes were located up near the metatarsal joint. The tibia was strong, and considerably longer than the femur. At the hip, the acetabulum was complete. The tail showed forty-five vertebrae. It was a young *Procompsognathus.*

"Could this X ray be faked?"

"I don't know," Grant said. "But it's almost impossible to fake an X ray. And

Procompsognathus is an obscure animal. Even people familiar with dinosaurs have never heard of it."

Ellie read the note. "Specimen acquired on the beach of Cabo Blanco, July 16. ... Apparently a howler monkey was eating the animal, and this was all that was recovered. Oh ... and it says the lizard attacked a little girl."

"I doubt that," Grant said. "But perhaps. *Procompsognathus* was so small and light we assume it must be a scavenger, only feeding off dead creatures. And you can tell the size"—he measured quickly—"it's about twenty centimeters to the hips, which means the full animal would be about a foot tall. About as big as a chicken. Even a child would look pretty fearsome to it. It might bite an infant, but not a child."

Ellie frowned at the X ray image. "You think this could really be a legitimate rediscovery?" she said. "Like the coelacanth?"

"Maybe," Grant said. The coelacanth was a five-foot-long fish thought to have died out sixty-five million years ago, until a specimen was pulled from the ocean in 1938. But there were other examples. The Australian mountain pygmy possum was known only from fossils until a live one was found in a garbage can in Melbourne. And a ten-thousand-year-old fossil fruit bat from New Guinea was described by a zoologist who not long afterward received a living specimen in the mail.

"But could it be real?" she persisted. "What about the age?"

Grant nodded. "The age is a problem."

Most rediscovered animals were rather recent additions to the fossil record: ten or twenty thousand years old. Some were a few million years old; in the case of the coelacanth, sixty-five million years old. But the specimen they were looking at was much, much older than that. Dinosaurs had died out in the Cretaceous period, sixty-five million years ago. They had flourished as the dominant life-form on the planet in the Jurassic, 190 million years ago. And they had first appeared in the Triassic, roughly 220 million years ago.

It was during the early Triassic period that *Procompsognathus* had lived—a time so distant that our planet didn't even look the same. All the continents were joined together in a single landmass, called Pangaea, which extended from the North to the South Pole—a vast continent of ferns and forests, with a few large deserts. The Atlantic Ocean was a narrow lake between what would become Africa and Florida. The air was denser. The land was warmer. There were hundreds of active volcanoes. And it was in this environment that *Procompsognathus* lived.

"Well," Ellie said. "We know animals have survived. Crocodiles are basically Triassic animals living in the present. Sharks are Triassic. So we know it has happened before."

Grant nodded. "And the thing is," he said, "how else do we explain it? It's either a fake—which I doubt—or else it's a rediscovery. What else could it be?"

The phone rang. "Alice Levin again," Grant said. "Let's see if she'll send us the actual specimen." He answered it and looked at Ellie, surprised. "Yes, I'll hold for Mr. Hammond. Yes. Of course."

"Hammond? What does he want?" Ellie said.

Grant shook his head, and then said into the phone, "Yes, Mr. Hammond. Yes, it's good to hear your voice, too. ... Yes ..." He looked at Ellie. "Oh, you did? Oh yes? Is that right?"

He cupped his hand over the mouthpiece and said, "Still as eccentric as ever. You've got to hear this."

Grant pushed the speaker button, and Ellie heard a raspy old-man's voice speaking rapidly: "—hell of an annoyance from some EPA fellow, seems to have gone off half cocked, all on his own, running around the country talking to people, stirring up things. I don't suppose anybody's come to see you way out there?"

"As a matter of fact," Grant said, "somebody did come to see me."

Hammond snorted. "I was afraid of that. Smart-ass kid named Morris?"

"Yes, his name was Morris," Grant said.

"He's going to see all our consultants," Hammond said. "He went to see Ian Malcolm the other day—you know, the mathematician in Texas? That's the first I knew of it. We're having one hell of a time getting a handle on this thing, it's typical of the way government operates, there isn't any complaint, there isn't any charge, just harassment from some kid who's unsupervised and is running around at the taxpayers' expense. Did he bother you? Disrupt your work?"

"No, no, he didn't bother me."

"Well, that's too bad, in a way," Hammond said, "because I'd try and get an injunction to stop him if he had. As it is, I had our lawyers call over at EPA to find out what the hell their problem is. The head of the office claims he didn't know there was any investigation! You figure that one out. Damned bureaucracy is all it is. Hell, I think this kid's trying to get down to Costa Rica, poke around, get onto our island. You know we have an island down there?"

"No," Grant said, looking at Ellie, "I didn't know."

"Oh yes, we bought it and started our operation oh, four or five years ago now. I forget exactly. Called Isla Nublar—big island, hundred miles offshore. Going to be a biological preserve. Wonderful place. Tropical jungle. You know, you ought to see it, Dr. Grant."

"Sounds interesting," Grant said, "but actually—"

"It's almost finished now, you know," Hammond said. "I've sent you some material about it. Did you get my material?"

"No, but we're pretty far from—"

"Maybe it'll come today. Look it over. The island's just beautiful. It's got everything. We've been in construction now thirty months. You can imagine. Big park. Opens in September next year. You really ought to go see it."

"It sounds wonderful, but—"

"As a matter of fact," Hammond said, "I'm going to insist you see it, Dr. Grant. I know you'd find it right up your alley. You'd find it fascinating."

"I'm in the middle of—" Grant said.

"Say, I'll tell you what," Hammond said, as if the idea had just occurred to him. "I'm having some of the people who consulted for us go down there this weekend. Spend a few days and look it over. At our expense, of course. It'd be terrific if you'd give us your opinion."

"I couldn't possibly," Grant said.

"Oh, just for a weekend," Hammond said, with the irritating, cheery persistence of an old man. "That's all I'm talking about, Dr. Grant. I wouldn't want to interrupt your work. I know how important that work is. Believe me, I know that. Never interrupt your work. But you could hop on down there this weekend, and be back on Monday."

"No, I couldn't," Grant said. "I've just found a new skeleton and—"

"Yes, fine, but I still think you should come—" Hammond said, not really listening.

"And we've just received some evidence for a very puzzling and remarkable find, which seems to be a living procompsognathid."

"A what?" Hammond said, slowing down. "I didn't quite get that. You said a living procompsognathid?"

"That's right," Grant said. "It's a biological specimen, a partial fragment of an animal collected from Central America. A living animal."

"You don't say," Hammond said. "A living animal? How extraordinary."

"Yes," Grant said. "We think so, too. So, you see, this isn't the time for me to be leaving—"

"Central America, did you say?"

"Yes."

"Where in Central America is it from, do you know?"

"A beach called Cabo Blanco, I don't know exactly where—"

"I see." Hammond cleared his throat. "And when did this, ah, specimen arrive in your hands?"

"Just today."

"Today, I see. Today. I see. Yes." Hammond cleared his throat again.

Grant looked at Ellie and mouthed, *What's going on?*

Ellie shook her head. *Sounds upset.*

Grant mouthed, *See if Morris is still here.*

She went to the window and looked out, but Morris's car was gone. She turned back.

On the speaker, Hammond coughed. "Ah, Dr. Grant. Have you told anybody about it yet?"

"No."

"Good, that's good. Well. Yes. I'll tell you frankly, Dr. Grant, I'm having a little problem about this island. This EPA thing is coming at just the wrong time."

"How's that?" Grant said.

"Well, we've had our problems and some delays. ... Let's just say that I'm under a little pressure here, and I'd like you to look at this island for me. Give me your opinion. I'll be paying you the usual weekend consultant rate of twenty thousand a day. That'd be sixty thousand for three days. And if you can spare Dr. Sattler, she'll go at the same rate. We need a botanist. What do you say?"

Ellie looked at Grant as he said, "Well, Mr. Hammond, that much money would fully finance our expeditions for the next two summers."

"Good, good," Hammond said blandly. He seemed distracted now, his thoughts elsewhere. "I want this to be easy. ... Now, I'm sending the corporate jet to pick you up at that private airfield east of Choteau. You know the one I mean? It's only

about two hours' drive from where you are. You be there at five p.m. tomorrow and I'll be waiting for you. Take you right down. Can you and Dr. Sattler make that plane?"

"I guess we can."

"Good. Pack lightly. You don't need passports. I'm looking forward to it. See you tomorrow," Hammond said, and he hung up.

COWAN, SWAIN AND ROSS

Midday sun streamed into the San Francisco law offices of Cowan, Swain and Ross, giving the room a cheerfulness that Donald Gennaro did not feel. He listened on the phone and looked at his boss, Daniel Ross, cold as an undertaker in his dark pinstripe suit.

"I understand, John," Gennaro said. "And Grant agreed to come? Good, good ... yes, that sounds fine to me. My congratulations, John." He hung up the phone and turned to Ross.

"We can't trust Hammond any more. He's under too much pressure. The EPA's investigating him, he's behind schedule on his Costa Rican resort, and the investors are getting nervous. There have been too many rumors of problems down there. Too many workmen have died. And now this business about a living procompsit-whatever on the mainland ..."

"What does that mean?" Ross said.

"Maybe nothing," Gennaro said. "But Hamachi is one of our principal investors. I got a report last week from Hamachi's representative in San José, the capital of Costa Rica. According to the report, some new kind of lizard is biting children on the coast."

Ross blinked. "New lizard?"

"Yes," Gennaro said. "We can't screw around with this. We've got to inspect that island right away. I've asked Hammond to arrange independent site inspections every week for the next three weeks."

"And what does Hammond say?"

"He insists nothing is wrong on the island. Claims he has all these security precautions."

"But you don't believe him," Ross said.

"No," Gennaro said. "I don't."

Donald Gennaro had come to Cowan, Swain from a background in investment banking. Cowan, Swain's high-tech clients frequently needed capitalization, and Gennaro helped them find the money. One of his first assignments, back in 1982, had been to accompany John Hammond while the old man, then nearly seventy, put together the funding to start the InGen corporation. They eventually raised almost a billion dollars, and Gennaro remembered it as a wild ride.

"Hammond's a dreamer," Gennaro said.

"A potentially dangerous dreamer," Ross said. "We should never have gotten

involved. What is our financial position?"

"The firm," Gennaro said, "owns five percent."

"General or limited?"

"General."

Ross shook his head. "We should never have done that."

"It seemed wise at the time," Gennaro said. "Hell, it was eight years ago. We took it in lieu of some fees. And, if you remember, Hammond's plan was extremely speculative. He was really pushing the envelope. Nobody really thought he could pull it off."

"But apparently he has," Ross said. "In any case, I agree that an inspection is overdue. What about your site experts?"

"I'm starting with experts Hammond already hired as consultants, early in the project." Gennaro tossed a list onto Ross's desk. "First group is a paleontologist, a paleobotanist, and a mathematician. They go down this weekend. I'll go with them."

"Will they tell you the truth?" Ross said.

"I think so. None of them had much to do with the island, and one of them—the mathematician, Ian Malcolm—was openly hostile to the project from the start. Insisted it would never work, could never work."

"And who else?"

"Just a technical person: the computer system analyst. Review the park's computers and fix some bugs. He should be there by Friday morning."

"Fine," Ross said. "You're making the arrangements?"

"Hammond asked to place the calls himself. I think he wants to pretend that he's not in trouble, that it's just a social invitation. Showing off his island."

"All right," Ross said. "But just make sure it happens. Stay on top of it. I want this Costa Rican situation resolved within a week." Ross got up, and walked out of the room.

* * *

Gennaro dialed, heard the whining hiss of a radiophone. Then he heard a voice say, "Grant here."

"Hi, Dr. Grant, this is Donald Gennaro. I'm the general counsel for InGen. We talked a few years back, I don't know if you remember—"

"I remember," Grant said.

"Well," Gennaro said. "I just got off the phone with John Hammond, who tells me the good news that you're coming down to our island in Costa Rica. ..."

"Yes," Grant said. "I guess we're going down there tomorrow."

'"Well, I just want to extend my thanks to you for doing this on short notice. Everybody at InGen appreciates it. We've asked Ian Malcolm, who like you was one of the early consultants, to come down as well. He's the mathematician at UT in Austin?"

"John Hammond mentioned that," Grant said.

"Well, good," Gennaro said. "And I'll be coming, too, as a matter of fact. By the way, this specimen you have found of a pro ... procom ... what is it?"

"Procompsognathus," Grant said.

"Yes. Do you have the specimen with you, Dr. Grant? The actual specimen?"

"No," Grant said. "I've only seen an X ray. The specimen is in New York. A woman from Columbia University called me."

"Well, I wonder if you could give me the details on that," Gennaro said. "Then I can run down that specimen for Mr. Hammond, who's very excited about it. I'm sure you want to see the actual specimen, too. Perhaps I can even get it delivered to the island while you're all down there," Gennaro said.

Grant gave him the information. "Well, that's fine, Dr. Grant," Gennaro said. "My regards to Dr. Sattler. I look forward to meeting you and him tomorrow." And Gennaro hung up.

PLANS

"This just came," Ellie said the next day, walking to the back of the trailer with a thick manila envelope. "One of the kids brought it back from town. It's from Hammond."

Grant noticed the blue-and-white InGen logo as he tore open the envelope. Inside there was no cover letter, just a bound stack of paper. Pulling it out, he discovered it was blueprints. They were reduced, forming a thick book. The cover was marked: ISLA NUBLAR RESORT GUEST FACILITIES (FULL SET: SAFARI LODGE).

"What the hell is this?" he said.

As he flipped open the book, a sheet of paper fell out.

Dear Alan and Ellie:

As you can imagine we don't have much in the way of formal promotional materials yet. But this should give you some idea of the Isla Nublar project. I think it's very exciting!

Looking forward to discussing this with you! Hope you can join us!

Regards,
John

"I don't get it," Grant said. He flipped through the sheets. "These are architectural plans." He turned to the top sheet:

VISITOR CENTER/LODGE	ISLA NUBLAR RESORT
CLIENT	InGen Inc., Palo Alto, Calif.
ARCHITECTS	Dunning, Murphy & Associates, New York. Richard Murphy, design partner; Theodore Chen, senior designer; Sheldon James, administrative partner.
ENGINEERS	Harlow, Whitney & Fields, Boston, structural; A. T. Misikawa, Osaka, mechanical.
LANDSCAPING	Shepperton Rogers, London; A. Ashikiga, H. Ieyasu, Kanazawa.
ELECTRICAL	N. V. Kobayashi, Tokyo. A. R. Makasawa,

	senior consultant.
COMPUTER C/C	Integrated Computer Systems, Inc., Cambridge, Mass. Dennis Nedry, project supervisor.

Grant turned to the plans themselves. They were stamped industrial SECRETS DO NOT COPY and CONFIDENTIAL WORK PRODUCT—NOT FOR DISTRIBUTION. Each sheet was numbered, and at the top: "These plans represent the confidential creations of InGen Inc. You must have signed document 112/4A or you risk prosecution."

"Looks pretty paranoid to me," he said.

"Maybe there's a reason," Ellie said.

The next page was a topographical map. It showed Isla Nublar as an inverted teardrop, bulging at the north, tapering at the south. The island was eight miles long, and the map divided it into several large sections.

The northern section was marked VISITOR AREA and it contained structures marked "Visitor Arrivals," "Visitor Center/ Administration," "Power/Desalinization/Support," "Hammond Res.," and "Safari Lodge." Grant could see the outline of a swimming pool, the rectangles of tennis courts, and the round squiggles that represented planting and shrubbery.

"Looks like a resort, all right," Ellie said.

There followed detail sheets for the Safari Lodge itself. In the elevation sketches, the lodge looked dramatic: a long low building with a series of pyramid shapes on the roof. But there was little about the other buildings in the visitor area.

And the rest of the island was even more mysterious. As far as Grant could tell, it was mostly open space. A network of roads, tunnels, and outlying buildings, and a long thin lake that appeared to be man-made, with concrete dams and barriers. But, for the most part, the island was divided into big curving areas with very little development at all. Each area was marked by codes: /P/PROC/V/2A, /D/TRIC/L/5(4A+1), /LN/OTHN/C/4(3A+1), and /vv/HADR/x/11(6A+3+3DB).

"Is there an explanation for the codes?" she said.

Grant flipped the pages rapidly, but he couldn't find one.

"Maybe they took it out," she said.

"I'm telling you," Grant said. "Paranoid." He looked at the big curving divisions, separated from one another by the network of roads. There were only six divisions on the whole island. And each division was separated from the road by a concrete moat. Outside each moat was a fence with a little lightning sign alongside it. That mystified them until they were finally able to figure out it meant the fences were electrified.

"That's odd," she said. "Electrified fences at a resort?"

"Miles of them," Grant said. "Electrified fences and moats, together. And usually with a road alongside them as well."

"Just like a zoo," Ellie said.

They went back to the topographical map and looked closely at the contour lines. The roads had been placed oddly. The main road ran north-south, right

through the central hills of the island, including one section of road that seemed to be literally cut into the side of a cliff, above a river. It began to look as if there had been a deliberate effort to leave these open areas as big enclosures, separated from the roads by moats and electric fences. And the roads were raised up above ground level, so you could see over the fences. ...

"You know," Ellie said, "some of these dimensions are enormous. Look at this. This concrete moat is thirty feet wide. That's like a military fortification."

"So are these buildings," Grant said. He had noticed that each open division had a few buildings, usually located in out-of-the-way corners. But the buildings were all concrete, with thick walls. In side-view elevations they looked like concrete bunkers with small windows. Like the Nazi pillboxes from old war movies.

At that moment, they heard a muffled explosion, and Grant put the papers aside. "Back to work," he said.

"Fire!"

There was a slight vibration, and then yellow contour lines traced across the computer screen. This time the resolution was perfect, and Alan Grant had a glimpse of the skeleton, beautifully defined, the long neck arched back. It was unquestionably an infant velociraptor, and it looked in perfect—

The screen went blank.

"I hate computers," Grant said, squinting in the sun. "What happened now?"

"Lost the integrator input," one of the kids said. "Just a minute." The kid bent to look at the tangle of wires going into the back of the battery-powered portable computer. They had set the computer up on a beer carton on top of Hill Four, not far from the device they called Thumper.

Grant sat down on the side of the hill and looked at his watch. He said to Ellie, "We're going to have to do this the old-fashioned way."

One of the kids overheard. "Aw, Alan."

"Look," Grant said, "I've got a plane to catch. And I want the fossil protected before I go."

Once you began to expose a fossil, you had to continue, or risk losing it. Visitors imagined the landscape of the badlands to be unchanging, but in fact it was continuously eroding, literally right before your eyes; all day long you could hear the clatter of pebbles rolling down the crumbling hillside. And there was always the risk of a rainstorm; even a brief shower would wash away a delicate fossil. Thus Grant's partially exposed skeleton was at risk, and it had to be protected until he returned.

Fossil protection ordinarily consisted of a tarp over the site, and a trench around the perimeter to control water runoff. The question was how large a trench the velociraptor fossil required. To decide that, they were using computer-assisted sonic tomography, or CAST. This was a new procedure, in which Thumper fired a soft lead slug into the ground, setting up shock waves that were read by the computer and assembled into a kind of X ray image of the hillside. They had been using it all summer with varying results.

Thumper was twenty feet away now, a big silver box on wheels, with an

umbrella on top. It looked like an ice-cream vendor's pushcart, parked incongruously on the badlands. Thumper had two youthful attendants loading the next soft lead pellet.

So far, the CAST program merely located the extent of finds, helping Grant's team to dig more efficiently. But the kids claimed that within a few years it would be possible to generate an image so detailed that excavation would be redundant. You could get a perfect image of the bones, in three dimensions, and it promised a whole new era of archaeology without excavation.

But none of that had happened yet. And the equipment that worked flawlessly in the university laboratory proved pitifully delicate and fickle in the field.

"How much longer?" Grant said.

"We got it now, Alan. It's not bad."

Grant went to look at the computer screen. He saw the complete skeleton, traced in bright yellow. It was indeed a young specimen. The outstanding characteristic of *Velociraptor*—the single-toed claw, which in a full-grown animal was a curved, six-inch-long weapon capable of ripping open its prey—was in this infant no larger than the thorn on a rosebush. It was hardly visible at all on the screen. And *Velociraptor* was a lightly built dinosaur in any case, an animal as fine-boned as a bird, and presumably as intelligent.

Here the skeleton appeared in perfect order, except that the head and neck were bent back, toward the posterior; Such neck flexion was so common in fossils that some scientists had formulated a theory to explain it, suggesting that the dinosaurs had become extinct because they had been poisoned by the evolving alkaloids in plants. The twisted neck was thought to signify the death agony of the dinosaurs. Grant had finally put that one to rest, by demonstrating that many species of birds and reptiles underwent a postmortem contraction of posterior neck ligaments, which bent the head backward in a characteristic way. It had nothing to do with the cause of death; it had to do with the way a carcass dried in the sun.

Grant saw that this particular skeleton had also been twisted laterally, so that the right leg and foot were raised up above the backbone.

"It looks kind of distorted," one of the kids said. "But I don't think it's the computer."

"No," Grant said. "It's just time. Lots and lots of time."

Grant knew that people could not imagine geological time. Human life was lived on another scale of time entirely. An apple turned brown in a few minutes. Silverware turned black in a few days. A compost heap decayed in a season. A child grew up in a decade. None of these everyday human experiences prepared people to be able to imagine the meaning of eighty million years—the length of time that had passed since this little animal had died.

In the classroom, Grant had tried different comparisons. If you imagined the human lifespan of sixty years was compressed to a day, then eighty million years would still be 3,652 years—older than the pyramids. The velociraptor had been dead a long time.

"Doesn't look very fearsome," one of the kids said.

"He wasn't," Grant said. "At least, not until he grew up." Probably this baby had

scavenged, feeding off carcasses slain by the adults, after the big animals had gorged themselves, and lay basking in the sun. Carnivores could eat as much as 25 percent of their body weight in a single meal, and it made them sleepy afterward. The babies would chitter and scramble over the indulgent, somnolent bodies of the adults, and nip little bites from the dead animal. The babies were probably cute little animals.

But an adult velociraptor was another matter entirely. Pound for pound, a velociraptor was the most rapacious dinosaur that ever lived. Although relatively small—about two hundred pounds, the size of a leopard—velociraptors were quick, intelligent, and vicious, able to attack with sharp jaws, powerful clawed forearms, and the devastating single claw on the foot.

Velociraptors hunted in packs, and Grant thought it must have been a sight to see a dozen of these animals racing at full speed, leaping onto the back of a much larger dinosaur, tearing at the neck and slashing at the ribs and belly. ...

"We're running out of time," Ellie said, bringing him back.

Grant gave instructions for the trench. From the computer image, they knew the skeleton lay in a relatively confined area; a ditch around a two-meter square would be sufficient. Meanwhile, Ellie lashed down the tarp that covered the side of the hill. Grant helped her pound in the final stakes.

"How did the baby die?" one of the kids asked.

"I doubt we'll know," Grant replied. "Infant mortality in the wild is high. In African parks, it runs seventy percent among some carnivores. It could have been anything—disease, separation from the group, anything. Or even attack by an adult. We know these animals hunted in packs, but we don't know anything about their social behavior in a group."

The students nodded. They had all studied animal behavior, and they knew, for example, that when a new male took over a lion pride, the first thing he did was kill all the cubs. The reason was apparently genetic: the male had evolved to disseminate his genes as widely as possible, and by killing the cubs he brought all the females into heat, so that he could impregnate them. It also prevented the females from wasting their time nurturing the offspring of another male.

Perhaps the velociraptor hunting pack was also ruled by a dominant male. They knew so little about dinosaurs, Grant thought. After 150 years of research and excavation all around the world, they still knew almost nothing about what the dinosaurs had really been like.

"We've got to go," Ellie said, "if we're going to get to Choteau by five."

HAMMOND

Gennaro's secretary bustled in with a new suitcase. It still had the sales tags on it. "You know, Mr. Gennaro," she said severely, "when you forget to pack it makes me think you don't really want to go on this trip."

"Maybe you're right," Gennaro said. "I'm missing my kid's birthday." Saturday

was Amanda's birthday, and Elizabeth had invited twenty screaming four-year-olds to share it, as well as Cappy the Clown and a magician. His wife hadn't been happy to hear that Gennaro was going out of town. Neither had Amanda.

"Well, I did the best I could on short notice," his secretary said. "There's running shoes your size, and khaki shorts and shirts, and a shaving kit. A pair of jeans and a sweatshirt if it gets cold. The car is downstairs to take you to the airport. You have to leave now to make the flight."

She left. Gennaro walked down the hallway, tearing the sales tags off the suitcase. As he passed the all-glass conference room, Dan Ross left the table and came outside.

"Have a good trip," Ross said. "But let's be very clear about one thing. I don't know how bad this situation actually is, Donald. But if there's a problem on that island, burn it to the ground."

"Jesus, Dan ... We're talking about a big investment."

"Don't hesitate. Don't think about it. Just do it. Hear me?"

Gennaro nodded. "I hear you," he said. "But Hammond—"

"Screw Hammond," Ross said.

"My boy, my boy," the familiar raspy voice said. "How have you been, my boy?"

"Very well, sir," Gennaro replied. He leaned back in the padded leather chair of the Gulfstream II jet as it flew east, toward the Rocky Mountains.

"You never call me any more," Hammond said reproachfully. "I've missed you, Donald. How is your lovely wife?"

"She's fine. Elizabeth's fine. We have a little girl now."

"Wonderful, wonderful. Children are such a delight. She'd get a kick out of our new park in Costa Rica."

Gennaro had forgotten how short Hammond was; as he sat in the chair, his feet didn't touch the carpeting; he swung his legs as he talked. There was a childlike quality to the man, even though Hammond must now be ... what? Seventy-five? Seventy-six? Something like that. He looked older than Gennaro remembered, but then, Gennaro hadn't seen him for almost five years.

Hammond was flamboyant, a born showman, and back in 1983 he had had an elephant that he carried around with him in a little cage. The elephant was nine inches high and a foot long, and perfectly formed, except his tusks were stunted. Hammond took the elephant with him to fund-raising meetings. Gennaro usually carried it into the room, the cage covered with a little blanket, like a tea cozy, and Hammond would give his usual speech about the prospects for developing what he called "consumer biologicals." Then, at the dramatic moment, Hammond would whip away the blanket to reveal the elephant. And he would ask for money.

The elephant was always a rousing success; its tiny body, hardly bigger than a cat's, promised untold wonders to come from the laboratory of Norman Atherton, the Stanford geneticist who was Hammond's partner in the new venture.

But as Hammond talked about the elephant, he left a great deal unsaid. For example, Hammond was starting a genetics company, but the tiny elephant hadn't been made by any genetic procedure; Atherton had simply taken a dwarf-

elephant embryo and raised it in an artificial womb with hormonal modifications. That in itself was quite an achievement, but nothing like what Hammond hinted had been done.

Also, Atherton hadn't been able to duplicate his miniature elephant, and he'd tried. For one thing, everybody who saw the elephant wanted one. Then, too, the elephant was prone to colds, particularly during winter. The sneezes coming through the little trunk filled Hammond with dread. And sometimes the elephant would get his tusks stuck between the bars of the cage and snort irritably as he tried to get free; sometimes he got infections around the tusk line. Hammond always fretted that his elephant would die before Atherton could grow a replacement.

Hammond also concealed from prospective investors the fact that the elephant's behavior had changed substantially in the process of miniaturization. The little creature might look like an elephant, but he acted like a vicious rodent, quick-moving and mean-tempered. Hammond discouraged people from petting the elephant, to avoid nipped fingers.

And although Hammond spoke confidently of seven billion dollars in annual revenues by 1993, his project was intensely speculative. Hammond had vision and enthusiasm, but there was no certainty that his plan would work at all. Particularly since Norman Atherton, the brains behind the project, had terminal cancer—which was a final point Hammond neglected to mention.

Even so, with Gennaro's help, Hammond got his money. Between September of 1983 and November of 1985, John Alfred Hammond and his "Pachyderm Portfolio" raised $870 million in venture capital to finance his proposed corporation, International Genetic Technologies, Inc. And they could have raised more, except Hammond insisted on absolute secrecy, and he offered no return on capital for at least five years. That scared a lot of investors off. In the end, they'd had to take mostly Japanese consortia. The Japanese were the only investors who had the patience.

Sitting in the leather chair of the jet, Gennaro thought about how evasive Hammond was. The old man was now ignoring the fact that Gennaro's law firm had forced this trip on him. Instead, Hammond behaved as if they were engaged in a purely social outing. "It's too bad you didn't bring your family with you, Donald," he said.

Gennaro shrugged. "It's my daughter's birthday. Twenty kids already scheduled. The cake and the clown. You know how it is."

"Oh, I understand," Hammond said. "Kids set their hearts on things."

"Anyway, is the park ready for visitors?" Gennaro asked.

"Well, not officially," Hammond said. "But the hotel is built, so there is a place to stay. ..."

"And the animals?"

"Of course, the animals are all there. All in their spaces."

Gennaro said, "I remember in the original proposal you were hoping for a total of twelve. ..."

"Oh, we're far beyond that. We have two hundred and thirty-eight animals,

Donald."

"Two hundred and thirty-eight?"

The old man giggled, pleased at Gennaro's reaction. "You can't imagine it. We have *herds* of them."

"Two hundred and thirty-eight ... How many species?"

"Fifteen different species, Donald."

"That's incredible," Gennaro said. "That's fantastic. And what about all the other things you wanted? The facilities? The computers?"

"All of it, all of it," Hammond said. "Everything on that island is state-of-the-art. You'll see for yourself, Donald. It's perfectly wonderful. That's why this ... *concern* ... is so misplaced. There's absolutely no problem with the island."

Gennaro said, "Then there should be absolutely no problem with an inspection."

"And there isn't," Hammond said. "But it slows things down. Everything has to stop for the official visit. ..."

"You've had delays anyway. You've postponed the opening."

"Oh, *that*." Hammond tugged at the red-silk handkerchief in the breast pocket of his sportcoat. "It was bound to happen. Bound to happen."

"Why?" Gennaro asked.

"Well, Donald," Hammond said, "to explain that, you have to go back to the initial concept of the resort. The concept of the most advanced amusement park in the world, combining the latest electronic and biological technologies. I'm not talking about rides. Everybody has *rides.* Coney Island has *rides.* And these days everybody has animatronic environments. The haunted house, the pirate den, the wild west, the earthquake—everyone has those things. So we set out to make biological attractions. *Living* attractions. Attractions so astonishing they would capture the imagination of the entire world."

Gennaro had to smile. It was almost the same speech, word for word, that he had used on the investors, so many years ago. "And we can never forget the ultimate object of the project in Costa Rica—to make money," Hammond said, staring out the windows of the jet. "Lots and lots of money."

"I remember," Gennaro said.

"And the secret to making money in a park," Hammond said, "is to limit your personnel costs. The food handlers, ticket takers, cleanup crews, repair teams. To make a park that runs with minimal staff. That was why we invested in all the computer technology—we automated wherever we could."

"I remember. ..."

"But the plain fact is," Hammond said, "when you put together all the animals and all the computer systems, you run into snags. Who ever got a major computer system up and running on schedule? Nobody I know."

"So you've just had normal start-up delays?"

"Yes, that's right," Hammond said. "Normal delays."

"I heard there were accidents during construction," Gennaro said. "Some workmen died. ..."

"Yes, there were several accidents," Hammond said. "And a total of three deaths. Two workers died building the cliff road. One other died as a result of an

earth-mover accident in January. But we haven't had any accidents for months now." He put his hand on the younger man's arm. "Donald," he said, "believe me when I tell you that everything on the island is going forward as planned. Everything on that island is perfectly *fine*."

The intercom clicked. The pilot said, "Seat belts, please. We're landing in Choteau."

CHOTEAU

Dry plains stretched away toward distant black buttes. The afternoon wind blew dust and tumbleweed across the cracked concrete. Grant stood with Ellie near the Jeep and waited while the sleek Grumman jet circled for a landing.

"I hate to wait on the money men," Grant grumbled.

Ellie shrugged. "Goes with the job."

Although many fields of science, such as physics and chemistry, had become federally funded, paleontology remained strongly dependent on private patrons. Quite apart from his own curiosity about the island in Costa Rica, Grant understood that, if John Hammond asked for his help, he would give it. That was how patronage worked—how it had always worked.

The little jet landed and rolled quickly toward them. Ellie shouldered her bag. The jet came to a stop and a stewardess in a blue uniform opened the door.

Inside, he was surprised at how cramped it was, despite the luxurious appointments. Grant had to hunch over as he went to shake Hammond's hand.

"Dr. Grant and Dr. Sattler," Hammond said. "It's good of you to join us. Allow me to introduce my associate, Donald Gennaro."

Gennaro was a stocky, muscular man in his mid-thirties wearing an Armani suit and wire-frame glasses. Grant disliked him on sight. He shook hands quickly. When Ellie shook hands, Gennaro said in surprise, "You're a woman."

"These things happen," she said, and Grant thought: She doesn't like him, either.

Hammond turned to Gennaro. "You know, of course, what Dr. Grant and Dr. Sattler do. They are paleontologists. They dig up dinosaurs." And then he began to laugh, as if he found the idea very funny.

"Take your seats, please," the stewardess said, closing the door. Immediately the plane began to move.

"You'll have to excuse us," Hammond said, "but we are in a bit of a rush. Donald thinks it's important we get right down there."

The pilot announced four hours' flying time to Dallas, where they would refuel, and then go on to Costa Rica, arriving the following morning.

"And how long will we be in Costa Rica?" Grant asked.

"Well, that really depends," Gennaro said. "We have a few things to clear up."

"Take my word for it," Hammond said, turning to Grant. "We'll be down there no more than forty-eight hours."

Grant buckled his seat belt. "This island of yours that we're going to—I haven't heard anything about it before. Is it some kind of secret?"

"In a way," Hammond said. "We have been very, very careful about making sure nobody knows about it, until the day we finally open that island to a surprised and delighted public."

TARGET OF OPPORTUNITY

The Biosyn Corporation of Cupertino, California, had never called an emergency meeting of its board of directors. The ten directors now sitting in the conference room were irritable and impatient. It was 8:00 p.m. They had been talking among themselves for the last ten minutes, but slowly had fallen silent. Shuffling papers. Looking pointedly at their watches.

"What are we waiting for?" one asked.

"One more," Lewis Dodgson said. "We need one more." He glanced at his watch. Ron Meyer's office had said he was coming up on the six o'clock plane from San Diego. He should be here by now, even allowing for traffic from the airport.

"You need a quorum?" another director asked.

"Yes," Dodgson said. "We do."

That shut them up for a moment. A quorum meant that they were going to be asked to make an important decision. And God knows they were, although Dodgson would have preferred not to call a meeting at all. But Steingarten, the head of Biosyn, was adamant. "You'll have to get their agreement for this one, Lew," he had said.

Depending on who you talked to, Lewis Dodgson was famous 'as the most aggressive geneticist of his generation, or the most reckless. Thirty-four, balding, hawk-faced, and intense, he had been dismissed by Johns Hopkins as a graduate student, for planning gene therapy on human patients without obtaining the proper FDA protocols. Hired by Biosyn, he had conducted the controversial rabies vaccine test in Chile. Now he was the head of product development at Biosyn, which supposedly consisted of "reverse engineering": taking a competitor's product, tearing it apart, learning how it worked, and then making your own version. In practice, it involved industrial espionage, much of it directed toward the InGen corporation.

In the 1980s, a few genetic engineering companies began to ask, "What is the biological equivalent of a Sony Walkman?" These companies weren't interested in Pharmaceuticals or health; they were interested in entertainment, sports, leisure activities, cosmetics, and pets. The perceived demand for "consumer biologicals" in the 1990s was high. InGen and Biosyn were both at work in this field.

Biosyn had already achieved some success, engineering a new, pale trout under contract to the Department of Fish and Game of the State of Idaho. This

trout was easier to spot in streams, and was said to represent a step forward in angling. (At least, it eliminated complaints to the Fish and Game Department that there were no trout in the streams.) The fact that the pale trout sometimes died of sunburn, and that its flesh was soggy and tasteless, was not discussed. Biosyn was still working on that, and—

The door opened and Ron Meyer entered the room, slipped into a seat. Dodgson now had his quorum. He immediately stood.

"Gentlemen," he said, "we're here tonight to consider a target of opportunity: InGen."

Dodgson quickly reviewed the background. InGen's start-up in 1983, with Japanese investors. The purchase of three Cray XMP supercomputers. The purchase of Isla Nublar in Costa Rica. The stockpiling of amber. The unusual donations to zoos around the world, from the New York Zoological Society to the Ranthapur Wildlife Park in India.

"Despite all these clues," Dodgson said, "we still had no idea where InGen might be going. The company seemed obviously focused on animals; and they had hired researchers with an interest in the past—paleobiologists, DNA phylogeneticists, and so on.

"Then, in 1987, InGen bought an obscure company called Millipore Plastic Products in Nashville, Tennessee. This was an agribusiness company that had recently patented a new plastic with the characteristics of an avian eggshell. This plastic could be shaped into an egg and used to grow chick embryos. Starting the following year, InGen took the entire output of this millipore plastic for its own use."

"Dr. Dodgson, this is all very interesting—"

"At the same time," Dodgson continued, "construction was begun on Isla Nublar. This involved massive earthworks, including a shallow lake two miles long, in the center of the island. Plans for resort facilities were let out with a high degree of confidentiality, but it appears that InGen has built a private zoo of large dimensions on the island."

One of the directors leaned forward and said, "Dr. Dodgson. *So what?"*

"It's not an ordinary zoo," Dodgson said. "This zoo is unique in the world. It seems that InGen has done something quite extraordinary. They have managed to clone extinct animals from the past."

"What animals?"

"Animals that hatch from eggs, and that require a lot of room in a zoo."

"What animals?"

"Dinosaurs," Dodgson said. "They are cloning dinosaurs."

The consternation that followed was entirely misplaced, in Dodgson's view. The trouble with money men was that they didn't keep up: they had invested in a field, but they didn't know what was possible.

In fact, there had been discussion of cloning dinosaurs in the technical literature as far back as 1982. With each passing year, the manipulation of DNA had grown easier. Genetic material had already been extracted from Egyptian mummies, and from the hide of a quagga, a zebra-like African animal that had

become extinct in the 1880s. By 1985, it seemed possible that quagga DNA might be reconstituted, and a new animal grown. If so, it would be the first creature brought back from extinction solely by reconstruction of its DNA. If that was possible, what else was also possible? The mastodon? The saber-toothed tiger? The dodo?

Or even a dinosaur?

Of course, no dinosaur DNA was known to exist anywhere in the world. But by grinding up large quantities of dinosaur bones it might be possible to extract fragments of DNA. Formerly it was thought that fossilization eliminated all DNA. Now that was recognized as untrue. If enough DNA fragments were recovered, it might be possible to clone a living animal.

Back in 1982, the technical problems had seemed daunting. But there was no theoretical barrier. It was merely difficult, expensive, and unlikely to work. Yet it was certainly possible, if anyone cared to try.

InGen had apparently decided to try.

"What they have done," Dodgson said, "is build the greatest single tourist attraction in the history of the world. As you know, zoos are extremely popular. Last year, more Americans visited zoos than all professional baseball and football games combined. And the Japanese love zoos—there are fifty zoos in Japan, and more being built. And for this zoo, InGen can charge whatever they want. Two thousand dollars a day, ten thousand dollars a day ... And then there is the *merchandising.* The picture books, T-shirts, video games, caps, stuffed toys, comic books, and pets."

"Pets?"

"Of course. If InGen can make full-size dinosaurs, they can also make pygmy dinosaurs as household pets. What child won't want a little dinosaur as a pet? A little patented animal for their very own. InGen will sell millions of them. And InGen will engineer them so that these pet dinosaurs can only eat InGen pet food. ..."

"Jesus," somebody said.

"Exactly," Dodgson said. "The zoo is the centerpiece of an enormous enterprise."

"You said these dinosaurs will be patented?"

"Yes. Genetically engineered animals can now be patented. The Supreme Court ruled on that in favor of Harvard in 1987, InGen will own its dinosaurs, and no one else can legally make them."

"What prevents us from creating our own dinosaurs?" someone said.

"Nothing, except that they have a five-year start. It'll be almost impossible to catch up before the end of the century."

He paused. "Of course, if we could obtain examples of their dinosaurs, we could reverse engineer them and make our own, with enough modifications in the DNA to evade their patents."

"Can we obtain examples of their dinosaurs?"

Dodgson paused. "I believe we can, yes."

Somebody cleared his throat. "There wouldn't be anything illegal about it. ..."

"Oh no," Dodgson said quickly. "Nothing illegal. I'm talking about a legitimate

source of their DNA. A disgruntled employee, or some trash improperly disposed of, something like that."

"Do you have a legitimate source, Dr. Dodgson?"

"I do," Dodgson said. "But I'm afraid there is some urgency to the decision, because InGen is experiencing a small crisis, and my source will have to act within the next twenty-four hours."

A long silence descended over the room. The men looked at the secretary, taking notes, and the tape recorder on the table in front of her.

"I don't see the need for a formal resolution on this," Dodgson said. "Just a sense of the room, as to whether you feel I should proceed. ..."

Slowly the heads nodded.

Nobody spoke. Nobody went on record. They just nodded silently.

"Thank you for coming, gentlemen," Dodgson said. "I'll take it from here."

AIRPORT

Lewis Dodgson entered the coffee shop in the departure building of the San Francisco airport and looked around quickly. His man was already there, waiting at the counter. Dodgson sat down next to him and placed the briefcase on the floor between them.

"You're late, pal," the man said. He looked at the straw hat Dodgson was wearing and laughed. "What is this supposed to be, a disguise?"

"You never know," Dodgson said, suppressing his anger. For six months, Dodgson had patiently cultivated this man, who had grown more obnoxious and arrogant with each meeting. But there was nothing Dodgson could do about that—both men knew exactly what the stakes were.

Bioengineered DNA was, weight for weight, the most valuable material in the world. A single microscopic bacterium, too small to see with the naked eye, but containing the genes for a heart-attack enzyme, streptokinase, or for "ice-minus," which prevented frost damage to crops, might be worth five billion dollars to the right buyer.

And that fact of life had created a bizarre new world of industrial espionage. Dodgson was especially skilled at it. In 1987, he convinced a disgruntled geneticist to quit Cetus for Biosyn, and take five strains of engineered bacteria with her. The geneticist simply put a drop of each on the fingernails of one hand, and walked out the door.

But InGen presented a tougher challenge. Dodgson wanted more than bacterial DNA; he wanted frozen embryos, and he knew InGen guarded its embryos with the most elaborate security measures. To obtain them, he needed an InGen employee who had access to the embryos, who was willing to steal them, and who could defeat the security. Such a person was not easy to find.

Dodgson had finally located a susceptible InGen employee earlier in the year. Although this particular person had no access to genetic material, Dodgson kept

up the contact, meeting the man monthly at Carlos and Charlie's in Silicon Valley, helping him in small ways. And now that InGen was inviting contractors and advisers to visit the island, it was the moment that Dodgson had been waiting for—because it meant his man would have access to embryos.

"Let's get down to it," the man said. "I've got ten minutes before my flight."

"You want to go over it again?" Dodgson said.

"Hell no, Dr. Dodgson," the man said. "I want to see the damn money."

Dodgson flipped the latch on the briefcase and opened it a few inches. The man glanced down casually. "That's all of it?"

"That's half of it. Seven hundred fifty thousand dollars."

"Okay. Fine." The man turned away, drank his coffee. "That's fine, Dr. Dodgson."

Dodgson quickly locked the briefcase. "That's for all fifteen species, you remember."

"I remember. Fifteen species, frozen embryos. And how am I going to transport them?"

Dodgson handed the man a large can of Gillette Foamy shaving cream.

"That's it?"

"That's it."

"They 'may check my luggage. ..."

Dodgson shrugged. "Press the top," he said.

The man pressed it, and white shaving cream puffed into his hand. "Not bad." He wiped the foam on the edge of his plate. "Not bad."

"The can's a little heavier than usual, is all." Dodgson's technical team had been assembling it around the clock for the last two days. Quickly he showed him how it worked.

"How much coolant gas is inside?"

"Enough for thirty-six hours. The embryos have to be back in San José by then."

"That's up to your guy in the boat," the man said. "Better make sure he has a portable cooler on board."

"I'll do that," Dodgson said.

"And let's just review the bidding. ..."

"The deal is the same," Dodgson said. "Fifty thousand on delivery of each embryo. If they're viable, an additional fifty thousand each."

"That's fine. Just make sure you have the boat waiting at the east dock of the island, Friday night. Not the north dock, where the big supply boats arrive. The east dock. It's a small utility dock. You got that?"

"I got it," Dodgson said. "When will you be back in San José?"

"Probably Sunday." The man pushed away from the counter.

Dodgson fretted. "You're sure you know how to work the—"

"I know," the man said. "Believe me, I know."

"Also," Dodgson said, "we think the island maintains constant radio contact with InGen corporate headquarters in California, so—"

"Look, I've got it covered," the man said. "Just relax, and get the money ready. I want it all Sunday morning, in San José airport, in cash."

"It'll be waiting for you," Dodgson said. "Don't worry."

MALCOLM

Shortly before midnight, he stepped on the plane at the Dallas airport, a tall, thin, balding man of thirty-five, dressed entirely in black: black shirt, black trousers, black socks, black sneakers.

"Ah, Dr. Malcolm," Hammond said, smiling with forced graciousness.

Malcolm grinned. "Hello, John. Yes, I am afraid your old nemesis is here."

Malcolm shook hands with everyone, saying quickly, "Ian Malcolm, how do you do? I do maths." He struck Grant as being more amused by the outing than anything else.

Certainly Grant recognized his name. Ian Malcolm was one of the most famous of the new generation of mathematicians who were openly interested in "how the real world works." These scholars broke with the cloistered tradition of mathematics in several important ways. For one thing, they used computers constantly, a practice traditional mathematicians frowned on. For another, they worked almost exclusively with nonlinear equations, in the emerging field called chaos theory. For a third, they appeared to care that their mathematics described something that actually existed in the real world. And finally, as if to emphasize their emergence from academia into the world, they dressed and spoke with what one senior mathematician called "a deplorable excess of personality." In fact, they often behaved like rock stars.

Malcolm sat in one of the padded chairs. The stewardess asked him if he wanted a drink. He said, "Diet Coke, shaken not stirred."

Humid Dallas air drifted through the open door. Ellie said, "Isn't it a little warm for black?"

"You're extremely pretty, Dr. Sattler," he said. "I could look at your legs all day. But no, as a matter of fact, black is an excellent color for heat. If you remember your black-body radiation, black is actually best in heat. Efficient radiation. In any case, I wear only two colors, black and gray."

Ellie was staring at him, her mouth open.

"These colors are appropriate for any occasion," Malcolm continued, "and they go well together, should I mistakenly put on a pair of gray socks with my black trousers."

"But don't you find it boring to wear only two colors?"

"Not at all. I find it liberating. I believe my life has value, and I don't want to waste it thinking about *clothing*," Malcolm said. "I don't want to think about *what I will wear* in the morning. Truly, can you imagine anything more boring than fashion? Professional sports, perhaps. Grown men swatting little balls, while the rest of the world pays money to applaud. But, on the whole, I find fashion even more tedious than sports."

"Dr. Malcolm," Hammond explained, "is a man of strong opinions."

"And mad as a hatter," Malcolm said cheerfully. "But you must admit, these are nontrivial issues. We live in a world of frightful givens. It is *given* that you will behave like this, *given* that you will care about that. No one thinks about the givens. Isn't it amazing? In the information society, nobody thinks. We expected to banish paper, but we actually banished thought."

Hammond turned to Gennaro and raised his hands. "You invited him."

"And a lucky thing, too," Malcolm said. "Because it sounds as if you have a serious problem."

"We have no problem," Hammond said quickly.

"I always maintained this island would be unworkable," Malcolm said. "I predicted it from the beginning." He reached into a soft leather briefcase. "And I trust by now we all know what the eventual outcome is going to be. You're going to have to shut the thing down."

"Shut it down!" Hammond stood angrily. "This is ridiculous."

Malcolm shrugged, indifferent to Hammond's outburst. "I've brought copies of my original paper for you to look at," he said. "The original consultancy paper I did for InGen. The mathematics are a bit sticky, but I can walk you through it. Are you leaving now?"

"I have some phone calls to make," Hammond said, and went into the adjoining cabin,

"Well, it's a long flight," Malcolm said to the others. "At least my paper will give you something to do."

The plane flew through the night.

Grant knew that Ian Malcolm had his share of detractors, and he could understand why some found his style too abrasive, and his applications of chaos theory too glib. Grant thumbed through the paper, glancing at the equations.

Gennaro said, "Your paper concludes that Hammond's island is bound to fail?"

"Correct."

"Because of chaos theory?"

"Correct. To be more precise, because of the behavior of the system in phase space."

Gennaro tossed the paper aside and said, "Can you explain this in English?"

"Surely," Malcolm said. "Let's see where we have to start. You know what a nonlinear equation is?"

"No."

"Strange attractors?"

"No."

"All right," Malcolm said. "Let's go back to the beginning." He paused, staring at the ceiling. "Physics has had great success at describing certain kinds of behavior: planets in orbit, spacecraft going to the moon, pendulums and springs and rolling balls, that sort of thing. The regular movement of objects. These are described by what are called linear equations, and mathematicians can solve those equations easily. We've been doing it for hundreds of years."

"Okay," Gennaro said.

"But there is another kind of behavior, which physics handles badly. For

example, anything to do with turbulence. Water coming out of a spout. Air moving over an airplane wing. Weather. Blood flowing through the heart. Turbulent events are described by nonlinear equations. They're hard to solve—in fact, they're usually impossible to solve. So physics has never understood this whole class of events. Until about ten years ago. The new theory that describes them is called chaos theory.

"Chaos theory originally grew out of attempts to make computer models of weather in the 1960s. Weather is a big complicated system, namely the earth's atmosphere as it interacts with the land and the sun. The behavior of this big complicated system always defied understanding. So naturally we couldn't predict weather. But what the early researchers learned from computer models was that, even if you could understand it, you still couldn't predict it. Weather prediction is absolutely impossible. The reason is that the behavior of the system is sensitively dependent on initial conditions."

"You lost me," Gennaro said.

"If I use a cannon to fire a shell of a certain weight, at a certain speed, and a certain angle of inclination—and if I then fire a second shell with almost the same weight, speed, and angle—what will happen?"

"The two shells will land at almost the same spot."

"Right," Malcolm said. "That's linear dynamics."

"Okay."

"But if I have a weather system that I start up with a certain temperature and a certain wind speed and a certain humidity—and if I then repeat it with almost the same temperature, wind, and humidity—the second system will not behave almost the same. It'll wander off and rapidly will become *very* different from the first. Thunderstorms instead of sunshine. That's nonlinear dynamics. They are sensitive to initial conditions: tiny differences become amplified."

"I think I see," Gennaro said.

"The shorthand is the 'butterfly effect.' A butterfly flaps its wings in Peking, and weather in New York is different."

"So chaos is all just random and unpredictable?" Gennaro said. "Is that it?"

"No," Malcolm said. "We actually find hidden regularities within the complex variety of a system's behavior. That's why chaos has now become a very broad theory that's used to study everything from the stock market, to rioting crowds, to brain waves during epilepsy. Any sort of complex system where there is confusion and unpredictability. We can find an underlying order. Okay?"

"Okay," Gennaro said. "But what is this underlying order?"

"It's essentially characterized by the movement of the system within phase space," Malcolm said.

"Jesus," Gennaro said. "All I want to know is why you think Hammond's island can't work."

"I understand," Malcolm said. "I'll get there. Chaos theory says two things. First, that complex systems like weather have an underlying order. Second, the reverse of that—that simple systems can produce complex behavior. For example, pool balls. You hit a pool ball, and it starts to carom off the sides of the table. In theory, that's a fairly simple system, almost a Newtonian system. Since

you can know the force imparted to the ball, and the mass of the ball, and you can calculate the angles at which it will strike the walls, you can predict the future behavior of the ball. In theory, you could predict the behavior of the ball far into the future, as it keeps bouncing from side to side. You could predict where it will end up three hours from now, in theory."

"Okay." Gennaro nodded.

"But in fact," Malcolm said, "it turns out you can't predict more than a few seconds into the future. Because almost immediately very small effects—imperfections in the surface of the ball, tiny indentations in the wood of the table—start to make a difference. And it doesn't take long before they overpower your careful calculations. So it turns out that this simple system of a pool ball on a table has unpredictable behavior."

"Okay."

"And Hammond's project," Malcolm said, "is another apparently simple system—animals within a zoo environment—that will eventually show unpredictable behavior."

"You know this because of ..."

"Theory," Malcolm said.

"But hadn't you better see the island, to see what he's actually done?"

"No. That is quite unnecessary. The details don't matter. Theory tells me that the island will quickly proceed to behave in unpredictable fashion."

"And you're confident of your theory."

"Oh, yes," Malcolm said. "Totally confident." He sat back in the chair. "There is a problem with that island. It is an accident waiting to happen."

ISLA NUBLAR

With a whine, the rotors began to swing in circles overhead, casting shadows on the runway of San José airport. Grant listened to the crackle in his earphones as the pilot talked to the tower.

They had picked up another passenger in San José, a man named Dennis Nedry, who had flown in to meet them. He was fat and sloppy, eating a candy bar, and there was sticky chocolate on his fingers, and flecks of aluminum foil on his shirt. Nedry had mumbled something about doing computers on the island, and hadn't offered to shake hands.

Through the Plexi bubble Grant watched the airport concrete drop away beneath his feet, and he saw the shadow of the helicopter racing along as they went west, toward the mountains.

"It's about a forty-minute trip," Hammond said, from one of the rear seats.

Grant watched the low hills rise up, and then they were passing through intermittent clouds, breaking out into sunshine. The mountains were rugged, though he was surprised at the amount of deforestation, acre after acre of denuded, eroded hills. "Costa Rica," Hammond said, "has better population

control than other countries in Central America. But, even so, the land is badly deforested. Most of this is within the last ten years."

They came down out of the clouds on the other side of the mountains, and Grant saw the beaches of the west coast. They flashed over a small coastal village.

"Bahía Anasco," the pilot said. "Fishing village." He pointed north. "Up the coast there, you see the Cabo Blanco preserve. They have beautiful beaches." The pilot headed straight out over the ocean. The water turned green, and then deep aquamarine. The sun shone on the water. It was about ten in the morning.

"Just a few minutes now," Hammond said, "and we should be seeing Isla Nublar."

Isla Nublar, Hammond explained, was not a true island. Rather, it was a seamount, a volcanic upthrusting of rock from the ocean floor. "Its volcanic origins can be seen all over the island," Hammond said. "There are steam vents in many places, and the ground is often hot underfoot. Because of this, and also because of prevailing currents, Isla Nublar lies in a foggy area. As we get there you will see—ah, there we are."

The helicopter rushed forward, low to the water. Ahead Grant saw an island, rugged and craggy, rising sharply from the ocean.

"Christ, it looks like Alcatraz," Malcolm said.

Its forested slopes were wreathed in fog, giving the island a mysterious appearance.

"Much larger, of course," Hammond said. "Eight miles long and three miles wide at the widest point, in total some twenty-two square miles. Making it the largest private animal preserve in North America."

The helicopter began to climb, and headed toward the north end of the island. Grant was trying to see through the dense fog.

"It's not usually this thick," Hammond said. He sounded worried.

At the north end of the island, the hills were highest, rising more than two thousand feet above the ocean. The tops of the hills were in fog, but Grant saw rugged cliffs and crashing ocean below. The helicopter climbed above the hills. "Unfortunately," Hammond said, "we have to land on the island. I don't like to do it, because it disturbs the animals. And it's sometimes a bit thrilling—"

Hammond's voice cut off as the pilot said, "Starting our descent now. Hang on, folks." The helicopter started down, and immediately they were blanketed in fog. Grant heard a repetitive electronic beeping through his earphones, but he could see nothing at all; then he began dimly to discern the green branches of pine trees, reaching through the mist. Some of the branches were close.

"How the hell is he doing this?" Malcolm said, but nobody answered.

The pilot swung his gaze left, then right, looking at the pine forest. The trees were still close. The helicopter descended rapidly.

"Jesus," Malcolm said.

The beeping was louder. Grant looked at the pilot. He was concentrating. Grant glanced down and saw a giant glowing fluorescent cross beneath the Plexi bubble at his feet. There were flashing lights at the corners of the cross. The pilot corrected slightly and touched down on a helipad. The sound of the rotors faded,

and died.

Grant sighed, and released his seat belt.

"We have to come down fast, that way," Hammond said, "because of the wind shear. There is often bad wind shear on this peak, and ... well, we're safe."

Someone was running up to the helicopter. A man with a baseball cap and red hair. He threw open the door and said cheerfully, "Hi, I'm Ed Regis. Welcome to Isla Nublar, everybody. And watch your step, please."

A narrow path wound down the hill. The air was chilly and damp. As they moved lower, the mist around them thinned, and Grant could see the landscape better. It looked, he thought, rather like the Pacific Northwest, the Olympic Peninsula.

"That's right," Regis said. "Primary ecology is deciduous rain forest. Rather different from the vegetation on the mainland, which is more classical rain forest. But this is a microclimate that only occurs at elevation, on the slopes of the northern hills. The majority of the island is tropical."

Down below, they could see the white roofs of large buildings, nestled among the planting. Grant was surprised: the construction was elaborate. They moved lower, out of the mist, and now he could see the full extent of the island, stretching away to the south. As Regis had said, it was mostly covered in tropical forest.

To the south, rising above the palm trees, Grant saw a single trunk with no leaves at all, just a big curving stump. Then the stump moved, and twisted around to face the new arrivals. Grant realized that he was not seeing a tree at all.

He was looking at the graceful, curving neck of an enormous creature, rising fifty feet into the air.

He was looking at a dinosaur.

WELCOME

"My God," Ellie said softly. They were all staring at the animal above the trees. "My *God*."

Her first thought was that the dinosaur was extraordinarily beautiful. Books portrayed them as oversize, dumpy creatures, but this long-necked animal had a gracefulness, almost a dignity, about its movements. And it was quick—there was nothing lumbering or dull in its behavior. The sauropod peered alertly at them, and made a low trumpeting sound, rather like an elephant. A moment later, a second head rose above the foliage, and then a third, and a fourth.

"My God," Ellie said again.

Gennaro was speechless. He had known all along what to expect—he had known about it for years—but he had somehow never believed it would happen, and now, he was shocked into silence. The awesome power of the new genetic

technology, which he had formerly considered to be just so many words in an overwrought sales pitch—the power suddenly became clear to him. These animals were so big! They were enormous! Big as a house! And so many of them! Actual damned dinosaurs! Just as real as you could want.

Gennaro thought: We are going to make a fortune on this place. A *fortune.*

He hoped to God the island was safe.

Grant stood on the path on the side of the hill, with the mist on his face, staring at the gray necks craning above the palms. He felt dizzy, as if the ground were sloping away too steeply. He had trouble getting his breath. Because he was looking at something he had never expected to see in his life. Yet he was seeing it.

The animals in the mist were perfect apatosaurs, medium-size sauropods. His stunned mind made academic associations: North American herbivores, late Jurassic horizon. Commonly called "brontosaurs." First discovered by E. D. Cope in Montana in 1876. Specimens associated with Morrison formation strata in Colorado, Utah, and Oklahoma. Recently Berman and McIntosh had reclassified it a diplodocus based on skull appearance. Traditionally, *Brontosaurus* was thought to spend most of its time in shallow water, which would help support its large bulk. Although this animal was clearly not in the water, it was moving much too quickly, the head and neck shifting above the palms in a very active manner—a surprisingly active manner—

Grant began to laugh.

"What is it?" Hammond said, worried. "Is something wrong?"

Grant just shook his head, and continued to laugh. He couldn't tell them that what was funny was that he had seen the animal for only a few seconds, but he had already begun to accept it—and to use his observations to answer long-standing questions in the field.

He was still laughing as he saw a fifth and a sixth neck crane up above the palm trees. The sauropods watched the people arrive. They reminded Grant of oversize giraffes—they had the same pleasant, rather stupid gaze.

"I take it they're not animatronic," Malcolm said. "They're very lifelike."

"Yes, they certainly are," Hammond said. "Well, they should be, shouldn't they?"

From the distance, they heard the trumpeting sound again. First one animal made it, and then the others joined in.

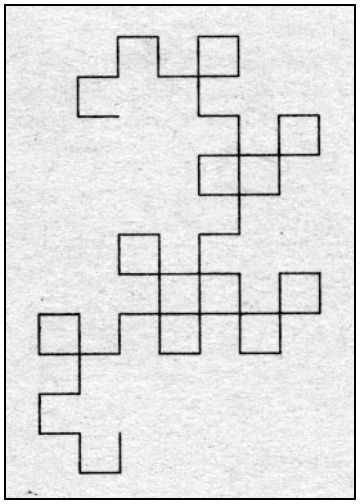
"That's their call," Ed Regis said. "Welcoming us to the island."

Grant stood and listened for a moment, entranced.

"You probably want to know what happens next," Hammond was saying, continuing down the path. "We've scheduled a complete tour of the facilities for you, and a trip to see the dinosaurs in the park later this afternoon. I'll be joining you for dinner, and will answer any remaining questions you may have then. Now, if you'll go with Mr. Regis ..."

The group followed Ed Regis toward the nearest buildings. Over the path, a crude hand-painted sign read: "Welcome to Jurassic Park."

THIRD ITERATION



"Details emerge more clearly
as the fractal curve is redrawn."
IAN MALCOLM

JURASSIC PARK

They moved into a green tunnel of overarching palms leading toward the main visitor building. Everywhere, extensive and elaborate planting emphasized the feeling that they were entering a new world, a prehistoric tropical world, and leaving the normal world behind.

Ellie said to Grant, "They look pretty good."

"Yes," Grant said. "I want to see them up close. I want to lift up their toe pads and inspect their claws and feel their skin and open their jaws and have a look at their teeth. Until then I don't know for sure. But yes, they look good."

"I suppose it changes your field a bit," Malcolm said.

Grant shook his head. "It changes everything," he said.

For 150 years, ever since the discovery of gigantic animal bones in Europe, the study of dinosaurs had been an exercise in scientific deduction. Paleontology was essentially detective work, searching for clues in the fossil bones and the trackways of the long-vanished giants. The best paleontologists were the ones who could make the most clever deductions.

And all the great disputes of paleontology were carried out in this fashion—including the bitter debate, in which Grant was a key figure, about whether dinosaurs were warm-blooded.

Scientists had always classified dinosaurs as reptiles, cold-blooded creatures drawing the heat they needed for life from the environment. A mammal could metabolize food to produce bodily warmth, but a reptile could not. Eventually a handful of researchers—led chiefly by John Ostrom and Robert Bakker at Yale—began to suspect that the concept of sluggish, cold-blooded dinosaurs was inadequate to explain the fossil record. In classic deductive fashion, they drew conclusions from several lines of evidence.

First was posture: lizards and reptiles were bent-legged sprawlers, hugging the ground for warmth. Lizards didn't have the energy to stand on their hind legs for more than a few seconds. But the dinosaurs stood on straight legs, and many walked erect on their hind legs. Among living animals, erect posture occurred only in warm-blooded mammals and birds. Thus dinosaur posture suggested warm-bloodedness.

Next they studied metabolism, calculating the pressure necessary to push blood up the eighteen-foot-long neck of a brachiosaur, and concluding that it could only be accomplished by a four-chambered, hot-blooded heart.

They studied trackways, fossil footprints left in mud, and concluded that dinosaurs ran as fast as a man; such activity implied warm blood. They found dinosaur remains above the Arctic Circle, in a frigid environment unimaginable for a reptile. And the new studies of group behavior, based largely on Grant's own work, suggested that dinosaurs had a complex social life and reared their young, as reptiles did not. Turtles abandon their eggs. But dinosaurs probably did

not.

The warm-blooded controversy had raged for fifteen years, before a new perception of dinosaurs as quick-moving, active animals was accepted—but not without lasting animosities. At conventions, there were still colleagues who did not speak to one another.

But now, if dinosaurs could be cloned—why, Grant's field of study was going to change instantly. The paleontological study of dinosaurs was finished. The whole enterprise—the museum halls with their giant skeletons and flocks of echoing schoolchildren, the university laboratories with their bone trays, the research papers, the journals—all of it was going to end.

"You don't seem upset," Malcolm said.

Grant shook his head. "It's been discussed, in the field. Many people imagined it was coming. But not so soon."

"Story of our species," Malcolm said, laughing. "Everybody knows it's coming, but not so soon."

As they walked down the path, they could no longer see the dinosaurs, but they could hear them, trumpeting softly in the distance.

Grant said, "My only question is, where'd they get the DNA?"

Grant was aware of serious speculation in laboratories in Berkeley, Tokyo, and London that it might eventually be possible to clone an extinct animal such as a dinosaur—if you could get some dinosaur DNA to work with. The problem was that all known dinosaurs were fossils, and the fossilization destroyed most DNA, replacing it with inorganic material. Of course, if a dinosaur was frozen, or preserved in a peat bog, or mummified in a desert environment, then its DNA might be recoverable.

But nobody had ever found a frozen or mummified dinosaur. So cloning was therefore impossible. There was nothing to clone *from*. All the modern genetic technology was useless. It was like having a Xerox copier but nothing to copy with it.

Ellie said, "You can't reproduce a real dinosaur, because you can't get real dinosaur DNA."

"Unless there's a way we haven't thought of," Grant said.

"Like what?" she said.

"I don't know," Grant said.

Beyond a fence, they came to the swimming pool, which spilled over into a series of waterfalls and smaller rocky pools. The area was planted with huge ferns. "Isn't this extraordinary?" Ed Regis said. "Especially on a misty day, these plants really contribute to the prehistoric atmosphere. These are authentic Jurassic ferns, of course."

Ellie paused to look more closely at the ferns. Yes, it was just as he said: *Serenna veriformans,* a plant found abundantly in fossils more than two hundred million years old, now common only in the wetlands of Brazil and Colombia. But whoever had decided to place this particular fern at poolside obviously didn't know that the spores of *veriformans* contained a deadly beta-carboline alkaloid. Even touching the attractive green fronds could make you sick, and if a child

were to take a mouthful, he would almost certainly die—the toxin was fifty times more poisonous than oleander.

People were so naïve about plants, Ellie thought. They just chose plants for appearance, as they would choose a picture for the wall. It never occurred to them that plants were actually living things, busily performing all the living functions of respiration, ingestion, excretion, reproduction—and defense.

But Ellie knew that, in the earth's history, plants had evolved as competitively as animals, and in some ways more fiercely. The poison in *Serenna veriformans* was a minor example of the elaborate chemical arsenal of weapons that plants had evolved. There were terpenes, which plants spread to poison the soil around them and inhibit competitors; alkaloids, which made them unpalatable to insects and predators (and children); and pheromones, used for communication. When a Douglas fir tree was attacked by beetles, it produced an anti-feedant chemical—and so did other Douglas firs in distant parts of the forest. It happened in response to a warning alleochemical secreted by the trees that were under attack.

People who imagined that life on earth consisted of animals moving against a green background seriously misunderstood what they were seeing. That green background was busily alive. Plants grew, moved, twisted, and turned, fighting for the sun; and they interacted continuously with animals—discouraging some with bark and thorns; poisoning others; and feeding still others to advance their own reproduction, to spread their pollen and seeds. It was a complex, dynamic process which she never ceased to find fascinating. And which she knew most people simply didn't understand.

But if planting deadly ferns at poolside was any indication, then it was clear that the designers of Jurassic Park had not been as careful as they should have been.

"Isn't it just wonderful?" Ed Regis was saying. "If you look up ahead, you'll see our Safari Lodge." Ellie saw a dramatic, low building, with a series of glass pyramids on the roof. "That's where you'll all be staying here in Jurassic Park."

Grant's suite was done in beige tones, the rattan furniture in green jungle-print motifs. The room wasn't quite finished; there were stacks of lumber in the closet, and pieces of electrical conduit on the floor. There was a television set in the corner, with a card on top:

Channel 2: Hypsilophodont Highlands
Channel 3: Triceratops Territory
Channel 4: Sauropod Swamp
Channel 5: Carnivore Country
Channel 6: Stegosaurus South
Channel 7: Velociraptor Valley
Channel 8: Pterosaur Peak

He found the names irritatingly cute. Grant turned on the television but got only static. He shut it off and went into his bedroom, tossed his suitcase on the bed. Directly over the bed was a large pyramidal skylight. It created a tented feeling, like sleeping under the stars. Unfortunately the glass had to be protected by

heavy bars, so that striped shadows fell across the bed.

Grant paused. He had seen the plans for the lodge, and he didn't remember bars on the skylight. In fact, these bars appeared to be a rather crude addition. A black steel frame had been constructed outside the glass walls, and the bars welded to the frame.

Puzzled, Grant moved from the bedroom to the living room. His window looked out on the swimming pool.

"By the way, those ferns are poison," Ellie said, walking into his room. "But did you notice anything about the rooms, Alan?"

"They changed the plans."

"I think so, yes." She moved around the room. "The windows are small," she said. "And the glass is tempered, set in a steel frame. The doors are steel-clad. That shouldn't be necessary. And did you see the fence when we came in?"

Grant nodded. The entire lodge was enclosed within a fence, with bars of inch-thick steel. The fence was gracefully landscaped and painted flat black to resemble wrought iron, but no cosmetic effort could disguise the thickness of the metal, or its twelve-foot height.

"I don't think the fence was in the plans, either," Ellie said. "It looks to me like they've turned this place into a fortress."

Grant looked at his watch. "We'll be sure to ask why," he said. "The tour starts in twenty minutes."

WHEN DINOSAURS RULED THE EARTH

They met in the visitor building: two stories high, and all glass with exposed black anodized girders and supports. Grant found it determinedly high-tech.

There was a small auditorium dominated by a robot *Tyrannosaurus rex,* poised menacingly by the entrance to an exhibit area labeled WHEN DINOSAURS RULED THE EARTH. Farther on were other displays: WHAT IS A DINOSAUR? and THE MESOZOIC WORLD. But the exhibits weren't completed; there were wires and cables all over the floor. Gennaro climbed up on the stage and talked to Grant, Ellie, and Malcolm, his voice echoing slightly in the room.

Hammond sat in the back, his hands folded across his chest.

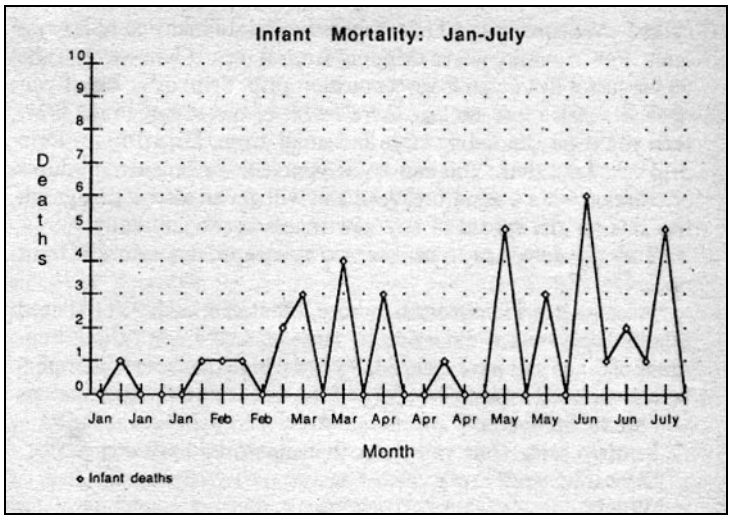
"We're about to tour the facilities," Gennaro said. "I'm sure Mr. Hammond and his staff will show everything in the best light. Before we go, I wanted to review why we are here, and what I need to decide before we leave. Basically, as you all realize by now, this is an island in which genetically engineered dinosaurs have been allowed to move in a natural park-like setting, forming a tourist attraction. The attraction isn't open to tourists yet, but it will be in a year.

"Now, my question for you is a simple one. Is this island safe? Is it safe for visitors, and is it safely containing the dinosaurs?"

Gennaro turned down the room lights. "There are two pieces of evidence which we have to deal with. First of all, there is Dr. Grant's identification of a previously

unknown dinosaur on the Costa Rican mainland. This dinosaur is known only from a partial fragment. It was found in July of this year, after it supposedly bit an American girl on a beach. Dr. Grant can tell you more later. I've asked for the original fragment, which is in a lab in New York, to be flown here so that we can inspect it directly. Meanwhile, there is a second piece of evidence.

"Costa Rica has an excellent medical service, and it tracks all kinds of data. Beginning in March, there were reports of lizards biting infants in their cribs—and also, I might add, biting old people who were sleeping soundly. These lizard bites were sporadically reported in coastal villages from Ismaloya to Puntarenas. After March, lizard bites were no longer reported. However, I have this graph from the Public Health Service in San José of infant mortality in the towns of the west coast earlier this year."



"I direct your attention to two features of this graph," Gennaro said. "First, infant mortality is low in the months of January and February, then spikes in March, then it's low again in April. But from May onward, it is high, right through July, the month the American girl was bitten. The Public Health Service feels that something is now affecting infant mortality, and it is not being reported by the workers in the coastal villages. The second feature is the puzzling biweekly spiking, which seems to suggest some kind of alternating phenomenon is at work."

The lights came back on. "All right," Gennaro said. "That's the evidence I want explained. Now, are there any—"

"We can save ourselves a great deal of trouble," Malcolm said. "I'll explain it for you now."

"You will?" Gennaro said.

"Yes," Malcolm said. "First of all, animals have very likely gotten off the island."

"Oh balls," Hammond growled, from the back.

"And second, the graph from the Public Health Service is almost certainly unrelated to any animals that have escaped."

Grant said, "How do you know that?"

"You'll notice that the graph alternates between high and low spikes," Malcolm

said. "That is characteristic of many complex systems. For example, water dripping from a tap. If you turn on the faucet just a little, you'll get a constant drip, drip, drip. But if you open it a little more, so that there's a bit of turbulence in the flow, then you'll get alternating large and small drops. Drip drip ... Drip drip ... Like that. You can try it yourself. Turbulence produces alternation—it's a signature. And you will get an alternating graph like this for the spread of any new illness in a community."

"But why do you say it isn't caused by escaped dinosaurs?" Grant said.

"Because it is a nonlinear signature," Malcolm said. "You'd need hundreds of escaped dinosaurs to cause it. And I don't think hundreds of dinosaurs have escaped. So I conclude that some other phenomenon, such as a new variety of flu, is causing the fluctuations you see in the graph."

Gennaro said, "But you think that dinosaurs have escaped?"

"Probably, yes."

"Why?"

"Because of what you are attempting here. Look, this island is an attempt to re-create a natural environment from the past. To make an isolated world where extinct creatures roam freely. Correct?"

"Yes."

"But from my point of view, such an undertaking is impossible. The mathematics are so self-evident that they don't need to be calculated. It's rather like my asking you whether, on a billion dollars in income, you had to pay tax. You wouldn't need to pull out your calculator to check. You'd know tax was owed. And, similarly, I know overwhelmingly that one cannot successfully duplicate nature in this way, or hope to isolate it."

"Why not? After all, there are zoos. ..."

"Zoos don't re-create nature," Malcolm said. "Let's be clear. Zoos take the nature that already exists and modify it *very* slightly, to create holding pens for animals. Even those minimal modifications often fail. The animals escape with regularity. But a zoo is not a model for this park. This park is attempting something far more ambitious than that. Something much more akin to making a space station on earth."

Gennaro shook his head. "I don't understand."

"Well, it's very simple. Except for the air, which flows freely, everything about this park is meant to be isolated. Nothing gets in, nothing out. The animals kept here are never to mix with the greater ecosystems of earth. They are never to escape."

"And they never have," Hammond snorted.

"Such isolation is impossible," Malcolm said flatly. "It simply cannot be done."

"It can. It's done all the time."

"I beg your pardon," Malcolm said. "But you don't know what you are talking about."

"You arrogant little snot," Hammond said. He stood, and walked out of the room.

"Gentlemen, gentlemen," Gennaro said.

"I'm sorry," Malcolm said, "but the point remains. What we call 'nature' is in fact

a complex system of far greater subtlety than we are willing to accept. We make a simplified image of nature and then we botch it up. I'm no environmentalist, but you have to understand what you don't understand. How many times must the point be made? How many times must we see the evidence? We build the Aswan Dam and claim it is going to revitalize the country. Instead, it destroys the fertile Nile Delta, produces parasitic infestation, and wrecks the Egyptian economy. We build the—"

"Excuse me," Gennaro said. "But I think I hear the helicopter. That's probably the sample for Dr. Grant to look at." He started out of the room. They all followed.

At the foot of the mountain, Gennaro was screaming over the sound of the helicopter. The veins of his neck stood out. "You did *what?* You invited *who?"*

"Take it easy," Hammond said.

Gennaro screamed, "Are you out of your goddamned *mind?"*

"Now, look here," Hammond said, drawing himself up. "I think we have to get something clear—"

"No," Gennaro said. "No, *you* get something clear. This is not a social outing. This is not a weekend excursion—"

"This is my island," Hammond said, "and I can invite whomever I want."

"This is a serious investigation of your island because your investors are concerned that it's out of control. We think this is a very dangerous place, and—"

"You're not going to shut me down, Donald—"

"I will if I have to—"

"This is a safe place," Hammond said, "no matter what that damn mathematician is saying—"

"It's not—"

"And I'll demonstrate its safety—"

"And I want you to put them right back on that helicopter," Gennaro said.

"Can't," Hammond said, pointing toward the clouds. "It's already leaving." And, indeed, the sound of the rotors was fading.

"God damn it," Gennaro said, "don't you see you're needlessly risking—"

"Ah ah," Hammond said. "Let's continue this later. I don't want to upset the children."

Grant turned, and saw two children coming down the hillside, led by Ed Regis. There was a bespectacled boy of about eleven, and a girl a few years younger, perhaps seven or eight, her blond hair pushed up under a Mets baseball cap, and a baseball glove slung over her shoulder. The two kids made their way nimbly down the path from the helipad, and stopped some distance from Gennaro and Hammond.

Low, under his breath, Gennaro said, *"Christ."*

"Now, take it easy," Hammond said. "Their parents are getting a divorce, and I want them to have a fun weekend here."

The girl waved tentatively.

"Hi, Grandpa," she said. "We're here."

THE TOUR

Tim Murphy could see at once that something was wrong. His grandfather was in the middle of an argument with the younger, red-faced man opposite him. And the other adults, standing behind, looked embarrassed and uncomfortable. Alexis felt the tension, too, because she hung back, tossing her baseball in the air. He had to push her: "Go on, Lex."

"Go on yourself, Timmy."

"Don't be a worm," he said.

Lex glared at him, but Ed Regis said cheerfully, "I'll introduce you to everybody, and then we can take the tour."

"I have to go," Lex said.

"I'll just introduce you first," Ed Regis said.

"No, I have to go."

But Ed Regis was already making introductions. First to Grandpa, who kissed them both, and then to the man he was arguing with. This man was muscular and his name was Gennaro. The rest of the introductions were a blur to Tim. There was a blond woman wearing shorts, and a man with a beard who wore jeans and a Hawaiian shirt. He looked like the outdoors type. Then a fat college kid who had something to do with computers, and finally a thin man in black, who didn't shake hands, but just nodded his head. Tim was trying to organize his impressions, and was looking at the blond woman's legs, when he suddenly realized that he knew who the bearded man was.

"Your mouth is open," Lex said.

Tim said, "I know him."

"Oh *sure.* You just met him."

"No," Tim said. "I have his book."

The bearded man said, "What book is that, Tim?"

"Lost World of the Dinosaurs," Tim said.

Alexis snickered. "Daddy says Tim has dinosaurs on the brain," she said.

Tim hardly heard her. He was thinking of what he knew about Alan Grant. Alan Grant was one of the principal advocates of the theory that dinosaurs were warm-blooded. He had done lots of digging at the place called Egg Hill in Montana, which was famous because so many dinosaur eggs had been found there. Professor Grant had found most of the dinosaur eggs that had ever been discovered. He was also a good illustrator, and he drew the pictures for his own books.

"Dinosaurs on the brain?" the bearded man said. "Well, as a matter of fact, I have that same problem."

"Dad says dinosaurs are really stupid," Lex said. "He says Tim should get out in the air and play more sports."

Tim felt embarrassed. "I thought you had to go," he said.

"In a minute," Lex said.

"I thought you were in such a rush."

"I'm the one who would know, don't you think, Timothy?" she said, putting her

hands on her hips, copying her mother's most irritating stance.

"Tell you what," Ed Regis said. "Why don't we all just head on over to the visitor center, and we can begin our tour." Everybody started walking. Tim heard Gennaro whisper to his grandfather, "I could kill you for this," and then Tim looked up and saw that Dr. Grant had fallen into step beside him.

"How old are you, Tim?"

"Eleven."

"And how long have you been interested in dinosaurs?" Grant asked.

Tim swallowed. "A while now," he said. He felt nervous to be talking to Dr. Grant. "We go to museums sometimes, when I can talk my family into it. My father."

"Your father's not especially interested?"

Tim nodded, and told Grant about his family's last trip to the Museum of Natural History. His father had looked at a skeleton and said, "That's a big one."

Tim had said, "No, Dad, that's a medium-size one, a camptosaurus."

"Oh, I don't know. Looks pretty big to me."

"It's not even full-grown, Dad."

His father squinted at the skeleton. "What is it, Jurassic?"

"Jeez. No. Cretaceous."

"Cretaceous? What's the difference between Cretaceous and Jurassic?"

"Only about a hundred million years," Tim said.

"Cretaceous is older?"

"No, Dad, Jurassic is older."

"Well," his father said, stepping back, "it looks pretty damn big to me." And he turned to Tim for agreement. Tim knew he had better agree with his father, so he just muttered something. And they went on to another exhibit.

Tim stood in front of one skeleton—a *Tyrannosaurus rex,* the mightiest predator the earth had ever known—for a long time. Finally his father said, "What are you looking at?"

"I'm counting the vertebrae," Tim said.

"The vertebrae?"

"In the backbone."

"I know what vertebrae are," his father said, annoyed. He stood there a while longer and then he said, "Why are you counting them?"

"I think they're wrong. Tyrannosaurs should only have thirty-seven vertebrae in the tail. This has more."

"You mean to tell me," his father said, "that the Museum of Natural History has a skeleton that's wrong? I can't believe that."

"It's wrong," Tim said.

His father stomped off toward a guard in the corner. "What did you do now?" his mother said to Tim.

"I didn't do anything," Tim said. "I just said the dinosaur is wrong, that's all."

And then his father came back with a funny look on his face, because of course the guard told him that the tyrannosaurus had too many vertebrae in the tail.

"How'd you know that?" his father asked.

"I read it," Tim said.

"That's pretty amazing, son," he said, and he put his hand on his shoulder, giving it a squeeze. "You know how many vertebrae belong in that tail. I've never seen anything like it. You really *do* have dinosaurs on the brain."

And then his father said he wanted to catch the last half of the Mets game on TV, and Lex said she did, too, so they left the museum. And Tim didn't see any other dinosaurs, which was why they had come there in the first place. But that was how things happened in his family.

How things *used* to happen in his family, Tim corrected himself. Now that his father was getting a divorce from his mother, things would probably be different. His father had already moved out, and even though it was weird at first, Tim liked it. He thought his mother had a boyfriend, but he couldn't be sure, and of course he would never mention it to Lex. Lex was heartbroken to be separated from her father, and in the last few weeks she had become so obnoxious that—

"Was it 5027?" Grant said.

"I'm sorry?" Tim said.

"The tyrannosaurus at the museum. Was it 5027?"

"Yes," Tim said. "How'd you know?"

Grant smiled. "They've been talking about fixing it for years. But now it may never happen."

"Why is that?"

"Because of what is taking place here," Grant said, "on your grandfather's island."

Tim shook his head. He didn't understand what Grant was talking about. "My mom said it was just a resort, you know, with swimming and tennis."

"Not exactly," Grant said. "I'll explain as we walk along."

Now I'm a damned baby-sitter, Ed Regis thought unhappily, tapping his foot as he waited in the visitor center. That was what the old man had told him: You watch my kids like a hawk, they're your responsibility for the weekend.

Ed Regis didn't like it at all. He felt degraded. He wasn't a damn baby-sitter. And, for that matter, he wasn't a damned tour guide, even for VIPs. He was the head of public relations for Jurassic Park, and he had much to prepare between now and the opening, a year away. Just to coordinate with the PR firms in San Francisco and London, and the agencies in New York and Tokyo, was a full-time job—especially since the agencies couldn't yet be told what the resort's real attraction was. The firms were all designing teaser campaigns, nothing specific, and they were unhappy. Creative people needed nurturing. They needed encouragement to do their best work. He couldn't waste his time taking scientists on tours.

But that was the trouble with a career in public relations—nobody saw you as a professional. Regis had been down here on the island off and on for the past seven months, and they were still pushing odd jobs on him. Like that episode back in January. Harding should have handled that. Harding, or Owens, the general contractor. Instead, it had fallen to Ed Regis. What did he know about taking care of some sick workman? And now he was a damn tour guide and

baby-sitter. He turned back and counted the heads. Still one short.

Then, in the back, he saw Dr. Sattler emerge from the bathroom.

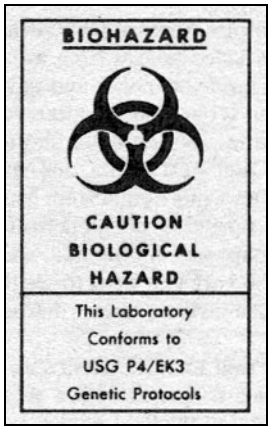
"All right, folks, let's begin our tour on the second floor."

Tim went with the others, following Mr. Regis up the black suspended staircase to the second floor of the building. They passed a sign that read:

CLOSED AREA
AUTHORIZED PERSONNEL ONLY
BEYOND THIS POINT

Tim felt a thrill when he saw that sign. They walked down the second-floor hallway. One wall was glass, looking out onto a balcony with palm trees in the light mist. On the other wall were stenciled doors, like offices: PARK WARDEN ... GUEST SERVICES ... GENERAL MANAGER. ...

Halfway down the corridor they came to a glass partition marked with another sign:



Underneath were more signs:

CAUTION
TERATOGENIC SUBSTANCES
PREGNANT WOMEN AVOID EXPOSURE
TO THIS AREA

DANGER
RADIOACTIVE ISOTOPES IN USE
CARCINOGENIC POTENTIAL

Tim grew more excited all the time. Teratogenic substances! Things that made monsters! It gave him a thrill, and he was disappointed to hear Ed Regis say, "Never mind the signs, they're just up for legal reasons. I can assure you everything is perfectly safe." He led them through the door. There was a guard on the other side. Ed Regis turned to the group.

"You may have noticed that we have a minimum of personnel on the island. We can run this resort with a total of twenty people. Of course, we'll have more when we have guests here, but at the moment there's only twenty. Here's our control room. The entire park is controlled from here."

They paused before windows and peered into a darkened room that looked like a small version of Mission Control. There was a vertical glass see-through map of the park, and facing it a bank of glowing computer consoles. Some of the screens displayed data, but most of them showed video images from around the park. There were just two people inside, standing and talking.

"The man on the left is our chief engineer, John Arnold"—Regis pointed to a thin man in a button-down short-sleeve shirt and tie, smoking a cigarette—"and next to him, our park warden, Mr. Robert Muldoon, the famous white hunter from Nairobi." Muldoon was a burly man in khaki, sunglasses dangling from his shirt pocket. He glanced out at the group, gave a brief nod, and turned back to the computer screens. "I'm sure you want to see this room," Ed Regis said, "but first, let's see how we obtain dinosaur DNA."

The sign on the door said EXTRACTIONS and, like all the doors in the laboratory building, it opened with a security card. Ed Regis slipped the card in the slot; the light blinked; and the door opened.

Inside, Tim saw a small room bathed in green light. Four technicians in lab coats were peering into double-barreled stereo microscopes, or looking at images on high resolution video screens. The room was filled with yellow stones. The stones were in glass shelves; in cardboard boxes; in large pull-out trays. Each stone was tagged and numbered in black ink.

Regis introduced Henry Wu, a slender man in his thirties. "Dr. Wu is our chief geneticist. I'll let him explain what we do here."

Henry Wu smiled. "At least I'll try," he said. "Genetics is a bit complicated. But you're probably wondering where our dinosaur DNA comes from."

"It crossed my mind," Grant said.

"As a matter of fact," Wu said, "there are two possible sources. Using the Loy antibody extraction technique, we can sometimes get DNA directly from dinosaur bones."

"What kind of a yield?" Grant asked.

"Well, most soluble protein is leached out during fossilization, but twenty percent of the proteins are still recoverable by grinding up the bones and using Loy's procedure. Dr. Loy himself has used it to obtain proteins from extinct Australian marsupials, as well as blood cells from ancient human remains. His technique is so refined it can work with a mere fifty nanograms of material. That's fifty-billionths of a gram."

"And you've adapted his technique here?" Grant asked.

"Only as a backup," Wu said. "As you can imagine, a twenty percent yield is insufficient for our work. We need the entire dinosaur DNA strand in order to clone. And we get it here." He held up one of the yellow stones. "From amber—the fossilized resin of prehistoric tree sap."

Grant looked at Ellie, then at Malcolm.

"That's really quite clever," Malcolm said, nodding.

"I still don't understand," Grant admitted.

"Tree sap," Wu explained, "often flows over insects and traps them. The insects are then perfectly preserved within the fossil. One finds all kinds of insects in amber—including biting insects that have sucked blood from larger animals."

"Sucked the blood," Grant repeated. His mouth fell open. "You mean sucked the blood of dinosaurs. ..."

"Hopefully, yes."

"And then the insects are preserved in amber. ..." Grant shook his head. "I'll be damned—that just might work."

"I assure you, it *does* work," Wu said. He moved to one of the microscopes, where a technician positioned a piece of amber containing a fly under the microscope. On the video monitor, they watched as he inserted a long needle through the amber, into the thorax of the prehistoric fly.

"If this insect has any foreign blood cells, we may be able to extract them, and obtain paleo-DNA, the DNA of an extinct creature. We won't know for sure, of course, until we extract whatever is in there, replicate it, and test it. That is what we have been doing for five years now. It has been a long, slow process—but it has paid off.

"Actually, dinosaur DNA is somewhat easier to extract by this process than mammalian DNA. The reason is that mammalian red cells have no nuclei, and thus no DNA in their red cells. To clone a mammal, you must find a white cell, which is much rarer than red cells. But dinosaurs had nucleated red cells, as do modern birds. It is one of the many indications we have that dinosaurs aren't really reptiles at all. They are big leathery birds."

Tim saw that Dr. Grant still looked skeptical, and Dennis Nedry, the messy fat man, appeared completely uninterested, as if he knew it all already. Nedry kept looking impatiently toward the next room.

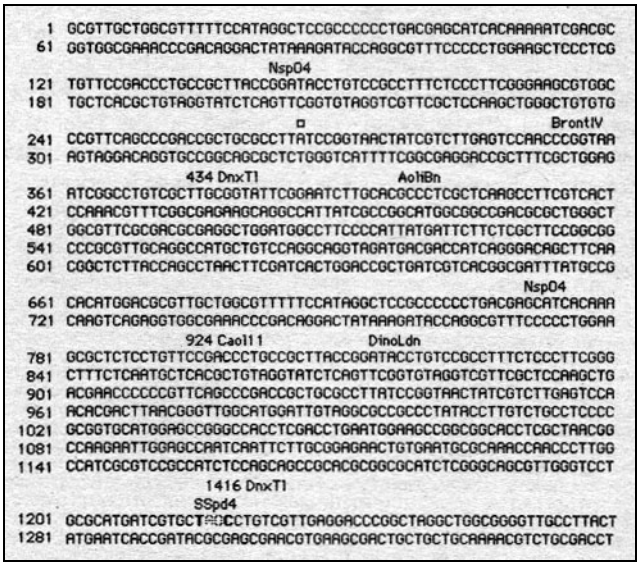
"I see Mr. Nedry has spotted the next phase of our work," Wu said. "How we identify the DNA we have extracted. For that, we use powerful computers."

They went through sliding doors into a chilled room. There was a loud humming sound. Two six-foot-tall round towers stood in the center of the room, and along the walls were rows of waist-high stainless-steel boxes. "This is our high-tech laundromat," Dr. Wu said. "The boxes along the walls are all Hamachi-Hood automated gene sequencers. They are being run, at very high speed, by the Cray XMP supercomputers, which are the towers in the center of the room. In essence, you are standing in the middle of an incredibly powerful genetics factory."

There were several monitors, all running so fast it was hard to see what they were showing. Wu pushed a button and slowed one image.

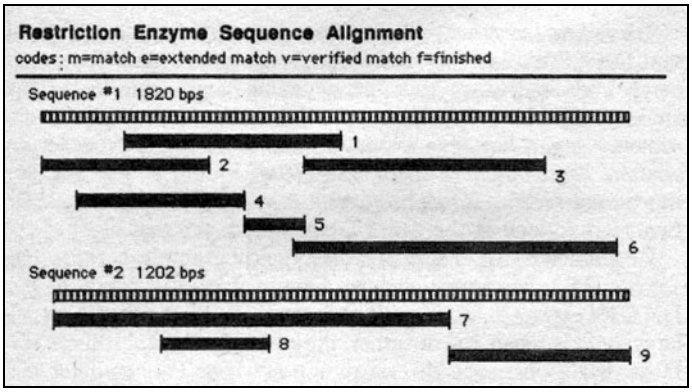
"Here you see the actual structure of a small fragment of dinosaur DNA," Wu said. "Notice the sequence is made up of four basic compounds—adenine, thymine, guanine, and cytosine. This amount of DNA probably contains instructions to make a single protein—say, a hormone or an enzyme. The full DNA molecule contains *three billion* of these bases. If we looked at a screen like this once a second, for eight hours a day, it'd still take more than two years to look at the entire DNA strand. It's that big."

He pointed to the image. "This is a typical example, because you see the DNA has an error, down here in line 1201. Much of the DNA we extract is fragmented or incomplete. So the first thing we have to do is repair it—or rather, the computer has to. It'll cut the DNA, using what are called restriction enzymes. The computer will select a variety of enzymes that might do the job."

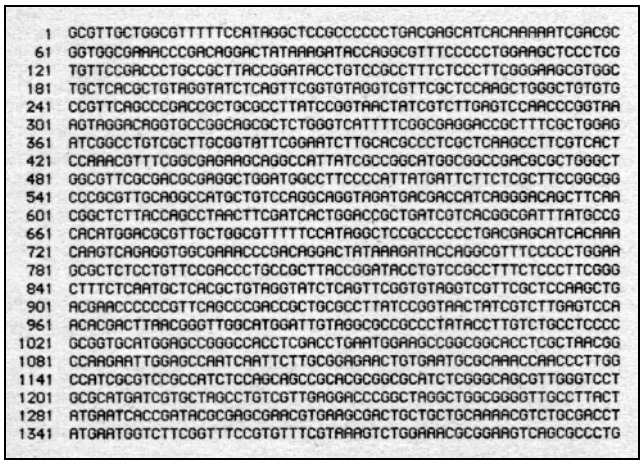


"Here is the same section of DNA, with the points of the restriction enzymes located. As you can see in line 1201, two enzymes will cut on either side of the damaged point. Ordinarily we let the computers decide which to use. But we also need to know what base pairs we should insert to repair the injury. For that, we

have to align various cut fragments, like so."



"Now we are finding a fragment of DNA that overlaps the injury area, and will tell us what is missing. And you can see we can find it, and go ahead and make the repair. The dark bars you see are restriction fragments—small sections of dinosaur DNA, broken by enzymes and then analyzed. The computer is now recombining them, by searching for overlapping sections of code. It's a little bit like putting a puzzle together. The computer can do it very rapidly."



"And here is the revised DNA strand, repaired by the computer.

The operation you've witnessed would have taken months in a conventional lab, but we can do it in seconds."

"Then are you working with the entire DNA strand?" Grant asked.

"Oh no," Wu said. "That's impossible. We've come a long way from the sixties, when it took a whole laboratory four *years* to decode a screen like this. Now the computers can do it in a couple of hours. But, even so, the DNA molecule is too big. We look only at the sections of the strand that differ from animal to animal, or from contemporary DNA. Only a few percent of the nucleotides differ from one species to the next. That's what we analyze, and it's still a big job."

Dennis Nedry yawned. He'd long ago concluded that InGen must be doing something like this. A couple of years earlier, when InGen had hired Nedry to

design the park control systems, one of the initial design parameters called for data records with 3 X 10^9 fields. Nedry just assumed that was a mistake, and had called Palo Alto to verify it. But they had told him the spec was correct. Three billion fields.

Nedry had worked on a lot of large systems. He'd made a name for himself setting up worldwide telephone communications for multinational corporations. Often those systems had millions of records. He was used to that. But InGen wanted something so much larger. ...

Puzzled, Nedry had gone to see Barney Fellows over at Symbolics, near the M.I.T. campus in Cambridge. "What kind of a database has three billion records, Barney?"

"A mistake," Barney said, laughing. "They put in an extra zero or two."

"It's not a mistake. I checked. It's what they want."

"But that's crazy," Barney said. "It's not workable. Even if you had the fastest processors and blindingly fast algorithms, a search would still take days. Maybe weeks."

"Yeah," Nedry said. "I know. Fortunately I'm not being asked to do algorithms. I'm just being asked to reserve storage and memory for the overall system. But still ... what could the database be for?"

Barney frowned. ."You operating under an ND?"

"Yes," Nedry said. Most of his jobs required nondisclosure agreements.

"Can you tell me anything?"

"It's a bioengineering firm."

"Bioengineering," Barney said. "Well, there's the obvious ..."

"Which is?"

"A DNA molecule."

"Oh, come on," Nedry said. "Nobody could be analyzing a DNA molecule." He knew biologists were talking about the Human Genome Project, to analyze a complete human DNA strand. But that would take ten years of coordinated effort, involving laboratories around the world. It was an enormous undertaking, as big as the Manhattan Project, which made the atomic bomb. "This is a private company," Nedry said.

"With three billion records," Barney said, "I don't know what else it could be. Maybe they're being optimistic designing their system."

"Very optimistic," Nedry said.

"Or maybe they're just analyzing DNA fragments, but they've got RAM-intensive algorithms."

That made more sense. Certain database search techniques ate up a lot of memory.

"You know who did their algorithms?"

"No," Nedry said. "This company is very secretive."

"Well, my guess is they're doing something with DNA," Barney said. "What's the system?"

"Multi-XMP."

"*Multi*-XMP? You mean more than one Cray? Wow." Barney was frowning, now, thinking that one over. "Can you tell me anything else?"

"Sorry," Nedry said. "I can't." And he had gone back and designed the control systems. It had taken him and his programming team more than a year, and it was especially difficult because the company wouldn't ever tell him what the subsystems were for. The instructions were simply "Design a module for record keeping" or "Design a module for visual display." They gave him design parameters, but no details about use. He had been working in the dark. And now that the system was up and running, he wasn't surprised to learn there were bugs. What did they expect? And they'd ordered him down here in a panic, all hot and bothered about "his" bugs. It was annoying, Nedry thought.

Nedry turned back to the group as Grant asked, "And once the computer has analyzed the DNA, how do you know what animal it encodes?"

"We have two procedures," Wu said. "The first is phylogenetic mapping. DNA evolves over time, like everything else in an organism—hands or feet or any other physical attribute. So we can take an unknown piece of DNA and determine roughly, by computer, where it fits in the evolutionary sequence. It's time-consuming, but it can be done."

"And the other way?"

Wu shrugged. "Just grow it and find out what it is," he said. "That's what we usually do. I'll show you how that's accomplished."

Tim felt a growing impatience as the tour continued. He liked technical things, but, even so, he was losing interest. They came to the next door, which was marked FERTILIZATION. Dr. Wu unlocked the door with his security card, and they went inside.

Tim saw still another room with technicians working at microscopes. In the back was a section entirely lit by blue ultraviolet light. Dr. Wu explained that their DNA work required the interruption of cellular mitosis at precise instants, and therefore they kept some of the most virulent poisons in the world. "Helotoxins, colchicinoids, beta-alkaloids," he said, pointing to a series of syringes set out under the UV light; "Kill any living animal within a second or two."

Tim would have liked to know more about the poisons, but Dr. Wu droned on about using unfertilized crocodile ova and replacing the DNA; and then Professor Grant asked some complicated questions. To one side of the room were big tanks marked liquid N_2. And there were big walk-in freezers with shelves of frozen embryos, each stored in a tiny silver-foil wrapper.

Lex was bored. Nedry was yawning. And even Dr. Sattler was losing interest. Tim was tired of looking at these complicated laboratories. He wanted to see the dinosaurs.

The next room was labeled HATCHERY. "It's a little warm and damp in here," Dr. Wu said. "We keep it at ninety-nine degrees Fahrenheit and a relative humidity of one hundred percent. We also run a higher O_2 concentration. It's up to thirty-three percent."

"Jurassic atmosphere," Grant said.

"Yes. At least we presume so. If any of you feel faint, just tell me."

Dr. Wu inserted his security card into the slot, and the outer door hissed open.

"Just a reminder: don't touch anything in this room. Some of the eggs are permeable to skin oils. And watch your heads. The sensors are always moving."

He opened the inner door to the nursery, and they went inside. Tim faced a vast open room, bathed in deep infrared light. The eggs lay on long tables, their pale outlines obscured by the hissing low mist that covered the tables. The eggs were all moving gently, rocking.

"Reptile eggs contain large amounts of yolk but no water at all. The embryos must extract water from the surrounding environment. Hence the mist."

Dr. Wu explained that each table contained 150 eggs, and represented a new batch of DNA extractions. The batches were identified by numbers at each table: STEG-458/2 or TRIC-390/4. Waist-deep in the mist, the workers in the nursery moved from one egg to the next, plunging their hands into the mist, turning the eggs every hour, and checking the temperatures with thermal sensors. The room was monitored by overhead TV cameras and motion sensors. An overhead thermal sensor moved from one egg to the next, touching each with a flexible wand, beeping, then going on.

"In this hatchery, we have produced more than a dozen crops of extractions, giving us a total of two hundred thirty-eight live animals. Our survival rate is somewhere around point four percent, and we naturally want to improve that. But by computer analysis we're working with something like five hundred variables: one hundred and twenty environmental, another two hundred intra-egg, and the rest from the genetic material itself. Our eggs are plastic. The embryos are mechanically inserted, and then hatched here."

"And how long to grow?"

"Dinosaurs mature rapidly, attaining full size in two to four years. So we now have a number of adult specimens in the park."

"What do the numbers mean?"

"Those codes," Wu said, "identify the various batch extractions of DNA. The first four letters identify the animals being grown. Over there, that TRIC means *Triceratops.* And the STEG means *Stegosaurus,* and so on."

"And this table here?" Grant said.

The code said xxxx-0001/1. Beneath was scrawled "Presumed Coelu."

"That's a new batch of DNA," Wu said. "We don't know exactly what will grow out. The first time an extraction is done, we don't know for sure what the animal is. You can see it's marked 'Presumed Coelu,' so it is likely to be a coelurosaurus. A small herbivore, if I remember. It's hard for me to keep track of the names. There are something like three hundred genera of dinosaurs known so far."

"Three hundred and forty-seven," Tim said.

Grant smiled, then said, "Is anything hatching now?"

"Not at the moment. The incubation period varies with each animal, but in general it runs about two months. We try to stagger hatchings, to make less work for the nursery staff. You can imagine how it is when we have a hundred and fifty animals born within a few days—though of course most don't survive. Actually, these X's are due any day now. Any other questions? No? Then we'll go to the nursery, where the newborns are."

It was a circular room, all white. There were some incubators of the kind used in hospital nurseries, but they were empty at the moment. Rags and toys were scattered across the floor. A young woman in a white coat was seated on the floor, her back to them.

"What've you got here today, Kathy?" Dr. Wu asked.

"Not much," she said. "Just a baby raptor."

"Let's have a look."

The woman got to her feet and stepped aside. Tim heard Nedry say, "It looks like a lizard."

The animal on the floor was about a foot and a half long, the size of a small monkey. It was dark yellow with brown stripes, like a tiger. It had a lizard's head and long snout, but it stood upright on strong hind legs, balanced by a thick straight tail. Its smaller front legs waved in the air. It cocked its head to one side and peered at the visitors staring down at it.

"Velociraptor," Alan Grant said, in a low voice.

"Velociraptor mongoliensis," Wu said, nodding. "A predator. This one's only six weeks old."

"I just excavated a raptor," Grant said, as he bent down for a closer look. Immediately the little lizard sprang up, leaping over Grant's head into Tim's arms.

"Hey!"

"They can jump," Wu said. "The babies can jump. So can the adults, as a matter of fact."

Tim caught the velociraptor and held it to him. The little animal didn't weigh very much, a pound or two. The skin was warm and completely dry. The little head was inches from Tim's face. Its dark, beady eyes stared at him. A small forked tongue flicked in and out.

"Will he hurt me?"

"No. She's friendly."

"Are you sure about that?" asked Gennaro, with a look of concern.

"Oh, quite sure," Wu said. "At least until she grows a little older. But, in any case, the babies don't have any teeth, even egg teeth."

"Egg teeth?" Nedry said.

"Most dinosaurs are born with egg teeth—little horns on the tip of the nose, like rhino horns, to help them break out of the eggs. But raptors aren't. They poke a hole in the eggs with their pointed snouts, and then the nursery staff has to help them out."

"You have to help them out," Grant said, shaking his head. "What happens in the wild?"

"In the wild?"

"When they breed in the wild," Grant said. "When they make a nest."

"Oh, they can't do that," Wu said. "None of our animals is capable of breeding. That's why we have this nursery. It's the only way to replace stock in Jurassic Park."

"Why can't the animals breed?"

"Well, as you can imagine, it's important that they not be able to breed," Wu

said. "And whenever we faced a critical matter such as this, we designed redundant systems. That is, we always arranged at least two control procedures. In this case, there are two independent reasons why the animals can't breed. First of all, they're sterile, because we irradiate them with X rays."

"And the second reason?"

"All the animals in Jurassic Park are female," Wu said, with a pleased smile.

Malcolm said, "I should like some clarification about this. Because it seems to me that irradiation is fraught with uncertainty. The radiation dose may be wrong, or aimed at the wrong anatomical area of the animal—"

"All true," Wu said. "But we're quite confident we have destroyed gonadal tissue."

"And as for them all being female," Malcolm said, "is that checked? Does anyone go out and, ah, lift up the dinosaurs' skirts to have a look? I mean, how does one determine the sex of a dinosaur, anyway?"

"Sex organs vary with the species. It's easy to tell on some, subtle on others. But, to answer your question, the reason we know all the animals are female is that we literally make them that way: we control their chromosomes, and we control the intra-egg developmental environment. From a bioengineering standpoint, females are easier to breed. You probably know that all vertebrate embryos are inherently female. We all start life as females. It takes some kind of added effect—such as a hormone at the right moment during development—to transform the growing embryo into a male. But, left to its own devices, the embryo will naturally become female. So our animals are all female. We tend to refer to some of them as male—such as the Tyrannosaurus rex; we all call it a 'him'—but in fact, they're all female. And, believe me, they can't breed."

The little velociraptor sniffed at Tim, and then rubbed her head against Tim's neck. Tim giggled.

"She wants you to feed her," Wu said.

"What does she eat?"

"Mice. But she's just eaten, so we won't feed her again for a while."

The little raptor leaned back, stared at Tim, and wiggled her forearms again in the air. Tim saw the small claws on the three fingers of each hand. Then the raptor burrowed her head against his neck again.

Grant came over, and peered critically at the creature. He touched the tiny three-clawed hand. He said to Tim, "Do you mind?" and Tim released the raptor into his hands.

Grant flipped the animal onto its back, inspecting it, while the little lizard wiggled and squirmed. Then he lifted the animal high to look at its profile, and it screamed shrilly.

"She doesn't like that," Regis said. "Doesn't like to be held away from body contact. ..."

The raptor was still screaming, but Grant paid no attention. Now he was squeezing the tail, feeling the bones. Regis said, "Dr. Grant. If you please."

"I'm not hurting her."

"Dr. Grant. These creatures are not of our world. They come from a time when

there were no human beings around to prod and poke them."

"I'm not prodding and—"

"Dr. Grant. *Put her down*," Ed Regis said.

"But—"

"Now." Regis was starting to get annoyed.

Grant handed the animal back to Tim. It stopped squealing. Tim could feel its little heart beating rapidly against his chest.

"I'm sorry, Dr. Grant," Regis said. "But these animals are delicate in infancy. We have lost several from a postnatal stress syndrome, which we believe is adrenocortically mediated. Sometimes they die within five minutes."

Tim petted the little raptor. "It's okay, kid," he said. "Everything's fine now." The heart was still beating rapidly.

"We feel it is important that the animals here be treated in the most humane manner," Regis said. "I promise you that you will have every opportunity to examine them later."

But Grant couldn't stay away. He again moved toward the animal in Tim's arms, peering at it.

The little velociraptor opened her jaws and hissed at Grant, in a posture of sudden intense fury.

"Fascinating," Grant said.

"Can I stay and play with her?" Tim said.

"Not right now," Ed Regis said, glancing at his watch. "It's three o'clock, and it's a good time for a tour of the park itself, so you can see all the dinosaurs in the habitats we have designed for them."

Tim released the velociraptor, which scampered across the room, grabbed a cloth rag, put it in her mouth, and tugged at the end with her tiny claws.

CONTROL

Walking back toward the control room, Malcolm said, "I have one more question, Dr. Wu. How many different species have you made so far?"

"I'm not exactly sure," Wu said. "I believe the number at the moment is fifteen. Fifteen species. Do you know, Ed?"

"Yes, it's fifteen," Ed Regis said, nodding.

"You don't know for *sure?"* Malcolm said, affecting astonishment.

Wu smiled. "I stopped counting," he said, "after the first dozen. And you have to realize that sometimes we think we have an animal correctly made—from the standpoint of the DNA, which is our basic work—and the animal grows for six months and then something untoward happens. And we realize there is some error. A releaser gene isn't operating. A hormone not being released. Or some other problem in the developmental sequence. So we have to go back to the drawing board with that animal, so to speak." He smiled. "At one time, I thought I had more than twenty species. But now, only fifteen."

"And is one of the fifteen species a—" Malcolm turned to Grant. "What was the name?"

"Procompsognathus, " Grant said.

"You have made some procompsognathuses, or whatever they're called?" Malcolm asked.

"Oh yes," Wu said immediately. "Compys are very distinctive animals. And, we made an unusually large number of them."

"Why is that?"

"Well, we want Jurassic Park to be as real an environment as possible—as authentic as possible—and the procompsognathids are actual scavengers from the Jurassic period. Rather like jackals. So we wanted to have the compys around to clean up."

"You mean to dispose of carcasses?"

"Yes, if there were any. But with only two hundred and thirty-odd animals in our total population, we don't have many carcasses," Wu said. "That wasn't the primary objective. Actually, we wanted the compys for another kind of waste management entirely."

"Which was?"

"Well," Wu said, "we have some very big herbivores on this island. We have specifically tried not to breed the biggest sauropods, but even so, we've got several animals in excess of thirty tons walking around out there, and many others in the five- to ten-ton area. That gives us two problems. One is feeding them, and in fact we must import food to the island every two weeks. There is no way an island this small can support these animals for any time.

"But the other problem is waste. I don't know if you've ever seen elephant droppings," Wu said, "but they are substantial. Each spoor is roughly the size of a soccer ball. Imagine the droppings of a brontosaur, ten times as large. Now imagine the droppings of a *herd* of such animals, as we keep here. And the largest animals do not digest their food terribly well, so that they excrete a great deal. And in the sixty million years since dinosaurs disappeared, apparently the bacteria that specialize in breaking down their feces disappeared, too. At least, the sauropod feces don't decompose readily."

"That's a problem," Malcolm said.

"I assure you it is," Wu said, not smiling. "We had a hell of a time trying to solve it. You probably know that in Africa there is a specific insect, the dung beetle, which eats elephant feces. Many other large species have associated creatures that have evolved to eat their excrement. Well, it turns out that compys will eat the feces of large herbivores and redigest it. And the droppings of compys are readily broken down by contemporary bacteria. So, given enough compys, our problem was solved."

"How many compys did you make?"

"I've forgotten exactly, but I think the target population was fifty animals. And we attained that, or very nearly so. In three batches. We did a batch every six months until we had the number."

"Fifty animals," Malcolm said, "is a lot to keep track of."

"The control room is built to do exactly that. They'll show you how it's done."

"I'm sure," Malcolm said. "But if one of these compys were to escape from the island, to get away ..."

"They can't get away."

"I know that, but just supposing one did ..."

"You mean like the animal that was found on the beach?" Wu said, raising his eyebrows. "The one that bit the American girl?"

"Yes, for example."

"I don't know what the explanation for that animal is," Wu said. "But I know it can't possibly be one of ours, for two reasons. First, the control procedures: our animals are counted by computer every few minutes. If one were missing, we'd know at once."

"And the second reason?"

"The mainland is more than a hundred miles away. It takes almost a day to get there by boat. And in the outside world our animals will die within twelve hours," Wu said.

"How do you know?"

"Because I've made sure that's precisely what will occur," Wu said, finally showing a trace of irritation. "Look, we're not fools. We understand these are prehistoric animals. They are part of a vanished ecology—a complex web of life that became extinct millions of years ago. They might have no predators in the contemporary world, no checks on their growth. We don't want them to survive in the wild. So I've made them lysine dependent. I inserted a gene that makes a single faulty enzyme in protein metabolism. As a result, the animals cannot manufacture the amino acid lysine. They must ingest it from the outside. Unless they get a rich dietary source of exogenous lysine—supplied by us, in tablet form—they'll go into a coma within twelve hours and expire. These animals are genetically engineered to be unable to survive in the real world. They can only live here in Jurassic Park. They are not free at all. They are essentially our prisoners."

"Here's the control room," Ed Regis said. "Now that you know how the animals are made, you'll want to see the control room for the park itself, before we go out on the—"

He stopped. Through the thick glass window, the room was dark. The monitors were off, except for three that displayed spinning numbers and the image of a large boat.

"What's going on?" Ed Regis said. "Oh hell, they're docking."

"Docking?"

"Every two weeks, the supply boat comes in from the mainland. One of the things this island doesn't have is a good harbor, or even a good dock. It's a little hairy to get the ship in, when the seas are rough. Could be a few minutes." He rapped on the window, but the men inside paid no attention. "I guess we have to wait, then."

Ellie turned to Dr. Wu. "You mentioned before that sometimes you make an animal and it seems to be fine but, as it grows, it shows itself to be flawed. ..."

"Yes," Wu said. "I don't think there's any way around that. We can duplicate the

DNA, but there is a lot of timing in development, and we don't know if everything is working unless we actually see an animal develop correctly."

Grant said, "How do you know if it's developing correctly? No one has ever seen these animals before."

Wu smiled. "I have often thought about that. I suppose it is a bit of a paradox. Eventually, I hope, paleontologists such as yourself will compare our animals with the fossil record to verify the developmental sequence."

Ellie said, "But the animal we just saw, the velociraptor—you said it was a *mongoliensis?"*

"From the location of the amber," Wu said. "It is from China."

"Interesting," Grant said. "I was just digging up an infant *antirrhopus.* Are there any full-grown raptors here?"

"Yes," Ed Regis said without hesitation. "Eight adult females. The females are the real hunters. They're pack hunters, you know."

"Will we see them on the tour?"

"No," Wu said, looking suddenly uncomfortable. And there was an awkward pause. Wu looked at Regis.

"Not for a while," Regis said cheerfully. "The velociraptors haven't been integrated into the park setting just yet. We keep them in a holding pen."

"Can I see them there?" Grant said.

"Why, yes, of course. In fact, while we're waiting"—he glanced at his watch—"you might want to go around and have a look at them."

"I certainly would," Grant said.

"Absolutely," Ellie said.

"I want to go, too," Tim said eagerly.

"Just go around the back of this building, past the support facility, and you'll see the pen. But don't get too close to the fence. Do you want to go, too?" he said to the girl.

"No," Lex said. She looked appraisingly at Regis. "You want to play a little pickle? Throw a few?"

"Well, sure," Ed Regis said. "Why don't you and I go downstairs and we'll do that, while we wait for the control room to open up?"

Grant walked with Ellie and Malcolm around the back of the main building, with the kid tagging along. Grant liked kids—it was impossible not to like any group so openly enthusiastic about dinosaurs. Grant used to watch kids in museums as they stared open-mouthed at the big skeletons rising above them. He wondered what their fascination really represented. He finally decided that children liked dinosaurs because these giant creatures personified the uncontrollable force of looming authority. They were symbolic parents. Fascinating and frightening, like parents. And kids loved them, as they loved their parents.

Grant also suspected that was why even young children learned the names of dinosaurs. It never failed to amaze him when a three-year-old shrieked: *"Stegosaurus!"* Saying these complicated names was a way of exerting power over the giants, a way of being in control.

"What do you know about *Velociraptor?"* Grant asked Tim. He was just making

conversation.

"It's a small carnivore that hunted in packs, like *Deinonychus*," Tim said.

"That's right," Grant said, "although *Deinonychus* is now considered one of the velociraptors. And the evidence for pack hunting is all circumstantial. It derives in part from the appearance of the animals, which are quick and strong, but small for dinosaurs—just a hundred and fifty to three hundred pounds each. We assume they hunted in groups if they were to bring down larger prey. And there are some fossil finds in which a single large prey animal is associated with several raptor skeletons, suggesting they hunted in packs. And, of course, raptors were large-brained, more intelligent than most dinosaurs."

"How intelligent is that?" Malcolm asked.

"Depends on who you talk to," Grant said. "Just as paleontologists have come around to the idea that dinosaurs were probably warm-blooded, a lot of us are starting to think some of them might have been quite intelligent, too. But nobody knows for sure."

They left the visitor area behind, and soon they heard the loud hum of generators, smelled the faint odor of gasoline. They passed a grove of palm trees and saw a large, low concrete shed with a steel roof. The noise seemed to come from there. They looked in the shed.

"It must be a generator," Ellie said.

"It's big," Grant said, peering inside.

The power plant actually extended two stories below ground level: a vast complex of whining turbines and piping that ran down in the earth, lit by harsh electric bulbs. "They can't need all this just for a resort," Malcolm said. "They're generating enough power here for a small city."

"Maybe for the computers?"

"Maybe."

Grant heard bleating, and walked north a few yards. He came to an animal enclosure with goats. By a quick count, he estimated there were fifty or sixty goats.

"What's that for?" Ellie asked.

"Beats me."

"Probably they feed 'em to the dinosaurs," Malcolm said.

The group walked on, following a dirt path through a dense bamboo grove. At the far side, they came to a double-layer chain-link fence twelve feet high, with spirals of barbed wire at the top. There was an electric hum along the outer fence.

Beyond the fences, Grant saw dense clusters of large ferns, five feet high. He heard a snorting sound, a kind of snuffling. Then the sound of crunching footsteps, coming closer.

Then a long silence.

"I don't see anything," Tim whispered, finally.

"Ssssh."

Grant waited. Several seconds passed. Flies buzzed in the air. He still saw nothing.

Ellie tapped him on the shoulder, and pointed.

Amid the ferns, Grant saw the head of an animal. It was motionless, partially hidden in the fronds, the two large dark eyes watching them coldly.

The head was two feet long. From a pointed snout, a long row of teeth ran back to the hole of the auditory meatus which served as an ear. The head reminded him of a large lizard, or perhaps a crocodile. The eyes did not blink, and the animal did not move. Its skin was leathery, with a pebbled texture, and basically the same coloration as the infant's: yellow-brown with darker reddish markings, like the stripes of a tiger.

As Grant watched, a single forelimb reached up very slowly to part the ferns beside the animal's face. The limb, Grant saw, was strongly muscled. The hand had three grasping fingers, each ending in curved claws. The hand gently, slowly, pushed aside the ferns.

Grant felt a chill and thought, *He's hunting us.*

For a mammal like man, there was something indescribably alien about the way reptiles hunted their prey. No wonder men hated reptiles. The stillness, the coldness, the *pace* was all wrong. To be among alligators or other large reptiles was to be reminded of a different kind of life, a different kind of world, now vanished from the earth. Of course, this animal didn't realize that he had been spotted, that he—

The attack came suddenly, from the left and right. Charging raptors covered the ten yards to the fence with shocking speed. Grant had a blurred impression of powerful, six-foot-tall bodies, stiff balancing tails, limbs with curving claws, open jaws with rows of jagged teeth.

The animals snarled as they came forward, and then leapt bodily into the air, raising their hind legs with their big dagger-claws. Then they struck the fence in front of them, throwing off twin bursts of hot sparks.

The velociraptors fell backward to the ground, hissing. The visitors all moved forward, fascinated. Only then did the third animal attack, leaping up to strike the fence at chest level. Tim screamed in fright as the sparks exploded all around him. The creatures snarled, a low reptilian hissing sound, and leapt back among the ferns. Then they were gone, leaving behind a faint odor of decay, and hanging acrid smoke.

"Holy shit," Tim said.

"It was *so fast*," Ellie said.

"Pack hunters," Grant said, shaking his head. "Pack hunters for whom ambush is an instinct ... Fascinating."

"I wouldn't call them tremendously intelligent," Malcolm said.

On the other side of the fence, they heard snorting in the palm trees. Several heads poked slowly out of the foliage. Grant counted three ... four ... five ... The animals watched them. Staring coldly.

A black man in coveralls came running up to them. "Are you all right?"

"We're okay," Grant said.

"The alarms were set off." The man looked at the fence, dented and charred. "They attacked you?"

"Three of them did, yes."

The black man nodded. "They do that all the time. Hit the fence, take a shock.

They never seem to mind."

"Not too smart, are they?" Malcolm said.

The black man paused. He squinted at Malcolm in the afternoon light. "Be glad for that fence, *señor*," he said, and turned away.

From beginning to end, the entire attack could not have taken more than six seconds. Grant was still trying to organize his impressions. The speed was astonishing—the animals were so fast, he had hardly seen them move.

Walking back, Malcolm said, "They are remarkably fast."

"Yes," Grant said. "Much faster than any living reptile. A bull alligator can move quickly, but only over a short distance—five or six feet. Big lizards like the five-foot Komodo dragons of Indonesia have been clocked at thirty miles an hour, fast enough to run down a man. And they kill men all the time. But I'd guess the animal behind the fence was more than twice that fast."

"Cheetah speed," Malcolm said. "Sixty, seventy miles an hour."

"Exactly."

"But they seemed to dart forward," Malcolm said. "Rather like birds."

"Yes." In the contemporary world, only very small mammals, like the cobra-fighting mongoose, had such quick responses. Small mammals, and of course birds. The snake-hunting secretary bird of Africa, or the cassowary. In fact, the velociraptor conveyed precisely the same impression of deadly, swift menace Grant had seen in the cassowary, the clawed ostrich-like bird of New Guinea.

"So these velociraptors look like reptiles, with the skin and general appearance of reptiles, but they move like birds, with the speed and predatory intelligence of birds. Is that about it?" Malcolm said.

"Yes," Grant said. "I'd say they display a mixture of traits."

"Does that surprise you?"

"Not really," Grant said. "It's actually rather close to what paleontologists believed a long time ago."

When the first giant bones were found in the 1820s and 1830s, scientists felt obliged to explain the bones as belonging to some oversize variant of a modern species. This was because it was believed that no species could ever become extinct, since God would not allow one of His creations to die.

Eventually it became clear that this conception of God was mistaken, and the bones belonged to extinct animals. But what kind of animals?

In 1842, Richard Owen, the leading British anatomist of the day, called them *Dinosauria,* meaning "terrible lizards." Owen recognized that dinosaurs seemed to combine traits of lizards, crocodiles, and birds. In particular, dinosaur hips were bird-like, not lizard-like. And, unlike lizards, many dinosaurs seemed to stand upright. Owen imagined dinosaurs to be quick-moving, active creatures, and his view was accepted for the next forty years.

But when truly gigantic finds were unearthed—animals that had weighed a hundred tons in life—scientists began to envision the dinosaurs as stupid, slow-moving giants destined for extinction. The image of the sluggish reptile gradually predominated over the image of the quick-moving bird. In recent years, scientists like Grant had begun to swing back toward the idea of more active dinosaurs.

Grant's colleagues saw him as radical in his conception of dinosaur behavior. But now he had to admit his own conception had fallen far short of the reality of these large, incredibly swift hunters.

"Actually, what I was driving at," Malcolm said, "was this: Is it a persuasive animal to you? Is it in fact a dinosaur?"

"I'd say so, yes."

"And the coordinated attack behavior ..."

"To be expected," Grant said. According to the fossil record, packs of velociraptors were capable of bringing down animals that weighed a thousand pounds, like *Tenontosaurus,* which could run as fast as a horse. Coordination would be required.

"How do they do that, without language?"

"Oh, language isn't necessary for coordinated hunting," Ellie said. "Chimpanzees do it all the time. A group of chimps will stalk a monkey and kill it. All communication is by eyes."

"And were the dinosaurs in fact attacking us?"

"Yes."

"They would kill us and eat us if they could?" Malcolm said.

"I think so."

"The reason I ask," Malcolm said, "is that I'm told large predators such as lions and tigers are not born man-eaters. Isn't that true? These animals must learn somewhere along the way that human beings are easy to kill. Only afterward do they become man-killers."

"Yes, I believe that's true," Grant said.

"Well, these dinosaurs must be even more reluctant than lions and tigers. After all, they come from a time before human beings—or even large mammals—existed at all. God knows what they think when they see us. So I wonder: have they learned, somewhere along the line, that humans are easy to kill?"

The group fell silent as they walked.

"In any case," Malcolm said, "I shall be *extremely* interested to see the control room now."

VERSION 4.4

"Was there any problem with the group?" Hammond asked.

"No," Henry Wu said, "there was no problem at all."

"They accepted your explanation?"

"Why shouldn't they?" Wu said. "It's all quite straightforward, in the broad strokes. It's only the details that get sticky. And I wanted to talk about the details with you today. You can think of it as a matter of aesthetics."

John Hammond wrinkled his nose, as if he smelled something disagreeable. "Aesthetics?" he repeated.

They were standing in the living room of Hammond's elegant bungalow, set

back among palm trees in the northern sector of the park. The living room was airy and comfortable, fitted with a half-dozen video monitors showing the animals in the park. The file Wu had brought, stamped ANIMAL DEVELOPMENT: VERSION 4.4, lay on the coffee table.

Hammond was looking at him in that patient, paternal way. Wu, thirty-three years old, was acutely aware that he had worked for Hammond all his professional life. Hammond had hired him right out of graduate school.

"Of course, there are practical consequences as well," Wu said. "I really think you should consider my recommendations for phase two. We should go to version 4.4."

"You want to replace all the current stock of animals?" Hammond said.

"Yes, I do."

"Why? What's wrong with them?"

"Nothing," Wu said, "except that they're real dinosaurs."

"That's what I asked for, Henry," Hammond said, smiling. "And that's what you gave me."

"I know," Wu said. "But you see ..." He paused. How could he explain this to Hammond? Hammond hardly ever visited the island. And it was a peculiar situation that Wu was trying to convey. "Right now, as we stand here, almost no one in the world has ever seen an actual dinosaur. Nobody knows what they're really like."

"Yes ..."

"The dinosaurs we have now are real," Wu said, pointing to the screens around the room, "but in certain ways they are unsatisfactory. Unconvincing. I could make them better."

"Better in what way?"

"For one thing, they move too fast," Henry Wu said. "People aren't accustomed to seeing large animals that are so quick. I'm afraid visitors will think the dinosaurs look speeded up, like film running too fast."

"But, Henry, these are real dinosaurs. You said so yourself."

"I know," Wu said. "But we could easily breed slower, more domesticated dinosaurs."

"*Domesticated* dinosaurs?" Hammond snorted. "Nobody wants domesticated dinosaurs, Henry. They want the real thing."

"But that's my point," Wu said. "I don't think they do. They want to see their expectation, which is quite different."

Hammond was frowning.

"You said yourself, John, this park is entertainment," Wu said. "And entertainment has nothing to do with reality. Entertainment is antithetical to reality."

Hammond sighed. "Now, Henry, are we going to have another one of those abstract discussions? You know I like to keep it simple. The dinosaurs we have now are real, and—"

"Well, not exactly," Wu said. He paced the living room, pointed to the monitors. "I don't think we should kid ourselves. We haven't *re-created* the past here. The past is gone. It can never be re-created. What we've done is *reconstruct* the

past—or at least a version of the past. And I'm saying we can make a better version."

"Better than real?"

"Why not?" Wu said. "After all, these animals are already modified. We've inserted genes to make them patentable, and to make them lysine dependent. And we've done everything we can to promote growth, and accelerate development into adulthood."

Hammond shrugged. "That was inevitable. We didn't want to wait. We have investors to consider."

"Of course. But I'm just saying, why stop there? Why not push ahead to make exactly the kind of dinosaur that we'd like to see? One that is more acceptable to visitors, and one that is easier for us to handle? A slower, more docile version for our park?"

Hammond frowned. "But then the dinosaurs wouldn't be real."

"But they're not real now," Wu said. "That's what I'm trying to tell you. There isn't any reality here." He shrugged helplessly. He could see he wasn't getting through. Hammond had never been interested in technical details, and the essence of the argument was technical. How could he explain to Hammond about the reality of DNA dropouts, the patches, the gaps in the sequence that Wu had been obliged to fill in, making the best guesses he could, but still, making guesses. The DNA of the dinosaurs was like old photographs that had been retouched, basically the same as the original but in some places repaired and clarified, and as a result—

"Now, Henry," Hammond said, putting his arm around Wu's shoulder. "If you don't mind my saying so, I think you're getting cold feet. You've been working very hard for a long time, and you've done a hell of a job—a *hell* of a job—and it's finally time to reveal to some people what you've done. It's natural to be a little nervous. To have some doubts. But I am convinced, Henry, that the world will be entirely satisfied. Entirely satisfied."

As he spoke, Hammond steered him toward the door.

"But, John," Wu said. "Remember back in '87, when we started to build the containment devices? We didn't have any full-grown adults yet, so we had to predict what we'd need. We ordered big laser shockers, cars with cattle prods mounted on them, guns that blow out electric nets. All built specially to our specifications. We've got a whole array of devices now—and they're all *too slow.* We've got to make some adjustments. You know that Muldoon wants military equipment: LAW missiles and laser-guided devices?"

"Let's leave Muldoon out of this," Hammond said. "I'm not worried. It's just a zoo, Henry."

The phone rang, and Hammond went to answer it. Wu tried to think of another way to press his case. But the fact was that, after five long years, Jurassic Park was nearing completion, and John Hammond just wasn't listening to him any more.

There had been a time when Hammond listened to Wu very attentively. Especially when he had first recruited him, back in the days when Henry Wu was

a twenty-eight-year-old graduate student getting his doctorate at Stanford in Norman Atherton's lab.

Atherton's death had thrown the lab into confusion as well as mourning; no one knew what would happen to the funding or the doctoral programs. There was a lot of uncertainty; people worried about their careers.

Two weeks after the funeral, John Hammond came to see Wu. Everyone in the lab knew that Atherton had had some association with Hammond, although the details were never clear. But Hammond had approached Wu with a directness Wu never forgot.

"Norman always said you're the best geneticist in his lab," he said. "What are your plans now?"

"I don't know. Research."

"You want a university appointment?"

"Yes."

"That's a mistake," Hammond said briskly. "At least, if you respect your talent."

Wu had blinked. "Why?"

"Because, let's face facts," Hammond said. "Universities are no longer the intellectual centers of the country. The very idea is preposterous. Universities are the backwater. Don't look so surprised. I'm not saying anything you don't know. Since World War II, all the really important discoveries have come out of private laboratories. The laser, the transistor, the polio vaccine, the microchip, the hologram, the personal computer, magnetic resonance imaging, CAT scans—the list goes on and on. Universities simply aren't where it's happening any more. And they haven't been for forty years. If you want to do something important in computers or genetics, you don't go to a *university.* Dear me, no."

Wu found he was speechless.

"Good heavens," Hammond said, "what must you go through to start a new project? How many grant applications, how many forms, how many approvals? The steering committee? The department chairman? The university resources committee? How do you get more work space if you need it? More assistants if you need them? How long does all that take? A brilliant man can't squander precious time with forms and committees. Life is too short, and DNA too long. You want to make your mark. If you want to get something *done,* stay out of universities."

In those days, Wu desperately wanted to make his mark. John Hammond had his full attention.

"I'm talking about *work*," Hammond continued. "Real accomplishment. What does a scientist need to work? He needs time, and he needs money. I'm talking about giving you a five-year commitment, and ten million dollars a year in funding. Fifty million dollars, and no one tells you how to spend it. You decide. Everyone else just *gets out of your way*."

It sounded too good to be true. Wu was silent for a long time. Finally he said, "In return for what?"

"For taking a crack at the impossible," Hammond said. "For trying something that probably can't be done."

"What does it involve?"

"I can't give you details, but the general area involves cloning reptiles."

"I don't think that's impossible," Wu said. "Reptiles are easier than mammals. Cloning's probably only ten, fifteen years off. Assuming some fundamental advances."

"I've got five years," Hammond said. "And a lot of money, for somebody who wants to take a crack at it now."

"Is my work publishable?"

"Eventually."

"Not immediately?"

"No."

"But eventually publishable?" Wu asked, sticking on this point.

Hammond had laughed. "Don't worry. If you succeed, the whole world will know about what you've done, I promise you."

* * *

And now it seemed the whole world would indeed know, Wu thought. After five years of extraordinary effort, they were just a year away from opening the park to the public. Of course, those years hadn't gone exactly as Hammond had promised. Wu had had some people telling him what to do, and many times fearsome pressures were placed on him. And the work itself had shifted—it wasn't even reptilian cloning, once they began to understand that dinosaurs were so similar to birds. It was avian cloning, a very different proposition. Much more difficult. And for the last two years, Wu had been primarily an administrator, supervising teams of researchers and banks of computer-operated gene sequencers. Administration wasn't the kind of work he relished. It wasn't what he had bargained for.

Still, he had succeeded. He had done what nobody really believed could be done, at least in so short a time. And Henry Wu thought that he should have some rights, some say in what happened, by virtue of his expertise and his efforts. Instead, he found his influence waning with each passing day. The dinosaurs existed. The procedures for obtaining them were worked out to the point of being routine. The technologies were mature. And John Hammond didn't need Henry Wu any more.

"That should be fine," Hammond said, speaking into the phone. He listened for a while, and smiled at Wu. "Fine. Yes. Fine." He hung up. "Where were we, Henry?"

"We were talking about phase two," Wu said.

"Oh yes. We've gone over some of this before, Henry—"

"I know, but you don't realize—"

"Excuse me, Henry," Hammond said, with an edge of impatience in his voice. "I *do* realize. And I must tell you frankly, Henry. I see no reason to improve upon reality. Every change we've made in the genome has been forced on us by law or necessity. We may make other changes in the future, to resist disease, or for other reasons. But I don't think we should improve upon reality just because we think it's better that way. We have real dinosaurs out there now. That's what people want to see. And that's what they *should* see. That's our obligation, Henry. That's *honest,* Henry."

And, smiling, Hammond opened the door for him to leave.

CONTROL

Grant looked at all the computer monitors in the darkened control room, feeling irritable. Grant didn't like computers. He knew that this made him old-fashioned, dated as a researcher, but he didn't care. Some of the kids who worked for him had a real feeling for computers, an intuition. Grant never felt that. He found computers to be alien, mystifying machines. Even the fundamental distinction between an operating system and an application left him confused and disheartened, literally lost in a foreign geography he didn't begin to comprehend. But he noticed that Gennaro was perfectly comfortable, and Malcolm seemed to be in his element, making little sniffing sounds, like a bloodhound on a trail.

"You want to know about control mechanisms?" John Arnold said, turning in his chair in the control room. The head engineer was a thin, tense, chain-smoking man of forty-five. He squinted at the others in the room. "We have *unbelievable* control mechanisms," Arnold said, and lit another cigarette.

"For example," Gennaro said.

"For example, animal tracking." Arnold pressed a button on his console, and the vertical glass map lit up with a pattern of jagged blue lines. "That's our juvenile T-rex. The little rex. All his movements within the park over the last twenty-four hours." Arnold pressed the button again. "Previous twenty-four." And again. "Previous twenty-four."

The lines on the map became densely overlaid, a child's scribble. But the scribble was localized in a single area, near the southeast side of the lagoon.

"You get a sense of his home range over time," Arnold said. "He's young, so he stays close to the water. And he stays away from the big adult rex. You put up the big rex and the little rex, and you'll see their paths never cross."

"Where is the big rex right now?" Gennaro asked.

Arnold pushed another button. The map cleared, and a single glowing spot with a code number appeared in the fields northwest of the lagoon. "He's right there."

"And the little rex?"

"Hell, I'll show you every animal in the park," Arnold said. The map began to light up like a Christmas tree, dozens of spots of light, each tagged with a code number. "That's two hundred thirty-eight animals as of this minute."

"How accurate?"

"Within five feet." Arnold puffed on the cigarette. "Let's put it this way: you drive out in a vehicle and you will find the animals right there, exactly as they're shown on the map."

"How often is this updated?"

"Every thirty seconds."

"Pretty impressive," Gennaro said. "How's it done?"

"We have motion sensors all around the park," Arnold said. "Most of 'em hard-

wired, some radio-telemetered. Of course, motion sensors won't usually tell you the species, but we get image recognition direct off the video. Even when we're not watching the video monitors, the computer is. And checking where everybody is."

"Does the computer ever make a mistake?"

"Only with the babies. It mixes those up sometimes, because they're such small images. But we don't sweat that. The babies almost always stay close to herds of adults. Also you have the category tally."

"What's that?"

"Once every fifteen minutes, the computer tallies the animals in all categories," Arnold said. "Like this."

Total Animals		**238**	
Species	**Expected**	**Found**	**Ver**
Tyrannosaurs	2	2	4.1
Maiasaurs	21	21	3.3
Stegosaurs	4	4	3.9
Triceratops	8	8	3.1
Procompsognathids	49	49	3.9
Othnielia	16	16	3.1
Velociraptors	8	8	3.0
Apatosaurs	17	17	3.1
Hadrosaurs	11	11	3.1
Dilophosaurs	7	7	4.3
Pterosaurs	6	6	4.3
Hypsilophodontids	33	33	2.9
Euoplocephalids	16	16	4.0
Styracosaurs	18	18	3.9
Microceratops	22	22	4.1
Total	**238**	**238**	

"What you see here," Arnold said, "is an entirely separate counting procedure. It isn't based on the tracking data. It's a fresh look. The whole idea is that the computer can't make a mistake, because it compares two different ways of gathering the data. If an animal were missing, we'd know it within five minutes."

"I see," Malcolm said. "And has that ever actually been tested?"

"Well, in a way," Arnold said. "We've had a few animals die. An othnielian got caught in the branches of a tree and strangled. One of the stegos died of that intestinal illness that keeps bothering them. One of the hypsilophodonts fell and broke his neck. And in each case, once the animal stopped moving, the numbers stopped tallying and the computer signaled an alert."

"Within five minutes."

"Yes."

Grant said, "What is the right-hand column?"

"Release version of the animals. The most recent are version 4.1 or 4.3. We're considering going to version 4.4."

"Version numbers? You mean like software? New releases?"

"Well, yes," Arnold said. "It is like software, in a way. As we discover the glitches in the DNA, Dr. Wu's labs have to make a new version."

The idea of living creatures being numbered like software, being subject to updates and revisions, troubled Grant. He could not exactly say why—it was too new a thought—but he was instinctively uneasy about it. They were, after all, living creatures. ...

Arnold must have noticed his expression, because he said, "Look, Dr. Grant, there's no point getting starry-eyed about these animals. It's important for everyone to remember that these animals are *created.* Created by man. Sometimes there are bugs. So, as we discover the bugs, Dr. Wu's labs have to make a new version. And we need to keep track of what version we have out there."

"Yes, yes, of course you do," Malcolm said impatiently. "But, going back to the matter of *counting*—I take it all the counts are based on motion sensors?"

"Yes."

"And these sensors are everywhere in the park?"

"They cover ninety-two percent of the land area," Arnold said. "There are only a few places we can't use them. For example, we can't use them on the jungle river, because the movement of the water and the convection rising from the surface screws up the sensors. But we have them nearly everywhere else. And if the computer tracks an animal into an unsensed zone, it'll remember, and look for the animal to come out again. And if it doesn't, it gives us an alarm."

"Now, then," Malcolm said. "You show forty-nine procompsognathids. Suppose I suspect that some of them aren't really the correct species. How would you show me that I'm wrong?"

"Two ways," Arnold said. "First of all, I can track individual movements against the other presumed compys. Compys are social animals, they move in a group. We have two compy groups in the park. So the individuals should be within either group A or group B."

"Yes, but—"

"The other way is direct visual," he said. He punched buttons and one of the monitors began to flick rapidly through images of compys, numbered from 1 to 49.

"These pictures are ..."

"Current ID images. From within the last five minutes."

"So you can see all the animals, if you want to?"

"Yes. I can visually review all the animals whenever I want."

"How about physical containment?" Gennaro said. "Can they get out of their enclosures?"

"Absolutely not," Arnold said. "These are expensive animals, Mr. Gennaro. We take very good care of them. We maintain multiple barriers. First, the moats." He pressed a button, and the board lit up with a network of orange bars. "These moats are never less than twelve feet deep, and water-filled. For bigger animals the moats may be thirty feet deep. Next, the electrified fences." Lines of bright red glowed on the board. "We have fifty miles of twelve-foot-high fencing, including twenty-two miles around the perimeter of the island. All the park fences carry ten thousand volts. The animals quickly learn not to go near them."

"But if one *did* get out?" Gennaro said.

Arnold snorted, and stubbed out his cigarette.

"Just hypothetically," Gennaro said. "Supposing it happened?"

Muldoon cleared his throat. "We'd go out and get the animal back," he said. "We have lots of ways to do that—taser shock guns, electrified nets, tranquilizers. All nonlethal, because, as Mr. Arnold says, these are expensive animals."

Gennaro nodded. "And if one got off the island?"

"It'd die in less than twenty-four hours," Arnold said. "These are genetically engineered animals. They're unable to survive in the real world."

"How about this control system itself?" Gennaro said. "Could anybody tamper with it?"

Arnold was shaking his head. "The system is hardened. The computer is independent in every way. Independent power and independent backup power. The system does not communicate with the outside, so it cannot be influenced remotely by modem. The computer system is secure."

There was a pause. Arnold puffed his cigarette. "Hell of a system," he said. "Hell of a goddamned system."

"Then I guess," Malcolm said, "your system works so well, you don't have any problems."

"We've got endless problems here," Arnold said, raising an eyebrow. "But none of the things you worry about. I gather you're worried that the animals will escape, and will get to the mainland and raise hell. We haven't got any concern about that at all. We see these animals as fragile and delicate. They've been brought back after sixty-five million years to a world that's very different from the one they left, the one they were adapted to. We have a hell of a time caring for them.

"You have to realize," Arnold continued, "that men have been keeping mammals and reptiles in zoos for hundreds of years. So we know a lot about how to take care of an elephant or a croc. But nobody has ever tried to take care of a dinosaur before. They are new animals. And we just don't know. Diseases in our animals are the biggest concern."

"Diseases?" Gennaro said, suddenly alarmed. "Is there any way that a visitor could get sick?"

Arnold snorted again. "You ever catch a cold from a zoo alligator, Mr. Gennaro? Zoos don't worry about that. Neither do we. What we *do* worry about is the animals' dying from their own illnesses, or infecting other animals. But we have programs to monitor that, too. You want to see the big rex's health file? His vaccination record? His dental record? That's something—you ought to see the vets scrubbing those big fangs so he doesn't get tooth decay. ..."

"Not just now," Gennaro said. "What about your mechanical systems?"

"You mean the rides?" Arnold said.

Grant looked up sharply: *rides?*

"None of the rides are running yet," Arnold was saying. "We have the Jungle River Ride, where the boats follow tracks underwater, and we have the Aviary Lodge Ride, but none of it's operational yet. The park'll open with the basic dinosaur tour—the one that you're about to take in a few minutes. The other rides

will come on line six, twelve months after that."

"Wait a minute," Grant said. "You're going to have rides? Like an amusement park?"

Arnold said, "This is a zoological park. We have tours of different areas, and we call them rides. That's all."

Grant frowned. Again he felt troubled. He didn't like the idea of dinosaurs being used for an amusement park.

Malcolm continued his questions. "You can run the whole park from this control room?"

"Yes," Arnold said. "I can run it single-handed, if I have to. We've got that much automation built in. The computer by itself can track the animals, feed them, and fill their water troughs for forty-eight hours without supervision."

"This is the system Mr. Nedry designed?" Malcolm asked. Dennis Nedry was sitting at a terminal in the far corner of the room, eating a candy bar and typing.

"Yes, that's right," Nedry said, not looking up from the keyboard.

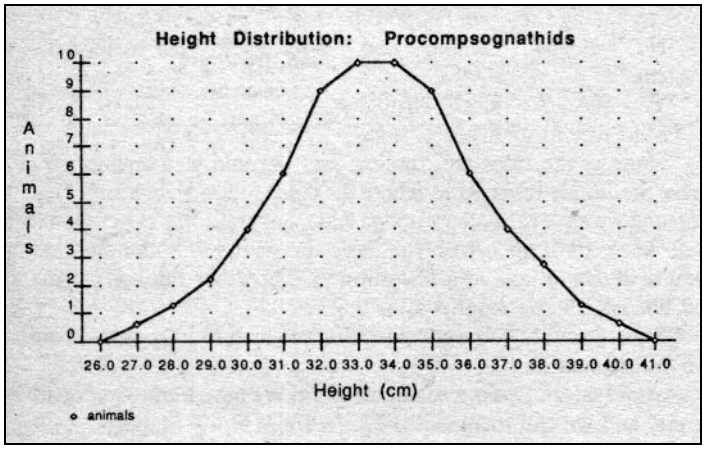
"It's a hell of a system," Arnold said proudly.

"That's right," Nedry said absently. "Just one or two minor bugs to fix."

"Now," Arnold said, "I see the tour is starting, so unless you have other questions ..."

"Actually, just one," Malcolm said. "Just a research question. You showed us that you can track the procompsognathids and you can visually display them individually. Can you do any studies of them as a group? Measure them, or whatever? If I wanted to know height or weight, or ..."

Arnold was punching buttons. Another screen came up.



"We can do all of that, and very quickly," Arnold said. "The computer takes measurement data in the course of reading the video screens, so it is translatable at once. You see here we have a normal Gaussian distribution for the animal population. It shows that most of the animals cluster around an average central value, and a few are either larger or smaller than the average, at the tails of the curve."

"You'd expect that kind of graph," Malcolm said.

"Yes. Any healthy biological population shows this kind of distribution. Now,

then," Arnold said, lighting another cigarette, "are there any other questions?"

"No," Malcolm said. "I've learned what I need to know."

As they were walking out, Gennaro said, "It looks like a pretty good system to me. I don't see how any animals could get off this island."

"Don't you?" Malcolm said. "I thought it was completely obvious."

"Wait a minute," Gennaro said. "You think animals have gotten out?"

"I *know* they have."

Gennaro said, "But how? You saw for yourself. They can count all the animals. They can look at all the animals. They know where all the animals are at all times. How can one possibly escape?"

Malcolm smiled. "It's quite obvious," he said. "It's just a matter of your assumptions."

"Your assumptions," Gennaro repeated, frowning.

"Yes," Malcolm said. "Look here. The basic event that has occurred in Jurassic Park is that the scientists and technicians have tried to make a new, complete biological world. And the scientists in the control room expect to see a natural world. As in the graph they just showed us. Even though a moment's thought reveals that nice, normal distribution is terribly worrisome on this island."

"It is?"

"Yes. Based on what Dr. Wu told us earlier, one should never see a population graph like that."

"Why not?" Gennaro said.

"Because that is a graph for a normal biological population. Which is precisely what Jurassic Park is not. Jurassic Park is not the real world. It is intended to be a controlled world that only imitates the natural world. In that sense, it's a true park, rather like a Japanese formal garden. Nature manipulated to be more natural than the real thing, if you will."

"I'm afraid you've lost me," Gennaro said, looking annoyed.

"I'm sure the tour will make everything clear," Malcolm said.

THE TOUR

"This way, everybody, this way," Ed Regis said. By his side, a woman was passing out pith helmets with "Jurassic Park" labeled on the headband, and a little blue dinosaur logo.

A line of Toyota Land Cruisers came out of an underground garage beneath the visitor center. Each car pulled up, driverless and silent. Two black men in safari uniforms were opening the doors for passengers.

"Two to four passengers to a car, please, two to four passengers to a car," a recorded voice was saying. "Children under ten must be accompanied by an adult. Two to four passengers to a car, please ..."

Tim watched as Grant, Sattler, and Malcolm got into the first Land Cruiser with the lawyer, Gennaro. Tim looked over at Lex, who was standing pounding her fist

into her glove.

Tim pointed to the first car and said, "Can I go with them?"

"I'm afraid they have things to discuss," Ed Regis said. "Technical things."

"I'm interested in technical things," Tim said. "I'd rather go with them."

"Well, you'll be able to hear what they're saying," Regis said. "We'll have a radio open between the cars."

The second car came. Tim and Lex got in, and Ed Regis followed. "These are electric cars," Regis said. "Guided by a cable in the roadway."

Tim was glad he was sitting in the front seat, because mounted in the dashboard were two computer screens and a box that looked to him like a CD-ROM; that was a laser disk player controlled by a computer. There was also a portable walkie-talkie and some kind of a radio transmitter. There were two antennas on the roof, and some odd goggles in the map pocket.

The black men shut the doors of the Land Cruiser. The car started off with an electric hum. Up ahead, the three scientists and Gennaro were talking and pointing, clearly excited. Ed Regis said, "Let's hear what they are saying." An intercom clicked.

"I don't know what the hell you think you're doing here," Gennaro said, over the intercom. He sounded very angry.

"I know quite well why I'm here," Malcolm said.

"You're here to advise me, not play goddamned mind games. I've got five percent of this company and a responsibility to make sure that Hammond has done his job responsibly. Now you goddamn come here—"

Ed Regis pressed the intercom button and said, "In keeping with the nonpolluting policies of Jurassic Park, these lightweight electric Land Cruisers have been specially built for us by Toyota in Osaka. Eventually we hope to drive among the animals—just as they do in African game parks—but, for now, sit back and enjoy the self-guided tour." He paused. "And, by the way, we can hear you back here."

"Oh Christ," Gennaro said. "I have to be able to speak freely. I didn't ask for these damned kids to come—"

Ed Regis smiled blandly and pushed a button. "We'll just begin the show, shall we?" They heard a fanfare of trumpets, and the interior screens flashed WELCOME TO JURASSIC PARK. A sonorous voice said, "Welcome to Jurassic Park. You are now entering the lost world of the prehistoric past, a world of mighty creatures long gone from the face of the earth, which you are privileged to see for the first time."

"That's Richard Kiley," Ed Regis said. "We spared no expense."

The Land Cruiser passed through a grove of low, stumpy palm trees. Richard Kiley was saying, "Notice, first of all, the remarkable plant life that surrounds you. Those trees to your left and right are called cycads, the prehistoric predecessors of palm trees. Cycads were a favorite food of the dinosaurs. You can also see bennettitaleans, and ginkgoes. The world of the dinosaur included more modern plants, such as pine and fir trees, and swamp cypresses. You will see these as well."

The Land Cruiser moved slowly among the foliage. Tim noticed the fences and

retaining walls were screened by greenery to heighten the illusion of moving through real jungle.

"We imagine the world of the dinosaurs," said Richard Kiley's voice, "as a world of huge vegetarians, eating their way through the giant swampy forests of the Jurassic and Cretaceous world, a hundred million years ago. But most dinosaurs were not as large as people think. The smallest dinosaurs were no bigger than a house cat, and the average dinosaur was about as big as a pony. We are first going to visit one of these average-size animals, called hypsilophodonts. If you look to your left, you may catch a glimpse of them now."

They all looked to the left.

The Land Cruiser stopped on a low rise, where a break in the foliage provided a view to the east. They could see a sloping forested area which opened into a field of yellow grass that was about three feet high. There were no dinosaurs.

"Where are they?" Lex said.

Tim looked at the dashboard. The transmitter lights blinked and the CD-ROM whirred. Obviously the disk was being accessed by some automatic system. He guessed that the same motion sensors that tracked the animals also controlled the screens in the Land Cruiser. The screens now showed pictures of hypsilophodonts, and printed out data about them.

The voice said, "Hypsilophodontids are the gazelles of the dinosaur world: small, quick animals that once roamed everywhere in the world, from England to Central Asia to North America. We think these dinosaurs were so successful because they had better jaws and teeth for chewing plants than their contemporaries did. In fact, the name 'hypsilophodontid' means 'high-ridge tooth,' which refers to the characteristic self-sharpening teeth of these animals. You can see them in the plains directly ahead, and also perhaps in the branches of the trees."

"In the *trees?"* Lex said. "Dinosaurs in the trees?"

Tim was scanning with binoculars, too. "To the right," he said. "Halfway up that big green trunk ..."

In the dappled shadows of the tree a motionless, dark green animal about the size of a baboon stood on a branch. It looked like a lizard standing on its hind legs. It balanced itself with a long drooping tail.

"That's an othnielia," Tim said.

"The small animals you see are called othnielia," the voice said, "in honor of the nineteenth-century dinosaur hunter Othniel Marsh of Yale."

Tim spotted two more animals, on higher branches of the same tree. They were all about the same size. None of them were moving.

"Pretty boring," Lex said. "They're not doing anything."

"The main herd of animals can be found in the grassy plain below you," said the voice. "We can rouse them with a simple mating call." A loudspeaker by the fence gave a long nasal call, like the honking of geese.

From the field of grass directly to their left, six lizard heads poked up, one after another. The effect was comical, and Tim laughed.

The heads disappeared. The loudspeaker gave the call again, and once again the heads poked up—in exactly the same way, one after another. The fixed

repetition of the behavior was striking.

"Hypsilophodonts are not especially bright animals," the voice explained. "They have roughly the intelligence of a domestic cow."

The heads were dull green, with a mottling of dark browns and blacks that extended down the slender necks. Judging from the size of the heads, Tim guessed their bodies were four feet long, about as large as deer.

Some of the hypsilophodonts were chewing, the jaws working. One reached up and scratched its head, with a five-fingered hand. The gesture gave the creature a pensive, thoughtful quality.

"If you see them scratching, that is because they have skin problems. The veterinary scientists here at Jurassic Park think it may be a fungus, or an allergy. But they're not sure yet. After all, these are the first dinosaurs in history ever to be studied alive."

The electric motor of the car started, and there was a grinding of gears. At the unexpected sound, the herd of hypsilophodonts suddenly leapt into the air and bounded above the grass like kangaroos, showing their full bodies with massive hind limbs and long tails in the afternoon sunlight. In a few leaps, they were gone.

"Now that we've had a look at these fascinating herbivores, we will go on to some dinosaurs that are a little larger. Quite a bit larger, in fact."

The Land Cruisers continued onward, moving south through Jurassic Park.

CONTROL

"Gears are grinding," John Arnold said, in the darkened control room. "Have maintenance check the electric clutches on vehicles BB4 and BB5 when they come back."

"Yes, Mr. Arnold," replied the voice on the intercom.

"A minor detail," Hammond said, walking in the room. Looking out, he could see the two Land Cruisers moving south through the park. Muldoon stood in the corner, silently watching.

Arnold pushed his chair back from the central console at the control panel. "There are no minor details, Mr. Hammond," he said, and he lit another cigarette. Nervous at most times, Arnold was especially edgy now. He was only too aware that this was the first time visitors had actually toured the park. In fact, Arnold's team didn't often go into the park. Harding, the vet, sometimes did. The animal handlers went to the individual feeding houses. But otherwise they watched the park from the control room. And now, with visitors out there, he worried about a hundred details.

John Arnold was a systems engineer who had worked on the Polaris submarine missile in the late 1960s, until he had his first child and the prospect of making weapons became too distasteful. Meanwhile, Disney had started to create amusement park rides of great technological sophistication, and they

employed a lot of aerospace people. Arnold helped build Disney World in Orlando, and had gone on to implement major parks at Magic Mountain in California, Old Country in Virginia, and Astroworld in Houston.

His continuous employment at parks had eventually given him a somewhat skewed view of reality. Arnold contended, only half jokingly, that the entire world was increasingly described by the metaphor of the theme park. "Paris is a theme park," he once announced, after a vacation, "although it's too expensive, and the park employees are unpleasant and sullen."

For the past two years, Arnold's job had been to get Jurassic Park up and running. As an engineer, he was accustomed to long time schedules—he often referred to "the September opening," by which he meant September of the following year—and as the September opening approached, he was unhappy with the progress that had been made. He knew from experience that it sometimes took years to work the bugs out of a single park ride—let alone get a whole park running properly.

"You're just a worrier," Hammond said.

"I don't think so," Arnold said. "You've got to realize that, from an engineering standpoint, Jurassic Park is by far the most ambitious theme park in history. Visitors will never think about it, but I do."

He ticked the points off on his fingers.

"First, Jurassic Park has all the problems of any amusement park—ride maintenance, queue control, transportation, food handling, living accommodations, trash disposal, security.

"Second, we have all the problems of a major zoo—care of the animals; health and welfare; feeding and cleanliness; protection from insects, pests, allergies, and illnesses; maintenance of barriers; and all the rest.

"And, finally, we have the unprecedented problems of caring for a population of animals that no one has ever tried to maintain before."

"Oh, it's not as bad as all that," Hammond said.

"Yes, it is. You're just not here to see it," Arnold said. "The tyrannosaurs drink the lagoon water and sometimes get sick; we aren't sure why. The triceratops females kill each other in fights for dominance and have to be separated into groups smaller than six. We don't know why. The stegosaurs frequently get blisters on their tongues and diarrhea, for reasons no one yet understands, even though we've lost two. Hypsilophodonts get skin rashes. And the velociraptors—"

"Let's not start on the velociraptors," Hammond said. "I'm sick of hearing about the velociraptors. How they're the most vicious creatures anyone has ever seen."

"They are," Muldoon said, in a low voice. "They should all be destroyed."

"You wanted to fit them with radio collars," Hammond said. "And I agreed."

"Yes. And they promptly chewed the collars off. But even if the raptors never get free," Arnold said, "I think we have to accept that Jurassic Park is inherently hazardous."

"Oh *balls*," Hammond said. "Whose side are you on, anyway?"

"We now have fifteen species of extinct animals, and most of them are dangerous," Arnold said. "We've been forced to delay the Jungle River Ride because of the dilophosaurs; and the Pteratops Lodge in the aviary, because the

pterodactyls are so unpredictable. These aren't engineering delays, Mr. Hammond. They're problems with control of the animals."

"You've had plenty of engineering delays," Hammond said. "Don't blame it on the animals."

"Yes, we have. In fact, it's all we could do to get the main attraction, Park Drive, working correctly, to get the CD-ROMs inside the cars to be controlled by the motion sensors. It's taken weeks of adjustment to get that working properly—and now the electric gearshifts on the cars are acting up! The gearshifts!"

"Let's keep it in perspective," Hammond said. "You get the engineering correct and the animals will fall into place. After all, they're trainable."

From the beginning, this had been one of the core beliefs of the planners. The animals, however exotic, would fundamentally behave like animals in zoos anywhere. They would learn the regularities of their care, and they would respond.

"Meanwhile, how's the computer?" Hammond said. He glanced at Dennis Nedry, who was working at a terminal in the corner of the room. "This damn computer has always been a headache."

"We're getting there," Nedry said.

"If you had done it right in the first place," Hammond began, but Arnold put a restraining hand on his arm. Arnold knew there was no point in antagonizing Nedry while he was working.

"It's a large system," Arnold said. "There are bound to be glitches."

In fact, the bug list now ran to more than 130 items, and included many odd aspects. For example:

The animal-feeding program reset itself every twelve hours, not every twenty-four hours, and would not record feedings on Sundays. As a result, the staff could not accurately measure how much the animals were eating.

The security system, which controlled all the security-card-operated doors, cut out whenever main power was lost, and did not come back on with auxiliary power. The security program only ran with main power.

The physical conservation program, intended to dim lights after 10:00 p.m., only worked on alternate days of the week.

The automated fecal analysis (called Auto Poop), designed to check for parasites in the animal stools, invariably recorded all specimens as having the parasite *Phagostomum venulosum,* although none did. The program then automatically dispensed medication into the animals' food. If the handlers dumped the medicine out of the hoppers to prevent its being dispensed, an alarm sounded which could not be turned off.

And so it went, page after page of errors.

When he had arrived, Dennis Nedry had been under the impression that he could make all the fixes himself over the weekend. He had paled when he saw the full listing. Now he was calling his office in Cambridge, telling his staff programmers they were going to have to cancel their weekend plans and work overtime until Monday. And he had told John Arnold that he would need to use every telephone link between Isla Nublar and the mainland just to transfer program data back and forth to his programmers.

While Nedry worked, Arnold punched up a new window in his own monitor. It allowed him to see what Nedry was doing at the corner console. Not that he didn't trust Nedry. But Arnold just liked to know what was going on.

He looked at the graphics display on his right-hand console, which showed the progress of the electric Land Cruisers. They were following the river, just north of the aviary, and the ornithischian paddock.

"If you look to your left," said the voice, "you will see the dome of the Jurassic Park aviary, which is not yet finished for visitors." Tim saw sunlight glinting off aluminum struts in the distance. "And directly below is our Mesozoic jungle river—where, if you are lucky, you just may catch a glimpse of a very rare carnivore. Keep your eyes peeled, everyone!" Inside the Land Cruiser, the screens showed a bird-like head topped with a flaming red crest. But everyone in Tim's car was looking out the windows. The car was driving along a high ridge, overlooking a fast-moving river below. The river was almost enclosed by dense foliage on both sides.

"There they are now," said the voice. "The animals you see are called dilophosaurs."

Despite what the recording said, Tim saw only one. The dilophosaur crouched on its hind legs by the river, drinking. It was built on the basic carnivore pattern, with a heavy tail, strong hind limbs, and a long neck. Its ten-foot-tall body was spotted yellow and black, like a leopard.

But it was the head that held Tim's attention. Two broad curving crests ran along the top of the head from the eyes to the nose. The crests met in the center, making a V shape above the dinosaur's head. The crests had red and black stripes, reminiscent of a parrot or toucan. The animal gave a soft hooting cry, like an owl.

"They're pretty," Lex said.

"Dilophosaurus," the tape said, "is one of the earliest carnivorous dinosaurs. Scientists thought their jaw muscles were too weak to kill prey, and imagined they were primarily scavengers. But now we know they are poisonous."

"Hey." Tim grinned. "All *right*."

Again the distinctive hooting call of the dilophosaur drifted across the afternoon air toward them.

Lex shifted uneasily in her seat. "Are they really poisonous, Mr. Regis?"

"Don't worry about it," Ed Regis said.

"But are they?"

"Well, yes, Lex."

"Along with such living reptiles as Gila monsters and rattlesnakes, *Dilophosaurus* secretes a hematotoxin from glands in its mouth. Unconsciousness follows within minutes of a bite. The dinosaur will then finish the victim off at its leisure—making *Dilophosaurus* a beautiful but deadly addition to the animals you see here at Jurassic Park."

The Land Cruiser turned a corner, leaving the river behind. Tim looked back, hoping for a last glimpse of the dilophosaur. This was amazing! Poisonous dinosaurs! He wished he could stop the car, but everything was automatic. He

bet Dr. Grant wanted to stop the car, too.

"If you look on the bluff to the right, you'll see Les Gigantes, the site of our superb three-star dining room. Chef Alain Richard hails from the world-famous Le Beaumanière in France. Make your reservations by dialing four from your hotel rooms."

Tim looked up on the bluff, and saw nothing.

"Not for a while, though," Ed Regis said. "The restaurant won't even start construction until November."

"Continuing on our prehistoric safari, we come next to the herbivores of the ornithischian group. If you look to your right, you can probably see them now."

Tim saw two animals, standing motionless in the shade of a large tree. Triceratops: the size and gray color of an elephant, with the truculent stance of a rhino. The horns above each eye curved five feet into the air, looking almost like inverted elephant tusks. A third, rhino-like horn was located near the nose. And they had the beaky snout of a rhino.

"Unlike other dinosaurs," the voice said, *"Triceratops serratus* can't see well. They're nearsighted, like the rhinos of today, and they tend to be surprised by moving objects. They'd charge our car if they were close enough to see it! But relax, folks—we're safe enough here.

"Triceratops have a fan-shaped crest behind their heads. It's made of solid bone, and it's very strong. These animals weigh about seven tons each. Despite their appearance, they are actually quite docile. They know their handlers, and they'll allow themselves to be petted. They particularly like to be scratched in the hindquarters."

"Why don't they move?" Lex said. She rolled down her window. "Hey! Stupid dinosaur! Move!"

"Don't bother the animals, Lex," Ed Regis said.

"Why? It's stupid. They just sit there like a picture in a book," Lex said.

The voice was saying, "—easygoing monsters from a bygone world stand in sharp contrast to what we will see next. The most famous predator in the history of the world: the mighty tyrant lizard, known as *Tyrannosaurus rex*."

"Good, *Tyrannosaurus rex*," Tim said.

"I hope he's better than these bozos," Lex said, turning away from the triceratops.

The Land Cruiser rumbled forward.

BIG REX

"The mighty tyrannosaurs arose late in dinosaur history. Dinosaurs ruled the earth for a hundred and twenty million years, but there were tyrannosaurs for only the last fifteen million years of that period."

The Land Cruisers had stopped at the rise of a hill. They overlooked a forested area sloping down to the edge of the lagoon. The sun was falling to the west,

sinking into a misty horizon. The whole landscape of Jurassic Park was bathed in soft light, with lengthening shadows. The surface of the lagoon rippled in pink crescents. Farther south, they saw the graceful necks of the apatosaurs, standing at the water's edge, their bodies mirrored in the moving surface. It was quiet, except for the soft drone of cicadas. As they stared out at that landscape, it was possible to believe that they had really been transported millions of years back in time to a vanished world.

"It works, doesn't it?" they heard Ed Regis say, over the intercom. "I like to come here sometimes, in the evening. And just sit."

Grant was unimpressed. "Where is T-rex?"

"Good question. You often see the little one down in the lagoon. The lagoon's stocked, so we have fish in there. The little one has learned to catch the fish. Interesting how he does it. He doesn't use his hands, but he ducks his whole head under the water. Like a bird."

"The little one?"

"The little T-rex. He's a juvenile, two years old, and about a third grown now. Stands eight feet high, weighs a ton and a half. The other one's a full-grown tyrannosaur. But I don't see him at the moment."

"Maybe he's down hunting the apatosaurs," Grant said.

Regis laughed, his voice tinny over the radio. "He would if he could, believe me. Sometimes he stands by the lagoon and stares at those animals, and wiggles those little forearms of his in frustration. But the T-rex territory is completely enclosed with trenches and fences. They're disguised from view, but believe me, he can't go anywhere."

"Then where is he?"

"Hiding," Regis said. "He's a little, shy."

"Shy?" Malcolm said. "Tyrannosaurus rex is *shy?"*

"Well, he conceals himself as a general rule. You almost never see him out in the open, especially in daylight."

"Why is that?"

"We think it's because he has sensitive skin and sunburns easily."

Malcolm began to laugh.

Grant sighed. "You're destroying a lot of illusions."

"I don't think you'll be disappointed," Regis said. "Just wait."

They heard a soft bleating sound. In the center of a field, a small cage rose up into view, lifted on hydraulics from underground. The cage bars slid down, and the goat remained tethered in the center of the field, bleating plaintively.

"Any minute now," Regis said again.

They stared out the window.

"Look at them," Hammond said, watching the control room monitor. "Leaning out of the windows, so eager. They can't wait to see it. They have come for the danger."

"That's what I'm afraid of," Muldoon said. He twirled the keys on his finger and watched the Land Cruisers tensely. This was the first time that visitors had toured Jurassic Park, and Muldoon shared Arnold's apprehension.

Robert Muldoon was a big man, fifty years old, with a steel-gray mustache and deep blue eyes. Raised in Kenya, he had spent most of his life as a guide for African big-game hunters, as had his father before him. But since 1980, he had worked principally for conservation groups and zoo designers as a wildlife consultant. He had become well known; an article in the London Sunday *Times* had said, "What Robert Trent Jones is to golf courses, Robert Muldoon is to zoos: a designer of unsurpassed knowledge and skill."

In 1986, he had done some work for a San Francisco company that was building a private wildlife park on an island in North America. Muldoon had laid out the boundaries for different animals, defining space and habitat requirements for lions, elephants, zebras, and hippos. Identifying which animals could be kept together, and which had to be separated. At the time, it had been a fairly routine job. He had been more interested in an Indian park called TigerWorld in southern Kashmir.

Then, a year ago, he was offered a job as game warden of Jurassic Park. It coincided with a desire to leave Africa; the salary was excellent; Muldoon had taken it on for a year. He was astonished to discover the park was really a collection of genetically engineered prehistoric animals.

It was of course interesting work, but during his years in Africa, Muldoon had developed an unblinking view of animals—an unromantic view—that frequently set him at odds with the Jurassic Park management in California, particularly the little martinet standing beside him in the control room. In Muldoon's opinion, cloning dinosaurs in a laboratory was one thing. Maintaining them in the wild was quite another.

It was Muldoon's view that some dinosaurs were too dangerous to be kept in a park setting. In part, the danger existed because they still knew so little about the animals. For example, nobody even suspected the dilophosaurs were poisonous until they were observed hunting indigenous rats on the island—biting the rodents and then stepping back, to wait for them to die. And even then nobody suspected the dilophosaurs could spit until one of the handlers was almost blinded by spitting venom.

After that, Hammond had agreed to study dilophosaur venom, which was found to contain seven different toxic enzymes. It was also discovered that the dilophosaurs could spit a distance of fifty feet. Since this raised the possibility that a guest in a car might be blinded, management decided to remove the poison sacs. The vets had tried twice, on two different animals, without success. No one knew where the poison was being secreted. And no one would ever know until an autopsy was performed on a dilophosaur—and management would not allow one to be killed.

Muldoon worried even more about the velociraptors. They were instinctive hunters, and they never passed up prey. They killed even when they weren't hungry. They killed for the pleasure of killing. They were swift: strong runners and astonishing jumpers. They had lethal claws on all four limbs; one swipe of a forearm would disembowel a man, spilling his guts out. And they had powerful tearing jaws that ripped flesh instead of biting it. They were far more intelligent than the other dinosaurs, and they seemed to be natural cage-breakers.

Every zoo expert knew that certain animals were especially likely to get free of their cages. Some, like monkeys and elephants, could undo cage doors. Others, like wild pigs, were unusually intelligent and could lift gate fasteners with their snouts. But who would suspect that the giant armadillo was a notorious cage-breaker? Or the moose? Yet a moose was almost as skillful with its snout as an elephant with its trunk. Moose were always getting free; they had a talent for it.

And so did velociraptors.

Raptors were at least as intelligent as chimpanzees. And, like chimpanzees, they had agile hands that enabled them to open doors and manipulate objects. They could escape with ease. And when, as Muldoon had feared, one of them finally escaped, it killed two construction workers and maimed a third before being recaptured. After that episode, the visitor lodge had been reworked with heavy barred gates, a high perimeter fence, and tempered-glass windows. And the raptor holding pen was rebuilt with electronic sensors to warn of another impending escape.

Muldoon wanted guns as well. And he wanted shoulder-mounted LAW-missile launchers. Hunters knew how difficult it was to bring down a four-ton African elephant—and some of the dinosaurs weighed ten times as much. Management was horrified, insisting there be no guns anywhere on the island. When Muldoon threatened to quit, and to take his story to the press, a compromise was reached. In the end, two specially built laser-guided missile launchers were kept in a locked room in the basement. Only Muldoon had keys to the room.

Those were the keys Muldoon was twirling now.

"I'm going downstairs," he said.

Arnold, watching the control screens, nodded. The two Land Cruisers sat at the top of the hill, waiting for the T-rex to appear.

"Hey," Dennis Nedry called, from the far console. "As long as you're up, get me a Coke, okay?"

Grant waited in the car, watching quietly. The bleating of the goat became louder, more insistent. The goat tugged frantically at its tether, racing back and forth. Over the radio, Grant heard Lex say in alarm, "What's going to happen to the goat? Is she going to eat the goat?"

"I think so," someone said to her, and then Ellie turned the radio down. Then they smelled the odor, a garbage stench of putrefaction and decay that drifted up the hillside toward them.

Grant whispered, "He's here."

"She," Malcolm said.

The goat was tethered in the center of the field, thirty yards from the nearest trees. The dinosaur must be somewhere among the trees, but for a moment Grant could see nothing at all. Then he realized he was looking too low: the animal's head stood twenty feet above the ground, half concealed among the upper branches of the palm trees.

Malcolm whispered, "Oh, *my God. ...* She's as large as a bloody building. ..."

Grant stared at the enormous square head, five feet long, mottled reddish brown, with huge jaws and fangs. The tyrannosaur's jaws worked once, opening

and closing. But the huge animal did not emerge from hiding.

Malcolm whispered: "How long will it wait?"

"Maybe three or four minutes. Maybe—"

The tyrannosaur sprang silently forward, fully revealing her enormous body. In four bounding steps she covered the distance to the goat, bent down, and bit it through the neck. The bleating stopped. There was silence.

Poised over her kill, the tyrannosaur became suddenly hesitant. Her massive head turned on the muscular neck, looking in all directions. She stared fixedly at the Land Cruiser, high above on the hill.

Malcolm whispered, "Can she see us?"

"Oh yes," Regis said, on the intercom. "Let's see if she's going to eat here in front of us, or if she's going to drag the prey away."

The tyrannosaur bent down, and sniffed the carcass of the goat. A bird chirped: her head snapped up, alert, watchful. She looked back and forth, scanning in small jerking shifts.

"Like a bird," Ellie said.

Still the tyrannosaur hesitated. "What is she afraid of?" Malcolm whispered.

"Probably another tyrannosaur," Grant whispered. Big carnivores like lions and tigers often became cautious after a kill, behaving as if suddenly exposed. Nineteenth-century zoologists imagined the animals felt guilty for what they had done. But contemporary scientists documented the effort behind a kill—hours of patient stalking before the final lunge—as well as the frequency of failure. The idea of "nature, red in tooth and claw" was wrong; most often the prey got away. When a carnivore finally brought down an animal, it was watchful for another predator, who might attack it and steal its prize. Thus this tyrannosaur was probably fearful of another tyrannosaur.

The huge animal bent over the goat again. One great hind limb held the carcass in place as the jaws began to tear the flesh.

"She's going to stay," Regis whispered. "Excellent."

The tyrannosaur lifted her head again, ragged chunks of bleeding flesh in her jaws. She stared at the Land Cruiser. She began to chew. They heard the sickening crunch of bones.

"Ewww," Lex said, over the intercom. "That's dis*gus*ting."

And then, as if caution had finally gotten the better of her, the tyrannosaur lifted the remains of the goat in her jaws and carried them silently back among the trees.

"Ladies and gentlemen, *Tyrannosaurus rex*," the tape said. The Land Cruisers started up, and moved silently off, through the foliage.

Malcolm sat back in his seat. "Fantastic," he said.

Gennaro wiped his forehead. He looked pale.

CONTROL

Henry Wu came into the control room to find everyone sitting in the dark, listening to the voices on the radio.

"—Jesus, if an animal like that gets out," Gennaro was saying, his voice tinny on the speaker, "there'd be no stopping it."

"No stopping it, no ..."

"Huge, with no natural enemies ..."

"My God, think of it ..."

In the control room, Hammond said, "Damn those people. They are so *negative*."

Wu said, "They're still going on about an animal escaping? I don't understand. They must have seen by now that we have everything under control. We've engineered the animals and engineered the resort. ..." He shrugged.

It was Wu's deepest perception that the park was fundamentally sound, as he believed his paleo-DNA was fundamentally sound. Whatever problems might arise in the DNA were essentially point-problems in the code, causing a specific problem in the phenotype: an enzyme that didn't switch on, or a protein that didn't fold. Whatever the difficulty, it was always solved with a relatively minor adjustment in the next version.

Similarly, he knew that Jurassic Park's problems were not fundamental problems. They were not control problems. Nothing as basic, or as serious, as the possibility of an animal escaping. Wu found it offensive to think that anyone would believe him capable of contributing to a system where such a thing could happen.

"It's that Malcolm," Hammond said darkly. "He's behind it all. He was against us from the start, you know. He's got his theory that complex systems can't be controlled and nature can't be imitated. I don't know what his problem is. Hell, we're just making a zoo here. World's full of 'em, and they all work fine. But he's going to prove his theory or die trying. I just hope he doesn't panic Gennaro into trying to shut the park down."

Wu said, "Can he do that?"

"No," Hammond said. "But he can try. He can try and frighten the Japanese investors, and get them to withdraw funds. Or he can make a stink with the San José government. He can make trouble."

Arnold stubbed out his cigarette. "Let's wait and see what happens," he said. "We believe in the park. Let's see how it plays out."

Muldoon got off the elevator, nodded to the ground-floor guard, and went downstairs to the basement. He flicked on the lights. The basement was filled with two dozen Land Cruisers, arranged in neat rows. These were the electric cars that would eventually form an endless loop, touring the park, returning to the visitor center.

In the corner was a Jeep with a red stripe, one of two gasoline-powered vehicles—Harding, the vet, had taken the other that morning—which could go

anywhere in the park, even among the animals. The Jeeps were painted with a diagonal red stripe because for some reason it discouraged the triceratops from charging the car.

Muldoon moved past the Jeep, toward the back. The steel door to the armaments room was unmarked. He unlocked it with his key, and swung the heavy door wide. Gun racks lined the interior. He pulled out a Randler Shoulder Launcher and a case of canisters. He tucked two gray rockets under his other arm.

After locking the door behind him, he put the gun into the back seat of the Jeep. As he left the garage, he heard the distant rumble of thunder.

"Looks like rain," Ed Regis said, glancing up at the sky.

The Land Cruisers had stopped again, near the sauropod swamp. A large herd of apatosaurs was grazing at the edge of the lagoon, eating the leaves of the upper branches of the palm trees. In the same area were several duckbilled hadrosaurs, which in comparison looked much smaller.

Of course, Tim knew the hadrosaurs weren't really small. It was only that the apatosaurs were so much larger. Their tiny heads reached fifty feet into the air, extending out on their long necks.

"The big animals you see are commonly called *Brontosaurus*," the recording said, "but they are actually *Apatosaurus.* They weigh more than thirty tons. That means a single animal is as big as a whole herd of modern elephants. And you may notice that their preferred area, alongside the lagoon, is not swampy. Despite what the books say, brontosaurs avoid swamps. They prefer dry land."

"*Brontosaurus* is the biggest dinosaur, Lex," Ed Regis said. Tim didn't bother to contradict him. Actually, *Brachiosaurus* was three times as large. And some people thought *Ultrasaurus* and *Seismosaurus* were even larger than *Brachiosaurus. Seismosaurus* might have weighed a hundred tons!

Alongside the apatosaurs, the smaller hadrosaurs stood on their hind legs to get at foliage. They moved gracefully for such large creatures. Several infant hadrosaurs scampered around the adults, eating the leaves that dropped from the mouths of the larger animals.

"The dinosaurs of Jurassic Park don't breed," the recording said. "The young animals you see were introduced a few months ago, already hatched. But the adults nurture them anyway."

There was the rolling growl of thunder. The sky was darker, lower, and menacing.

"Yeah, looks like rain, all right," Ed Regis said.

The car started forward, and Tim looked back at the hadrosaurs. Suddenly, off to one side, he saw a pale yellow animal moving quickly. There were brownish stripes on its back. He recognized it instantly. "Hey!" he shouted. "Stop the car!"

"What is it?" Ed Regis said.

"Quick! *Stop the car!"*

"We move on now to see the last of our great prehistoric animals, the stegosaurs," the recorded voice said.

"What's the matter, Tim?"

"I saw one! I saw one in the field out there!"

"Saw what?"

"A *raptor!* In that field!"

"The stegosaurs are a mid-Jurassic animal, evolving about a hundred and seventy million years ago," the recording said. "Several of these remarkable herbivores live here at Jurassic Park."

"Oh, I don't think so, Tim," Ed Regis said. "Not a raptor."

"I did! *Stop the car!"*

There was a babble on the intercom, as the news was relayed to Grant and Malcolm. "Tim says he saw a raptor."

"Where?"

"Back at the field."

"Let's go back and look."

"We can't go back," Ed Regis said. "We can only go forward. The cars are programmed."

"We can't go back?" Grant said.

"No," Regis said. "Sorry. You see, it's kind of a ride—"

"Tim, this is Professor Malcolm," said a voice cutting in on the intercom. "I have just one question for you about this raptor. How old would you say it was?"

"Older than the baby we saw today," Tim said. "And younger than the big adults in the pen. The adults were six feet tall. This one was about half that size."

"That's fine," Malcolm said.

"I only saw it for a second," Tim said.

"I'm sure it wasn't a raptor," Ed Regis said. "It couldn't possibly be a raptor. Must have been one of the othys. They're always jumping their fences. We have a hell of a time with them."

"I know I saw a raptor," Tim said.

"I'm hungry," Lex said. She was starting to whine.

In the control room, Arnold turned to Wu. "What do you think the kid saw?"

"I think it must have been an othy."

Arnold nodded. "We have trouble tracking othys, because they spend so much time in the trees." The othys were an exception to the usual minute-to-minute control they maintained over the animals. The computers were constantly losing and picking up the othys, as they went into the trees and then came down again.

"What burns me," Hammond said, "is that we have made this wonderful park, this *fantastic* park, and our very first visitors are going through it like accountants, just looking for problems. They aren't experiencing the wonder of it at all."

"That's their problem," Arnold said. "We can't make them experience wonder." The intercom clicked, and Arnold heard a voice drawl, "Ah, John, this is the *Anne B* over at the dock. We haven't finished offloading, but I'm looking at that storm pattern south of us. I'd rather not be tied up here if this chop gets any worse."

Arnold turned to the monitor showing the cargo vessel, which was moored at the dock on the east side of the island. He pressed the radio button. "How much left to do, Jim?"

"Just the three final equipment containers. I haven't checked the manifest, but I

assume you can wait another two weeks for it. We're not well berthed here, you know, and we are one hundred miles offshore."

"You requesting permission to leave?"

"Yes, John."

"I want that equipment," Hammond said. "That's equipment for the labs. We need it."

"Yes," Arnold said. "But you didn't want to put money into a storm barrier to protect the pier. So we don't have a good harbor. If the storm gets worse, the ship will be pounded against the dock. I've seen ships lost that way. Then you've got all the other expenses, replacement of the vessel plus salvage to clear your dock ... and you can't use your dock until you do. ..."

Hammond gave a dismissing wave. "Get them out of there."

"Permission to leave, *Anne B*," Arnold said, into the radio.

"See you in two weeks," the voice said.

On the video monitor, they saw the crew on the decks, casting off the lines. Arnold turned back to the main console bank. He saw the Land Cruisers moving through fields of steam.

"Where are they now?" Hammond said.

"It looks like the south fields," Arnold said. The southern end of the island had more volcanic activity than the north. "That means they should be almost to the stegos. I'm sure they'll stop and see what Harding is doing."

STEGOSAUR

As the Land Cruiser came to a stop, Ellie Sattler stared through the plumes of steam at the stegosaurus. It was standing quietly, not moving. A Jeep with a red stripe was parked alongside it.

"I have to admit, that's a funny-looking animal," Malcolm said.

The stegosaurus was twenty feet long, with a huge bulky body and vertical armor plates along its back. The tail had dangerous-looking three-foot spikes. But the neck tapered to an absurdly small head with a stupid gaze, like a very dumb horse.

As they watched, a man walked around from behind the animal. "That's our vet, Dr. Harding," Regis said, over the radio. "He's anesthetized the stego, which is why it's not moving. It's sick."

Grant was already getting out of the car, hurrying toward the motionless stegosaur. Ellie got out and looked back as the second Land Cruiser pulled up and the two kids jumped out. "What's he sick with?" Tim said.

"They're not sure," Ellie said.

The great leathery plates along the stegosaur's spine drooped slightly. It breathed slowly, laboriously, making a wet sound with each breath.

"Is it contagious?" Lex said.

They walked toward the tiny head of the animal, where Grant and the vet were

on their knees, peering into the stegosaur's mouth.

Lex wrinkled her nose. "This thing sure is big," she said. "And *smelly*."

"Yes, it is." Ellie had already noticed the stegosaur had a peculiar odor, like rotting fish. It reminded her of something she knew, but couldn't quite place. In any case, she had never smelled a stegosaur before. Maybe this was its characteristic odor. But she had her doubts. Most herbivores did not have a strong smell. Nor did their droppings. It was reserved for the meat-eaters to develop a real stink.

"Is that because it's sick?" Lex asked.

"Maybe. And don't forget the vet's tranquilized it."

"Ellie, have a look at this tongue," Grant said.

The dark purple tongue drooped limply from the animal's mouth. The vet shone a light on it so she could see the very fine silvery blisters. "Microvesicles," Ellie said. "Interesting."

"We've had a difficult time with these stegos," the vet said. "They're always getting sick."

"What are the symptoms?" Ellie asked. She scratched the tongue with her fingernail. A clear liquid exuded from the broken blisters.

"Ugh," Lex said.

"Imbalance, disorientation, labored breathing, and massive diarrhea," Harding said. "Seems to happen about once every six weeks or so."

"They feed continuously?"

"Oh yes," Harding said. "Animal this size has to take in a minimum of five or six hundred pounds of plant matter daily just to keep going. They're constant foragers."

"Then it's not likely to be poisoning from a plant," Ellie said. Constant browsers would be constantly sick if they were eating a toxic plant. Not every six weeks.

"Exactly," the vet said.

"May I?" Ellie asked. She took the flashlight from the vet. "You have pupillary effects from the tranquilizer?" she said, shining the light in the stegosaur's eye.

"Yes. There's a miotic effect, pupils are constricted."

"But these pupils are dilated," she said.

Harding looked. There was no question: the stegosaur's pupil was dilated, and did not contract when light shone on it. "I'll be damned," he said. "That's a pharmacological effect."

"Yes." Ellie got back on her feet and looked around. "What is the animal's range?"

"About five square miles."

"In this general area?" she asked. They were in an open meadow, with scattered rocky outcrops, and intermittent plumes of steam rising from the ground. It was late afternoon, and the sky was pink beneath the lowering gray clouds.

"Their range is mostly north and east of here," Harding said. "But when they get sick, they're usually somewhere around this particular area."

It was an interesting puzzle, she thought. How to explain the periodicity of the poisoning? She pointed across the field. "You see those low, delicate-looking

bushes?"

"West Indian lilac." Harding nodded. "We know it's toxic. The animals don't eat it."

"You're sure?"

"Yes. We monitor them on video, and I've checked droppings just to be certain. The stegos never eat the lilac bushes."

Melia azedarach, called chinaberry or West Indian lilac, contained a number of toxic alkaloids. The Chinese used the plant as a fish poison.

"They don't eat it," the vet said.

"Interesting," Ellie said. "Because otherwise I would have said that this animal shows all the classic signs of *Melia* toxicity: stupor, blistering of the mucous membranes, and pupillary dilatation." She set off toward the field to examine the plants more closely, her body bent over the ground. "You're right," she said. "Plants are healthy, no sign of being eaten. None at all."

"And there's the six-week interval," the vet reminded her.

"The stegosaurs come here how often?"

"About once a week," he said. "Stegos make a slow loop through their home-range territory, feeding as they go. They complete the loop in about a week."

"But they're only sick once every six weeks."

"Correct," Harding said.

"This is boring," Lex said.

"Ssshh," Tim said. "Dr. Sattler's trying to think."

"Unsuccessfully," Ellie said, walking farther out into the field.

Behind her, she heard Lex saying, "Anybody want to play a little pickle?"

Ellie stared at the ground. The field was rocky in many places. She could hear the sound of the surf, somewhere to the left. There were berries among the rocks. Perhaps the animals were just eating berries. But that didn't make sense. West Indian lilac berries were terribly bitter.

"Finding anything?" Grant said, coming up to join her.

Ellie sighed. "Just rocks," she said. "We must be near the beach, because all these rocks are smooth. And they're in funny little piles."

"Funny little piles?" Grant said.

"All over. There's one pile right there." She pointed.

As soon as she did, she realized what she was looking at. The rocks were worn, but it had nothing to do with the ocean. These rocks were heaped in small piles, almost as if they had been thrown down that way.

They were piles of gizzard stones.

Many birds and crocodiles swallowed small stones, which collected in a muscular pouch in the digestive tract, called the gizzard. Squeezed by the muscles of the gizzard, the stones helped crush tough plant food before it reached the stomach, and thus aided digestion. Some scientists thought dinosaurs also had gizzard stones. For one thing, dinosaur teeth were too small, and too little worn, to have been used for chewing food. It was presumed that dinosaurs swallowed their food whole and let the gizzard stones break down the plant fibers. And some skeletons had been found with an associated pile of small stones in the abdominal area. But it had never been verified, and—

"Gizzard stones," Grant said.

"I think so, yes. They swallow these stones, and after a few weeks the stones are worn smooth, so they regurgitate them, leaving this little pile, and swallow fresh stones. And when they do, they swallow berries as well. And get sick."

"I'll be damned," Grant said. "I'm sure you're right."

He looked at the pile of stones, brushing through them with his hand, following the instinct of a paleontologist.

Then he stopped.

"Ellie," he said. "Take a look at this."

"Put it there, babe! Right in the old mitt!" Lex cried, and Gennaro threw the ball to her.

She threw it back so hard that his hand stung. "Take it easy! I don't have a glove!"

"You wimp!" she said contemptuously.

Annoyed, he fired the ball at her, and heard it *smack!* in the leather. "Now that's more like it," she said.

Standing by the dinosaur, Gennaro continued to play catch as he talked to Malcolm. "How does this sick dinosaur fit into your theory?"

"It's predicted," Malcolm said.

Gennaro shook his head. "Is anything *not* predicted by your theory?"

"Look," Malcolm said. "It's nothing to do with me. It's chaos theory. But I notice nobody is willing to listen to the consequences of the mathematics. Because they imply very large consequences for human life. Much larger than Heisenberg's principle or Gödel's theorem, which everybody rattles on about. Those are actually rather academic considerations. Philosophical considerations. But chaos theory concerns everyday life. Do you know why computers were first built?"

"No," Gennaro said.

"Burn it in there," Lex yelled.

"Computers were built in the late 1940s because mathematicians like John von Neumann thought that if you had a computer—a machine to handle a lot of variables simultaneously—you would be able to predict the weather. Weather would finally fall to human understanding. And men believed that dream for the next forty years. They believed that prediction was just a function of keeping track of things. If you knew enough, you could predict anything. That's been a cherished scientific belief since Newton."

"And?"

"Chaos theory throws it right out the window. It says that you can never predict certain phenomena at all. You can never predict the weather more than a few days away. All the money that has been spent on long-range forecasting—about half a billion dollars in the last few decades—is money wasted. It's a fool's errand. It's as pointless as trying to turn lead into gold. We look back at the alchemists and laugh at what they were trying to do, but future generations will laugh at us the same way. We've tried the impossible—and spent a lot of money doing it. Because in fact there are great categories of phenomena that are inherently unpredictable."

"Chaos says that?"

"Yes, and it is astonishing how few people care to hear it," Malcolm said. "I gave all this information to Hammond long before he broke ground on this place. You're going to engineer a bunch of prehistoric animals and set them on an island? Fine. A lovely dream. Charming. But it won't go as planned. It is inherently unpredictable, just as the weather is."

"You told him this?" Gennaro said.

"Yes. I also told him where the deviations would occur. Obviously the fitness of the animals to the environment was one area. This stegosaur is a hundred million years old. It isn't adapted to our world. The air is different, the solar radiation is different, the land is different, the insects are different, the sounds are different, the vegetation is different. Everything is different. The oxygen content is decreased. This poor animal's like a human being at ten thousand feet altitude. Listen to him wheezing."

"And the other areas?"

"Broadly speaking, the ability of the park to control the spread of life-forms. Because the history of evolution is that life escapes all barriers. Life breaks free. Life expands to new territories. Painfully, perhaps even dangerously. But life finds a way." Malcolm shook his head. "I don't mean to be philosophical, but there it is."

Gennaro looked over. Ellie and Grant were across the field, waving their arms and shouting.

"Did you get my Coke?" Dennis Nedry asked, as Muldoon came back into the control room.

Muldoon didn't bother to answer. He went directly to the monitor and looked at what was happening. Over the radio he heard Harding's voice saying, "—the stego—finally—handle on—now—"

"What's that about?" Muldoon said.

"They're down by the south point," Arnold said. "That's why they're breaking up a little. I'll switch them to another channel. But they found out what's wrong with the stegos. Eating some kind of berry."

Hammond nodded. "I knew we'd solve that sooner or later," he said.

"It's not very impressive," Gennaro said. He held the white fragment, no larger than a postage stamp, up on his fingertip in the fading light. "You sure about this, Alan?"

"Absolutely sure," Grant said. "What gives it away is the patterning on the interior surface, the interior curve. Turn it over and you will notice a faint pattern of raised lines, making roughly triangular shapes."

"Yes, I see them."

"Well, I've dug out two eggs with patterns like that at my site in Montana."

"You're saying this is a piece of dinosaur eggshell?"

"Absolutely," Grant said.

Harding shook his head. "These dinosaurs can't breed."

"Evidently they can," Gennaro said.

"That must be a bird egg," Harding said. "We have literally dozens of species on the island."

Grant shook his head. "Look at the curvature. The shell is almost flat. That's from a very big egg. And notice the thickness of the shell. Unless you have ostriches on this island, it's a dinosaur egg."

"But they can't possibly breed," Harding insisted. "All the animals are female."

"All I know," Grant said, "is that this is a dinosaur egg."

Malcolm said, "Can you tell the species?"

"Yes," Grant said. "It's a velociraptor egg."

CONTROL

"Absolutely absurd," Hammond said in the control room, listening to the report over the radio. "It must be a bird egg. That's all it *can* be."

The radio crackled. He heard Malcolm's voice. "Let's do a little test, shall we? Ask Mr. Arnold to run one of his computer tallies."

"Now?"

"Yes, right now. I understand you can transmit it to the screen in Dr. Harding's car. Do that, too, will you?"

"No problem," Arnold said. A moment later, the screen in the control room printed out:

Total Animals		**238**	
Species	**Expected**	**Found**	**Ver**
Tyrannosaurs	2	2	4.1
Maiasaurs	21	21	3.3
Stegosaurs	4	4	3.9
Triceratops	8	8	3.1
Procompsognathids	49	49	3.9
Othnielia	16	16	3.1
Velociraptors	8	8	3.0
Apatosaurs	17	17	3.1
Hadrosaurs	11	11	3.1
Dilophosaurs	7	7	4.3
Pterosaurs	6	6	4.3
Hypsilophodontids	33	33	2.9
Euoplocephalids	16	16	4.0
Styracosaurs	18	18	3.9
Microceratops	22	22	4.1
Total	**238**	**238**	

"I hope you're satisfied," Hammond said. "Are you receiving it down there on your screen?"

"We see it," Malcolm said.

"Everything accounted for, as always." He couldn't keep the satisfaction out of

his voice.

"Now then," Malcolm said. "Can you have the computer search for a different number of animals?"

"Like what?" Arnold said.

"Try two hundred thirty-nine."

"Just a minute," Arnold said, frowning. A moment later the screen printed:

Total Animals		**239**	
Species	**Expected**	**Found**	**Ver**
Tyrannosaurs	2	2	4.1
Maiasaurs	21	21	3.3
Stegosaurs	4	4	3.9
Triceratops	8	8	3.1
Procompsognathids	49	50	??
Othnielia	16	16	3.1
Velociraptors	8	8	3.0
Apatosaurs	17	17	3.1
Hadrosaurs	11	11	3.1
Dilophosaurs	7	7	4.3
Pterosaurs	6	6	4.3
Hypsilophodontids	33	33	2.9
Euoplocephalids	16	16	4.0
Styracosaurs	18	18	3.9
Microceratops	22	22	4.1
Total	**238**	**239**	

Hammond sat forward. "What the hell is *that?"*

"We picked up another compy."

"From *where?"*

"I don't know!"

The radio crackled. "Now, then: can you ask the computer to search for, let us say, three hundred animals?"

"What is he talking about?" Hammond said, his voice rising. "Three hundred animals? What's he talking about?"

"Just a minute," Arnold said. "That'll take a few minutes." He punched buttons on the screen. The first line of the totals appeared:

Total Animals 239

"I don't understand what he's driving at," Hammond said.

"I'm afraid I do," Arnold said. He watched the screen. The numbers on the first line were clicking:

Total Animals 244

"Two hundred forty-four?" Hammond said. "What's going on?"

"The computer is counting the animals in the park," Wu said. *"All* the animals."

"I thought that's what it always did." He spun. "Nedry! Have you screwed up again?"

"No," Nedry said, looking up from his console. "Computer allows the operator to enter an expected number of animals, in order to make the counting process faster. But it's a convenience, not a flaw."

"He's right," Arnold said. "We just always used the base count of two hundred thirty-eight because we assumed there couldn't be more."

Total Animals 262

"Wait a minute," Hammond said. "These animals can't breed. The computer must be counting field mice or something."

"I think so, too," Arnold said. "It's almost certainly an error in the visual tracking. But we'll know soon enough."

Hammond turned to Wu. "They can't breed, can they?"

"No," Wu said.

Total Animals 270

"Where are they coming from?" Arnold said.

"Damned if I know," Wu said.

They watched the numbers climb.

Total Animals 283

Over the radio, they heard Gennaro say, "Holy shit, how much more?"

And they heard the girl say, "I'm getting hungry. When are we going home?"

"Pretty soon, Lex."

On the screen, there was a flashing error message:

ERROR: Search Params: 300 Animals Not Found

"An error," Hammond said, nodding. "I *thought* so. I had the feeling all along there must be an error." But a moment later the screen printed:

Total Animals 292

Species	Expected	Found	Ver
Tyrannosaurs	2	2	4.1
Maiasaurs	21	22	??
Stegosaurs	4	4	3.9
Triceratops	8	8	3.1
Procompsognathids	49	65	??
Othnielia	16	23	??
Velociraptors	8	37	??
Apatosaurs	17	17	3.1
Hadrosaurs	11	11	3.1
Dilophosaurs	7	7	4.3
Pterosaurs	6	6	4.3
Hypsilophodontids	33	34	??
Euoplocephalids	16	16	4.0
Styracosaurs	18	18	3.9

Microceratops	22	22	4.1
Total	**238**	**292**	

The radio crackled. "Now you see the flaw in your procedures," Malcolm said. "You only tracked the expected number of dinosaurs. You were worried about losing animals, and your procedures were designed to advise you instantly if you had less than the expected number. But that wasn't the problem. The problem was, you had *more* than the expected number."

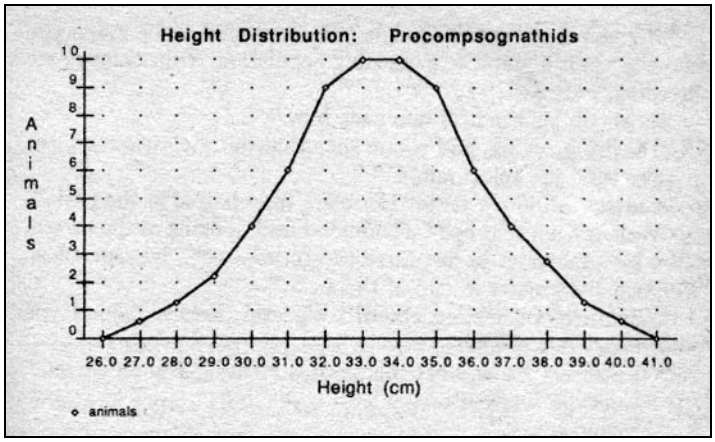
"Christ," Arnold said.

"There can't be more," Wu said. "We know how many we've released. There can't be more than that."

"Afraid so, Henry," Malcolm said. "They're breeding."

"No."

"Even if you don't accept Grant's eggshell, you can prove it with your own data. Take a look at the compy height graph. Arnold will put it up for you."



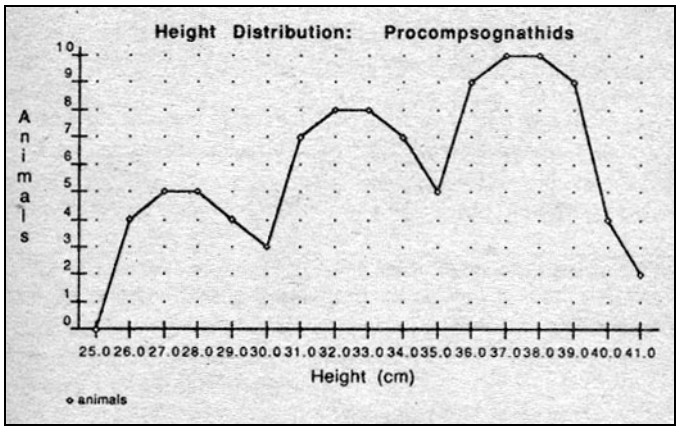
"Notice anything about it?" Malcolm said.

"It's a Gaussian distribution," Wu said. "Normal curve."

"But didn't you say you introduced the compys in three batches? At six-month intervals?"

"Yes ..."

"Then you should get a graph with peaks for each of the three separate batches that were introduced," Malcolm said, tapping the keyboard. "Like this."



"But you didn't get this graph," Malcolm said. "The graph you actually got is a graph of a breeding population. Your compys are breeding."

Wu shook his head. "I don't see how."

"They're breeding, and so are the othnielia, the maiasaurs, the hypsys—and the velociraptors."

"Christ," Muldoon said. "There are raptors free in the park."

"Well, it's not that bad," Hammond said, looking at the screen. "We have increases in just three categories—well, five categories. Very small increases in two of them ..."

"What are you talking about?" Wu said, loudly. "Don't you know what this means?"

"Of course I know what this means, Henry," Hammond said. "It means you screwed up."

"Absolutely not."

"You've got breeding dinosaurs out there, Henry."

"But they're all female," Wu said. "It's impossible. There must be a mistake. And look at the numbers. A small increase in the big animals, the maiasaurs and the hypsys. And big increases in the number of small animals. It just doesn't make sense. It must be a mistake."

The radio clicked. "Actually not," Grant said. "I think these numbers confirm that breeding is taking place. In seven different sites around the island."

BREEDING SITES

The sky was growing darker. Thunder rumbled in the distance. Grant and the others leaned in the doors of the Jeep, staring at the screen on the dashboard. "Breeding sites?" Wu said, over the radio.

"Nests," Grant said. "Assuming the average clutch is eight to twelve hatching eggs, these data would indicate the compys have two nests. The raptors have two nests. The othys have one nest. And the hypsys and the maias have one

nest each."

"Where are these nests?"

"We'll have to find them," Grant said. "Dinosaurs build their nests in secluded places."

"But why are there so few big animals?" Wu said. "If there is a maia nest of eight to twelve eggs, there should be eight to twelve new maias. Not just one."

"That's right," Grant said. "Except that the raptors and the compys that are loose in the park are probably eating the eggs of the bigger animals—and perhaps eating the newly hatched young, as well."

"But we've never seen that," Arnold said, over the radio.

"Raptors are nocturnal," he said. "Is anyone watching the park at night?"

There was a long silence.

"I didn't think so," Grant said.

"It still doesn't make sense," Wu said. "You can't support fifty additional animals on a couple of nests of eggs."

"No," Grant said. "I assume they are eating something else as well. Perhaps small rodents. Mice and rats?"

There was another silence.

"Let me guess," Grant said. "When you first came to the island, you had a problem with rats. But as time passed, the problem faded away."

"Yes. That's true. ..."

"And you never thought to investigate why."

"Well, we just assumed ..." Arnold said.

"Look," Wu said, "the fact remains, all the animals are female. They can't breed."

Grant had been thinking about that. He had recently learned of an intriguing West German study that he suspected held the answer. "When you made your dinosaur DNA," Grant said, "you were working with fragmentary pieces, is that right?"

"Yes," Wu said.

"In order to make a complete strand, were you ever required to include DNA fragments from other species?"

"Occasionally, yes," Wu said. "It's the only way to accomplish the job. Sometimes we included avian DNA, from a variety of birds, and sometimes reptilian DNA."

"Any amphibian DNA? Specifically, frog DNA?"

"Possibly. I'd have to check."

"Check," Grant said. "I think you'll find that holds the answer."

Malcolm said, "Frog DNA? Why frog DNA?"

Gennaro said impatiently, "Listen, this is all very intriguing, but we're forgetting the main question: have any animals gotten off the island?"

Grant said, "We can't tell from these data."

"Then how are we going to find out?"

"There's only one way I know," Grant said. "We'll have to find the individual dinosaur nests, inspect them, and count the remaining egg fragments. From that we may be able to determine how many animals were originally hatched. And we

can begin to assess whether any are missing."

Malcolm said, "Even so, you won't know if the missing animals are killed, or dead from natural causes, or whether they have left the island."

"No," Grant said, "but it's a start. And I think we can get more information from an intensive look at the population graphs."

"How are we going to find these nests?"

"Actually," Grant said, "I think the computer will be able to help us with that."

"Can we go back now?" Lex said. "I'm *hungry*."

"Yes, let's go," Grant said, smiling at her. "You've been very patient."

"You'll be able to eat in about twenty minutes," Ed Regis said, starting toward the two Land Cruisers.

"I'll stay for a while," Ellie said, "and get photos of the stego with Dr. Harding's camera. Those vesicles in the mouth will have cleared up by tomorrow."

"I want to get back," Grant said. "I'll go with the kids."

"I will, too," Malcolm said.

"I think I'll stay," Gennaro said, "and go back with Harding in his Jeep, with Dr. Sattler."

"Fine, let's go."

They started walking. Malcolm said, "Why exactly is our lawyer staying?"

Grant shrugged. "I think it might have something to do with Dr. Sattler."

"Really? The shorts, you think?"

"It's happened before," Grant said.

When they came to the Land Cruisers, Tim said, "I want to ride in the front one this time, with Dr. Grant."

Malcolm said, "Unfortunately, Dr. Grant and I need to talk."

"I'll just sit and listen. I won't say anything," Tim said.

"It's a private conversation," Malcolm said.

"Tell you what, Tim," Ed Regis said. "Let them sit in the rear car by themselves. We'll sit in the front car, and you can use the night-vision goggles. Have you ever used night-vision goggles, Tim? They're goggles with very sensitive CCDs that allow you to see in the dark."

"Neat," he said, and moved toward the first car.

"Hey!" Lex said. "I want to use it, too."

"No," Tim said.

"No fair! No fair! You get to do everything, Timmy!"

Ed Regis watched them go and said to Grant, "I can see what the ride back is going to be like."

Grant and Malcolm climbed into the second car. A few raindrops spattered the windshield. "Let's get going," Ed Regis said. "I'm about ready for dinner. And I could do with a nice banana daiquiri. What do you say, folks? Daiquiri sound good?" He pounded the metal panel of the car. "See you back at camp," he said, and he started running toward the first car, and climbed aboard.

A red light on the dashboard blinked. With a soft electric whirr, the Land Cruisers started off.

Driving back in the fading light, Malcolm seemed oddly subdued. Grant said,

"You must feel vindicated. About your theory."

"As a matter of fact, I'm feeling a bit of dread. I suspect we are at a very dangerous point."

"Why?"

"Intuition."

"Do mathematicians believe in intuition?"

"Absolutely. Very important, intuition. Actually, I was thinking of fractals," Malcolm said. "You know about fractals?"

Grant shook his head. "Not really, no."

"Fractals are a kind of geometry, associated with a man named Mandelbrot. Unlike ordinary Euclidean geometry that everybody learns in school—squares and cubes and spheres—fractal geometry appears to describe real objects in the natural world. Mountains and clouds are fractal shapes. So fractals are probably related to reality. Somehow.

"Well, Mandelbrot found a remarkable thing with his geometric tools. He found that things looked almost identical at different scales."

"At different scales?" Grant said.

"For example," Malcolm said, "a big mountain, seen from far away, has a certain rugged mountain shape. If you get closer, and examine a small peak of the big mountain, it will have the same mountain shape. In fact, you can go all the way down the scale to a tiny speck of rock, seen under a microscope—it will have the same basic fractal shape as the big mountain."

"I don't really see why this is worrying you," Grant said. He yawned. He smelled the sulfur fumes of the volcanic steam. They were coming now to the section of road that ran near the coastline, overlooking the beach and the ocean.

"It's a way of looking at things," Malcolm said. "Mandelbrot found a sameness from the smallest to the largest. And this sameness of scale also occurs for events."

"Events?"

"Consider cotton prices," Malcolm said. "There are good records of cotton prices going back more than a hundred years. When you study fluctuations in cotton prices, you find that the graph of price fluctuations in the course of a day looks basically like the graph for a week, which looks basically like the graph for a year, or for ten years. And that's how things are. A day is like a whole life. You start out doing one thing, but end up doing something else, plan to run an errand, but never get there. ... And at the end of your life, your whole existence has that same haphazard quality, too. Your whole life has the same shape as a single day."

"I guess it's one way to look at things," Grant said.

"No," Malcolm said. "It's the *only* way to look at things. At least, the only way that is true to reality. You see, the fractal idea of sameness carries within it an aspect of recursion, a kind of doubling back on itself, which means that events are unpredictable. That they can change suddenly, and without warning."

"Okay ..."

"But we have soothed ourselves into imagining sudden change as something that happens outside the normal order of things. An accident, like a car crash. Or

beyond our control, like a fatal illness. We do not conceive of sudden, radical, irrational change as built into the very fabric of existence. Yet it is. And chaos theory teaches us," Malcolm said, "that straight linearity, which we have come to take for granted in everything from physics to fiction, simply does not exist. Linearity is an artificial way of viewing the world. Real life isn't a series of interconnected events occurring one after another like beads strung on a necklace. Life is actually a series of encounters in which one event may change those that follow in a wholly unpredictable, even devastating way." Malcolm sat back in his seat, looking toward the other Land Cruiser, a few yards ahead. "That's a deep truth about the structure of our universe. But, for some reason, we insist on behaving as if it were not true."

At that moment; the cars jolted to a stop.

"What's happened?" Grant said.

Up ahead, they saw the kids in the car, pointing toward the ocean. Offshore, beneath lowering clouds, Grant saw the dark outline of the supply boat making its way back toward Puntarenas.

"Why have we stopped?" Malcolm said.

Grant turned on the radio and heard the girl saying excitedly, "Look there, Timmy! You see it, it's there!"

Malcolm squinted at the boat. "They talking about the boat?"

"Apparently."

Ed Regis climbed out of the front car and came running back to their window. "I'm sorry," he said, "but the kids are all worked up. Do you have binoculars here?"

"For what?"

"The little girl says she sees something on the boat. Some kind of animal," Regis said.

Grant grabbed the binoculars and rested his elbows on the window ledge of the Land Cruiser. He scanned the long shape of the supply ship. It was so dark it was almost a silhouette; as he watched, the ship's running lights came on, brilliant in the dark purple twilight.

"Do you see anything?" Regis said.

"No," Grant said.

"They're low down," Lex said, over the radio. "Look low down."

Grant tilted the binoculars down, scanning the hull just above the waterline. The supply ship was broad-beamed, with a splash flange that ran the length of the ship. But it was quite dark now, and he could hardly make out details.

"No, nothing ..."

"I can see them," Lex said impatiently. "Near the back. Look near the *back!"*

"How can she see anything in this light?" Malcolm said.

"Kids can see," Grant said. "They've got visual acuity we forgot we ever had."

He swung the binoculars toward the stern, moving them slowly, and suddenly he saw the animals. They were playing, darting among the silhouetted stern structures. He could see them only briefly, but even in the fading light he could tell that they were upright animals, about two feet tall, standing with stiff

balancing tails.

"You see them now?" Lex said.

"I see them," he said.

"What are they?"

"They're raptors," Grant said. "At least two. Maybe more. Juveniles."

"Jesus," Ed Regis said. "That boat's going to the mainland."

Malcolm shrugged. "Don't get excited. Just call the control room and tell them to recall the boat."

Ed Regis reached in and grabbed the radio from the dashboard. They heard hissing static, and clicks as he rapidly changed channels. "There's something wrong with this one," he said. "It's not working."

He ran off to the first Land Cruiser. They saw him duck into it. Then he looked back at them. "There's something wrong with both the radios," he said. "I can't raise the control room."

"Then let's get going," Grant said.

In the control room, Muldoon stood before the big windows that overlooked the park. At seven o'clock, the quartz floodlights came on all over the island, turning the landscape into a glowing jewel stretching away to the south. This was his favorite moment of the day. He heard the crackle of static from the radios.

"The Land Cruisers have started again," Arnold said. "They're on their way home."

"But why did they stop?" Hammond said. "And why can't we talk to them?"

"I don't know," Arnold said. "Maybe they turned off the radios in the cars."

"Probably the storm," Muldoon said. "Interference from the storm."

"They'll be here in twenty minutes," Hammond said. "You better call down and make sure the dining room is ready for them. Those kids are going to be hungry."

Arnold picked up the phone and heard a steady monotonous hiss. "What's this? What's going on?"

"Jesus, hang that up," Nedry said. "You'll screw up the data stream."

"You've taken *all* the phone lines? Even the internal ones?"

"I've taken all the lines that communicate outside," Nedry said. "But your internal lines should still work."

Arnold punched console buttons one after another. He heard nothing but hissing on all the lines.

"Looks like you've got 'em all."

"Sorry about that," Nedry said. "I'll clear a couple for you at the end of the next transmission, in about fifteen minutes." He yawned. "Looks like a long weekend for me. I guess I'll go get that Coke now." He picked up his shoulder bag and headed for the door. "Don't touch my console, okay?"

The door closed.

"What a slob," Hammond said.

"Yeah," Arnold said. "But I guess he knows what he's doing."

* * *

Along the side of the road, clouds of volcanic steam misted rainbows in the bright quartz lights. Grant said into the radio, "How long does it take the ship to reach

the mainland?"

"Eighteen hours," Ed Regis said. "More or less. It's pretty reliable." He glanced at his watch. "It should arrive around eleven tomorrow morning."

Grant frowned. "You still can't talk to the control room?"

"Not so far."

"How about Harding? Can you reach him?"

"No, I've tried. He may have his radio turned off."

Malcolm was shaking his head. "So we're the only ones who know about the animals on the ship."

"I'm trying to raise somebody," Ed Regis said. "I mean, Christ, we don't want those animals on the mainland."

"How long until we get back to the base?"

"From here, another sixteen, seventeen minutes," Ed Regis said.

At night, the whole road was illuminated by big floodlights. It felt to Grant as if they were driving through a bright green tunnel of leaves. Large raindrops spattered the windshield.

Grant felt the Land Cruiser slow, then stop. "Now what?"

Lex said, "I don't want to stop. Why did we stop?"

And then, suddenly, all the floodlights went out. The road was plunged into darkness. Lex said, "Hey!"

"Probably just a power outage or something," Ed Regis said. "I'm sure the lights'll be on in a minute."

"What the hell?" Arnold said, staring at his monitors.

"What happened?" Muldoon said. "You lose power?"

"Yeah, but only power on the perimeter. Everything in this building's working fine. But outside, in the park, the power is gone.

Lights, TV cameras, everything." His remote video monitors had gone black.

"What about the two Land Cruisers?"

"Stopped somewhere around the tyrannosaur paddock."

"Well," Muldoon said, "call Maintenance and let's get the power back on."

Arnold picked up one of his phones and heard hissing: Nedry's computers talking to each other. "No phones. That damn Nedry. Nedry! Where the hell is he?"

* * *

Dennis Nedry pushed open the door marked FERTILIZATION. With the perimeter power out, all the security-card locks were disarmed. Every door in the building opened with a touch.

The problems with the security system were high on Jurassic Park's bug list. Nedry wondered if anybody ever imagined that it wasn't a bug—that Nedry had programmed it that way. He had built in a classic trap door. Few programmers of large computer systems could resist the temptation to leave themselves a secret entrance. Partly it was common sense: if inept users locked up the system—and then called you for help—you always had a way to get in and repair the mess. And partly it was a kind of signature: Kilroy was here.

And partly it was insurance for the future. Nedry was annoyed with the Jurassic

Park project; late in the schedule, InGen had demanded extensive modifications to the system but hadn't been willing to pay for them, arguing they should be included under the original contract. Lawsuits were threatened; letters were written to Nedry's other clients, implying that Nedry was unreliable. It was blackmail, and in the end Nedry had been forced to eat his overages on Jurassic Park and to make the changes that Hammond wanted.

But later, when he was approached by Lewis Dodgson at Biosyn, Nedry was ready to listen. And able to say that he could indeed get past Jurassic Park security. He could get into any room, any system, anywhere in the park. Because he had programmed it that way. Just in case.

He entered the fertilization room. The lab was deserted; as he had anticipated, all the staff was at dinner. Nedry unzipped his shoulder bag and removed the can of Gillette shaving cream. He unscrewed the base, and saw the interior was divided into a series of cylindrical slots.

He pulled on a pair of heavy insulated gloves and opened the walk-in freezer marked CONTENTS VIABLE BIOLOGICAL MAINTAIN -10°C MINIMUM. The freezer was the size of a small closet, with shelves from floor to ceiling. Most of the shelves contained reagents and liquids in plastic sacs. To one side he saw a smaller nitrogen cold box with a heavy ceramic door. He opened it, and a rack of small tubes slid out, in a cloud of white liquid-nitrogen smoke.

The embryos were arranged by species: Stegosaurus, Apatosaurus, Hadrosaurus, Tyrannosaurus. Each embryo in a thin glass container, wrapped in silver foil, stoppered with polylene. Nedry quickly took two of each, slipping them into the shaving cream can.

Then he screwed the base of the can shut and twisted the top. There was a hiss of releasing gas inside, and the can frosted in his hands. Dodgson had said there was enough coolant to last thirty-six hours. More than enough time to get back to San José.

Nedry left the freezer, returned to the main lab. He dropped the can back in his bag, zipped it shut.

He went back into the hallway. The theft had taken less than two minutes. He could imagine the consternation upstairs in the control room, as they began to realize what had happened. All their security codes were scrambled, and all their phone lines were jammed. Without his help, it would take hours to untangle the mess—but in just a few minutes Nedry would be back in the control room, setting things right.

And no one would ever suspect what he had done.

Grinning, Dennis Nedry walked down to the ground floor, nodded to the guard, and continued downstairs to the basement. Passing the neat lines of electric Land Cruisers, he went to the gasoline-powered Jeep parked against the wall. He climbed into it, noticing some odd gray tubing on the passenger seat. It looked almost like a rocket launcher, he thought, as he turned the ignition key and started the Jeep.

Nedry glanced at his watch. From here, into the park, and three minutes straight to the east dock. Three minutes from there back to the control room.

Piece of cake.

"Damn it!" Arnold said, punching buttons on the console. "It's all screwed up."

Muldoon was standing at the windows, looking out at the park. The lights had gone out all over the island, except in the immediate area around the main buildings. He saw a few staff personnel hurrying to get out of the rain, but no one seemed to realize anything was wrong. Muldoon looked over at the visitor lodge, where the lights burned brightly.

"Uh-oh," Arnold said. "We have real trouble."

"What's that?" Muldoon said. He turned away from the window, and so he didn't see the Jeep drive out of the underground garage and head east along the maintenance road into the park.

"That idiot Nedry turned off the security systems," Arnold said. "The whole building's opened up. None of the doors are locked any more."

"I'll notify the guards," Muldoon said.

"That's the least of it," Arnold said. "When you turn off the security, you turn off all the peripheral fences as well."

"The fences?" Muldoon said.

"The electrical fences," Arnold said. "They're off, all over the island."

"You mean ..."

"That's right," Arnold said. "The animals can get out now." Arnold lit a cigarette. "Probably nothing will happen, but you never know. ..."

Muldoon started toward the door. "I better drive out and bring in the people in those two Land Cruisers," he said. "Just in case."

Muldoon quickly went downstairs to the garage. He wasn't really worried about the fences' going down. Most of the dinosaurs had been in their paddocks for nine months or more, and they had brushed up against the fences more than once, with notable results. Muldoon knew how quickly animals learned to avoid shock stimuli. You could train a laboratory pigeon with just two or three stimulation events. So it was unlikely the dinosaurs would now approach the fences.

Muldoon was more concerned about what the people in the cars would do. He didn't want them getting out of the Land Cruisers, because once the power came back on, the cars would start moving again, whether the people were inside them or not. They might be left behind. Of course, in the rain it was unlikely they would leave the cars. But, still ... you never knew. ...

He reached the garage and hurried toward the Jeep. It was lucky, he thought, that he had had the foresight to put the launcher in it. He could start right out, and be out there in—

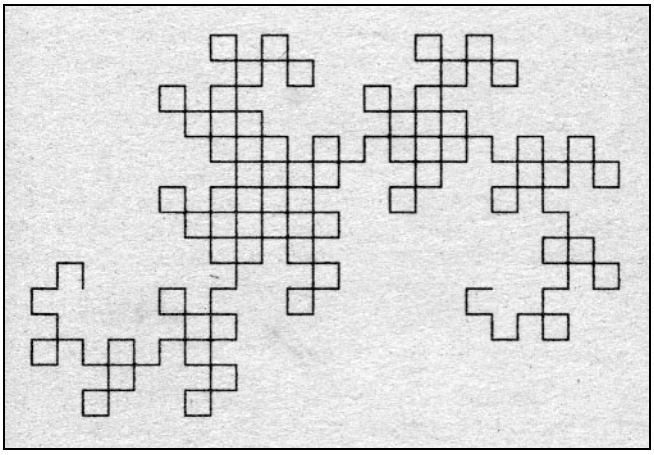
It was gone!

"What the hell?" Muldoon stared at the empty parking space, astonished.

The Jeep was gone!

What the hell was happening?

FOURTH ITERATION



"Inevitably, underlying instabilities begin to appear."
IAN MALCOLM

THE MAIN ROAD

Rain drummed loudly on the roof of the Land Cruiser. Tim felt the night-vision goggles pressing heavily on his forehead. He reached for the knob near his ear and adjusted the intensity. There was a brief phosphorescent flare, and then, in shades of electronic green and black, he could see the Land Cruiser behind, with Dr. Grant and Dr. Malcolm inside. Neat!

Dr. Grant was staring out the front windshield toward him. Tim saw him pick up the radio from the dash. There was a burst of static, and then he heard Dr. Grant's voice: "Can you see us back here?"

Tim picked up the radio from Ed Regis. "I see you."

"Everything all right?"

"We're fine, Dr. Grant."

"Stay in the car."

"We will. Don't worry." He clicked the radio off.

Ed Regis snorted. "It's pouring down rain. Of course we'll stay in the car," he muttered.

Tim turned to look at the foliage at the side of the road. Through the goggles, the foliage was a bright electronic green, and beyond he could see sections of the green grid pattern of the fence. The Land Cruisers were stopped on the downslope of a hill, which must mean they were someplace near the tyrannosaur area. It would be amazing to see a tyrannosaur with these night-vision goggles. A real thrill. Maybe the tyrannosaur would come to the fence and look over at them. Tim wondered if its eyes would glow in the dark when he saw them. That would be neat.

But he didn't see anything, and eventually he stopped looking. Everyone in the cars fell silent. The rain thrummed on the roof of the car. Sheets of water streamed down over the sides of the windows. It was hard for Tim to see out, even with the goggles.

"How long have we been sitting here?" Malcolm asked.

"I don't know. Four or five minutes."

"I wonder what the problem is."

"Maybe a short circuit from the rain."

"But it happened before the rain really started."

There was another silence. In a tense voice, Lex said, "But there's no lightning, right?" She had always been afraid of lightning, and she now sat nervously squeezing her leather mitt in her hands.

Dr. Grant said, "What was that? We didn't quite read that."

"Just my sister talking."

"Oh."

Tim again scanned the foliage, but saw nothing. Certainly nothing as big as a tyrannosaur. He began to wonder if the tyrannosaurs came out at night. Were

they nocturnal animals? Tim wasn't sure if he had ever read that. He had the feeling that tyrannosaurs were all-weather, day or night animals. The time of day didn't matter to a tyrannosaur.

The rain continued to pour.

"Hell of a rain," Ed Regis said. "It's really coming down."

Lex said, "I'm hungry."

"I know that, Lex," Regis said, "but we're stuck here, sweetie. The cars run on electricity in buried cables in the road."

"Stuck for how long?"

"Until they fix the electricity."

Listening to the sound of the rain, Tim felt himself growing sleepy. He yawned, and turned to look at the palm trees on the left side of the road, and was startled by a sudden thump as the ground shook. He swung back just in time to catch a glimpse of a dark shape as it swiftly crossed the road between the two cars.

"Jesus!"

"What was it?"

"It was huge, it was big as the car—"

"Tim! Are you there?"

He picked up the radio. "Yes, I'm here."

"Did you see it, Tim?"

"No," Tim said. "I missed it."

"What the hell was it?" Malcolm said.

"Are you wearing the night-vision goggles, Tim?"

"Yes. I'll watch," Tim said.

"Was it the tyrannosaur?" Ed Regis asked.

"I don't think so. It was in the road."

"But you didn't see it?" Ed Regis said.

"No."

Tim felt bad that he had missed seeing the animal, whatever it was. There was a sudden white crack of lightning, and his night goggles flared bright green. He blinked his eyes and started counting. "One one thousand ... two one thousand ..."

The thunder crashed, deafeningly loud and very close.

Lex began to cry. "Oh, *no* ..."

"Take it easy, honey," Ed Regis said. "It's just lightning."

Tim scanned the side of the road. The rain was coming down hard now, shaking the leaves with hammering drops. It made everything move. Everything seemed alive. He scanned the leaves. ...

He stopped. There was something beyond the leaves.

Tim looked up, higher.

Behind the foliage, beyond the fence, he saw a thick body with a pebbled, grainy surface like the bark of a tree. But it wasn't a tree. ... He continued to look higher, sweeping the goggles upward—

He saw the huge head of the tyrannosaurus. Just standing there, looking over the fence at the two Land Cruisers. The lightning flashed again, and the big animal rolled its head and bellowed in the glaring light. Then darkness, and

silence again, and the pounding rain.

"Tim?"

"Yes, Dr. Grant."

"You see what it is?"

"Yes, Dr. Grant."

Tim had the sense that Dr. Grant was trying to talk in a way that wouldn't upset his sister.

"What's going on right now?"

"Nothing," Tim said, watching the tyrannosaur through his night goggles. "Just standing on the other side of the fence."

"I can't see much from here, Tim."

"I can see fine, Dr. Grant. It's just standing there."

"Okay."

Lex continued to cry, snuffling.

There was another pause. Tim watched the tyrannosaur. The head was huge! The animal looked from one vehicle to another. Then back again. It seemed to stare right at Tim.

In the goggles, the eyes glowed bright green.

Tim felt a chill, but then, as he looked down the animal's body, moving down from the massive head and jaws, he saw the smaller, muscular forelimb. It waved in the air and then it gripped the fence.

"Jesus Christ," Ed Regis said, staring out the window.

The greatest predator the world has ever known. The most fearsome attack in human history. Somewhere in the back of his publicist's brain, Ed Regis was still writing copy. But he could feel his knees begin to shake uncontrollably, his trousers flapping like flags. Jesus, he was frightened. He didn't want to be here. Alone among all the people in the two cars, Ed Regis knew what a dinosaur attack was like. He knew what happened to people. He had seen the mangled bodies that resulted from a raptor attack. He could picture it in his mind. And this was a rex! Much, much bigger! The greatest meat-eater that ever walked the earth!

Jesus.

When the tyrannosaur roared it was terrifying, a scream from some other world. Ed Regis felt the spreading warmth in his trousers. He'd peed in his pants. He was simultaneously embarrassed and terrified. But he knew he had to do something. He couldn't just stay here. He had to do something. *Something.* His hands were shaking, trembling against the dash.

"Jesus Christ," he said again.

"Bad language," Lex said, wagging her finger at him.

Tim heard the sound of a door opening, and he swung his head away from the tyrannosaur—the night-vision goggles streaked laterally—in time to see Ed Regis stepping out through the open door, ducking his head in the rain.

"Hey," Lex said, "where are you going?"

Ed Regis just turned and ran in the opposite direction from the tyrannosaur,

disappearing into the woods. The door to the Land Cruiser hung open; the paneling was getting wet.

"He left!" Lex said. "Where did he go? He left us alone!"

"Shut the door," Tim said, but she had started to scream, "He left us! He left us!"

"Tim, what's going on?" It was Dr. Grant, on the radio. "Tim?"

Tim leaned forward and tried to shut the door. From the backseat, he couldn't reach the handle. He looked back at the tyrannosaur as lightning flashed again, momentarily silhouetting the huge black shape against the white-flaring sky.

"Tim, what's happening?"

"He left us, he left us!"

Tim blinked to recover his vision. When he looked again, the tyrannosaur was standing there, exactly as before, motionless and huge. Rain dripped from its jaws. The forelimb gripped the fence. ...

And then Tim realized: the tyrannosaur was holding on to the fence!

The fence wasn't electrified any more!

"Lex, *close the door!"*

The radio crackled. "Tim!"

"I'm here, Dr. Grant."

"What's going on?"

"Regis ran away," Tim said.

"He *what?"*

"He ran away. I think he saw that the fence isn't electrified," Tim said.

"The fence isn't electrified?" Malcolm said, over the radio. "Did he say the fence isn't electrified?"

"Lex," Tim said, *"close the door."* But Lex was screaming, "He left us, he left us!" in a steady, monotonous wail, and there was nothing for Tim to do but climb out of the back door, into the slashing rain, and shut the door for her. Thunder rumbled, and the lightning flashed again. Tim looked up and saw the tyrannosaur crashing down the cyclone fence with a giant hind limb.

"Timmy!"

He jumped back in and slammed the door, the sound lost in the thunderclap.

The radio: "Tim! Are you there?"

He grabbed the radio. "I'm here." He turned to Lex. "Lock the doors. Get in the middle of the car. And *shut up*."

Outside, the tyrannosaur rolled its head and took an awkward step forward. The claws of its feet had caught in the grid of the flattened fence. Lex saw the animal finally, and became silent, still. She watched with wide eyes.

Radio crackle. "Tim."

"Yes, Dr. Grant."

"Stay in the car. Stay down. Be quiet. Don't move, and don't make noise."

"Okay."

"You should be all right. I don't think it can open the car."

"Okay."

"Just stay quiet, so you don't arouse its attention any more than necessary."

"Okay." Tim clicked the radio off. "You hear that, Lex?"

His sister nodded, silently. She never took her eyes off the dinosaur. The tyrannosaur roared. In the glare of lightning, they saw it pull free of the fence and take a bounding step forward.

Now it was standing between the two cars. Tim couldn't see Dr. Grant's car any more, because the huge body blocked his view. The rain ran in rivulets down the pebbled skin of the muscular hind legs. He couldn't see the animal's head, which was high above the roof-line.

The tyrannosaur moved around the side of their car. It went to the very spot where Tim had gotten out of the car. Where Ed Regis had gotten out of the car. The animal paused there. The big head ducked down, toward the mud.

Tim looked back at Dr. Grant and Dr. Malcolm in the rear car. Their faces were tense as they stared forward through the windshield.

The huge head raised back up, jaws open, and then stopped by the side windows. In the glare of lightning, they saw the beady, expressionless reptile eye moving in the socket.

It was looking in the car.

His sister's breath came in ragged, frightened gasps. He reached out and squeezed her arm, hoping she would stay quiet. The dinosaur continued to stare for a long time through the side window. Perhaps the dinosaur couldn't really see them, he thought. Finally the head lifted up, out of view again.

"Timmy ..." Lex whispered.

"It's okay," Tim whispered. "I don't think it saw us."

He was looking back toward Dr. Grant when a jolting impact rocked the Land Cruiser and shattered the windshield in a spider-web as the tyrannosaur's head crashed against the hood of the Land Cruiser. Tim was knocked flat on the seat. The night-vision goggles slid off his forehead.

He got back up quickly, blinking in the darkness, his mouth warm with blood.

"Lex?"

He couldn't see his sister anywhere.

The tyrannosaur stood near the front of the Land Cruiser, its chest moving as it breathed, the forelimbs making clawing movements in the air.

"Lex!" Tim whispered. Then he heard her groan. She was lying somewhere on the floor under the front seat.

Then the huge head came down, entirely blocking the shattered windshield. The tyrannosaur banged again on the front hood of the Land Cruiser. Tim grabbed the seat as the car rocked on its wheels. The tyrannosaur banged down twice more, denting the metal.

Then it moved around the side of the car. The big raised tail blocked his view out of all the side windows. At the back, the animal snorted, a deep rumbling growl that blended with the thunder. It sank its jaws into the spare tire mounted on the back of the Land Cruiser and, in a single head shake, tore it away. The rear of the car lifted into the air for a moment; then it thumped down with a muddy splash.

"Tim!" Dr. Grant said. "Tim, are you there?"

Tim grabbed the radio. "We're okay," he said. There was a shrill metallic scrape as claws raked the roof of the car. Tim's heart was pounding in his chest.

He couldn't see anything out of the windows on the right side except pebbled leathery flesh. The tyrannosaur was leaning against the car, which rocked back and forth with each breath, the springs and metal creaking loudly.

Lex groaned again. Tim put down the radio, and started to crawl over into the front seat. The tyrannosaur roared and the metal roof dented downward. Tim felt a sharp pain in his head and tumbled to the floor, onto the transmission hump. He found himself lying alongside Lex, and he was shocked to see that the whole side of her head was covered in blood. She looked unconscious.

There was another jolting impact, and pieces of glass fell all around him. Tim felt rain. He looked up and saw that the front windshield had broken out. There was just a jagged rim of glass and, beyond, the big head of the dinosaur.

Looking down at him.

Tim felt a sudden chill and then the head rushed forward toward him, the jaws open. There was the squeal of metal against teeth, and he felt the hot stinking breath of the animal and a thick tongue stuck into the car through the windshield opening. The tongue slapped wetly around inside the car—he felt the hot lather of dinosaur saliva—and the tyrannosaur roared—a deafening sound inside the car—

The head pulled away abruptly.

Tim scrambled up, avoiding the dent in the roof. There was still room to sit on the front seat by the passenger door. The tyrannosaur stood in the rain near the front fender. It seemed confused by what had happened to it. Blood dripped freely from its jaws.

The tyrannosaur looked at Tim, cocking its head to stare with one big eye. The head moved close to the car, sideways, and peered in. Blood spattered on the dented hood of the Land Cruiser, mixing with the rain.

It can't get to me, Tim thought. It's too big.

Then the head pulled away, and in the flare of lightning he saw the hind leg lift up. And the world tilted crazily as the Land Cruiser slammed over on its side, the windows splatting in the mud. He saw Lex fall helplessly against the side window, and he fell down beside her, banging his head. Tim felt dizzy. Then the tyrannosaur's jaws clamped onto the window frame, and the whole Land Cruiser was lifted up into the air, and shaken.

"Timmy!" Lex shrieked, so near to his ear that it hurt. She was suddenly awake, and he grabbed her as the tyrannosaur crashed the car down again. Tim felt a stabbing pain in his side, and his sister fell on top of him. The car went up again, tilting crazily. Lex shouted *"Timmy!"* and he saw the door give way beneath her, and she fell out of the car into the mud, but Tim couldn't answer, because in the next instant everything swung crazily—he saw the trunks of the palm trees sliding downward past him—moving sideways through the air—he glimpsed the ground very far below—the hot roar of the tyrannosaur—the blazing eye—the tops of the palm trees—

And then, with a metallic scraping shriek, the car fell from the tyrannosaur's jaws, a sickening fall, and Tim's stomach heaved in the moment before the world became totally black, and silent.

In the other car, Malcolm gasped. "Jesus! What happened to the car?"

Grant blinked his eyes as the lightning faded.

The other car was gone.

Grant couldn't believe it. He peered forward, trying to see through the rain-streaked windshield. The dinosaur's body was so large, it was probably just blocking—

No. In another flash of lightning, he saw clearly: the car was gone.

"What happened?" Malcolm said.

"I don't know."

Faintly, over the rain, Grant heard the sound of the little girl screaming. The dinosaur was standing in darkness on the road up ahead, but they could see well enough to know that it was bending over now, sniffing the ground.

Or eating something on the ground.

"Can you see?" Malcolm said, squinting.

"Not much, no," Grant said. The rain pounded on the roof of the car. He listened for the little girl, but he didn't hear her any more. The two men sat in the car, listening.

"Was it the girl?" Malcolm said, finally. "It sounded like the girl."

"It did, yes."

"Was it?"

"I don't know," Grant said. He felt a seeping fatigue overtake him. Blurred through the rainy windshield, the dinosaur was coming toward their car. Slow, ominous strides, coming right toward them.

Malcolm said, "You know, at times like this one feels, well, perhaps extinct animals *should* be left extinct. Don't you have that feeling now?"

"Yes," Grant said. He was feeling his heart pounding.

"Umm. Do you, ah, have any suggestions about what we do now?"

"I can't think of a thing," Grant said:

Malcolm twisted the handle, kicked open the door, and ran. But even as he did, Grant could see he was too late, the tyrannosaur too close. There was another crack of lightning, and in that instant of glaring white light, Grant watched in horror as the tyrannosaur roared, and leapt forward.

Grant was not clear about exactly what happened next. Malcolm was running, his feet splashing in the mud. The tyrannosaur bounded alongside him and ducked its massive head, and Malcolm was tossed into the air like a small doll.

By then Grant was out of the car, too, feeling the cold rain slashing his face and body. The tyrannosaur had turned its back to him, the huge tail swinging through the air. Grant was tensing to run for the woods when suddenly the tyrannosaur spun back to face him, and roared.

Grant froze.

He was standing beside the passenger door of the Land Cruiser, drenched in rain. He was completely exposed, the tyrannosaur no more than eight feet away. The big animal roared again. At so close a range the sound was terrifyingly loud. Grant felt himself shaking with cold and fright. He pressed his trembling hands against the metal of the door panel to steady them.

The tyrannosaur roared once more, but it did not attack. It cocked its head, and

looked with first one eye, then the other, at the Land Cruiser. And it did nothing.

It just stood there.

What was going on?

The powerful jaws opened and closed. The tyrannosaur bellowed angrily, and then the big hind leg came up and crashed down on the roof of the car; the claws slid off with a metal screech, barely missing Grant as he stood there, still unmoving.

The foot splashed in the mud. The head ducked down in a slow arc, and the animal inspected the car, snorting. It peered into the front windshield. Then, moving toward the rear, it banged the passenger door shut, and moved right toward Grant as he stood there. Grant was dizzy with fear, his heart pounding inside his chest. With the animal so close, he could smell the rotten flesh in the mouth, the sweetish blood-smell, the sickening stench of the carnivore. ...

He tensed his body, awaiting the inevitable.

The big head slid past him, toward the rear of the car. Grant blinked.

What had happened?

Was it possible the tyrannosaur hadn't seen him? It seemed as if it hadn't. But how could that be? Grant looked back to see the animal sniffing the rear-mounted tire. It nudged the tire with its snout, and then the head swung back. Again it approached Grant.

This time the animal stopped, the black flaring nostrils just inches away. Grant felt the animal's startling hot breath on his face. But the tyrannosaur wasn't sniffing like a dog. It was just breathing, and if anything it seemed puzzled.

No, the tyrannosaur couldn't see him. Not if he stood motionless. And in a detached academic corner of his mind he found an explanation for that, a reason why—

The jaws opened before him, the massive head raised up. Grant squeezed his fists together, and bit his lip, trying desperately to remain motionless, to make no sound.

The tyrannosaur bellowed in the night air.

But by now Grant was beginning to understand. The animal couldn't see him, but it suspected he was there, somewhere, and was trying with its bellowing to frighten Grant into some revealing movement. So long as he stood his ground, Grant realized, he was invisible.

In a final gesture of frustration, the big hind leg lifted up and kicked the Land Cruiser over, and Grant felt searing pain and the surprising sensation of his own body flying through the air. It seemed to be happening very slowly, and he had plenty of time to feel the world turn colder, and watch the ground rush up to strike him in the face.

RETURN

"Oh damn," Harding said. "Will you look at that."

They were sitting in Harding's gasoline-powered Jeep, staring forward past the *flick flick* of the windshield wipers. In the yellow flare of the headlamps, a big fallen tree blocked the road.

"Must have been the lightning," Gennaro said. "Hell of a tree."

"We can't get past it," Harding said. "I better tell Arnold in control." He picked up the radio and twisted the channel dial. "Hello, John. Are you there, John?"

There was nothing but steady hissing static. "I don't understand," he said. "The radio lines seem to be down."

"It must be the storm," Gennaro said.

"I suppose," Harding said.

"Try the Land Cruisers," Ellie said.

Harding opened the other channels, but there was no answer.

"Nothing," he said. "They're probably back to camp by now, and outside the range of our little set. In any case, I don't think we should stay here. It'll be hours before Maintenance gets a crew out here to move that tree."

He turned the radio off, and put the Jeep into reverse.

"What're you going to do?" Ellie said.

"Go back to the turnout, and get onto the maintenance road. Fortunately there's a second road system," Harding explained. "We have one road for visitors, and a second road for animal handlers and feed trucks and so on. We'll drive back on that maintenance road. It's a little longer. And not so scenic. But you may find it interesting. If the rain lets up, we'll get a glimpse of some of the animals at night. We should be back in thirty, forty minutes," Harding said. "If I don't get lost."

He turned the Jeep around in the night, and headed south again.

Lightning flashed, and every monitor in the control room went black. Arnold sat forward, his body rigid and tense. Jesus, not now. Not now. That was all he needed—to have everything go out now in the storm. All the main power circuits were surge-protected, of course, but Arnold wasn't sure about the modems Nedry was using for his data transmission. Most people didn't know it was possible to blow an entire system through a modem—the lightning pulse climbed back into the computer through the telephone line, and—bang!—no more motherboard. No more RAM. No more file server. No more computer.

The screens flickered. And then, one by one, they came back on.

Arnold sighed, and collapsed back in his chair.

He wondered again where Nedry had gone. Five minutes ago, he'd sent guards to search the building for him. The fat bastard was probably in the bathroom reading a comic book. But the guards hadn't come back, and they hadn't called in.

Five minutes. If Nedry was in the building, they should have found him by now.

"Somebody took the damned Jeep," Muldoon said as he came back in the room. "Have you talked to the Land Cruisers yet?"

"Can't raise them on the radio," Arnold said. "I have to use this, because the main board is down. It's weak, but it ought to work. I've tried on all six channels. I know they have radios in the cars, but they're not answering."

"That's not good," Muldoon said.

"If you want to go out there, take one of the maintenance vehicles."

"I would," Muldoon said, "but they're all in the east garage, more than a mile from here. Where's Harding?"

"I assume he's on his way back."

"Then he'll pick up the people in the Land Cruisers on his way."

"I assume so."

"Anybody tell Hammond the kids aren't back yet?"

"Hell no," Arnold said. "I don't want that son of a bitch running around here, screaming at me. Everything's all right, for the moment. The Land Cruisers are just stuck in the rain. They can sit a while, until Harding brings them back. Or until we find Nedry, and make that little bastard turn the systems back on."

"You can't get them back on?" Muldoon said.

Arnold shook his head. "I've been trying. But Nedry's done something to the system. I can't figure out what, but if I have to go into the code itself, that'll take hours. We need Nedry. We've got to find the son of a bitch right away."

NEDRY

The sign said ELECTRIFIED FENCE 10,000 VOLTS DO NOT TOUCH, but Nedry opened it with his bare hand, and unlocked the gate, swinging it wide. He went back to the Jeep, drove through the gate, and then walked back to close it behind him.

Now he was inside the park itself, no more than a mile from the east dock. He stepped on the accelerator and hunched forward over the steering wheel, peering through the rain-slashed windshield as he drove the Jeep down the narrow road. He was driving fast—too fast—but he had to keep to his timetable. He was surrounded on all sides by black jungle, but soon he should be able to see the beach and the ocean off to his left.

This damned storm, he thought. It might screw up everything. Because if Dodgson's boat wasn't waiting for him at the east dock when Nedry got there, the whole plan would be ruined. Nedry couldn't wait very long, or he would be missed back at the control room. The whole idea behind the plan was that he could drive to the east dock, drop off the embryos, and be back in a few minutes, before anyone noticed. It was a good plan, a clever plan. Nedry'd worked on it carefully, refining every detail. This plan was going to make him a million and a half dollars, one point five meg. That was ten years of income in a single tax-free shot, and it was going to change his life. Nedry'd been damned careful, even to the point of making Dodgson meet him in the San Francisco Airport at the last minute with an excuse about wanting to see the money. Actually, Nedry wanted to record his conversation with Dodgson, and mention him by name on the tape. Just so that Dodgson wouldn't forget he owed the rest of the money, Nedry was including a copy of the tape with the embryos. In short, Nedry had thought of everything.

Except this damned storm.

Something dashed across the road, a white flash in his headlights. It looked like a large rat. It scurried into the underbrush, dragging a fat tail. Possum. Amazing that a possum could survive here. You'd think the dinosaurs would get an animal like that.

Where was the damned dock?

He was driving fast, and he'd already been gone five minutes. He should have reached the east dock by now. Had he taken a wrong turn? He didn't think so. He hadn't seen any forks in the road at all.

Then where was the dock?

It was a shock when he came around a corner and saw that the road terminated in a gray concrete barrier, six feet tall and streaked dark with rain. He slammed on the brakes, and the Jeep fishtailed, losing traction in an end-to-end spin, and for a horrified moment he thought he was going to smash into the barrier—he knew he was going to smash—and he spun the wheel frantically, and the Jeep slid to a stop, the headlamps just a foot from the concrete wall.

He paused there, listening to the rhythmic flick of the wipers. He took a deep breath and exhaled slowly. He looked back down the road. He'd obviously taken a wrong turn somewhere. He could retrace his steps, but that would take too long.

He'd better try and find out where the hell he was.

He got out of the Jeep, feeling heavy raindrops spatter his head. It was a real tropical storm, raining so hard that it hurt. He glanced at his watch, pushing the button to illuminate the digital dial. Six minutes gone. Where the hell was he? He walked around the concrete barrier and on the other side, along with the rain, he heard the sound of gurgling water. Could it be the ocean? Nedry hurried forward, his eyes adjusting to the darkness as he went. Dense jungle on all sides. Raindrops slapping on the leaves.

The gurgling sound became louder, drawing him forward, and suddenly he came out of the foliage and felt his feet sink into soft earth and saw the dark currents of the river. The river! He was at the jungle river!

Damn, he thought. At the river *where?* The river ran for miles through the island. He looked at his watch again. Seven minutes gone. "You have a problem, Dennis," he said aloud.

As if in reply, there was a soft hooting cry of an owl in the forest.

Nedry hardly noticed; he was worrying about his plan. The plain fact was that time had run out. There wasn't a choice any more. He had to abandon his original plan. All he could do was go back to the control room, restore the computer, and somehow try to contact Dodgson, to set up the drop at the east dock for the following night. Nedry would have to scramble to make that work, but he thought he could pull it off. The computer automatically logged all calls; after Nedry got through to Dodgson, he'd have to go back into the computer and erase the record of the call. But one thing was sure—he couldn't stay out in the park any longer, or his absence would be noticed.

Nedry started back, heading toward the glow of the car's headlights. He was drenched and miserable. He heard the soft hooting cry once more, and this time he paused. That hadn't really sounded like an owl. And it seemed to be close by,

in the jungle somewhere off to his right.

As he listened, he heard a crashing sound in the underbrush. Then silence. He waited, and heard it again. It sounded distinctly like something big, moving slowly through the jungle toward him.

Something big. Something near. A big dinosaur.

Get out of here.

Nedry began to run. He made a lot of noise as he ran, but even so he could hear the animal crashing through the foliage. And hooting.

It was coming closer.

Stumbling over tree roots in the darkness, clawing his way past dripping branches, he saw the Jeep ahead, and the lights shining around the vertical wall of the barrier made him feel better. In a moment he'd be in the car and then he'd get the hell out of here. He scrambled around the barrier and then he froze.

The animal was already there.

But it wasn't close. The dinosaur stood forty feet away, at the edge of the illumination from the headlamps. Nedry hadn't taken the tour, so he hadn't seen the different types of dinosaurs, but this one was strange-looking. The ten-foot-tall body was yellow with black spots, and along the head ran a pair of red V-shaped crests: The dinosaur didn't move, but again gave its soft hooting cry.

Nedry waited to see if it would attack. It didn't. Perhaps the headlights from the Jeep frightened it, forcing it to keep its distance, like a fire.

The dinosaur stared at him and then snapped its head in a single swift motion. Nedry felt something smack wetly against his chest. He looked down and saw a dripping glob of foam on his rain-soaked shirt. He touched it curiously, not comprehending. ...

It was spit.

The dinosaur had spit on him.

It was creepy, he thought. He looked back at the dinosaur and saw the head snap again, and immediately felt another wet smack against his neck, just above the shirt collar. He wiped it away with his hand.

Jesus, it was disgusting. But the skin of his neck was already starting to tingle and burn. And his hand was tingling, too. It was almost like he had been touched with acid.

Nedry opened the car door, glancing back at the dinosaur to make sure it wasn't going to attack, and felt a sudden, excruciating pain in his eyes, stabbing like spikes into the back of his skull, and he squeezed his eyes shut and gasped with the intensity of it and threw up his hands to cover his eyes and felt the slippery foam trickling down both sides of his nose.

Spit.

The dinosaur had spit in his eyes.

Even as he realized it, the pain overwhelmed him, and he dropped to his knees, disoriented, wheezing. He collapsed onto his side, his cheek pressed to the wet ground, his breath coming in thin whistles through the constant, ever-screaming pain that caused flashing spots of light to appear behind his tightly shut eyelids.

The earth shook beneath him and Nedry knew the dinosaur was moving, he

could hear its soft hooting cry, and despite the pain he forced his eyes open and still he saw nothing but flashing spots against black. Slowly the realization came to him.

He was blind.

The hooting was louder as Nedry scrambled to his feet and staggered back against the side panel of the car, as a wave of nausea and dizziness swept over him. The dinosaur was close now, he could *feel* it coming close, he was dimly aware of its snorting breath.

But he couldn't see.

He couldn't see anything, and his terror was extreme.

He stretched out his hands, waving them wildly in the air to ward off the attack he knew was coming.

And then there was a new, searing pain, like a fiery knife in his belly, and Nedry stumbled, reaching blindly down to touch the ragged edge of his shirt, and then a thick, slippery mass that was surprisingly warm, and with horror he suddenly knew he was holding his own intestines in his hands. The dinosaur had torn him open. His guts had fallen out.

Nedry fell to the ground and landed on something scaly and cold, it was the animal's foot, and then there was new pain on both sides of his head. The pain grew worse, and as he was lifted to his feet he knew the dinosaur had his head in its jaws, and the horror of that realization was followed by a final wish, that it would all be ended soon.

BUNGALOW

"More coffee?" Hammond asked politely.

"No, thank you," Henry Wu said, leaning back in his chair. "I couldn't eat anything more." They were sitting in the dining room of Hammond's bungalow, in a secluded corner of the park not far from the labs. Wu had to admit that the bungalow Hammond had built for himself was elegant, with sparse, almost Japanese lines. And the dinner had been excellent, considering the dining room wasn't fully staffed yet.

But there was something about Hammond that Wu found troubling. The old man was different in some way ... subtly different. All during dinner, Wu had tried to decide what it was. In part, a tendency to ramble, to repeat himself, to retell old stories. In part, it was an emotional liability, flaring anger one moment, maudlin sentimentality the next. But all that could be understood as a natural concomitant of age. John Hammond was, after all, almost seventy-seven.

But there was something else. A stubborn evasiveness. An insistence on having his way. And, in the end, a complete refusal to deal with the situation that now faced the park.

Wu had been stunned by the evidence (he did not yet allow himself to believe the case was proved) that the dinosaurs were breeding. After Grant had asked

about amphibian DNA, Wu had intended to go directly to his laboratory and check the computer records of the various DNA assemblies. Because, if the dinosaurs were in fact breeding, then everything about Jurassic Park was called into question—their genetic development methods, their genetic control methods, everything. Even the lysine dependency might be suspect. And if these animals could truly breed, and could also survive in the wild ...

Henry Wu wanted to check the data at once. But Hammond had stubbornly insisted Wu accompany him at dinner.

"Now then, Henry, you must save room for ice cream," Hammond said, pushing back from the table. "María makes the most wonderful ginger ice cream."

"All right." Wu looked at the beautiful, silent serving girl. His eyes followed her out of the room, and then he glanced up at the single video monitor mounted in the wall. The monitor was dark. "Your monitor's out," Wu said.

"Is it?" Hammond glanced over. "Must be the storm." He reached behind him for the telephone. "I'll just check with John in control."

Wu could hear the static crackle on the telephone line. Hammond shrugged, and set the receiver back in its cradle. "Lines must be down," he said. "Or maybe Nedry's still doing data transmission. He has quite a few bugs to fix this weekend. Nedry's a genius in his way, but we had to press him quite hard, toward the end, to make sure he got things right."

"Perhaps I should go to the control room and check," Wu said.

"No, no," Hammond said. "There's no reason. If there were any problem, we'd hear about it. Ah."

María came back into the room, with two plates of ice cream.

"You must have just a little, Henry," Hammond said. "It's made with fresh ginger, from the eastern part of the island. It's an old man's vice, ice cream. But still ..."

Dutifully, Wu dipped his spoon. Outside, lightning flashed, and there was the sharp crack of thunder. "That was close," Wu said. "I hope the storm isn't frightening the children."

"I shouldn't think so," Hammond said. He tasted the ice cream. "But I can't help but hold some fears about this park, Henry."

Inwardly, Wu felt relieved. Perhaps the old man was going to face the facts, after all. "What kind of fears?"

"You know, Jurassic Park's really made for children. The children of the world love dinosaurs, and the children are going to delight—just *delight*—in this place. Their little faces will shine with the joy of finally seeing these wonderful animals. But I am afraid ... I may not live to see it, Henry. I may not live to see the joy on their faces."

"I think there are other problems, too," Wu said, frowning.

"But none so pressing on my mind as this," Hammond said, "that I may not live to see their shining, delighted faces. This is our triumph, this park. We have done what we set out to do. And, you remember, our original intent was to use the newly emerging technology of genetic engineering to make money. A lot of money."

Wu knew Hammond was about to launch into one of his old speeches. He held

up his hand. "I'm familiar with this, John—"

"If you were going to start a bioengineering company, Henry, what would you do? Would you make products to help mankind, to fight illness and disease? Dear me, no. That's a terrible idea. A very poor use of new technology."

Hammond shook his head sadly. "Yet, you'll remember," he said, "the original genetic engineering companies, like Genentech and Cetus, were all started to make pharmaceuticals. New drugs for mankind. Noble, noble purpose. Unfortunately, drugs face all kinds of barriers. FDA testing alone takes five to eight years—if you're lucky. Even worse, there are forces at work in the marketplace. Suppose you make a miracle drug for cancer or heart disease—as Genentech did. Suppose you now want to charge a thousand dollars or two thousand dollars a dose. You might imagine that is your privilege. After all, you invented the drug, you paid to develop and test it; you should be able to charge whatever you wish. But do you really think that the government will let you do that? No, Henry, they will not. Sick people aren't going to pay a thousand dollars a dose for needed medication—they won't be grateful, they'll be outraged. Blue Cross isn't going to pay it. They'll scream highway robbery. So something will happen. Your patent application will be denied. Your permits will be delayed. *Something* will force you to see reason—and to sell your drug at a lower cost. From a business standpoint, that makes helping mankind a very risky business. Personally, I would *never* help mankind."

Wu had heard the argument before. And he knew Hammond was right; some new bioengineered pharmaceuticals had indeed suffered inexplicable delays and patent problems.

"Now," Hammond said, "think how different it is when you're making entertainment. Nobody *needs* entertainment. That's not a matter for government intervention. If I charge five thousand dollars a day for my park, who is going to stop me? After all, nobody needs to come here. And, far from being highway robbery, a costly price tag actually increases the appeal of the park. A visit becomes a status symbol, and all Americans love that. So do the Japanese, and of course they have far more money."

Hammond finished his ice cream, and María silently took the dish away. "She's not from here, you know," he said. "She's Haitian. Her mother is French. But in any case, Henry, you will recall that the original purpose behind pointing my company in this direction in the first place—was to have freedom from government intervention, anywhere in the world."

"Speaking of the rest of the world ..."

Hammond smiled. "We have already leased a large tract in the Azores, for Jurassic Park Europe. And you know we long ago obtained an island near Guam, for Jurassic Park Japan. Construction on the next two Jurassic Parks will begin early next year. They will all be open within four years. At that time, direct revenues will exceed ten billion dollars a year, and merchandising, television, and ancillary rights should double that. I see no reason to bother with children's pets, which I'm told Lew Dodgson thinks we're planning to make."

"Twenty billion dollars a year," Wu said softly, shaking his head.

"That's speaking conservatively," Hammond said. He smiled. "There's no

reason to speculate wildly. More ice cream, Henry?"

"Did you find him?" Arnold snapped, when the guard walked into the control room.

"No, Mr. Arnold."

"Find him."

"I don't think he's in the building, Mr. Arnold."

"Then look in the lodge," Arnold said, "look in the maintenance building, look in the utility shed, look everywhere, but just *find him*."

"The thing is ..." The guard hesitated. "Mr. Nedry's the fat man, is that right?"

"That's right," Arnold said. "He's fat. A fat slob."

"Well, Jimmy down in the main lobby said he saw the fat man go into the garage."

Muldoon spun around. "Into the garage? When?"

"About ten, fifteen minutes ago."

"Jesus," Muldoon said.

The Jeep screeched to a stop. "Sorry," Harding said.

In the headlamps, Ellie saw a herd of apatosaurs lumbering across the road. There were six animals, each the size of a house, and a baby as large as a full-grown horse. The apatosaurs moved in unhurried silence, never looking toward the Jeep and its glowing headlamps. At one point, the baby stopped to lap water from a puddle in the road, then moved on.

A comparable herd of elephants would have been startled by the arrival of a car, would have trumpeted and circled to protect the baby. But these animals showed no fear. "Don't they see us?" she said.

"Not exactly, no," Harding said. "Of course, in a literal sense they do see us, but we don't really *mean* anything to them. We hardly ever take cars out at night, and so they have no experience of them. We are just a strange, smelly object in their environment. Representing no threat, and therefore no interest. I've occasionally been out at night, visiting a sick animal, and on my way back these fellows blocked the road for an hour or more."

"What do you do?"

Harding grinned. "Play a recorded tyrannosaur roar. That gets them moving. Not that they care much about tyrannosaurs. These apatosaurs are so big they don't really have any predators. They can break a tyrannosaur's neck with a swipe of their tail. And they know it. So does the tyrannosaur."

"But they do see us. I mean, if we were to get out of the car ..."

Harding shrugged. "They probably wouldn't react. Dinosaurs have excellent visual acuity, but they have a basic amphibian visual system: it's attuned to movement. They don't see unmoving things well at all."

The animals moved on, their skin glistening in the rain. Harding put the car in gear. "I think we can continue now," he said.

Wu said, "I suspect you may find there are pressures on your park, just as there are pressures on Genentech's drugs." He and Hammond had moved to the living

room, and they were now watching the storm lash the big glass windows.

"I can't see how," Hammond said.

"The scientists may wish to constrain you. Even to stop you."

"Well, they *can't do that*," Hammond said. He shook his finger at Wu. "You know why the scientists would try to do that? It's because they want to do research, of course. That's all they ever want to do, is research. Not to accomplish anything. Not to make any progress. Just do *research.* Well, they have a surprise coming to them."

"I wasn't thinking of that," Wu said.

Hammond sighed. "I'm sure it would be *interesting* for the scientists, to do research. But you arrive at the point where these animals are simply too expensive to be used for research. This is wonderful technology, Henry, but it's also frightfully expensive technology. The fact is, it can only be supported as entertainment." Hammond shrugged. "That's just the way it is."

"But if there are attempts to close down—"

"Face the damn facts, Henry," Hammond said irritably. "This isn't America. This isn't even Costa Rica. This is my island. I own it. And nothing is going to stop me from opening Jurassic Park to all the children of the world." He chuckled. "Or, at least, to the rich ones. And I tell you, they'll love it."

In the backseat of the Jeep, Ellie Sattler stared out the window. They had been driving through rain-drenched jungle for the last twenty minutes, and had seen nothing since the apatosaurs crossed the road.

"We're near the jungle river now," Harding said, as he drove. "It's off there somewhere to our left."

Abruptly he slammed on the brakes again. The car skidded to a stop in front of a flock of small green animals. "Well, you're getting quite a show tonight," he said. "Those are compys."

Procompsognathids, Ellie thought, wishing that Grant were here to see them. This was the animal they had seen in the fax, back in Montana. The little dark green procompsognathids scurried to the other side of the road, then squatted on their hind legs to look at the car, chittering briefly, before hurrying onward into the night.

"Odd," Harding said. "Wonder where they're off to? Compys don't usually move at night, you know. They climb up in a tree and wait for daylight."

"Then why are they out now?" Ellie said.

"I can't imagine. You know compys are scavengers, like buzzards. They're attracted to a dying animal, and they have tremendously sensitive smell. They can smell a dying animal for miles."

"Then they're going to a dying animal?"

"Dying, or already dead."

"Should we follow them?" Ellie said.

"I'd be curious," Harding said. "Yes, why not? Let's go see where they're going."

He turned the car around, and headed back toward the compys.

TIM

Tim Murphy lay in the Land Cruiser, his cheek pressed against the car door handle. He drifted slowly back to consciousness. He wanted only to sleep. He shifted his position, and felt the pain in his cheekbone where it lay against the metal door. His whole body ached. His arms and his legs and most of all his head—there was a terrible pounding pain in his head. All the pain made him want to go back to sleep.

He pushed himself up on one elbow, opened his eyes, and retched, vomiting all over his shirt. He tasted sour bile and wiped his mouth with the back of his hand. His head throbbed; he felt dizzy and seasick, as if the world were moving, as if he were rocking back and forth on a boat.

Tim groaned, and rolled onto his back, turning away from the puddle of vomit. The pain in his head made him breathe in short, shallow gasps. And he still felt sick, as if everything were moving. He opened his eyes and looked around, trying to get his bearings.

He was inside the Land Cruiser. But the car must have flipped over on its side, because he was lying on his back against the passenger door, looking up at the steering wheel and beyond, at the branches of a tree, moving in the wind. The rain had nearly stopped, but water drops still fell on him through the broken front windshield.

He stared curiously at the fragments of glass. He couldn't remember how the windshield had broken. He couldn't remember anything except that they had been parked on the road and he had been talking to Dr. Grant when the tyrannosaur came toward them. That was the last thing he remembered.

He felt sick again, and closed his eyes until the nausea passed. He was aware of a rhythmic creaking sound, like the rigging of a boat. Dizzy and sick to his stomach, he really felt as if the whole car were moving beneath him. But when he opened his eyes again, he saw it was true—the Land Cruiser *was* moving, lying on its side, swaying back and forth.

The whole car was moving.

Tentatively, Tim rose to his feet. Standing on the passenger door, he peered over the dashboard, looking out through the shattered windshield. At first he saw only dense foliage, moving in the wind. But here and there he could see gaps, and beyond the foliage, the ground was—

The ground was twenty feet below him.

He stared uncomprehendingly. The Land Cruiser was lying on its side in the branches of a large tree, twenty feet above the ground, swaying back and forth in the wind.

"Oh shit," he said. What was he going to do? He stood on his tiptoes and peered out, trying to see better, grabbing the steering wheel for support. The wheel spun free in his hand, and with a loud *crack* the Land Cruiser shifted position, dropping a few feet in the branches of the tree. He looked down through the shattered glass of the passenger-door window at the ground below.

"Oh shit. Oh shit." He kept repeating it. "Oh shit. Oh shit."

Another loud *crack*—the Land Cruiser jolted down another foot.

He had to get out of here.

He looked down at his feet. He was standing on the door handle. He crouched back down on his hands and knees to look at the handle. He couldn't see very well in the dark, but he could tell that the door was dented outward so the handle couldn't turn. He'd never get the door open. He tried to roll the window down, but the window was stuck, too. Then he thought of the back door. Maybe he could open that. He leaned over the front seat, and the Land Cruiser lurched with the shift in weight.

Carefully, Tim reached back and twisted the handle on the rear door.

It was stuck, too.

How was he going to get out?

He heard a snorting sound and looked down. A dark shape passed below him. It wasn't the tyrannosaur. This shape was tubby and it made a kind of snuffling as it waddled along. The tail flopped back and forth, and Tim could see the long spikes.

It was the stegosaur, apparently recovered from its illness. Tim wondered where the other people were: Gennaro and Sattler and the vet. He had last seen them near the stegosaur. How long ago was that? He looked at his watch, but the face was cracked; he couldn't see the numbers. He took the watch off and tossed it aside.

The stegosaur snuffled and moved on. Now the only sound was the wind in the trees, and the creaking of the Land Cruiser as it shifted back and forth.

He had to get out of here.

Tim grabbed the handle, tried to force it, but it was stuck solid. It wouldn't move at all. Then he realized what was wrong: the rear door was locked! Tim pulled up the pin and twisted the handle. The rear door swung open, downward—and came to rest against the branch a few feet below.

The opening was narrow, but Tim thought he could wriggle through it. Holding his breath, he crawled slowly back into the rear seat. The Land Cruiser creaked, but held its position. Gripping the doorposts on both sides, Tim slowly lowered himself down, through the narrow angled opening of the door. Soon he was lying flat on his stomach on the slanted door, his legs sticking out of the car. He kicked in the air—his feet touched something solid—a branch—and he rested his weight on it.

As soon as he did, the branch bent down and the door swung wider, spilling him out of the Land Cruiser, and he fell—leaves scratching his face—his body bouncing from branch to branch—a jolt—searing pain, bright light in his head—

He slammed to a stop, the wind knocked from him. Tim lay doubled over a large branch, his stomach burning pain.

Tim heard another *crack* and looked up at the Land Cruiser, a big dark shape five feet above him.

Another *crack.* The car shifted.

Tim forced himself to move, to climb down. He used to like to climb trees. He was a good tree-climber. And this was a good tree to climb, the branches spaced close together, almost like a staircase. ...

Crackkkk ...

The car was definitely moving.

Tim scrambled downward, slipping over the wet branches, feeling sticky sap on his hands, hurrying. He had not descended more than a few feet when the Land Cruiser creaked a final time, and then slowly, very slowly, nosed over. Tim could see the big green grille and the front headlights swinging down at him, and then the Land Cruiser fell free, gaining momentum as it rushed toward him, slamming against the branch where Tim had just been—

And it stopped.

His face just inches from the dented grille, bent inward like an evil mouth, headlamps for eyes. Oil dripped on Tim's face.

He was still twelve feet above the ground. He reached down, found another branch, and moved down. Above, he saw the branch bending under the weight of the Land Cruiser, and then it cracked, and the Land Cruiser came rushing down toward him and he knew he could never escape it, he could never get down fast enough, so Tim just let go.

He fell the rest of the way.

Tumbling, banging, feeling pain in every part of his body, hearing the Land Cruiser smashing down through the branches after him like a pursuing animal, and then Tim's shoulder hit the soft ground, and he rolled as hard as he could, and pressed his body against the trunk of the tree as the Land Cruiser tumbled down with a loud metallic crash and a sudden hot burst of electrical sparks that stung his skin and sputtered and sizzled on the wet ground around him.

Slowly, Tim got to his feet. In the darkness he heard the snuffling, and saw the stegosaur coming back, apparently attracted by the crash of the Land Cruiser. The dinosaur moved dumbly, the low head thrust forward, and the big cartilaginous plates running in two rows along the hump of the back. It behaved like an overgrown tortoise. Stupid like that. And slow.

Tim picked up a rock and threw it.

"Get away!"

The rock thunked dully off the plates. The stegosaur kept coming.

"Go on! *Go!"*

He threw another rock, and hit the stegosaur in the head. The animal grunted, turned slowly away, and shuffled off in the direction it had come.

Tim leaned against the crumpled Land Cruiser and looked around in the darkness. He had to get back to the others, but he didn't want to get lost. He knew he was somewhere in the park, probably not far from the main road. If he could only get his bearings. He couldn't see much in the dark, but—

Then he remembered the goggles.

He climbed through the shattered front windshield into the Land Cruiser and found the night-vision goggles, and the radio. The radio was broken and silent, so he left it behind. But the goggles still worked. He flicked them on, saw the reassuringly familiar phosphorescent green image.

Wearing the goggles, he saw the battered fence off to his left, and walked toward it. The fence was twelve feet high, but the tyrannosaur had flattened it

easily. Tim hurried across it, moved through an area of dense foliage, and came out onto the main road.

Through his goggles, he saw the other Land Cruiser turned on its side. He ran toward it, took a breath, and looked inside. The car was empty. No sign of Dr. Grant and Dr. Malcolm.

Where had they gone?

Where had everybody gone?

He felt sudden panic, standing alone in the jungle road at night with that empty car, and turned quickly in circles, seeing the bright green world in the goggles swirl. Something pale by the side of the road caught his eye. It was Lex's baseball. He wiped the mud off it.

"Lex!"

Tim shouted as loud as he could, not caring if the animals heard him. He listened, but there was only the wind, and the plink of raindrops falling from the trees.

"Lex!"

He vaguely remembered that she had been in the Land Cruiser when the tyrannosaur attacked. Had she stayed there? Or had she gotten away? The events of the attack were confused in his mind. He wasn't exactly sure what had happened. Just to think of it made him uneasy. He stood in the road, gasping with panic.

"Lex!"

The night seemed to close in around him. Feeling sorry for himself, he sat in a cold rainy puddle in the road and whimpered for a while. When he finally stopped, he still heard whimpering. It was faint, and it was coming from somewhere farther up the road.

"How long has it been?" Muldoon said, coming back into the control room. He was carrying a black metal case.

"Half an hour."

"Harding's Jeep should be back here by now."

Arnold stubbed out his cigarette. "I'm sure they'll arrive any minute now."

"Still no sign of Nedry?" Muldoon said.

"No. Not yet."

Muldoon opened the case, which contained six portable radios. "I'm going to distribute these to people in the building." He handed one to Arnold. "Take the charger, too. These are our emergency radios, but nobody had them plugged in, naturally. Let it charge about twenty minutes, and then try and raise the cars."

Henry Wu opened the door marked FERTILIZATION and entered the darkened lab. There was nobody here; apparently all the technicians were still at dinner. Wu went directly to the computer terminal and punched up the DNA logbooks. The logbooks had to be kept on computer. DNA was such a large molecule that each species required ten gigabytes of optical disk space to store details of all the iterations. He was going to have to check all fifteen species. That was a tremendous amount of information to search through.

He still wasn't clear about why Grant thought frog DNA was important. Wu himself didn't often distinguish one kind of DNA from another. After all, most DNA in living creatures was exactly the same. DNA was an incredibly ancient substance. Human beings, walking around in the streets of the modern world, bouncing their pink new babies, hardly stopped to think that the substance at the center of it all—the substance that began the dance of life—was a chemical almost as old as the earth itself. The DNA molecule was so old that its evolution had essentially finished more than two billion years ago. There had been little new since that time. Just a few recent combinations of the old genes—and not much of that.

When you compared the DNA of man and the DNA of a lowly bacterium, you found that only about 10 percent of the strands were different. This innate conservatism of DNA emboldened Wu to use whatever DNA he wished. In making his dinosaurs, Wu had manipulated the DNA as a sculptor might clay or marble. He had created freely.

He started the computer search program, knowing it would take two or three minutes to run. He got up and walked around the lab, checking instruments out of long-standing habit. He noted the recorder outside the freezer door, which tracked the freezer temperature. He saw there was a spike in the graph. That was odd, he thought. It meant somebody had been in the freezer. Recently, too—within the last half-hour. But who would go in there at night? The computer beeped, signaling that the first of the data searches was complete. Wu went over to see what it had found, and when he saw the screen, he forgot all about the freezer and the graph spike.

LEITZKE DNA SEARCH ALGORITHM

DNA: Version Search Criteria: RANA (all, fragment len > 0)

DNA Incorporating RANA Fragments	Versions
Maiasaurs	2.1-2.9
Procompsognathids	3.0-3.7
Othnielia	3.1-3.3
Velociraptors	1.0-3.0
Hypsilophodontids	2.4-2.7

The result was clear: all breeding dinosaurs incorporated *rana,* or frog DNA. None of the other animals did. Wu still did not understand why this had caused them to breed. But he could no longer deny that Grant was right. The dinosaurs were breeding.

He hurried up to the control room.

LEX

She was curled up inside a big one-meter drainage pipe that ran under the road. She had her baseball glove in her mouth and she was rocking back and forth,

banging her head repeatedly against the back of the pipe. It was dark in there, but he could see her clearly with his goggles. She seemed unhurt, and he felt a great burst of relief.

"Lex, it's me. Tim."

She didn't answer. She continued to bang her head on the pipe.

"Come on out."

She shook her head no. He could see she was badly frightened.

"Lex," he said, "if you come out, I'll let you wear these night goggles."

She just shook her head.

"Look what I have," he said, holding up his hand. She stared uncomprehendingly. It was probably too dark for her to see. "It's your ball, Lex. I found your ball."

"So what."

He tried another approach. "It must be uncomfortable in there. Cold, too. Wouldn't you like to come out?"

She resumed banging her head against the pipe.

"Why not?"

"There's aminals out there."

That threw him for a moment. She hadn't said "aminals" for years.

"The aminals are gone," he said.

"There's a big one. A Tyrannosaurus rex."

"He's gone."

"Where did he go?"

"I don't know, but he's not around here now," Tim said, hoping it was true.

Lex didn't move. He heard her banging again. Tim sat down in the grass outside the pipe, where she could see him. The ground was wet where he sat. He hugged his knees and waited. He couldn't think of anything else to do. "I'm just going to sit here," he said. "And rest."

"Is Daddy out there?"

"No," he said, feeling strange. "He's back at home, Lex."

"Is Mommy?"

"No, Lex."

"Are there any grown-ups out there?" Lex said.

"Not yet. But I'm sure they'll come soon. They're probably on their way right now."

Then he heard her moving inside the pipe, and she came out. Shivering with cold, and with dried blood on her forehead, but otherwise all right.

She looked around in surprise and said, "Where's Dr. Grant?"

"I don't know."

"Well, he was here before."

"He was? When?"

"Before," Lex said. "I saw him when I was in the pipe."

"Where'd he go?"

"How am I supposed to know?" Lex said, wrinkling her nose. She began to shout: "Hellooo. Hell-oooo! Dr. Grant? Dr. Grant!"

Tim was uneasy at the noise she was making—it might bring back the

tyrannosaur—but a moment later he heard an answering shout. It was coming from the right, over toward the Land Cruiser that Tim had left a few minutes before. With his goggles, Tim saw with relief that Dr. Grant was walking toward them. He had a big tear in his shirt at the shoulder, but otherwise he looked okay.

"Thank God," he said. "I've been looking for you."

Shivering, Ed Regis got to his feet, and wiped the cold mud off his face and hands. He had spent a very bad half hour, wedged among big boulders on the slope of a hill below the road. He knew it wasn't much of a hiding place, but he was panicked and he wasn't thinking clearly. He had lain in this muddy cold place and he had tried to get hold of himself, but he kept seeing that dinosaur in his mind. That dinosaur coming toward him. Toward the car.

Ed Regis didn't remember exactly what had happened after that. He remembered that Lex had said something but he hadn't stopped, he *couldn't* stop, he had just kept running and running. Beyond the road he had lost his footing and tumbled down the hill and come to rest by some boulders, and it had seemed to him that he could crawl in among the boulders, and hide, there was enough room, so that was what he had done. Gasping and terrified, thinking of nothing except to get away from the tyrannosaur. And, finally, when he was wedged in there like a rat between the boulders, he had calmed down a little, and he had been overcome with horror and shame because he'd abandoned those kids, he had just run away, he had just saved himself. He knew he should go back up to the road, he should try to rescue them, because he had always imagined himself as brave and cool under pressure, but whenever he tried to get control of himself, to make himself go back up there—somehow he just couldn't. He started to feel panicky, and he had trouble breathing, and he didn't move.

He told himself it was hopeless, anyway. If the kids were still up there on the road they could never survive, and certainly there was nothing Ed Regis could do for them, and he might as well stay where he was. No one was going to know what had happened except him. And there was nothing he could do. Nothing he could have done. And so Regis had remained among the boulders for half an hour, fighting off panic, carefully not thinking about whether the kids had died, or about what Hammond would have to say when he found out.

What finally made him move was the peculiar sensation he noticed in his mouth. The side of his mouth felt funny, kind of numb and tingling, and he wondered if he had hurt it during the fall. Regis touched his face and felt swollen flesh on the side of his mouth. It was funny, but it didn't hurt at all. Then he realized the swollen flesh was a leech growing fat as it sucked his lips. *It was practically in his mouth.* Shivering with nausea, Regis pulled the leech away, feeling it tear from the flesh of his lips, feeling the gush of warm blood in his mouth. He spat, and flung it with disgust into the forest. He saw another leech on his forearm, and pulled it off, leaving a dark bloody streak behind. Jesus, he was probably covered with them. That fall down the hillside. These jungle hills were full of leeches. So were the dark rocky crevices. What did the workmen say? The leeches crawled up your underwear. They liked dark warm places. They liked to crawl right up your—

"Hellooo!"

He stopped. It was a voice, carried by the wind.

"Helloo! Dr. Grant!"

Jesus, *that was the little girl.*

Ed Regis listened to the tone of her voice. She didn't sound frightened, or in pain. She was just calling in her insistent way. And it slowly dawned on him that something else must have happened, that the tyrannosaur must have gone away—or at least hadn't attacked—and that the other people might still be alive. Grant and Malcolm. Everybody might be alive. And the realization made him pull himself together in an instant, the way you got sober in an instant when the cops pulled you over, and he felt better, because now he knew what he had to do. And as he crawled out from the boulders he was already formulating the next step, already figuring out what he would say, how to handle things from this point.

Regis wiped the cold mud off his face and hands, the evidence that he had been hiding. He wasn't embarrassed that he had been hiding, but now he had to take charge. He scrambled back up toward the road, but when he emerged from the foliage he had a moment of disorientation. He didn't see the cars at all. He was somehow at the bottom of the hill. The Land Cruisers must be at the top.

He started walking up the hill, back toward the Land Cruisers. It was very quiet. His feet splashed in the muddy puddles. He couldn't hear the little girl any more. Why had she stopped calling? As he walked, he began to think that maybe something had happened to her. In that case, he shouldn't walk back there. Maybe the tyrannosaur was still hanging around. Here he was, already at the bottom of the hill. That much closer to home.

And it was so quiet. Spooky, it was so quiet.

Ed Regis turned around, and started walking back toward the camp.

Alan Grant ran his hands over her limbs, squeezing the arms and legs briefly. She didn't seem to have any pain. It was amazing: aside from a cut on her head, she was fine. "I *told* you I was," she said.

"Well, I had to check."

The boy was not quite so fortunate. Tim's nose was swollen and painful; Grant suspected it was broken. His right shoulder was badly bruised and swollen. But his legs seemed to be all right. Both kids could walk. That was the important thing.

Grant himself was all right except for a claw abrasion down his right chest, where the tyrannosaur had kicked him. It burned with every breath, but it didn't seem to be serious, and it didn't limit his movement.

He wondered if he had been knocked unconscious, because he had only dim recollections of events immediately preceding the moment he had sat up, groaning, in the woods ten yards from the Land Cruiser. At first his chest had been bleeding, so he had stuck leaves on the wound, and after a while it clotted. Then he had started walking around, looking for Malcolm and the kids. Grant couldn't believe he was still alive, and as scattered images began to come back to him, he tried to make sense of them. The tyrannosaur should have killed them all easily. Why hadn't it?

"I'm hungry," Lex said.

"Me, too," Grant said. "We've got to get ourselves back to civilization. And we've got to tell them about the ship."

"We're the only ones who know?" Tim said.

"Yes. We've got to get back and tell them."

"Then let's walk down the road toward the hotel," Tim said, pointing down the hill. "That way we'll meet them when they come for us."

Grant considered that. And he kept thinking about one thing: the dark shape that had crossed between the Land Cruisers even before the attack started. What animal had that been? He could think of only one possibility: the little tyrannosaur.

"I don't think so, Tim. The road has high fences on both sides," Grant said. "If one of the tyrannosaurs is farther down on the road, ' we'll be trapped."

"Then should we wait here?" Tim said.

"Yes," Grant said. "Let's just wait here until someone comes."

"I'm hungry," Lex said.

"I hope it won't be very long," Grant said.

"I don't want to stay here," Lex said.

Then, from the bottom of the hill, they heard the sound of a man coughing.

"Stay here," Grant said. He ran forward, to look down the hill.

"Stay here," Tim said, and he ran forward after him.

Lex followed her brother. "Don't leave me, don't leave me here, you guys—"

Grant clapped his hand over her mouth. She struggled to protest. He shook his head, and pointed over the hill, for her to look.

At the bottom of the hill, Grant saw Ed Regis, standing rigid, unmoving. The forest around them had become deadly silent. The steady background drone of cicadas and frogs had ceased abruptly. There was only the faint rustle of leaves, and the whine of the wind.

Lex started to speak, but Grant pulled her against the trunk of the nearest tree, ducking down among the heavy gnarled roots at the base. Tim came in right after them. Grant put his hands to his lips, signaling them to be quiet, and then he slowly looked around the tree.

The road below was dark, and as the branches of the big trees moved in the wind, the moonlight filtering through made a dappled, shifting pattern. Ed Regis was gone. It took Grant a moment to locate him. The publicist was pressed up against the trunk of a big tree, hugging it. Regis wasn't moving at all.

The forest remained silent.

Lex tugged impatiently at Grant's shirt; she wanted to know what was happening. Then, from somewhere very near, they heard a soft snorting exhalation, hardly louder than the wind. Lex heard it, too, because she stopped struggling.

The sound floated toward them again, soft as a sigh. Grant thought it was almost like the breathing of a horse.

Grant looked at Regis, and saw the moving shadows cast by the moonlight on the trunk of the tree. And then Grant realized there was another shadow,

superimposed on the others, but not moving: a strong curved neck, and a square head.

The exhalation came again.

Tim leaned forward cautiously, to look. Lex did, too.

They heard a *crack* as a branch broke, and into the path stepped a tyrannosaur. It was the juvenile: about eight feet tall, and it moved with the clumsy gait of a young animal, almost like a puppy. The juvenile tyrannosaur shuffled down the path, stopping with every step to sniff the air before moving on. It passed the tree where Regis was hiding, and gave no indication that it had seen him. Grant saw Regis's body relax slightly. Regis turned his head, trying to watch the tyrannosaur on the far side of the tree.

The tyrannosaur was now out of view down the road. Regis started to relax, releasing his grip on the tree. But the jungle remained silent. Regis remained close to the tree trunk for another half a minute. Then the sounds of the forest returned: the first tentative croak of a tree frog, the buzz of one cicada, and then the full chorus. Regis stepped away from the tree, shaking his shoulders, releasing the tension. He walked into the middle of the road, looking in the direction of the departed tyrannosaur.

The attack came from the left.

The juvenile roared as it swung its head forward, knocking Regis flat to the ground. He yelled and scrambled to his feet, but the tyrannosaur pounced, and it must have pinned him with its hind leg, because suddenly Regis wasn't moving, he was sitting up in the path shouting at the dinosaur and waving his hands at it, as if he could scare it off. The young dinosaur seemed perplexed by the sounds and movement coming from its tiny prey. The juvenile bent its head over, sniffing curiously, and Regis pounded on the snout with his fists.

"Get away! Back off! Go on, back off!" Regis was shouting at the top of his lungs, and the dinosaur backed away, allowing Regis to get to his feet. Regis was shouting "Yeah! You heard me! Back off! Get away!" as he moved away from the dinosaur. The juvenile continued to stare curiously at the odd, noisy little animal before it, but when Regis had gone a few paces, it lunged and knocked him down again.

It's playing with him, Grant thought.

"Hey!" Regis shouted as he fell, but the juvenile did not pursue him, allowing him to get to his feet. He jumped to his feet, and continued backing away. "You stupid—back! Back! You heard me—back!" he shouted like a lion tamer.

The juvenile roared, but it did not attack, and Regis now edged toward the trees and high foliage to the right. In another few steps he would be in hiding. "Back! You! Back!" Regis shouted, and then, at the last moment, the juvenile pounced, and knocked Regis flat on his back. "Cut that out!" Regis yelled, and the juvenile ducked his head, and Regis began to scream. No words, just a high-pitched scream.

The scream cut off abruptly, and when the juvenile lifted his head, Grant saw ragged flesh in his jaws.

"Oh no," Lex said, softly. Beside her, Tim had turned away, suddenly nauseated. His night-vision goggles slipped from his forehead and landed on the

ground with a metallic clink.

The juvenile's head snapped up, and it looked toward the top of the hill.

Tim picked up his goggles as Grant grabbed both the children's hands and began to run.

CONTROL

In the night, the compys scurried along the side of the road. Harding's Jeep followed a short distance behind. Ellie pointed farther up the road. "Is that a light?"

"Could be," Harding said. "Looks almost like headlights."

The radio suddenly hummed and crackled. They heard John Arnold say, "—you there?"

"Ah, there he is," Harding said. "Finally." He pressed the button. "Yes, John, we're here. We're near the river, following the compys. It's quite interesting."

More crackling. Then: "—eed your car—"

"What'd he say?" Gennaro said.

"Something about a car," Ellie said. At Grant's dig in Montana, Ellie was the one who operated the radiophone. After years of experience, she had become skilled at picking up garbled transmissions. "I think he said he needs your car."

Harding pressed the button. "John? Are you there? We can't read you very well. John?"

There was a flash of lightning, followed by a long sizzle of radio static, then Arnold's tense voice. "—where are—ou—"

"We're one mile north of the hypsy paddock. Near the river, following some compys."

"No—damn well—get back here—ow!"

"Sounds like he's got a problem," Ellie said, frowning. There was no mistaking the tension in the voice. "Maybe we should go back."

Harding shrugged. "John's frequently got a problem. You know how engineers are. They want everything to go by the book." He pressed the button on the radio. "John? Say again, please. ..."

More crackling.

More static. The loud crash of lightning. Then: "—Muldoo—need your car—ow—"

Gennaro frowned. "Is he saying Muldoon needs our car?"

"That's what it sounded like," Ellie said.

"Well, that doesn't make any sense," Harding said.

"—other—stuck—Muldoon wants—car—"

"I get it," Ellie said. "The other cars are stuck on the road in the storm, and Muldoon wants to go get them."

Harding shrugged. "Why doesn't Muldoon take the other car?" He pushed the radio button. "John? Tell Muldoon to take the other car. It's in the garage."

The radio crackled. "—not—listen—crazy bastards—car—"

Harding pressed the radio button. "I said, it's in the garage, John. The car is in the garage."

More static. "—edry has—ssing—one—"

"I'm afraid this isn't getting us anywhere," Harding said. "All right, John. We're coming in now." He turned the radio off, and turned the car around. "I just wish I understood what the urgency is."

Harding put the Jeep in gear, and they rumbled down the road in the darkness. It was another ten minutes before they saw the welcoming lights of the Safari Lodge. And as Harding pulled to a stop in front of the visitor center, they saw Muldoon coming toward them. He was shouting, and waving his arms.

"God damn it, Arnold, you son of a bitch! God damn it, get this park back on track! *Now!* Get my grandkids back here! *Now!* John Hammond stood in the control room, screaming and stamping his little feet. He had been carrying on this way for the last two minutes, while Henry Wu stood in the corner, looking stunned.

"Well, Mr. Hammond," Arnold said, "Muldoon's on his way out right now, to do exactly that." Arnold turned away, and lit another cigarette. Hammond was like every other management guy Arnold had ever seen. Whether it was Disney or the Navy, management guys always behaved the same. They never understood the technical issues; and they thought that screaming was the way to make things happen. And maybe it was, if you were shouting at your secretaries to get you a limousine.

But screaming didn't make any difference at all to the problems that Arnold now faced. The computer didn't care if it was screamed at. The power network didn't care if it was screamed at. Technical systems were completely indifferent to all this explosive human emotion. If anything, screaming was counterproductive, because Arnold now faced the virtual certainty that Nedry wasn't coming back, which meant that Arnold himself had to go into the computer code and try and figure out what had gone wrong. It was going to be a painstaking job; he'd need to be calm and careful.

"Why don't you go downstairs to the cafeteria," Arnold said, "and get a cup of coffee? We'll call you when we have more news."

"'I don't want a Malcolm Effect here," Hammond said.

"Don't worry about a Malcolm Effect," Arnold said. "Will you let me go to work?"

"God damn you," Hammond said.

"I'll call you, sir, when I have news from Muldoon," Arnold said.

He pushed buttons on his console, and saw the familiar control screens change.

```
*/Jurassic Park Main Modules/
*/
*/ Call Libs
Include: biostat.sys
Include: sysrom.vst
Include: net.sys
Include: pwr.mdl
```

```
*/
*/Initialize
SetMain [42]2002/9A {total CoreSysop %4 [vig. 7*tty]}
if ValidMeter(mH) (**mH).MeterVis return
Term Call 909 c.lev [void MeterVis $303} Random(3#*MaxFid)
on SetSystem(!Dn) set shp_val.obj to lim(Val{d}SumVal)
  if SetMeter(mH) (**mH).ValidMeter(Vdd) return
  on SetSystem(!Telcom) set mxcpl.obj to lim(Val{pd}) NextVal
```

Arnold was no longer operating the computer. He had now gone behind the scenes to look at the code—the line-by-line instructions that told the computer how to behave. Arnold was unhappily aware that the complete Jurassic Park program contained more than half a million lines of code, most of it undocumented, without explanation.

Wu came forward. "What are you doing, John?"

"Checking the code."

"By inspection? That'll take forever."

"Tell me," Arnold said. "Tell me."

THE ROAD

Muldoon took the curve very fast, the Jeep sliding on the mud. Sitting beside him, Gennaro clenched his fists. They were racing along the cliff road, high above the river, now hidden below them in darkness. Muldoon accelerated forward. His face was tense.

"How much farther?" Gennaro said.

"Two, maybe three miles."

Ellie and Harding were back at the visitor center. Gennaro had offered to accompany Muldoon. The car swerved. "It's been an hour," Muldoon said. "An hour, with no word from the other cars."

"But they have radios," Gennaro said.

"We haven't been able to raise them," Muldoon said.

Gennaro frowned. "If I was sitting in a car for an hour in the rain, I'd sure try to use the radio to call for somebody."

"So would I," Muldoon said.

Gennaro shook his head. "You really think something could have happened to them?"

"Chances are," Muldoon said, "that they're perfectly fine, but I'll be happier when I finally see them. Should be any minute now."

The road curved, and then ran up a hill. At the base of the hill Gennaro saw something white, lying among the ferns by the side of the road. "Hold it," Gennaro said, and Muldoon braked. Gennaro jumped out and ran forward in the headlights of the Jeep to see what it was. It looked like a piece of clothing, but there was—

Gennaro stopped.

Even from six feet away, he could see clearly what it was. He walked forward more slowly.

Muldoon leaned out of the car and said, "What is it?"

"It's a leg," Gennaro said.

The flesh of the leg was pale blue-white, terminating in a ragged bloody stump where the knee had been. Below the calf he saw a white sock, and a brown slip-on shoe. It was the kind of shoe Ed Regis had been wearing.

By then Muldoon was out of the car, running past him to crouch over the leg. "Jesus." He lifted the leg out of the foliage, raising it into the light of the headlamps, and blood from the stump gushed down over his hand. Gennaro was still three feet away. He quickly bent over, put his hands on his knees, squeezed his eyes shut, and breathed deeply, trying not to be sick.

"Gennaro." Muldoon's voice was sharp.

"What?"

"Move. You're blocking the light."

Gennaro took a breath, and moved. When he opened his eyes he saw Muldoon peering critically at the stump. "Tom at the joint line," Muldoon said. "Didn't bite it—twisted and ripped it. Just ripped his leg off." Muldoon stood up, holding the severed leg upside down so the remaining blood dripped onto the ferns. His bloody hand smudged the white sock as he gripped the ankle. Gennaro felt sick again.

"No question what happened," Muldoon was saying. "The T-rex got him." Muldoon looked up the hill, then back to Gennaro. "You all right? Can you go on?"

"Yes," Gennaro said. "I can go on."

Muldoon was walking back toward the Jeep, carrying the leg. "I guess we better bring this along," he said. "Doesn't seem right to leave it here. Christ, it's going to make a mess of the car. See if there's anything in the back, will you? A tarp or newspaper ..."

Gennaro opened the back door and rummaged around in the space behind the rear seat. He felt grateful to think about something else for a moment. The problem of how to wrap the severed leg expanded to fill his mind, crowding out all other thoughts. He found a canvas bag with a tool kit, a wheel rim, a cardboard box, and—

"Two tarps," he said. They were neatly folded plastic.

"Give me one," Muldoon said, still standing outside the car. Muldoon wrapped the leg and passed the now shapeless bundle to Gennaro. Holding it in his hand, Gennaro was surprised at how heavy it felt. "Just put it in the back," Muldoon said. "If there's a way to wedge it, you know, so it doesn't roll around ..."

"Okay." Gennaro put the bundle in the back, and Muldoon got behind the wheel. He accelerated, the wheels spinning in the mud, then digging in. The Jeep rushed up the hill, and for a moment at the top the headlights still pointed upward into the foliage, and then they swung down, and Gennaro could see the road before them.

"Jesus," Muldoon said.

Gennaro saw a single Land Cruiser, lying on its side in the center of the road. He couldn't see the second Land Cruiser at all. "Where's the other car?"

Muldoon looked around briefly, pointed to the left. "There." The second Land Cruiser was twenty feet away, crumpled at the foot of a tree.

"What's it doing there?"

"The T-rex threw it."

"*Threw* it?" Gennaro said.

Muldoon's face was grim. "Let's get this over with," he said, climbing out of the Jeep. They hurried forward to the second Land Cruiser. Their flashlights swung back and forth in the night.

As they came closer, Gennaro saw how battered the car was. He was careful to let Muldoon look inside first.

"I wouldn't worry," Muldoon said. "It's very unlikely we'll find anyone."

"No?"

"No," he said. He explained that, during his years in Africa, he had visited the scenes of a half-dozen animal attacks on humans in the bush. One leopard attack: the leopard had torn open a tent in the night and taken a three-year-old child. Then one buffalo attack in Amboseli; two lion attacks; one croc attack in the north, near Meru. In every case, there was surprisingly little evidence left behind.

Inexperienced people imagined horrific proofs of an animal attack—torn limbs left behind in the tent, trails of dripping blood leading away into the bush, bloodstained clothing not far from the campsite. But the truth was, there was usually nothing at all, particularly if the victim was small, an infant or a young child. The person just seemed to disappear, as if he had walked out into the bush and never come back. A predator could kill a child just by shaking it, snapping the neck. Usually there wasn't any blood.

And most of the time you never found any other remains of the victims. Sometimes a button from a shirt, or a sliver of rubber from a shoe. But most of the time, nothing.

Predators took children—they preferred children—and they left nothing behind. So Muldoon thought it highly unlikely that they would ever find any remains of the children.

But as he looked in now, he had a surprise.

"I'll be damned," he said.

Muldoon tried to put the scene together. The front windshield of the Land Cruiser was shattered, but there wasn't much glass nearby. He had noticed shards of glass back on the road. So the windshield must have broken back there, before the tyrannosaur picked the car up and threw it here. But the car had taken a tremendous beating. Muldoon shone his light inside.

"Empty?" Gennaro said, tensely.

"Not quite," Muldoon said. His flashlight glinted off a crushed radio handset, and on the floor of the car he saw something else, something curved and black. The front doors were dented and jammed shut, but he climbed in through the back door and crawled over the seat to pick up the black object.

"It's a watch," he said, peering at it in the beam of his flashlight. A cheap digital

watch with a molded black rubber strap. The LCD face was shattered. He thought the boy might have been wearing it, though he wasn't sure. But it was the kind of watch a kid would have.

"What is it, a watch?" Gennaro said.

"Yes. And there's a radio, but it's broken."

"Is that significant?"

"Yes. And there's something else. ..." Muldoon sniffed. There was a sour odor inside the car. He shone the light around until he saw the vomit dripping off the side door panel. He touched it: still fresh. "One of the kids may still be alive," Muldoon said.

Gennaro squinted at him. "What makes you think so?"

"The watch," Muldoon said. "The watch proves it." He handed the watch to Gennaro, who held it in the glow of the flashlight, and turned it over in his hands.

"Crystal is cracked," Gennaro said.

"That's right," Muldoon said. "And the band is uninjured."

"Which means?"

"The kid took it off."

"That could have happened anytime," Gennaro said. "Anytime before the attack."

"No," Muldoon said. "Those LCD crystals are tough. It takes a powerful blow to break them. The watch face was shattered during the attack."

"So the kid took his watch off."

"Think about it," Muldoon said. "If you were being attacked by a tyrannosaur, would you stop to take your watch off?"

"Maybe it was torn off."

"It's almost impossible to tear a watch off somebody's wrist, without tearing the hand off, too. Anyway, the band is intact. No," Muldoon said. "The kid took it off himself. He looked at his watch, saw it was broken, and took it off. He had the time to do that."

"When?"

"It could only have been after the attack," Muldoon said. "The kid must have been in this car, after the attack. And the radio was broken, so he left it behind, too. He's a bright kid, and he knew they weren't useful."

"If he's so bright," Gennaro said, "where'd he go? Because I'd stay right here and wait to be picked up."

"Yes," Muldoon said. "But perhaps he couldn't stay here. Maybe the tyrannosaur came back. Or some other animal. Anyway, something made him leave."

"Then where'd he go?" Gennaro said.

"Let's see if we can determine that," Muldoon said, and he strode off toward the main road.

Gennaro watched Muldoon peering at the ground with his flashlight. His face was just inches from the mud, intent on his search. Muldoon really believed he was on to something, that at least one of the kids was still alive. Gennaro remained unimpressed. The shock of finding the severed leg had left him with a grim

determination to close the park, and destroy it. No matter what Muldoon said, Gennaro suspected him of unwarranted enthusiasm, and hopefulness, and—

"You notice these prints?" Muldoon asked, still looking at the ground.

"What prints?" Gennaro said.

"These footprints—see them, coming toward us from up the road?—and they're adult-size prints. Some kind of rubber-sole shoe. Notice the distinctive tread pattern. ..."

Gennaro saw only mud. Puddles catching the light from the flashlights.

"You can see," Muldoon continued, "the adult prints come to here, where they're joined by other prints. Small, and medium-size ... moving around in circles, overlapping ... almost as if they're standing together, talking. ... But now here they are, they seem to be running. ..." He pointed off. "There. Into the park."

Gennaro shook his head. "You can see whatever you want in this mud."

Muldoon got to his feet and stepped back. He looked down at the ground and sighed. "Say what you like, I'll wager one of the kids survived. And maybe both. Perhaps even an adult as well, if these big prints belong to someone other than Regis. We've got to search the park."

"Tonight?" Gennaro said.

But Muldoon wasn't listening. He had walked away, toward an embankment of soft earth, near a drainpipe for rain. He crouched again. "What was that little girl wearing?"

"Christ," Gennaro said. "I don't know."

Proceeding slowly, Muldoon moved farther toward the side of the road. And then they heard a wheezing sound. It was definitely an animal sound.

"Listen," Gennaro said, feeling panic, "I think we better—"

"Shhh," Muldoon said.

He paused, listening.

"It's just the wind," Gennaro said.

They heard the wheezing again, distinctly this time. It wasn't the wind. It was coming from the foliage directly ahead of him, by the side of the road. It didn't sound like an animal, but Muldoon moved forward cautiously. He waggled his light and shouted, but the wheezing did not change character. Muldoon pushed aside the fronds of a palm.

"What is it?" Gennaro said.

"It's Malcolm," Muldoon said.

Ian Malcolm lay on his back, his skin gray-white, mouth slackly open. His breath came in wheezing gasps. Muldoon handed the flashlight to Gennaro, and then bent to examine the body. "I can't find the injury," he said. "Head okay, chest, arms ..."

Then Gennaro shone the light on the legs. "He put a tourniquet on." Malcolm's belt was twisted tight over the right thigh. Gennaro moved the light down the leg. The right ankle was bent outward at an awkward angle from the leg, the trousers flattened, soaked in blood. Muldoon touched the ankle gently, and Malcolm groaned.

Muldoon stepped back and tried to decide what to do next. Malcolm might have

other injuries. His back might be broken. It might kill him to move him. But if they left him here, he would die of shock. It was only because he had had the presence of mind to put a tourniquet on that he hadn't already bled to death. And probably he was doomed. They might as well move him.

Gennaro helped Muldoon pick the man up, hoisting him awkwardly over their shoulders. Malcolm moaned, and breathed in ragged gasps. "Lex," he said. "Lex ... went ... Lex ..."

"Who's Lex?" Muldoon said.

"The little girl," Gennaro said.

They carried Malcolm back to the Jeep, and wrested him into the backseat. Gennaro tightened the tourniquet around his leg. Malcolm groaned again. Muldoon slid the trouser cuff up and saw the pulpy flesh beneath, the dull white splinters of protruding bone.

"We've got to get him back," Muldoon said.

"You going to leave here without the kids?" Gennaro said.

"If they went into the park, it's twenty square miles," Muldoon said, shaking his head. "The only way we can find anything out there is with the motion sensors. If the kids are alive and moving around, the motion sensors will pick them up, and we can go right to them and bring them back. But if we don't take Dr. Malcolm back right now, he'll die."

"Then we have to go back," Gennaro said.

"Yes, I think so."

They climbed into the car. Gennaro said, "Are you going to tell Hammond the kids are missing?"

"No," Muldoon said. "You are."

CONTROL

Donald Gennaro stared at Hammond, sitting in the deserted cafeteria. The man was spooning ice cream, calmly eating it. "So Muldoon believes the children are somewhere in the park?"

"He thinks so, yes."

"Then I'm sure we'll find them."

"I hope so," Gennaro said. He watched the old man deliberately eating, and he felt a chill.

"Oh, I am sure we'll find them. After all, I keep telling everyone, this park is made for kids."

Gennaro said, "Just so you understand that they're missing, sir."

"Missing?" he snapped, "Of course I know they're *missing.* I'm not senile." He sighed, and changed tone again. "Look, Donald," Hammond said. "Let's not get carried away. We've had a little breakdown from the storm or whatever, and as a result we've suffered a regrettable, unfortunate accident. And that's all that's happened. We're dealing with it. Arnold will get the computers cleaned up.

Muldoon will pick up the kids, and I have no doubt he'll be back with them by the time we finish this ice cream. So let's just wait and see what develops, shall we?"

"Whatever you say, sir," Gennaro said.

"Why?" Henry Wu said, looking at the console screen.

"Because I think Nedry did something to the code," Arnold said. "That's why I'm checking it."

"All right," Wu said. "But have you tried your options?"

"Like what?" Arnold said.

"I don't know. Aren't the safety systems still running?" Wu said. "Keychecks? All that?"

"Jesus," Arnold said, snapping his fingers. "They must be. Safety systems can't be turned off except at the main panel."

"Well," Wu said, "if Keychecks is active, you can trace what he did."

"I sure as hell can," Arnold said. He started to press buttons. Why hadn't he thought of it before? It was so obvious. The computer system at Jurassic Park had several tiers of safety systems built into it. One of them was a keycheck program, which monitored all the keystrokes entered by operators with access to the system. It was originally installed as a debugging device, but it was retained for its security value.

In a moment, all the keystrokes that Nedry had entered into the computer earlier in the day were listed in a window on the screen:

```
13,42,121,32,88,77,19,13,122,13,44,52,77,90,13,99,13,100,13,109,55,103
144,13,99,87,60,13,44,12,09,13,43,63,13,46,57,89,103,122,13,44,52,88,9
31,13,21,13,57,98,100,102,103,13,112,13,146,13,13,13,77,67,88,23,13,13
system
nedry
goto command level
nedry
040/#xy/67&
mr goodbytes
security
keycheck off
safety off
sl off
security
whte_rbt.obj
```

"That's it?" Arnold said. "He was screwing around here for hours, it seemed like."

"Probably just killing time," Wu said. "Until he finally decided to get down to it."

The initial list of numbers represented the ASCII keyboard codes for the keys Nedry had pushed at his console. Those numbers meant he was still within the standard user interface, like any ordinary user of the computer. So initially Nedry was just looking around, which you wouldn't have expected of the programmer who had designed the system.

"Maybe he was trying to see if there were changes, before he went in," Wu said.

"Maybe," Arnold said. Arnold was now looking at the list of commands, which allowed him to follow Nedry's progression through the system, line by line. "At least we can see what he did."

system was Nedry's request to leave the ordinary user interface and access the code itself. The computer asked for his name, and he replied: *nedry.* That name was authorized to access the code, so the computer allowed him into the system. Nedry asked to *goto command level,* the computer's highest level of control. The command level required extra security, and asked Nedry for his name, access number, and password.

nedry

040/#xy/67&

mr good bytes

Those entries got Nedry into the command level. From there he wanted *security,* And since he was authorized, the computer allowed him to go there. Once at the security level, Nedry tried three variations:

keycheck off

safety off

sl off

"He's trying to turn off the safety systems," Wu said. "He doesn't want anybody to see what he's about to do."

"Exactly," Arnold said. "And apparently he doesn't know it's no longer possible to turn the systems off except by manually flipping switches on the main board."

After three failed commands, the computer automatically began to worry about Nedry. But since he had gotten in with proper authorization, the computer would assume that Nedry was lost, trying to do something he couldn't accomplish from where he was. So the computer asked him again where he wanted to be, and Nedry said:

security. And he was allowed to remain there.

"Finally," Wu said, "here's the kicker." He pointed to the last of the commands Nedry had entered.

Whte_rbt.obj

"What the hell is that?" Arnold said. "White rabbit? Is that supposed to be his private joke?"

"It's marked as an object," Wu said. In computer terminology, an "object" was a block of code that could be moved around and used, the way you might move a chair in a room. An object might be a set of commands to draw a picture, or to refresh the screen, or to perform a certain calculation.

"Let's see where it is in the code," Arnold said. "Maybe we can figure out what it does." He went to the program utilities and typed:

FIND WHTE_RBT.OBJ

The computer flashed back:

OBJECT NOT FOUND IN LIBRARIES

"It doesn't exist," Arnold said.

"Then search the code listing," Wu said.

Arnold typed:

FIND/LISTINGS: WHTE_RBT.OBJ

The screen scrolled rapidly, the lines of code blurring as they swept past. It continued this way for almost a minute, and then abruptly stopped.

"There it is," Wu said. "It's not an object, it's a command." The screen showed an arrow pointing to a single line of code:

```
curV = GetHandl {ssm.dt} tempRgn {itm.dd2}.
curH = GetHandl {ssd.itl} tempRgn2 {itm.dd4}.
on DrawMeter(!gN) set shp_val.obj to lim(Val{d})-Xval.
if ValidMeter(mH) (**mH).MeterVis return.
if Meterhandl(vGT) ((DrawBack(tY)) return.
limitDat.4 = maxBits (%33) to {limit .04} set on.
limitDat.5 = setzero, setfive, 0 {limit .2-var(szh)}.
→on whte_rbt.obj call link.sst {security, perimeter} set to off.
vertRange = {maxRange+setlim} tempVgn(fdn-&bb+$404).
horRange = {maxRange-setlim/2} tempHgn(fdn-&dd+$105).
void DrawMeter send_screen.obj print.
```

"Son of a bitch," Arnold said.

Wu shook his head. "It isn't a bug in the code at all."

"No," Arnold said. "It's a trap door. The fat bastard put in what looked like an object call, but it's actually a command that links the security and perimeter systems and then turns them off. Gives him complete access to every place in the park."

"Then we must be able to turn them back on," Wu said.

"Yeah, we must." Arnold frowned at the screen. "All we have to do is figure out the command. I'll run an execution trace on the link," he said. "We'll see where that gets us."

Wu got up from his chair. "Meanwhile," he said, "meanwhile, that somebody went into the freezer about an hour ago. I think I better go count my embryos."

Ellie was in her room, about to change out of her wet clothes, when there was a knock on the door.

"Alan?" she said, but when she opened the door she saw Muldoon standing there, with a plastic-wrapped package under his arm. Muldoon was also soaking wet, and there were streaks of dirt on his clothes.

"I'm sorry, but we need your help," Muldoon said briskly. "The Land Cruisers were attacked an hour ago. We brought Malcolm back, but he's in shock. He's got a very bad injury to his leg. He's still unconscious, but I put him in the bed in his room. Harding is on his way over."

"Harding?" she said. "What about the others?"

"We haven't found the others yet, Dr. Sattler," Muldoon said. He was speaking slowly now.

"Oh, my God."

"But we think that Dr. Grant and the children are still alive. We think they went into the park, Dr. Sattler."

"Went into the park?"

"We think so. Meanwhile, Malcolm needs help. I've called Harding."

"Shouldn't you call the doctor?"

"There's no doctor on the island. Harding's the best we have."

"But surely you can call for a doctor—" she said.

"No." Muldoon shook his head. "Phone lines are down. We can't call out." He shifted the package in his arm.

"What's that?" she said.

"Nothing. Just go to Malcolm's room, and help Harding, if you will."

And Muldoon was gone.

She sat on her bed, shocked. Ellie Sattler was not a woman disposed to unnecessary panic, and she had known Grant to get out of dangerous situations before. Once he'd been lost in the badlands for four days when a cliff gave way beneath him and his truck fell a hundred feet into a ravine. Grant's right leg was broken. He had no water. But he walked back on a broken leg.

On the other hand, the kids ...

She shook her head, pushing the thought away. The kids were probably with Grant. And if Grant was out in the park, well ... what better person to get them safely through Jurassic Park than a dinosaur expert?

IN THE PARK

"I'm tired," Lex said. "Carry me, Dr. Grant."

"You're too big to carry," Tim said.

"But I'm *tired*," she said.

"Okay, Lex," Grant said, picking her up. "Oof, you're heavy."

It was almost 9:00 p.m. The full moon was blurred by drifting mist, and their blunted shadows led them across an open field, toward dark woods beyond. Grant was lost in thought, trying to decide where he was. Since they had originally crossed over the fence that the tyrannosaur had battered down, Grant was reasonably sure they were now somewhere in the tyrannosaur paddock. Which was a place he did not want to be. In his mind, he kept seeing the computer tracing of the tyrannosaur's home range, the tight squiggle of lines that traced his movements within a small area. He and the kids were in that area now.

But Grant also remembered that the tyrannosaurs were isolated from all the other animals, which meant they would know they had left the paddock when they crossed a barrier—a fence, or a moat, or both.

He had seen no barriers, so far.

The girl put her head on his shoulder, and twirled her hair in her fingers. Soon she was snoring. Tim trudged alongside Grant.

"How you holding up, Tim?"

"Okay," he said. "But I think we might be in the tyrannosaur area."

"I'm pretty sure we are. I hope we get out soon."

"You going to go into the woods?" Tim said. As they came closer, the woods seemed dark and forbidding.

"Yes," Grant said. "I think we can navigate by the numbers on the motion

sensors."

The motion sensors were green boxes set about four feet off the ground. Some were freestanding; most were attached to trees. None of them were working, because apparently the power was still off. Each sensor box had a glass lens mounted in the center, and a painted code number beneath that. Up ahead, in the mist-streaked moonlight, Grant could see a box marked T/S/04.

They entered the forest. Huge trees loomed on all sides. In the moonlight, a low mist clung to the ground, curling around the roots of the trees. It was beautiful, but it made walking treacherous. And Grant was watching the sensors. They seemed to be numbered in descending order. He passed T/S/03, and T/S/02. Eventually they reached T/S/01. He was tired from carrying the girl, and he had hoped this would coincide with a boundary for the tyrannosaur paddock, but it was just another box in the middle of the woods. The next box after that was marked T/N/01, followed by T/N/02. Grant realized the numbers must be arranged geographically around a central point, like a compass. They were going from south to north, so the numbers got smaller as they approached the center, then got larger again.

"At least we're going the right way," Tim said.

"Good for you," Grant said.

Tim smiled, and stumbled over vines in the mist. He got quickly to his feet. They walked on for a while. "My parents are getting a divorce," he said.

"Uh-huh," Grant said.

"My dad moved out last month. He has his own place in Mill Valley now."

"Uh-huh."

"He never carries my sister any more. He never even picks her up."

"And he says you have dinosaurs on the brain," Grant said.

Tim sighed. "Yeah."

"You miss him?" Grant said.

"Not really," Tim said. "Sometimes. She misses him more."

"Who, your mother?"

"No, Lex. My mom has a boyfriend. She knows him from work."

They walked in silence for a while, passing T/N/03 and T/N/04. "Have you met him?" Grant said.

"Yeah."

"How is he?"

"He's okay," Tim said. "He's younger than my dad, but he's bald."

"How does he treat you?"

"I don't know. Okay. I think he just tries to get on my good side. I don't know what's going to happen. Sometimes my mom says we'll have to sell the house and move. Sometimes he and my mom fight, late at night. I sit in my room and play with my computer, but I can still hear it."

"Uh-huh," Grant said.

"Are you divorced?"

"No," Grant said. "My wife died a long time ago."

"And now you're with Dr. Sattler?"

Grant smiled in the darkness. "No. She's my student."

"You mean she's still in *school?"*

"Graduate school, yes." Grant paused long enough to shift Lex to his other shoulder, and then they continued on, past T/N/05 and T/N/06. There was the rumble of thunder in the distance. The storm had moved to the south. There was very little sound in the forest except for the drone of cicadas and the soft croaking of tree frogs.

"You have children?" Tim asked.

"No," Grant said.

"Are you going to marry Dr. Sattler?"

"No, she's marrying a nice doctor in Chicago sometime next year."

"Oh," Tim said. He seemed surprised to hear it. They walked along for a while. "Then who are you going to marry?"

"I don't think I'm going to marry anybody," Grant said.

"Me neither," Tim said.

They walked for a while. Tim said, "Are we going to walk all night?"

"I don't think I can," Grant said. "We'll have to stop, at least for a few hours." He glanced at his watch. "We're okay. We've got almost fifteen hours before we have to be back. Before the ship reaches the mainland."

"Where are we going to stop?" Tim asked, immediately.

Grant was wondering the same thing. His first thought was that they might climb a tree, and sleep up there. But they would have to climb very high to get safely away from the animals, and Lex might fall out while she was asleep. And tree branches were hard; they wouldn't get any rest. At least, he wouldn't.

They needed someplace really safe. He thought back to the plans he had seen on the jet coming down. He remembered that there were outlying buildings for each of the different divisions. Grant didn't know what they were like, because plans for the individual buildings weren't included. And he couldn't remember exactly where they were, but he remembered they were scattered all around the park. There might be buildings somewhere nearby.

But that was a different requirement from simply crossing a barrier and getting out of the tyrannosaur paddock. Finding a building meant a search strategy of some kind. And the best strategies were—

"Tim, can you hold your sister for me? I'm going to climb a tree and have a look around."

High in the branches, he had a good view of the forest, the tops of the trees extending away to his left and right. They were surprisingly near the edge of the forest—directly ahead the trees ended before a clearing, with an electrified fence and a pale concrete moat. Beyond that, a large open field in what he assumed was the sauropod paddock. In the distance, more trees, and misty moonlight sparkling on the ocean.

Somewhere he heard the bellowing of a dinosaur, but it was far away. He put on Tim's night-vision goggles and looked again. He followed the gray curve of the moat, and then saw what he was looking for: the dark strip of a service road, leading to the flat rectangle of a roof. The roof was barely above ground level, but it was there. And it wasn't far. Maybe a quarter of a mile or so from the tree.

When he came back down, Lex was sniffling.

"What's the matter?"

"I heard an aminal."

"It won't bother us. Are you awake now? Come on."

He led her to the fence. It was twelve feet high, with a spiral of barbed wire at the top. It seemed to stretch far above them in the moonlight. The moat was immediately on the other side.

Lex looked up at the fence doubtfully.

"Can you climb it?" Grant asked her.

She handed him her glove, and her baseball. "Sure. Easy." She started to climb. "But I bet Timmy can't."

Tim spun in fury: *"You shut up."*

"Timmy's afraid of heights."

"I am not."

She climbed higher. "Are so."

"Am not."

"Then come and get me."

Grant turned to Tim, pale in the darkness. The boy wasn't moving. "You okay with the fence, Tim?"

"Sure."

"Want some help?"

"Timmy's a fraidy-cat," Lex called.

"What a stupid jerk," Tim said, and he started to climb.

"It's *freezing*," Lex said. They were standing waist-deep in smelly water at the bottom of a deep concrete moat. They had climbed the fence without incident, except that Tim had torn his shirt on the coils of barbed wire at the top. Then they had all slid down into the moat, and now Grant was looking for a way out.

"At least I got Timmy over the fence for you," Lex said. "He really is scared most times."

"Thanks for your help," Tim said sarcastically. In the moonlight, he could see floating lumps on the surface. He moved along the moat, looking at the concrete wall on the far side. The concrete was smooth; they couldn't possibly climb it.

"Eww," Lex said, pointing to the water.

"It won't hurt you, Lex."

Grant finally found a place where the concrete had cracked and a vine grew down toward the water. He tugged on the vine, and it held his weight. "Let's go, kids." They started to climb the vine, back to the field above.

It took only a few minutes to cross the field to the embankment leading to the below-grade service road, and the maintenance building off to the right. They passed two motion sensors, and Grant noticed with some uneasiness that the sensors were still not working, nor were the lights. More than two hours had passed since the power first went out, and it was not yet restored.

Somewhere in the distance, they heard the tyrannosaur roar. "Is he around here?" Lex said.

"No," Grant said. "We're in another section of park from him." They slid down a

grassy embankment and moved toward the concrete building. In the darkness it was forbidding, bunker-like.

"What is this place?" Lex said.

"It's safe," Grant said, hoping that was true.

The entrance gate was large enough to drive a truck through. It was fitted with heavy bars. Inside, they could see, the building was an open shed, with piles of grass and bales of hay stacked among equipment.

The gate was locked with a heavy padlock. As Grant was examining it, Lex slipped sideways between the bars. "Come on, you guys."

Tim followed her. "I think you can do it, Dr. Grant."

He was right; it was a tight squeeze, but Grant was able to ease his body between the bars and get into the shed. As soon as he was inside, a wave of exhaustion struck him.

"I wonder if there's anything to eat," Lex said.

"Just hay." Grant broke open a bale, and spread it around on the concrete. The hay in the center was warm. They lay down, feeling the warmth. Lex curled up beside him, and closed her eyes. Tim put his arm around her. He heard the sauropods trumpeting softly in the distance.

Neither child spoke. They were almost immediately snoring. Grant raised his arm to look at his watch, but it was too dark to see. He felt the warmth of the children against his own body.

Grant closed his eyes, and slept.

CONTROL

Muldoon and Gennaro came into the control room just as Arnold clapped his hands and said, "Got you, you little son of a bitch."

"What is it?" Gennaro said.

Arnold pointed to the screen:

```
Vg1 = GetHandl {dat.dt} tempCall {itm.temp}
Vg2 = GetHandl {dat.itl} tempCall {itm.temp}
if Link(Vg1,Vg2) set Lim(Vg1,Vg2) return
if Link(Vg2,Vg1) set Lim(Vg2,Vg1) return
→on whte_rbt.obj link set security (Vg1), perimeter (Vg2)
limitDat.1 = maxBits (%22) to {limit .04} set on
limitDat.2 = setzero, setfive, 0 {limit .2-var(dzh)}
→on fini.obj call link.sst {security, perimeter} set to on
→on fini.obj set link.sst {security, perimeter} restore
→on fini.obj delete line rf whte_rbt.obj, fini.obj
Vg1 = GetHandl {dat.dt} tempCall {itm.temp}
Vg2 = GetHandl {dat.itl} tempCall {itm.temp}
limitDat.4 = maxBits (%33) to {limit .04} set on
limitDat.5 = setzero, setfive, 0 {limit .2-var(szh)}
```

"That's it," Arnold said, pleased.

"That's what?" Gennaro asked, staring at the screen.

"I finally found the command to restore the original code. The command called 'fini.obj' resets the linked parameters, namely the fence and the power."

"Good," Muldoon said.

"But it does something else," Arnold said. "It then erases the code lines that refer to it. It destroys all evidence it was ever there. Pretty slick."

Gennaro shook his head. "I don't know much about computers." Although he knew enough to know what it meant when a high-tech company went back to the source code. It meant big, big problems.

"Well, watch this," Arnold said, and he typed in the command:

FINI.OBJ

The screen flickered and immediately changed.

```
Vg1 = GetHandl {dat.dt} tempCall {itm.temp}
Vg2 = GetHandl {dat.itl} tempCall {itm.temp}
if Link(Vg1,Vg2) set Lim(Vg1,Vg2) return
if Link(Vg2,Vg1) set Lim(Vg2,Vgl) return
limitDat.1 = maxBits (%22) to {limit .04} set on
limitDat.2 = setzero, setfive, 0 {limit .2-var(dzh)}
Vg1 = GetHandl {dat.dt} tempCall {itm.temp}
Vg2 = GetHandl {dat.itl} tempCall {itm.temp}
limitDat.4 = maxBits (%33) to {limit .04} set on
limitDat.5 = setzero, setfive, 0 {limit .2-var(szh)}
```

Muldoon pointed to the windows. "Look!" Outside, the big quartz lights were coming on throughout the park. They went to the windows and looked out.

"Hot damn," Arnold said.

Gennaro said, "Does this mean the electrified fences are back on?"

"You bet it does," Arnold said. "It'll take a few seconds to get up to full power, because we've got fifty miles of fence out there, and the generator has to charge the capacitors along the way. But in half a minute we'll be back in business." Arnold pointed to the vertical glass see-through map of the park.

On the map, bright red lines were snaking out from the power station, moving throughout the park, as electricity surged through the fences.

"And the motion sensors?" Gennaro said.

"Yes, them, too. It'll be a few minutes while the computer counts. But everything's working," Arnold said. "Half past nine, and we've got the whole damn thing back up and running."

Grant opened his eyes. Brilliant blue light was streaming into the building through the bars of the gate. Quartz light: the power was back on! Groggily, he looked at his watch. It was just nine-thirty. He'd been asleep only a couple of minutes. He decided he could sleep a few minutes more, and then he would go back up to the field and stand in front of the motion sensors and wave, setting them off. The control room would spot him; they'd send a car out to pick him and the kids up, he'd tell Arnold to recall the supply ship, and they'd all finish the night in their own beds back in the lodge.

He would do that right away. In just a couple of minutes. He yawned, and closed his eyes again.

"Not bad," Arnold said in the control room, staring at the glowing map. "There's only three cutouts in the whole park. Much better than I hoped for."

"Cutouts?" Gennaro said.

"The fence automatically cuts out short-circuited sections," he explained. "You can see a big one here, in sector twelve, near the main road."

"That's where the rex knocked the fence down," Muldoon said.

"Exactly. And another one is here in sector eleven. Near the sauropod maintenance building."

"Why would that section be out?" Gennaro said.

"God knows," Arnold said. "Probably storm damage or a fallen tree. We can check it on the monitor in a while. The third one is over there by the jungle river. Don't know why that should be out, either."

As Gennaro looked, the map became more complex, filling with green spots and numbers. "What's all this?"

"The animals. The motion sensors are working again, and the computer's starting to identify the location of all the animals in the park. And anybody else, too."

Gennaro stared at the map. "You mean Grant and the kids ..."

"Yes. We've reset our search number above four hundred. So, if they're out there moving around," Arnold said, "the motion sensors will pick them up as additional animals." He stared at the map. "But I don't see any additional yet."

"Why does it take so long?" Gennaro said.

"You have to realize, Mr. Gennaro," Arnold said, "that there's a lot of extraneous movement out there. Branches blowing in the wind, birds flying around, all kinds of stuff. The computer has to eliminate all the background movement. It may take—ah. Okay. Count's finished."

Gennaro said, "You don't see the kids?"

Arnold twisted in his chair, and looked back to the map. "No," he said, "at the moment, there are no additionals on the map at all. Everything out there has been accounted for as a dinosaur. They're probably up in a tree, or somewhere else where we can't see them. I wouldn't worry yet. Several animals haven't shown up, like the big rex. That's probably because it's sleeping somewhere and not moving. The people may be sleeping, too. We just don't know."

Muldoon shook his head. "We better get on with it," he said. "We need to repair the fences, and get the animals back into their paddocks. According to that computer, we've got five to herd back to the proper paddocks. I'll take the maintenance crews out now."

Arnold turned to Gennaro. "You may want to see how Dr. Malcolm is doing. Tell Dr. Harding that Muldoon will need him in about an hour to supervise the herding. And I'll notify Mr. Hammond that we're starting our final cleanup."

Gennaro passed through the iron gates and went in the front door of the Safari Lodge. He saw Ellie Sattler coming down the hallway, carrying towels and a pan

of steaming water. "There's a kitchen at the other end," she said. "We're using that to boil water for the dressings."

"How is he?" Gennaro asked.

"Surprisingly good," she said.

Gennaro followed Ellie down to Malcolm's room, and was startled to hear the sound of laughter. The mathematician lay on his back in the bed, with Harding adjusting an IV line.

"So the other man says, I'll tell you frankly, I didn't like it, Bill. I went back to toilet paper!' "

Harding was laughing.

"It's not bad, is it?" Malcolm said, smiling. "Ah, Mr. Gennaro. You've come to see me. Now you know what happens from trying to get a leg up on the situation."

Gennaro came in, tentatively.

Harding said, "He's on fairly high doses of morphine."

"Not high enough, I can tell you," Malcolm said. "Christ, he's stingy with his drugs. Did they find the others yet?"

"No, not yet," Gennaro said. "But I'm glad to see you doing so well."

"How else should I be doing," Malcolm said, "with a compound fracture of the leg that is likely septic and beginning to smell rather, ah, pungent? But I always say, if you can't keep a sense of humor ..."

Gennaro smiled. "Do you remember what happened?"

"Of course I remember," Malcolm said. "Do you think you could be bitten by a *Tyrannosaurus rex* and it would escape your mind? No indeed, I'll tell you, you'd remember it for the rest of your life. In my case, perhaps not a terribly long time. But, still—yes, I remember."

Malcolm described running from the Land Cruiser in the rain, and being chased down by the rex. "It was my own damned fault, he was too close, but I was panicked. In any case, he picked me up in his jaws."

"How?" Gennaro said.

"Torso," Malcolm said, and lifted his shirt. A broad semicircle of bruised punctures ran from his shoulder to his navel. "Lifted me up in his jaws, shook me bloody hard, and threw me down. And I was fine—terrified of course, but, still and all, fine—right up to the moment he threw me. I broke the leg in the fall. But the bite was not half bad." He sighed. "Considering."

Harding said, "Most of the big carnivores don't have strong jaws. The real power is in the neck musculature. The jaws just hold on, while they use the neck to twist and rip. But with a small creature like Dr. Malcolm, the animal would just shake him, and then toss him."

"I'm afraid that's right," Malcolm said. "I doubt I'd have survived, except the big chap's heart wasn't in it. To tell the truth, he struck me as a rather clumsy attacker of anything less than an automobile or a small apartment building."

"You think he attacked halfheartedly?"

"It pains me to say it," Malcolm said, "but I don't honestly feel I had his full attention. He had mine, of course. But, then, he weighs eight tons. I don't."

Gennaro turned to Harding and said, "They're going to repair the fences now.

Arnold says Muldoon will need your help herding animals."

"Okay," Harding said.

"So long as you leave me Dr. Sattler, and ample morphine," Malcolm said. "And so long as we do not have a Malcolm Effect here."

"What's a Malcolm Effect?" Gennaro said.

"Modesty forbids me," Malcolm said, "from telling you the details of a phenomenon named after me." He sighed again, and closed his eyes. In a moment, he was sleeping.

Ellie walked out into the hallway with Gennaro. "Don't be fooled," she said. "It's a great strain on him. When will you have a helicopter here?"

"A helicopter?"

"He needs surgery on that leg. Make sure they send for a helicopter, and get him off this island."

THE PARK

The portable generator sputtered and roared to life, and the quartz floodlights glowed at the ends of their telescoping arms. Muldoon heard the soft gurgle of the jungle river a few yards to the north. He turned back to the maintenance van and saw one of the workmen coming out with a big power saw.

"No, no," he said. "Just the ropes, Carlos. We don't need to cut it."

He turned back to look at the fence. They had difficulty finding the shorted section at first, because there wasn't much to see: a small protocarpus tree was leaning against the fence. It was one of several that had been planted in this region of the park, their feathery branches intended to conceal the fence from view.

But this particular tree had been tied down with guy wires and turnbuckles. The wires had broken free in the storm, and the metal turnbuckles had blown against the fence and shorted it out. Of course, none of this should have happened; grounds crews were supposed to use plastic-coated wires and ceramic turnbuckles near fences. But it had happened anyway.

In any case, it wasn't going to be a big job. All they had to do was pull the tree off the fence, remove the metal fittings, and mark it for the gardeners to fix in the morning. It shouldn't take more than twenty minutes. And that was just as well, because Muldoon knew the dilophosaurs always stayed close to the river. Even though the workmen were separated from the river by the fence, the dilos could spit right through it, delivering their blinding poison.

Ramón, one of the workmen, came over. "Señor Muldoon," he said, "did you see the lights?"

"What lights?" Muldoon said.

Ramón pointed to the east, through the jungle. "I saw it as we were coming out. It is there, very faint. You see it? It looks like the lights of a car, but it is not moving."

Muldoon squinted. It probably was just a maintenance light. After all, power was back on. "We'll worry about it later," he said. "Right now let's just get that tree off the fence."

Arnold was in an expansive mood. The park was almost back in order. Muldoon was repairing the fences. Hammond had gone off to supervise the transfer of the animals with Harding. Although he was tired, Arnold was feeling good; he was even in a mood to indulge the lawyer, Gennaro. "The Malcolm Effect?" Arnold said. "You worried about that?"

"I'm just curious," Gennaro said.

"You mean you want me to tell you why Ian Malcolm is wrong?"

"Sure."

Arnold lit another cigarette. "It's technical."

"Try me."

"Okay," Arnold said. "Chaos theory describes nonlinear systems. It's now become a very broad theory that's been used to study everything from the stock market to heart rhythms. A very *fashionable* theory. Very trendy to apply it to any complex system where there might be unpredictability. Okay?"

"Okay," Gennaro said.

"Ian Malcolm is a mathematician specializing in chaos theory. Quite amusing and personable, but basically what he does, besides wear black, is use computers to model the behavior of complex systems. And John Hammond loves the latest scientific fad, so he asked Malcolm to model the system at Jurassic Park. Which Malcolm did. Malcolm's models are all phase-space shapes on a computer screen. Have you seen them?"

"No," Gennaro said.

"Well, they look like a weird twisted ship's propeller. According to Malcolm, the behavior of any system follows the surface of the propeller. You with me?"

"Not exactly," Gennaro said.

Arnold held his hand in the air. "Let's say I put a drop of water on the back of my hand. That drop is going to run off my hand. Maybe it'll run toward my wrist. Maybe it'll run toward my thumb, or down between my fingers. I don't know for sure where it will go, but I know it will run somewhere along the surface of my hand. It has to."

"Okay," Gennaro said.

"Chaos theory treats the behavior of a whole system like a drop of water moving on a complicated propeller surface. The drop may spiral down, or slip outward toward the edge. It may do many different things, depending. But it will always move along the surface of the propeller."

"Okay."

"Malcolm's models tend to have a ledge, or a sharp incline, where the drop of water will speed up greatly. He modestly calls this speeding-up movement the Malcolm Effect. The whole system could suddenly collapse. And that was what he said about Jurassic Park. That it had inherent instability."

"Inherent instability," Gennaro said. "And what did you do when you got his report?"

"We disagreed with it, and ignored it, of course," Arnold said.

"Was that wise?"

"It's self-evident," Arnold said. "We're dealing with living systems, after all. This is life, not computer models."

In the harsh quartz lights, the hypsilophodont's green head hung down out of the sling, the tongue dangling, the eyes dull.

"Careful! Careful!" Hammond shouted, as the crane began to lift.

Harding grunted and eased the head back onto the leather straps. He didn't want to impede circulation through the carotid artery. The crane hissed as it lifted the animal into the air, onto the waiting flatbed truck. The hypsy was a small dryosaur, seven feet long, weighing about five hundred pounds. She was dark green with mottled brown spots. She was breathing slowly, but she seemed all right. Harding had shot her a few moments before with the tranquilizer gun, and apparently he had guessed the correct dose. There was always a tense moment dosing these big animals. Too little and they would run off into the forest, collapsing where you couldn't get to them. Too much and they went into terminal cardiac arrest. This one had taken a single bounding leap and keeled over. Perfectly dosed.

"Watch it! Easy!" Hammond was shouting to the workmen.

"Mr. Hammond," Harding said. "Please."

"Well, they should be careful—"

"They *are* being careful," Harding said. He climbed up onto the back of the flatbed as the hypsy came down, and he set her into the restraining harness. Harding slipped on the cardiogram collar that monitored heartbeat, then picked up the big electronic thermometer the size of a turkey baster and slipped it into the rectum. It beeped: 96.2 degrees.

"How is she?" Hammond asked fretfully,

"She's fine," Harding said. "She's only dropped a degree and a half."

"That's too much," Hammond said. "Too deep."

"You don't want her waking up and jumping off the truck," Harding snapped.

Before coming to the park, Harding had been the chief of veterinary medicine at the San Diego Zoo, and the world's leading expert on avian care. He flew all over the world, consulting with zoos in Europe, India, and Japan on the care of exotic birds. He'd had no interest when this peculiar little man showed up, offering him a position in a private game park. But when he learned what Hammond had done ... It was impossible to pass up. Harding had an academic bent, and the prospect of writing the first *Textbook of Veterinary Internal Medicine: Diseases of Dinosauria* was compelling. In the late twentieth century, veterinary medicine was scientifically advanced; the best zoos ran clinics little different from hospitals. New textbooks were merely refinements of old. For a world-class practitioner, there were no worlds left to conquer. But to be the first to care for a whole new class of animals: that was something!

And Harding had never regretted his decision. He had developed considerable expertise with these animals. And he didn't want to hear from Hammond now.

The hypsy snorted and twitched. She was still breathing shallowly; there was

no ocular reflex yet. But it was time to get moving. "All aboard," Harding shouted. "Let's get this girl back to her paddock."

"Living systems," Arnold said, "are not like mechanical systems. Living systems are never in equilibrium. They are inherently unstable. They may seem stable, but they're not. Everything is moving and changing. In a sense, everything is on the edge of collapse."

Gennaro was frowning. "But lots of things don't change; body temperature doesn't change, all kinds of other—"

"Body temperature changes constantly," Arnold said. "*Constantly.* It changes cyclically over twenty-four hours, lowest in the morning, highest in the afternoon. It changes with mood, with disease, with exercise, with outside temperature, with food. It continuously fluctuates up and down. Tiny jiggles on a graph. Because, at any moment, some forces are pushing temperature up, and other forces are pulling it down. It is inherently unstable. And every other aspect of living systems is like that, too."

"So you're saying ..."

"Malcolm's just another theoretician," Arnold said. "Sitting in his office, he made a nice mathematical model, and it never occurred to him that what he saw as defects were actually necessities. Look: when I was working on missiles, we dealt with something called 'resonant yaw.' Resonant yaw meant that, even though a missile was only slightly unstable off the pad, it was hopeless. It was inevitably going to go out of control, and it couldn't be brought back. That's a feature of mechanical systems. A little wobble can get worse until the whole system collapses. But those same little wobbles are essential to a living system. They mean the system is healthy and responsive. Malcolm never understood that."

"Are you sure he didn't understand that? He seems pretty clear on the difference between living and nonliving—"

"Look," Arnold said. "The proof is right here." He pointed to the screens. "In less than an hour," he said, "the park will all be back on line. The only thing I've got left to clear is the telephones. For some reason, they're still out. But everything else will be working. And that's not theoretical. That's a fact."

The needle went deep into the neck, and Harding injected the medrine into the anesthetized female dryosaur as she lay on her side on the ground. Immediately the animal began to recover, snorting and kicking her powerful hind legs.

"Back, everybody," Harding said, scrambling away. "Get back."

The dinosaur staggered to her feet, standing drunkenly. She shook her lizard head, stared at the people standing back in the quartz lights, and blinked.

"She's drooling," Hammond said, worried.

"Temporary," Harding said. "It'll stop."

The dryosaur coughed, and then moved slowly across the field, away from the lights.

"Why isn't she hopping?"

"She will," Harding said. "It'll take her about an hour to recover fully. She's fine."

He turned back to the car. "Okay, boys, let's go deal with the stego."

Muldoon watched as the last of the stakes was pounded into the ground. The lines were pulled taut, and the protocarpus tree was lifted clear. Muldoon could see the blackened, charred streaks on the silver fence where the short had occurred. At the base of the fence, several ceramic insulators had burst. They would have to be replaced. But before that could be done, Arnold would have to shut down all the fences.

"Control. This is Muldoon. We're ready to begin repair."

"All right," Arnold said. "Shutting out your section now."

Muldoon glanced at his watch. Somewhere in the distance, he heard soft hooting. It sounded like owls, but he knew it was the dilophosaurs. He went over to Ramón and said, "Let's finish this up. I want to get to those other sections of fence."

An hour went by. Donald Gennaro stared at the glowing map in the control room as the spots and numbers flickered and changed. "What's happening now?"

Arnold worked at the console. "I'm trying to get the phones back. So we can call about Malcolm."

"No, I mean out there."

Arnold glanced up at the board. "It looks as if they're about done with the animals, and the two sections. Just as I told you, the park is back in hand. With no catastrophic Malcolm Effect. In fact, there's just that third section of fence. ..."

"Arnold." It was Muldoon's voice.

"Yes?"

"Have you seen this bloody fence?"

"Just a minute."

On one of the monitors, Gennaro saw a high angle down on a field of grass, blowing in the wind. In the distance was a low concrete roof. "That's the sauropod maintenance building," Arnold explained. "It's one of the utility structures we use for equipment, feed storage, and so on. We have them all around the park, in each of the paddocks." On the monitor, the video image panned. "We're turning the camera now to get a look at the fence. ..."

Gennaro saw a shining wall of metallic mesh in the light. One section had been trampled, knocked flat. Muldoon's Jeep and work crew were there.

"Huh," Arnold said. "Looks like the rex went into the sauropod paddock."

Muldoon said, "Fine dining tonight."

"We'll have to get him out of there," Arnold said.

"With what?" Muldoon said. "We haven't got anything to use on a rex. I'll fix this fence, but I'm not going in there until daylight."

"Hammond won't like it."

"We'll discuss it when I get back," Muldoon said.

"How many sauropods will the rex kill?" Hammond said, pacing around the control room.

"Probably just one," Harding said. "Sauropods are big; the rex can feed off a

single kill for several days."

"We have to go out and get him tonight," Hammond said.

Muldoon shook his head. "I'm not going in there until daylight."

Hammond was rising up and down on the balls of his feet, the way he did whenever he was angry. "Are you forgetting you work for me?"

"No, Mr. Hammond, I'm not forgetting. But that's a full-grown adult tyrannosaur out there. How do you plan to get him?"

"We have tranquilizer guns."

"We have tranquilizer guns that shoot a twenty-cc dart," Muldoon said. "Fine for an animal that weighs four or five hundred pounds. That tyrannosaur weighs eight tons. It wouldn't even feel it."

"You ordered a larger weapon. ..."

"I ordered three larger weapons, Mr. Hammond, but you cut the requisition, so we got only one. And it's gone. Nedry took it when he left."

"That was pretty stupid. Who let that happen?"

"Nedry's not my problem, Mr. Hammond," Muldoon said.

"You're saying," Hammond said, "that, as of this moment, there is no way to stop the tyrannosaur?"

"That's exactly what I'm saying," Muldoon said.

"That's ridiculous," Hammond said.

"It's your park, Mr. Hammond. You didn't want anybody to be able to injure your precious dinosaurs. Well, now you've got a rex in with the sauropods, and there's not a damned thing you can do about it." He left the room.

"Just a minute," Hammond said, hurrying after him.

Gennaro stared at the screens, and listened to the shouted argument in the hallway outside. He said to Arnold, "I guess you don't have control of the park yet, after all."

"Don't kid yourself," Arnold said, lighting another cigarette. "We have the park. It'll be dawn in a couple of hours. We may lose a couple of dinos before we get the rex out of there, but, believe me, we have the park."

DAWN

Grant was awakened by a loud grinding sound, followed by a mechanical clanking. He opened his eyes and saw a bale of hay rolling past him on a conveyor belt, up toward the ceiling. Two more bales " followed it. Then the clanking stopped as abruptly as it had begun, and the concrete building was silent again.

Grant yawned. He stretched sleepily, winced in pain, and sat up.

Soft yellow light came through the side windows. It was morning: he had slept the whole night! He looked quickly at his watch: 5:00 a.m. Still almost six hours to go before the boat had to be recalled. He rolled onto his back, groaning. His head throbbed, and his body ached as if he had been beaten up. From around

the corner, he heard a squeaking sound, like a rusty wheel. And then Lex giggling.

Grant stood slowly, and looked at the building. Now that it was daylight, he could see it was some kind of a maintenance building, with stacks of hay and supplies. On the wall he saw a gray metal box and a stenciled sign: SAUROPOD MAINTENANCE BLDG (04). This must be the sauropod paddock, as he had thought. He opened the box and saw a telephone, but when he lifted the receiver he heard only hissing static. Apparently the phones weren't working yet.

"Chew your food," Lex was saying. "Don't be a piggy, Ralph."

Grant walked around the corner and found Lex by the bars, holding out handfuls of hay to an animal outside that looked like a large pink pig and was making the squeaking sounds Grant had heard. It was actually an infant triceratops, about the size of a pony. The infant didn't have horns on its head yet, just a curved bony frill behind big soft eyes. It poked its snout through the bars toward Lex, its eyes watching her as she fed it more hay.

"That's better," Lex said. "There's plenty of hay, don't worry." She patted the baby on the head. "You like hay, don't you, Ralph?"

Lex turned back and saw him.

"This is Ralph," Lex said. "He's my friend. He likes hay."

Grant took a step and stopped, wincing.

"You look pretty bad," Lex said.

"I feel pretty bad."

"Tim, too. His nose is all swollen up."

"Where is Tim?"

"Peeing," she said. "You want to help me feed Ralph?"

The baby triceratops looked at Grant. Hay stuck out of both sides of its mouth, dropping on the floor as it chewed.

"He's a *very* messy eater," Lex said. "And he's very hungry."

The baby finished chewing and licked its lips. It opened its mouth, waiting for more. Grant could see the slender sharp teeth, and the beaky upper jaw, like a parrot.

"Okay, just a minute," Lex said, scooping up more straw from the concrete floor. "Honestly, Ralph," she said, "you'd think your mother never fed you."

"Why is his name Ralph?"

"Because he looks like Ralph. At school."

Grant came closer and touched the skin of the neck gently.

"It's okay, you can pet him," Lex said. "He likes it when you pet him, don't you, Ralph?"

The skin felt dry and warm, with the pebbled texture of a football. Ralph gave a little squeak as Grant petted it. Outside the bars, its thick tail swung back and forth with pleasure.

"He's pretty tame." Ralph looked from Lex to Grant as it ate, and showed no sign of fear. It reminded Grant that the dinosaurs didn't have ordinary responses to people. "Maybe I can ride him," Lex said.

"Let's not."

"I bet he'd let me," Lex said. "It'd be fun to ride a dinosaur."

Grant looked out the bars past the animal, to the open fields of the sauropod compound. It was growing lighter every minute. He should go outside, he thought, and set off one of the motion sensors on the field above. After all, it might take the people in the control room an hour to get out here to him. And he didn't like the idea that the phones were still down. ...

He heard a deep snorting sound, like the snort of a very large horse, and suddenly the baby became agitated. It tried to pull its head back through the bars, but got caught on the edge of its frill, and it squeaked in fright.

The snorting came again. It was closer this time.

Ralph reared up on its hind legs, frantic to get out from between the bars. It wriggled its head back and forth, rubbing against the bars.

"Ralph, take it easy," Lex said.

"Push him out," Grant said. He reached up to Ralph's head and leaned against it, pushing the animal sideways and backward. The frill popped free and the baby fell outside the bars, losing its balance and flopping on its side. Then the baby was covered in shadow, and a huge leg came into view, thicker than a tree trunk. The foot had five curved toenails, like an elephant's.

Ralph looked up and squeaked. A head came down into view: six feet long, with three long white horns, one above each of the large brown eyes and a smaller horn at the tip of the nose. It was a full-grown triceratops. The big animal peered at Lex and Grant, blinking slowly, and then turned its attention to Ralph. A tongue came out and licked the baby. Ralph squeaked and rubbed up against the big leg happily.

"Is that his mom?" Lex said.

"Looks like it," Grant said.

"Should we feed the mom, too?" Lex said.

But the big triceratops was already nudging Ralph with her snout, pushing the baby away from the bars.

"Guess not."

The infant turned away from the bars and walked off. From time to time, the big mother nudged her baby, guiding it away, as they both walked out into the fields.

"Good-bye, Ralph," Lex said, waving. Tim came out of the shadows of the building.

"Tell you what," Grant said. "I'm going up on the hill to set off the motion sensors, so they'll know to come get us. You two stay here and wait for me."

"No," Lex said.

"Why? Stay here. It's safe, here."

"You're not leaving us," she said. "Right, Timmy?"

"Right," Tim said.

"Okay," Grant said.

They crawled through the bars, stepping outside.

It was just before dawn.

The air was warm and humid, the sky soft pink and purple. A white mist clung low to the ground. Some distance away, they saw the mother triceratops and the baby moving away toward a herd of large duckbilled hadrosaurs, eating foliage

from trees at the edge of the lagoon.

Some of the hadrosaurs stood knee-deep in the water. They drank, lowering their flat heads, meeting their own reflections in the still water. Then they looked up again, their heads swiveling. At the water's edge, one of the babies ventured out, squeaked, and scrambled back while the adults watched indulgently.

Farther south, other hadrosaurs were eating the lower vegetation. Sometimes they reared up on their hind legs, resting their forelegs on the tree trunks, so they could reach the leaves on higher branches. And in the far distance, a giant apatosaur stood above the trees, the tiny head swiveling on the long neck. The scene was so peaceful Grant found it hard to imagine any danger.

"Yow!" Lex shouted, ducking. Two giant red dragonflies with six-foot wingspans hummed past them. "What was that?"

"Dragonflies," he said. "The Jurassic was a time of huge insects."

"Do they bite?" Lex said.

"I don't think so," Grant said.

Tim held out his hand. One of the dragonflies lighted on it. He could feel the weight of the huge insect.

"He's going to bite you," Lex warned.

But the dragonfly just slowly flapped its red-veined transparent wings, and then, when Tim moved his arm, flew off again.

"Which way do we go?" Lex said.

"There."

They started walking across the field. They reached a black box mounted on a heavy metal tripod, the first of the motion sensors. Grant stopped and waved his hand in front of it back and forth, but nothing happened. If the phones didn't work, perhaps the sensors didn't work, either. "We'll try another one," he said, pointing across the field. Somewhere in the distance, they heard the roar of a large animal.

"Ah hell," Arnold said. "I just can't find it." He sipped coffee and stared bleary-eyed at the screens. He had taken all the video monitors off line. In the control room, he was searching the computer code. He was exhausted; he'd been working for twelve straight hours. He turned to Wu, who had come up from the lab.

"Find what?"

"The phones are still out. I can't get them back on. I think Nedry did something to the phones."

Wu lifted one phone, heard hissing. "Sounds like a modem."

"But it's not," Arnold said. "Because I went down into the basement and shut off all the modems. What you're hearing is just white noise that sounds like a modem transmitting."

"So the phone lines are jammed?"

"Basically, yes. Nedry jammed them very well. He's inserted some kind of a lockout into the program code, and now I can't find it, because I gave that restore command which erased part of the program listings. But apparently the command to shut off the phones is still resident in the computer memory."

Wu shrugged. "So? Just reset: shut the system down and you'll clear memory."

"I've never done it before," Arnold said. "And I'm reluctant to do it. Maybe all the systems will come back on start-up—but maybe they won't. I'm not a computer expert, and neither are you. Not really. And without an open phone line, we can't talk to anybody who is."

"If the command is RAM-resident, it won't show up in the code. You can do a RAM dump and search that, but you don't know what you're searching for. I think all you can do is reset."

Gennaro stormed in. "We still don't have any telephones."

"Working on it."

"You've been working on it since midnight. And Malcolm is worse. He needs medical attention."

"It means I'll have to shut down," Arnold said. "I can't be sure; everything will come back on."

Gennaro said, "Look. There's a sick man over in that lodge. He needs a doctor or he'll die. You can't call for a doctor unless you have a phone. Four people have probably died already. Now, shut down and get the phones working!"

Arnold hesitated.

"Well?" Gennaro said.

"Well, it's just ... the safety systems don't allow the computer to be shut down, and—"

"Then turn the goddamn safety systems off! Can't you get it through your head that he's going to die unless he gets help?"

"Okay," Arnold said.

He got up and went to the main panel. He opened the doors, and uncovered the metal swing-latches over the safety switches. He popped them off, one after another. "You asked for it," Arnold said. "And you got it."

He threw the master switch.

The control room was dark. All the monitors were black. The three men stood there in the dark.

"How long do we have to wait?" Gennaro said.

"Thirty seconds," Arnold said.

"P-U!" Lex said, as they crossed the field.

"What?" Grant said.

"That smell!" Lex said. "It stinks like rotten garbage."

Grant hesitated. He stared across the field toward the distant trees, looking for movement. He saw nothing. There was hardly a breeze to stir the branches. It was peaceful and silent in the early morning. "I think it's your imagination," he said.

"Is not—"

Then he heard the honking sound. It came from the herd of duckbilled hadrosaurs behind them. First one animal, then another and another, until the whole herd had taken up the honking cry. The duckbills were agitated, twisting and turning, hurrying out of the water, circling the young ones to protect them. ...

They smell it, too, Grant thought.

With a roar, the tyrannosaur burst from the trees fifty yards away, near the lagoon. It rushed out across the open field with huge strides. It ignored them, heading toward the herd of hadrosaurs.

In the darkened control room, Arnold checked his watch. Thirty seconds. The memory should be cleared by now. He pushed the main power switch back on.

Nothing happened.

Arnold's stomach heaved. He pushed the switch off, then on again. Still nothing happened. He felt sweat on his brow.

"What's wrong?" Gennaro said.

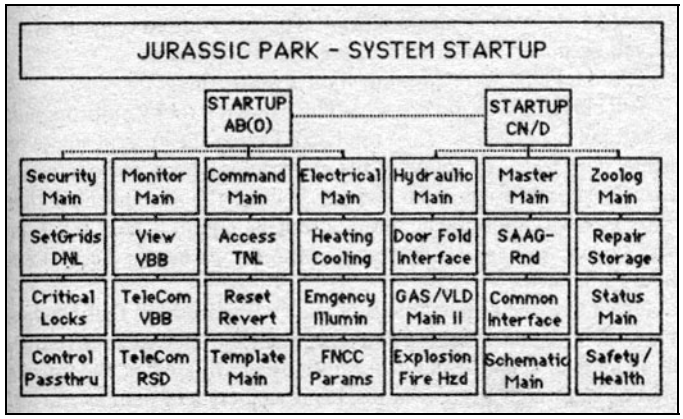
"Oh hell," Arnold said. Then he remembered you had to turn the safety switches back on before you restarted the power. He flipped on the three safeties, and covered them again with the latch covers. Then he held his breath, and turned the main power switch.

The room lights came on.

The computer beeped.

The screens hummed.

"Thank God," Arnold said. He hurried to the main monitor. There were rows of labels on the screen:



Gennaro reached for the phone, but it was dead. No static hissing this time—just nothing at all. "What's this?"

"Give me a second," Arnold said. "After a reset, all the system modules have to be brought on line manually." Quickly, he went back to work.

"Why manually?" Gennaro said.

"Will you just let me work, for Christ's sake?"

Wu said, "The system is not intended to ever shut down. So, if it does shut down, it assumes that there is a problem somewhere. It requires you to start up everything manually. Otherwise, if there were a short somewhere, the system would start up, short out, start up again, short out again, in an endless cycle."

"Okay," Arnold said. "We're going."

Gennaro picked up the phone and started to dial, when he suddenly stopped.

"Jesus, look at that," he said. He pointed to one of the video monitors.

But Arnold wasn't listening. He was staring at the map, where a tight cluster of

dots by the lagoon had started to move in a coordinated way. Moving fast, in a kind of swirl.

"What's happening?" Gennaro said.

"The duckbills," Arnold said tunelessly. "They've stampeded."

The duckbills charged with surprising speed,-their enormous bodies in a tight cluster, honking and roaring, the infants squealing and trying to stay out from underfoot. The herd raised a great cloud of yellow dust. Grant couldn't see the tyrannosaur.

The duckbills were running right toward them.

Still carrying Lex, he ran with Tim toward a rocky outcrop, with a stand of big conifers. They ran hard, feeling the ground shake beneath their feet. The sound of the approaching herd was deafening, like the sound of jets at an airport. It filled the air, and hurt their ears. Lex was shouting something, but he couldn't hear what she was saying, and as they scrambled onto the rocks, the herd closed in around them.

Grant saw the immense legs of the first hadrosaurs that charged past, each animal weighing five tons, and then they were enveloped in a cloud so dense he could see nothing at all. He had the impression of huge bodies, giant limbs, bellowing cries of pain as the animals wheeled and circled. One duckbill struck a boulder and it rolled past them, out into the field beyond.

In the dense cloud of dust, they could see almost nothing beyond the rocks. They clung to the boulders, listening to the screams and honks, the menacing roar of the tyrannosaur. Lex dug her fingers into Grant's shoulder.

Another hadrosaur slammed its big tail against the rocks, leaving a splash of hot blood. Grant waited until the sounds of the fighting had moved off to the left, and then he pushed the kids to start climbing the largest tree. They climbed swiftly, feeling for the branches, as the animals stampeded all around them in the dust. They went up twenty feet, and then Lex clutched at Grant and refused to go farther. Tim was tired, too, and Grant thought they were high enough. Through the dust, they could see the broad backs of the animals below as they wheeled and honked. Grant propped himself against the coarse bark of the trunk, coughed in the dust, closed his eyes, and waited.

Arnold adjusted the camera as the herd moved away. The dust slowly cleared. He saw that the hadrosaurs had scattered, and the tyrannosaur had stopped running, which could only mean it had made a kill. The tyrannosaur was now near the lagoon. Arnold looked at the video monitor and said, "Better get Muldoon to go out there and see how bad it is."

"I'll get him," Gennaro said, and left the room.

THE PARK

A faint crackling sound, like a fire in a fireplace. Something warm and wet tickled Grant's ankle. He opened his eyes and saw an enormous beige head. The head tapered to a flat mouth shaped like the bill of a duck. The eyes, protruding above the flat duckbill, were gentle and soft like a cow's. The duck mouth opened and chewed branches on the limb where Grant was sitting. He saw large flat teeth in the cheek. The warm lips touched his ankle again as the animal chewed.

A duckbilled hadrosaur. He was astonished to see it up close. Not that he was afraid; all the species of duckbilled dinosaurs were herbivorous, and this one acted exactly like a cow. Even though it was huge, its manner was so calm and peaceful Grant didn't feel threatened. He stayed where he was on the branch, careful not to move, and watched as it ate.

The reason Grant was astonished was that he had a proprietary feeling about this animal: it was probably a maiasaur, from the late Cretaceous in Montana. With John Homer, Grant had been the first to describe the species. Maiasaurs had an upcurved lip, which gave them the appearance of smiling. The name meant "good mother lizard"; maiasaurs were thought to protect their eggs until the babies were born and could take care of themselves.

Grant heard an insistent chirping, and the big head swung down. He moved just enough to see the baby hadrosaur scampering around the feet of the adult. The baby was dark beige with black spots. The adult bent her head low to the ground and waited, unmoving, while the baby stood up on its hind legs, resting its front legs on the mother's jaw, and ate the branches that protruded from the side of the mother's mouth.

The mother waited patiently until the baby had finished eating, and dropped back down to all fours again. Then the big head came back up toward Grant.

The hadrosaur continued to eat, just a few feet from him. Grant looked at the two elongated airholes on top of the flat upper bill. Apparently the dinosaur couldn't smell Grant. And even though the left eye was looking right at him, for some reason the hadrosaur didn't react to him.

He remembered how the tyrannosaur had failed to see him, the previous night. Grant decided on an experiment.

He coughed.

Instantly the hadrosaur froze, the big head suddenly still, the jaws no longer chewing. Only the eye moved, looking for the source of the sound. Then, after a moment, when there seemed to be no danger, the animal resumed chewing.

Amazing, Grant thought.

Sitting in his arms, Lex opened her eyes and said, "Hey, what's *that?"*

The hadrosaur trumpeted in alarm, a loud resonant honk that so startled Lex that she nearly fell out of the tree. The hadrosaur pulled its head away from the branch and trumpeted again.

"Don't make her mad," Tim said, from the branch above.

The baby chirped and scurried beneath the mother's legs as the hadrosaur stepped away from the tree. The mother cocked her head and peered

inquisitively at the branch where Grant and Lex were sitting. With its upturned smiling lips, the dinosaur had a comical appearance.

"Is it dumb?" Lex said.

"No," Grant said. "You just surprised her."

"Well," Lex said, "is she going to let us get down, or what?"

The hadrosaur had backed ten feet away from the tree. She honked again. Grant had the impression she was trying to frighten them away. But the dinosaur didn't really seem to know what to do. She acted confused and uneasy. They waited in silence, and after a minute the hadrosaur approached the branch again, jaws moving in anticipation. She was clearly going to resume eating.

"Forget it," Lex said. "I'm not staying *here*," She started to climb down the branches. At her movement, the hadrosaur trumpeted in fresh alarm.

Grant was amazed. He thought, It really can't see us when we don't move. And after a minute it literally forgets that we're here. This was just like the tyrannosaur—another classic example of an amphibian visual cortex. Studies of frogs had shown that amphibians only saw moving things, like insects. If something didn't move, they literally didn't see it. The same thing seemed to be true of dinosaurs.

In any case, the maiasaur now seemed to find these strange creatures climbing down the tree too upsetting. With a final honk, she nudged her baby, and lumbered slowly away. She paused once, and looked back at them, then continued on.

They reached the ground. Lex shook herself off. Both children were covered in a layer of fine dust. All around them, the grass had been flattened. There were streaks of blood, and a sour smell.

Grant looked at his watch. "We better get going, kids," he said.

"Not me," Lex said. "I'm not walking out there *any more*."

"We have to."

"Why?"

"Because," Grant said, "we have to tell them about the boat. Since they can't seem to see us on the motion sensors, we have to go all the way back ourselves. It's the only way."

"Why can't we take the raft?" Tim said.

"What raft?"

Tim pointed to the low concrete maintenance building with the bars, where they had spent the night. It was twenty yards away, across the field. "I saw a raft back there," he said.

Grant immediately understood the advantages. It was now seven o'clock in the morning. They had at least eight miles to go. If they could take a raft along the river, they would make much faster progress than going overland. "Let's do it," Grant said.

Arnold punched the visual search mode and watched as the monitors began to scan throughout the park, the images-changing every two seconds. It was tiring to watch, but it was the fastest way to find Nedry's Jeep, and Muldoon had been adamant about that. He had gone out with Gennaro to look at the stampede, but

now that it was daylight, he wanted the car found. He wanted the weapons.

His intercom clicked. "Mr. Arnold, may I have a word with you, please?"

It was Hammond. He sounded like the voice of God.

"You want to come here, Mr. Hammond?"

"No, Mr. Arnold," Hammond said. "Come to me. I'm in the genetics lab with Dr. Wu. We'll be waiting for you."

Arnold sighed, and stepped away from the screens.

Grant stumbled deep in the gloomy recesses of the building. He pushed past five-gallon containers of herbicide, tree-pruning equipment, spare tires for a Jeep, coils of cyclone fencing, hundred-pound fertilizer bags, stacks of brown ceramic insulators, empty motor-oil cans, work lights and cables.

"I don't see any raft."

"Keep going."

Bags of cement, lengths of copper pipe, green mesh ... and two plastic oars hung on clips on the concrete wall.

"Okay," he said, "but where's the raft?"

"It must be here somewhere," Tim said.

"You never saw a raft?"

"No, I just assumed it was here."

Poking among the junk, Grant found no raft. But he did find a set of plans, rolled up and speckled with mold from humidity, stuck back in a metal cabinet on the wall. He spread the plans on the floor, brushing away a big spider. He looked at them for a long time.

"I'm hungry. ..."

"Just a minute."

They were detailed topographical charts for the main area of the island, where they now were. According to this, the lagoon narrowed into the river they had seen earlier, which twisted northward ... right through the aviary ... and on to within a half-mile of the visitor lodge.

He flipped back through the pages. How to get to the lagoon? According to the plans, there should be a door at the back of the building they were in. Grant looked up, and saw it, recessed back in the concrete wall. The door was wide enough for a car. Opening it, he saw a paved road running straight down toward the lagoon. The road was dug below ground level, so it couldn't be seen from above. It must be another service road. And it led to a dock at the edge of the lagoon. And clearly stenciled on the dock was RAFT STORAGE.

"Hey," Tim said, "look at this." He held out a metal case to Grant. Opening it, Grant found a compressed-air pistol and a cloth belt that held darts. There were six darts in all, each as thick as his finger. Labeled MORO-709.

"Good work, Tim." He slung the belt around his shoulder, and stuck the gun in his trousers.

"Is it a tranquilizer gun?"

"I'd say so."

"What about the boat?" Lex said.

"I think it's on the dock," Grant said. They started down the road. Grant carried

the oars on his shoulder. "I hope it's a big raft," Lex said, "because I can't swim."

"Don't worry," he said.

"Maybe we can catch some fish," she said.

They walked down the road with the sloping embankment rising up on both sides of them. They heard a deep rhythmic snorting sound, but Grant could not see where it was coming from.

"Are you sure there's a raft down here?" Lex said, wrinkling her nose.

"Probably," Grant said.

The rhythmic snorting became louder as they walked, but they also heard a steady droning, buzzing sound. When they reached the end of the road, at the edge of the small concrete dock, Grant froze in shock.

The tyrannosaur was *right there.*

It was sitting upright in the shade of a tree, its hind legs stretched out in front. Its eyes were open but it was not moving, except for its head, which lifted and fell gently with each snorting sound. The buzzing came from the clouds of flies that surrounded it, crawling over its face and slack jaws, its bloody fangs, and the red haunch of a killed hadrosaur that lay on its side behind the tyrannosaur.

The tyrannosaur was only twenty yards away. Grant felt sure it must have seen him, but the big animal did not respond. It just sat there. It took him a moment to realize: the tyrannosaur was asleep. Sitting up, but asleep.

He signaled to Tim and Lex to stay where they were. Grant walked slowly forward onto the dock, in full view of the tyrannosaur. The big animal continued to sleep, snoring softly.

Near the end of the dock, a wooden shed was painted green to blend with the foliage. Grant quietly unlatched the door and looked inside. He saw a half-dozen orange life vests hanging on the wall, several rolls of wire-mesh fencing, some coils of rope, and two big rubber cubes sitting on the floor. The cubes were strapped tight with flat rubber belts.

Rafts.

He looked back at Lex.

She mouthed: *No boat.*

He nodded, *Yes*.

The tyrannosaur raised its forelimb to swipe at the flies buzzing around its snout. But otherwise it did not move. Grant pulled one of the cubes put onto the dock. It was surprisingly heavy. He freed the straps, found the inflation cylinder. With a loud hiss, the rubber began to expand, and then with a *hiss-whap!* it popped fully open on the dock. The sound was fearfully loud in their ears.

Grant turned, stared up at the dinosaur.

The tyrannosaur grunted, and snorted. It began to move. Grant braced himself to run, but the animal shifted its ponderous bulk and then it settled back against the tree trunk and gave a long, growling belch.

Lex looked disgusted, waving her hand in front of her face.

Grant was soaked in sweat from the tension. He dragged the rubber raft across the dock. It flopped into the water with a loud splash.

The dinosaur continued to sleep.

Grant tied the boat up to the dock, and returned to the shed to take out two life

preservers. He put these in the boat, and then waved for the kids to come out onto the dock.

Pale with fear, Lex waved back, *No.*

He gestured: *Yes.*

The tyrannosaur continued to sleep.

Grant stabbed in the air with an emphatic finger. Lex came silently, and he gestured for her to get into the raft; then Tim got in, and they both put on their life vests. Grant got in and pushed off. The raft drifted silently out into the lagoon. Grant picked up his paddles and fitted them into the oarlocks. They moved farther from the dock.

Lex sat back, and sighed loudly with relief. Then she looked stricken, and put her hand over her mouth. Her body shook, with muffled sounds: she was suppressing a cough.

She *always* coughed at the wrong times!

"Lex," Tim whispered fiercely, looking back toward the shore.

She shook her head miserably, and pointed to her throat. He knew what she meant: a tickle in her throat. What she needed was a drink of water. Grant was rowing, and Tim leaned over the side of the raft and scooped his hand in the lagoon, holding his cupped hand toward her.

Lex coughed loudly, explosively. In Tim's ears, the sound echoed across the water like a gunshot.

The tyrannosaur yawned lazily, and scratched behind its ear with its hind foot, just like a dog. It yawned again. It was groggy after its big meal, and it woke up slowly.

On the boat, Lex was making little gargling sounds.

"Lex, *shut up!"* Tim said.

"I can't help it," she whispered, and then she coughed again. Grant rowed hard, moving the raft powerfully into the center of the lagoon.

On the shore, the tyrannosaur stumbled to its feet.

"I couldn't help it, Timmy!" Lex shrieked miserably. "I couldn't help it!"

"Shhhh!"

Grant was rowing as fast as he could.

"Anyway, it doesn't matter," she said. "We're far enough away. He can't swim."

"Of course he can swim, you little idiot!" Tim shouted at her. On the shore, the tyrannosaur stepped off the dock and plunged into the water. It moved strongly into the lagoon after them.

"Well, how should I know?" she said.

"Everybody knows tyrannosaurs can swim! It's in all the books! Anyway, all reptiles can swim!"

"Snakes can't."

"*Of course* snakes can. You *idiot!"*

"Settle down," Grant said. "Hold on to something!" Grant was watching the tyrannosaur, noticing how the animal swam. The tyrannosaur was now chest-deep in the water, but it could hold its big head high above the surface. Then Grant realized the animal wasn't swimming, it was walking, because moments later only the very top of the head—the eyes and nostrils—protruded above the

surface. By then it looked like a crocodile, and it swam like a crocodile, swinging its big tail back and forth, so the water churned behind it. Behind the head, Grant saw the hump of the back, and the ridges along the length of tail, as it occasionally broke the surface.

Exactly like a crocodile, he thought unhappily. The biggest crocodile in the world.

"I'm sorry, Dr. Grant!" Lex wailed. "I didn't mean it!"

Grant glanced over his shoulder. The lagoon was no more than a hundred yards wide here, and they had almost reached the center. If he continued, the water would become shallow again. The tyrannosaur would be able to walk again, and he would move faster in shallow water. Grant swung the boat around, and began to row north.

"What are you *doing?"*

The tyrannosaur was now just a few yards away. Grant could hear its sharp snorting breaths as it came closer. Grant looked at the paddles in his hands, but they were light plastic—not weapons at all.

The tyrannosaur threw its head back and opened its jaws wide, showing rows of curved teeth, and then in a great muscular spasm lunged forward to the raft, just missing the rubber gunwale, the huge skull slapping down, the raft rocking away on the crest of the splash.

The tyrannosaur sank below the surface, leaving gurgling bubbles. The lagoon was still. Lex gripped the gunwale handles and looked back.

"Did he drown?"

"No," Grant said. He saw bubbles—then a faint ripple along the surface—coming toward the boat—

"Hang on!" he shouted, as the head bucked up beneath the rubber, bending the boat and lifting it into the air, spinning them crazily before it splashed down again.

"Do something!" Alexis screamed. "Do something!"

Grant pulled the air pistol out of his belt. It looked pitifully small in his hands, but there was the chance that, if he shot the animal in a sensitive spot, in the eye or the nose—

The tyrannosaur surfaced beside the boat, opened its jaws, and roared. Grant aimed, and fired. The dart flashed in the light, and smacked into the cheek. The tyrannosaur shook its head, and roared again.

And suddenly they heard an answering roar, floating across the water toward them.

Looking back, Grant saw the juvenile T-rex on the shore, crouched over the killed sauropod, claiming the kill as its own. The juvenile slashed at the carcass, then raised its head high and bellowed. The big tyrannosaur saw it, too, and the response was immediate—it turned back to protect its kill, swimming strongly toward the shore.

"He's going away!" Lex squealed, clapping her hands. "He's going away! Naah-naah-na-na-naah! Stupid dinosaur!"

From the shore, the juvenile roared defiantly. Enraged, the big tyrannosaur burst from the lagoon at full speed, water streaming from its enormous body as it

raced up the hill past the dock. The juvenile ducked its head and fled, its jaws still filled with ragged flesh.

The big tyrannosaur chased it, racing past the dead sauropod, disappearing over the hill. They heard its final threatening bellow, and then the raft moved to the north, around a bend in the lagoon, to the river.

Exhausted from rowing, Grant collapsed back, his chest heaving. He couldn't catch his breath. He lay gasping in the raft.

"Are you okay, Dr. Grant?" Lex asked.

"From now on, will you just do what I tell you?"

"Oh-*kay*," she sighed, as if he had just made the most unreasonable demand in the world. She trailed her arm in the water for a while. "You stopped rowing," she said.

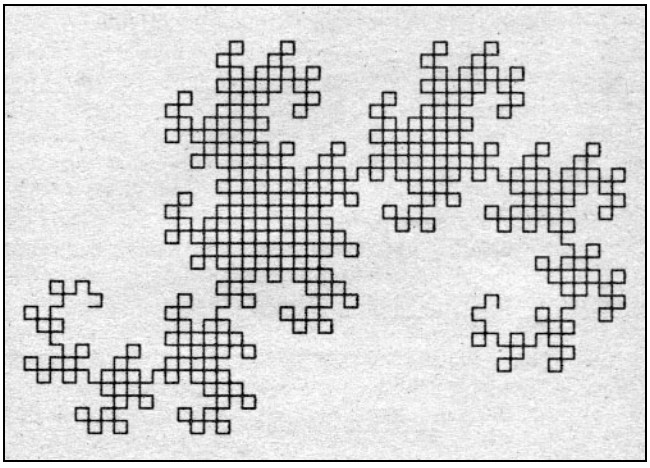
"I'm tired," Grant said.

"Then how come we're still moving?"

Grant sat up. She was right. The raft drifted steadily north. "There must be a current." The current was carrying them north, toward the hotel. He looked at his watch and was astonished to see it was fifteen minutes past seven. Only fifteen minutes had passed since he had last looked at his watch. It seemed like two hours.

Grant lay back against the rubber gunwales, closed his eyes, and slept.

FIFTH ITERATION



"Flaws in the system will now become severe."
IAN MALCOLM

SEARCH

Gennaro sat in the Jeep and listened to the buzzing of the flies, and stared at the distant palm trees wavering in the heat. He was astonished by what looked like a battleground: the grass was trampled flat for a hundred yards in every direction. One big palm tree was uprooted from the ground. There were great washes of blood in the grass, and on the rocky outcropping to their right.

Sitting beside him, Muldoon said, "No doubt about it. Rexy's been among the hadrosaurs." He took another drink of whiskey, and capped the bottle. "Damn lot of flies," he said.

They waited, and watched.

Gennaro drummed his fingers on the dashboard. "What are we waiting for?"

Muldoon didn't answer immediately. "The rex is out there somewhere," he said, squinting at the landscape in the morning sun. "And we don't have any weapons worth a damn."

"We're in a Jeep."

"Oh, he can outrun the Jeep, Mr. Gennaro," Muldoon said, shaking his head. "Once we leave this road and go onto open terrain, the best we can do in a four-wheel drive is thirty, forty miles an hour. He'll run us right down. No problem for him." Muldoon sighed. "But I don't see much moving out there now. You ready to live dangerously?"

"Sure," Gennaro said.

Muldoon started the engine, and at the sudden sound, two small othnielians leapt up from the matted grass directly ahead. Muldoon put the car in gear. He drove in a wide circle around the trampled site, and then moved inward, driving in decreasing concentric circles until he finally came to the place in the field where the little othnielians had been. Then he got out and walked forward in the grass, away from the Jeep. He stopped as a dense cloud of flies lifted into the air.

"What is it?" Gennaro called.

"Bring the radio," Muldoon said.

Gennaro climbed out of the Jeep and hurried forward. Even from a distance he could smell the sour-sweet odor of early decay. He saw a dark shape in the grass, crusted with blood, legs askew.

"Young hadrosaur," Muldoon said, staring down at the carcass. "The whole herd stampeded, and the young one got separated, and the T-rex brought it down."

"How do you know?" Gennaro said. The flesh was ragged from many bites.

"You can tell from the excreta," Muldoon said. "See those chalky white bits there in the grass? That's hadro spoor. Uric acid makes it white. But you look there"—he pointed to a large mound, rising knee-high in the grass—"that's tyrannosaur spoor."

"How do you know the tyrannosaur didn't come later?"

"The bite pattern," Muldoon said. "See those little ones there?" He pointed along the belly. "Those are from the othys. Those bites haven't bled. They're postmortem, from scavengers. Othys did that. But the hadro was brought down by a bite on the neck—you see the big slash there, above the shoulder blades—and that's the T-rex, no question."

Gennaro bent over the carcass, staring at the awkward, trampled limbs with a sense of unreality. Beside him, Muldoon flicked on his radio. "Control."

"Yes," John Arnold said, over the radio.

"We got another hadro dead. Juvenile." Muldoon bent down among the flies and checked the skin on the sole of the right foot. A number was tattooed there. "Specimen is number HD/09."

The radio crackled. "I've got something for you," Arnold said.

"Oh? What's that?"

"I found Nedry."

The Jeep burst through the line of palm trees along the east road and came out into a narrower service road, leading toward the jungle river. It was hot in this area of the park, the jungle close and fetid around them. Muldoon was fiddling with the computer monitor in the Jeep, which now showed a map of the resort with overlaid grid lines. "They found him up on remote video," he said. "Sector 1104 is just ahead."

Farther up the road, Gennaro saw a concrete barrier, and the Jeep parked alongside it. "He must have taken the wrong turnoff," Muldoon said. "The little bastard."

"What'd he take?" Gennaro asked.

"Wu says fifteen embryos. Know what that's worth?"

Gennaro shook his head.

"Somewhere between two and ten million," Muldoon said. He shook his head. "Big stakes."

As they came closer, Gennaro saw the body lying beside the car. The body was indistinct and green—but then green shapes scattered away, as the Jeep pulled to a stop.

"Compys," Muldoon said. "The compys found him."

A dozen procompsognathids, delicate little predators no larger than ducks, stood at the edge of the jungle, chittering excitedly as the men climbed out of the car.

Dennis Nedry lay on his back, the chubby boyish face now red and bloated. Flies buzzed around the gaping mouth and thick tongue. His body was mangled—the intestines torn open, one leg chewed through. Gennaro turned away quickly, to look at the little compys, which squatted on their hind legs a short distance away and watched the men curiously. The little dinosaurs had five-fingered hands, he noticed. They wiped their faces and chins, giving them an eerily human quality which—

"I'll be damned," Muldoon said. "Wasn't the compys."

"What?"

Muldoon was shaking his head. "See these blotches? On his shirt and his

face? Smell that sweet smell like old, dried vomit?"

Gennaro rolled his eyes. He smelled it.

"That's dilo saliva," Muldoon said. "Spit from the dilophosaurs. You see the damage on the corneas, all that redness. In the eyes it's painful but not fatal. You've got about two hours to wash it out with the antivenin; we keep it all around the park, just in case. Not that it mattered to this bastard. They blinded him, then ripped him down the middle. Not a nice way to go. Maybe there's justice in the world after all."

The procompsognathids squeaked and hopped up and down as Gennaro opened the back door and took out gray metal tubing and a stainless-steel case. "It's all still there," he said. He handed two dark cylinders to Gennaro.

"What're these?" Gennaro said.

"Just what they look like," Muldoon said. "Rockets." As Gennaro backed away, he said, "Watch it—you don't want to step in something."

Gennaro stepped carefully over Nedry's body. Muldoon carried the tubing to the other Jeep, and placed it in the back. He climbed behind the wheel. "Let's go."

"What about him?" Gennaro said, pointing to the body.

"What about him?" Muldoon said. "We've got things to do." He put the car in gear. Looking back, Gennaro saw the compys resume their feeding. One jumped up and squatted on Nedry's open mouth as it nibbled the flesh of his nose.

The jungle river became narrower. The banks closed in on both sides until the trees and foliage overhanging the banks met high above to block out the sun. Tim heard the cry of birds, and saw small chirping dinosaurs leaping among the branches. But mostly it was silent, the air hot and still beneath the canopy of trees.

Grant looked at his watch. It was eight o'clock.

They drifted along peacefully, among dappled patches of light. If anything, they seemed to be moving faster than before. Awake now, Grant lay on his back and stared up at the branches overhead. In the bow, he saw her reaching up.

"Hey, what're you doing?" he said.

"You think we can eat these berries?" She pointed to the trees. Some of the overhanging branches were close enough to touch. Tim saw clusters of bright red berries on the branches.

"No," Grant said.

"Why? Those little dinosaurs are eating them." She pointed to small dinosaurs, scampering in the branches.

"No, Lex."

She sighed, dissatisfied with his authority. "I wish Daddy was here," she said. "Daddy always knows what to do."

"What're you talking about?" Tim said. "He *never* knows what to do."

"Yes, he does," she sighed. Lex stared at the trees as they slid past, their big roots twisting toward the water's edge. "Just because you're not his favorite ..."

Tim turned away, said nothing.

"But don't worry, Daddy likes you, too. Even if you're into computers and not

sports."

"Dad's a real sports nut," Tim explained to Grant.

Grant nodded. Up in the branches, small pale yellow dinosaurs, barely two feet tall, hopped from tree to tree. They had beaky heads, like parrots. "You know what they call those?" Tim said. "Microceratops."

"Big deal," Lex said.

"I thought you might be interested."

"Only very young boys," she said, "are interested in dinosaurs."

"Says who?"

"Daddy."

Tim started to yell, but Grant raised his hand. "Kids," he said, "shut up."

"Why?" Lex said, "I can do what I want, if I—"

Then she fell silent, because she heard it, too. It was a bloodcurdling shriek, from somewhere downriver.

"Well, where the hell is the damn rex?" Muldoon said, talking into the radio. "Because we don't see him here." They were back at the sauropod compound, looking out at the trampled grass where the hadrosaurs had stampeded. The tyrannosaur was nowhere to be found.

"Checking now," Arnold said, and clicked off.

Muldoon turned to Gennaro. "Checking now," he repeated sarcastically. "Why the hell didn't he check before? Why didn't he keep track of him?"

"I don't know," Gennaro said.

"He's not showing up," Arnold said, a moment later.

"What do you mean, he's not showing up?"

"He's not on the monitors. Motion sensors aren't finding him."

"Hell," Muldoon said. "So much for the motion sensors. You see Grant and the kids?"

"Motion sensors aren't finding them, either."

"Well, what are we supposed to do now?" Muldoon said.

"Wait," Arnold said.

"Look! Look!" Directly ahead, the big dome of the aviary rose above them. Grant had seen it only from a distance; now he realized it was enormous—a quarter of a mile in diameter or more. The pattern of geodesic struts shone dully through the light mist, and his first thought was that the glass must weigh a ton. Then, as they came closer, he saw there wasn't any glass—just struts. A thin mesh hung inside the elements.

"It isn't finished," Lex said.

"I think it's meant to be open like that," Grant said.

"Then all the birds can fly out."

"Not if they're *big* birds," Grant said.

The river carried them beneath the edge of the dome. They stared upward. Now they were inside the dome, still drifting down the river. But within minutes the dome was so high above them that it was hardly visible in the mist. Grant said, "I seem to remember there's a second lodge here." Moments later, he saw

the roof of a building over the tops of the trees to the north.

"You want to stop?" Tim said.

"Maybe there's a phone. Or motion sensors." Grant steered toward the shore. "We need to try to contact the control room. It's getting late."

They clambered out, slipping on the muddy bank, and Grant hauled the raft out of the water. Then he tied the rope to a tree and they set off, through a dense forest of palm trees.

AVIARY

"I just don't understand," John Arnold said, speaking into the phone. "I don't see the rex, and I don't see Grant and the kids anywhere, either."

He sat in front of the consoles and gulped another cup of coffee. All around him, the control room was strewn with paper plates and half-eaten sandwiches. Arnold was exhausted. It was 8:00 a.m. on Saturday. In the fourteen hours since Nedry destroyed the computer that ran Jurassic Park, Arnold had patiently pulled systems back on line, one after another. "All the park systems are back, and functioning correctly. The phones are working. I've called for a doctor for you."

On the other end of the line, Malcolm coughed. Arnold was talking to him in his room at the lodge. "But you're having trouble with the motion sensors?"

"Well, I'm not finding what I am looking for."

"Like the rex?"

"He's not reading at all now. He started north about twenty minutes ago, following along the edge of the lagoon, and then I lost him. I don't know why, unless he's gone to sleep again."

"And you can't find Grant and the kids?"

"No."

"I think it's quite simple," Malcolm said. "The motion sensors cover an inadequate area."

"Inadequate?" Arnold bristled. "They cover ninety-two—"

"Ninety-two percent of the land area, I remember," Malcolm said. "But if you put the remaining areas up on the board, I think you'll find that the eight percent is topologically unified, meaning that those areas are contiguous. In essence, an animal can move freely anywhere in the park and escape detection, by following a maintenance road or the jungle river or the beaches or whatever."

"Even if that were so," Arnold said, "the animals are too stupid to know that."

"It's not clear how stupid the animals are," Malcolm said.

"You think that's what Grant and the kids are doing?" Arnold said.

"Definitely not," Malcolm said, coughing again. "Grant's no fool. He clearly wants to be detected by you. He and the kids are probably waving at every motion sensor in sight. But maybe they have other problems we don't know about. Or maybe they're on the river."

"I can't imagine they'd be on the river. The banks are very narrow. It's

impossible to walk along there."

"Would the river bring them all the way back here?"

"Yes, but it's not the safest way to go, because it passes through the aviary. ..."

"Why wasn't the aviary on the tour?" Malcolm said.

"We've had problems setting it up. Originally the park was intended to have a treetop lodge built high above the ground, where visitors could observe the pterodactyls at flight level. We've got four dactyls in the aviary now—actually, they're cearadactyls, which are big fish-eating dactyls."

"What about them?"

"Well, while we finished the lodge, we put the dactyls in the aviary to acclimate them. But that was a big mistake. It turns out our fish-hunters are territorial."

"Territorial?"

"Fiercely territorial," Arnold said. "They fight among themselves for territory—and they'll attack any other animal that comes into the area they've marked out."

"Attack?"

"It's impressive," Arnold said. "The dactyls glide to the top of the aviary, fold up their wings, and dive. A thirty-pound animal will strike a man on the ground like a ton of bricks. They were knocking the workmen unconscious, cutting them up pretty badly."

"That doesn't injure the dactyls?"

"Not so far."

"So, if those kids are in the aviary ..."

"They're not," Arnold said. "At least, I hope they're not."

"Is *that* the lodge?" Lex said. "What a dump."

Beneath the aviary dome, Pteratops Lodge was built high above the ground, on big wooden pylons, in the middle of a stand of fir trees. But the building was unfinished and unpainted; the windows were boarded up. The trees and the lodge were splattered with broad white streaks.

"I guess they didn't finish it, for some reason," Grant said, hiding his disappointment. He glanced at his watch. "Come on, let's go back to the boat."

The sun came out as they walked along, making the morning more cheerful. Grant looked at the latticework shadows on the ground from the dome above. He noticed that the ground and the foliage were spattered with broad streaks of the same white chalky substance that had been on the building. And there was a distinctive, sour odor in the morning air.

"Stinks here," Lex said. "What's all the white stuff?"

"Looks like reptile droppings. Probably from the birds."

"How come they didn't finish the lodge?"

"I don't know."

They entered a clearing of low grass, dotted with wild flowers. They heard a long, low whistle. Then an answering whistle, from across the forest.

"What's that?"

"I don't know."

Then Grant saw the dark shadow of a cloud on the grassy field ahead. The shadow was moving fast. In moments, it had swept over them. He looked up and

saw an enormous dark shape gliding above them, blotting out the sun.

"Yow!" Lex said. "Is it a pterodactyl?"

"Yes," Tim said.

Grant didn't answer. He was entranced by the sight of the huge flying creature. In the sky above, the pterodactyl gave a low whistle and wheeled gracefully, turning back toward them.

"How come they're not on the tour?" Tim said.

Grant was wondering the same thing. The flying dinosaurs were so beautiful, so graceful as they moved through the air. As Grant watched, he saw a second pterodactyl appear in the sky, and a third, and a fourth.

"Maybe because they didn't finish the lodge," Lex said.

Grant was thinking these weren't ordinary pterodactyls. They were too large. They must be cearadactyls, big flying reptiles from the early Cretaceous. When they were high, these looked like small airplanes. When they came lower, he could see the animals had fifteen-foot wingspans, furry bodies, and heads like crocodiles'. They ate fish, he remembered. South America and Mexico.

Lex shaded her eyes and looked up at the sky. "Can they hurt us?"

"I don't think so. They eat fish."

One of the dactyls spiraled down, a flashing dark shadow that whooshed past them with a rush of warm air and a lingering sour odor.

"Wow!" Lex said. "They're *really* big." And then she said, "Are you sure they can't hurt us?"

"Pretty sure."

A second dactyl swooped down, moving faster than the first. It came from behind, streaked over their heads. Grant had a glimpse of its toothy beak and the furry body. It looked like a huge bat, he thought. But Grant was impressed with the frail appearance of the animals. Their huge wingspans—the delicate pink membranes stretched across them—so thin they were translucent—everything reinforced the delicacy of the dactyls.

"Ow!" Lex shouted, grabbing her hair. "He bit me!"

"He what?" Grant said.

"He bit me! He bit me!" When she took her hand away, he saw blood on her fingers.

Up in the sky, two more dactyls folded their wings, collapsing into small dark shapes that plummeted toward the ground. They made a kind of scream as they hurtled downward.

"Come on!" Grant said, grabbing their hands. They ran across the meadow, hearing the approaching scream, and he flung himself on the ground at the last moment, pulling the kids down with him, as the two dactyls whistled and squeaked past them, flapping their wings. Grant felt claws tear the shirt along his back.

Then he was up, pulling Lex back onto her feet, and running with Tim a few feet forward while overhead two more birds wheeled and dove toward them, screaming. At the last moment, he pushed the kids to the ground, and the big shadows flapped past.

"Uck," Lex said, disgusted. He saw that she was streaked with white droppings

from the birds.

Grant scrambled to his feet. "Come on!"

He was about to run when Lex shrieked in terror. He turned back and saw that one of the dactyls had grabbed her by the shoulders with its hind claws. The animal's huge leathery wings, translucent in the sunlight, flapped broadly on both sides of her. The dactyl was trying to take off, but Lex was too heavy, and while it struggled it repeatedly jabbed at her head with its long pointed jaw.

Lex was screaming, waving her arms wildly. Grant did the only thing he could think to do. He ran forward and jumped up, throwing himself against the body of the dactyl. He knocked it onto its back on the ground, and fell on top of the furry body. The animal screamed and snapped; Grant ducked his head away from the jaws and pushed back, as the giant wings beat around his body. It was like being in a tent in a windstorm. He couldn't see; he couldn't hear; there was nothing but the flapping and shrieking and the leathery membranes. The clawed legs scratched frantically at his chest. Lex was screaming. Grant pushed away from the dactyl and it squeaked and gibbered as it flapped its wings and struggled to turn over, to right itself. Finally it pulled in its wings like a bat and rolled over, lifted itself up on its little wing claws, and began to walk that way. He paused, astonished.

It could walk on its wings! Lederer's speculation was right! But then the other dactyls were diving down at them and Grant was dizzy, off balance, and in horror he saw Lex run away, her arms over her head ... Tim shouting at the top of his lungs. ...

The first of them swooped down and she threw something and suddenly the dactyl whistled and climbed. The other dactyls immediately climbed and chased the first into the sky. The fourth dactyl flapped awkwardly into the air to join the others. Grant looked upward, squinting to see what had happened. The three dactyls chased the first, screaming angrily.

They were alone in the field.

"What happened?" Grant said.

"They got my glove," Lex said. "My Darryl Strawberry special."

They started walking again. Tim put his arm around her shoulders. "Are you all right?"

"Of *course,* stupid," she said, shaking him off. She looked upward. "I hope they choke and die," she said.

"Yeah," Tim said. "Me, too."

Up ahead, they saw the boat on the shore. Grant looked at his watch. It was eight-thirty. He now had two and a half hours to get back.

Lex cheered as they drifted beyond the silver aviary dome. Then the banks of the river closed in on both sides, the trees meeting overhead once more. The river was narrower than ever, in some places only ten feet wide, and the current flowed very fast. Lex reached up to touch the branches as they went past.

Grant sat back in the raft and listened to the gurgle of the water through the warm rubber. They were moving faster now, the branches overhead slipping by more rapidly. It was pleasant. It gave a little breeze in the hot confines of the

overhanging branches. And it meant they would get back that much sooner.

Grant couldn't guess how far they had come, but it must be several miles at least from the sauropod building where they had spent the night. Perhaps four or five miles. Maybe even more. That meant they might be only an hour's walk from the hotel, once they left the raft. But after the aviary, Grant was in no hurry to leave the river again. For the moment, they were making good time.

"I wonder how Ralph is," Lex said. "He's probably dead or something."

"I'm sure he's fine."

"I wonder if he'd let me ride him." She sighed, sleepy in the sun. "That would be fun, to ride Ralph."

Tim said to Grant, "Remember back at the stegosaurus? Last night?"

"Yes."

"How come you asked them about frog DNA?"

"Because of the breeding," Grant said. "They can't explain why the dinosaurs are breeding, since they irradiate them, and since they're all females."

"Right."

"Well, irradiation is notoriously unreliable and probably doesn't work. I think that'll eventually be shown here. But there is still the problem of the dinosaurs' being female. How can they breed when they're all female?"

"Right," Tim said.

"Well, across the animal kingdom, sexual reproduction exists in extraordinary variety."

"Tim's very interested in sex," Lex said.

They both ignored her. "For example," Grant said, "many animals have sexual reproduction without ever having what we would call sex. The male releases a spermatophore, which contains the sperm, and the female picks it up at a later time. This kind of exchange does not require quite as much physical differentiation between male and female as we usually think exists. Male and female are more alike in some animals than they are in human beings."

Tim nodded. "But what about the frogs?"

Grant heard sudden shrieks from the trees above, as the microceratopsians scattered in alarm, shaking the branches. The big head of the tyrannosaur lunged through the foliage from the left, the jaws snapping at the raft. Lex howled in terror, and Grant paddled away toward the opposite bank, but the river here was only ten feet wide. The tyrannosaur was caught in the heavy growth; it butted and twisted its head, and roared. Then it pulled its head back.

Through the trees that lined the riverbank, they saw the huge dark form of the tyrannosaur, moving north, looking for a gap in the trees that lined the bank. The microceratopsians had all gone to the opposite bank, where they shrieked and scampered and jumped up and down. In the raft, Grant, Tim, and Lex stared helplessly as the tyrannosaur tried to break through again. But the trees were too dense along the banks of the river. The tyrannosaur again moved downstream, ahead of the boat, and tried again, shaking the branches furiously.

But again it failed.

Then it moved off, heading farther downstream.

"I *hate* him," Lex said.

Grant sat back in the boat, badly shaken. If the tyrannosaur had broken through, there was nothing he could have done to save them. The river was so narrow that it was hardly wider than the raft. It was like being in a tunnel. The rubber gunwales often scraped on the mud as the boat was pulled along by the swift current.

He glanced at his watch. Almost nine. The raft continued downstream.

"Hey," Lex said, "listen!"

He heard snarling, interspersed by a repeated hooting cry. The cries were coming from beyond a curve, farther downriver. He listened, and heard the hooting again.

"What is it?" Lex said.

"I don't know," Grant said. "But there's more than one of them." He paddled the boat to the opposite bank, grabbed a branch to stop the raft. The snarling was repeated. Then more hooting.

"It sounds like a bunch of owls," Tim said.

Malcolm groaned. "Isn't it time for more morphine yet?"

"Not yet," Ellie said.

Malcolm sighed. "How much water have we got here?"

"I don't know. There's plenty of running water from the tap—"

"No, I mean, how much stored? Any?"

Ellie shrugged. "None."

"Go into the rooms on this floor," Malcolm said, "and fill the bathtubs with water."

Ellie frowned.

"Also," Malcolm said, "have we got any walkie-talkies? Flashlights? Matches? Sterno stoves? Things like that?"

"I'll look around. You planning for an earthquake?"

"Something like that," Malcolm said. "Malcolm Effect implies catastrophic changes."

"But Arnold says all the systems are working perfectly."

"That's when it happens," Malcolm said.

Ellie said, "You don't think much of Arnold, do you?"

"He's all right. He's an engineer. Wu's the same. They're both technicians. They don't have intelligence. They have what I call 'thintelligence.' They see the immediate situation. They think narrowly and they call it 'being focused.' They don't see the surround. They don't see the consequences. That's how you get an island like this. From thintelligent thinking. Because you cannot make an animal and not expect it to act *alive.* To be unpredictable. To escape. But they don't see that."

"Don't you think it's just human nature?" Ellie said.

"God, no," Malcolm said. "That's like saying scrambled eggs and bacon for breakfast is human nature. It's nothing of the sort. It's uniquely Western training, and much of the rest of the world is nauseated by the thought of it." He winced in pain. "The morphine's making me philosophical."

"You want some water?"

"No. I'll tell you the problem with engineers and scientists. Scientists have an elaborate line of bullshit about how they are seeking to know the truth about nature. Which is true, but that's not what drives them. Nobody is driven by abstractions like 'seeking truth.'

"Scientists are actually preoccupied with accomplishment. So they are focused on whether they can do something. They never stop to ask if they *should* do something. They conveniently define such considerations as pointless. If they don't do it, someone else will. Discovery, they believe, is inevitable. So they just try to do it first. That's the game in science. Even pure scientific discovery is an aggressive, penetrative act. It takes big equipment, and it literally changes the world afterward. Particle accelerators scar the land, and leave radioactive byproducts. Astronauts leave trash on the moon. There is always some proof that scientists were there, making their discoveries. Discovery is always a rape of the natural world. Always.

"The scientists want it that way. They have to stick their instruments in. They have to leave their mark. They can't just watch. They can't just appreciate. They can't just fit into the natural order. They have to make something unnatural happen. That is the scientist's job, and now we have whole societies that try to be scientific." He sighed, and sank back.

Ellie said, "Don't you think you're overstating—"

"What does one of your excavations look like a year later?"

"Pretty bad," she admitted.

"You don't replant, you don't restore the land after you dig?"

"No."

"Why not?"

She shrugged. "There's no money, I guess. ..."

"There's only enough money to dig, but not to repair?"

"Well, we're just working in the badlands. ..."

"Just the badlands," Malcolm said, shaking his head. "Just trash. Just byproducts. Just side effects ... I'm trying to tell you that scientists *want* it this way. They want byproducts and trash and scars and side effects. It's a way of reassuring themselves. It's built into the fabric of science, and it's increasingly a disaster."

"Then what's the answer?"

"Get rid of the thintelligent ones. Take them out of power."

"But then we'd lose all the advances—"

"What advances?" Malcolm said irritably. "The number of hours women devote to housework has not changed since 1930, despite all the advances. All the vacuum cleaners, washer-dryers, trash compactors, garbage disposals, wash-and-wear fabrics ... Why does it still take as long to clean the house as it did in 1930?"

Ellie said nothing.

"Because there haven't been any advances," Malcolm said. "Not really. Thirty thousand years ago, when men were doing cave paintings at Lascaux, they worked twenty hours a week to provide themselves with food and shelter and clothing. The rest of the time, they could play, or sleep, or do whatever they

wanted. And they lived in a natural world, with clean air, clean water, beautiful trees and sunsets. Think about it. Twenty hours a week. Thirty thousand years ago."

Ellie said, "You want to turn back the clock?"

"No," Malcolm said. "I want people to wake up. We've had four hundred years of modern science, and we ought to know by now what it's good for, and what it's not good for. It's time for a change."

"Before we destroy the planet?" she said.

He sighed, and closed his eyes. "Oh dear," he said. "That's the *last* thing I would worry about."

* * *

In the dark tunnel of the jungle river, Grant went hand over hand, holding branches, moving the raft cautiously forward. He still heard the sounds. And finally he saw the dinosaurs.

"Aren't those the ones that are poison?"

"Yes," Grant said. *"Dilophosaurus."*

Standing on the riverbank were two dilophosaurs. The ten-foot-tall bodies were spotted yellow and black. Underneath, the bellies were bright green, like lizards. Twin red curving crests ran along the top of the head from the eyes to the nose, making a V shape above the head. The bird-like quality was reinforced by the way they moved, bending to drink from the river, then rising to snarl and hoot.

Lex whispered, "Should we get out and walk?"

Grant shook his head no. The dilophosaurs were smaller than the tyrannosaur, small enough to slip through the dense foliage at the banks of the river. And they seemed quick, as they snarled and hooted at each other.

"But we can't get past them in the boat," Lex said. "They're *poison*."

"We have to," Grant said. "Somehow."

The dilophosaurs continued to drink and hoot. They seemed to be interacting with each other in a strangely ritualistic, repetitive way. The animal on the left would bend to drink, opening its mouth to bare long rows of sharp teeth, and then it would hoot. The animal on the right would hoot in reply and bend to drink, in a mirror image of the first animal's movements. Then the sequence would be repeated, exactly the same way.

Grant noticed that the animal on the right was smaller, with smaller spots on its back, and its crest was a duller red—

"I'll be damned," he said. "It's a mating ritual."

"Can we get past them?" Tim asked.

"Not the way they are now. They're right by the edge of the water." Grant knew animals often performed such mating rituals for hours at a time. They went without food, they paid attention to nothing else. ... He glanced at his watch. Nine-twenty.

"What do we do?" Tim said.

Grant sighed. "I have no idea."

He sat down in the raft, and then the dilophosaurs began to honk and roar repeatedly, in agitation. He looked up. The animals were both facing away from the river.

"What is it?" Lex said.

Grant smiled. "I think we're finally getting some help," He pushed off from the bank. "I want you two kids to lie flat on the rubber. We'll go past as fast as we can. But just remember: whatever happens, don't say anything, and don't move. Okay?"

The raft began to drift downstream, toward the hooting dilophosaurs. It gained speed. Lex lay at Grant's feet, staring at him with frightened eyes. They were coming closer to the dilophosaurs, which were still turned away from the river. But he pulled out his air pistol, checked the chamber.

The raft continued on, and they smelled a peculiar odor, sweet and nauseating at the same time. It smelled like dried vomit. The hooting of the dilophosaurs was louder. The raft came around a final bend and Grant caught his breath. The dilophosaurs were just a few feet away, honking at the trees beyond the river.

As Grant had suspected, they were honking at the tyrannosaur. The tyrannosaur was trying to break through the foliage, and the dilos hooted and stomped their feet in the mud. The raft drifted past them. The smell was nauseating. The tyrannosaur roared, probably because it saw the raft. But in another moment ...

A *thump.*

The raft stopped moving. They were aground, against the river-bank, just a few feet downstream from the dilophosaurs.

Lex whispered, "Oh, *great*."

There was a long slow scraping sound of the raft against the mud. Then the raft was moving again. They were going down the river. The tyrannosaur roared a final time and moved off; one dilophosaur looked surprised, then hooted. The other dilophosaur hooted in reply.

The raft floated downriver.

TYRANNOSAUR

The Jeep bounced along in the glaring sun. Muldoon was driving, with Gennaro at his side. They were in an open field, moving away from the dense line of foliage and palm trees that marked the course of the river, a hundred yards to the east. They came to a rise, and Muldoon stopped the car,

"Christ, it's hot," he said, wiping his forehead with the back of his arm. He drank from the bottle of whiskey between his knees, then offered it to Gennaro.

Gennaro shook his head. He stared at the landscape shimmering in the morning heat. Then he looked down at the onboard computer and video monitor mounted in the dashboard. The monitor showed views of the park from remote cameras. Still no sign of Grant and the children. Or of the tyrannosaur.

The radio crackled. "Muldoon."

Muldoon picked up the handset. "Yeah."

"You got your onboards? I found the rex. He's in grid 442. Going to 443."

"Just a minute," Muldoon said, adjusting the monitor. "Yeah. I got him now. Following the river." The animal was slinking along the foliage that lined the banks of the river, going north.

"Take it easy with him. Just immobilize him."

"Don't worry," Muldoon said, squinting in the sun. "I won't hurt him."

"Remember," Arnold said, "the tyrannosaur's our main tourist attraction."

Muldoon turned off his radio with a crackle of static. "Bloody fool," he said. "They're still talking about tourists." Muldoon started the engine. "Let's go see Rexy and give him a dose."

The Jeep jolted over the terrain.

"You're looking forward to this," Gennaro said.

"I've wanted to put a needle in this big bastard for a while," Muldoon said. "And there he is."

They came to a wrenching stop. Through the windshield, Gennaro saw the tyrannosaur directly ahead of them, moving among the palm trees along the river.

Muldoon drained the whiskey bottle and threw it in the backseat. He reached back for his tubing. Gennaro looked at the video monitor, which showed their Jeep and the tyrannosaur. There must be a closed-circuit camera in the trees somewhere behind.

"You want to help," Muldoon said, "you can break out those canisters by your feet."

Gennaro bent over and opened a stainless-steel Halliburton case. It was padded inside with foam. Four cylinders, each the size of a quart milk bottle, were nestled in the foam. They were all labeled MORO-709. He took one out.

"You snap off the tip and screw on a needle," Muldoon explained.

Gennaro found a plastic package of large needles, each the diameter of his fingertip. He screwed one onto the canister. The opposite end of the canister had a circular lead weight.

"That's the plunger. Compresses on impact." Muldoon sat forward with the air rifle across his knees. It was made of heavy gray tubular metal and looked to Gennaro like a bazooka or a rocket launcher.

"What's MORO-709?"

"Standard animal trank," Muldoon said. "Zoos around the world use it. We'll try a thousand cc's to start." Muldoon cracked open the chamber, which was large enough to insert his fist. He slipped the canister into the chamber and closed it.

"That should do it," Muldoon said. "Standard elephant gets about two hundred cc's, but they're only two or three tons each. *Tyrannosaurus rex* is eight tons, and a lot meaner. That matters to the dose."

"Why?"

"Animal dose is partly body weight and partly temperament. You shoot the same dose of 709 into an elephant, a hippo, and a rhino—you'll immobilize the elephant, so it just stands there like a statue. You'll slow down the hippo, so it gets kind of sleepy but it keeps moving. And the rhino will just get fighting mad. But, on the other hand, you chase a rhino for more than five minutes in a car and he'll drop dead from adrenaline shock. Strange combination of tough and

delicate."

Muldoon drove slowly toward the river, moving closer to the tyrannosaur. "But those are all mammals. We know a lot about handling mammals, because zoos are built around the big mammalian attractions—lions, tigers, bears, elephants. We know a lot less about reptiles. And nobody knows anything about dinosaurs. The dinosaurs are new animals."

"You consider them reptiles?" Gennaro said.

"No," Muldoon said, shifting gears. "Dinosaurs don't fit existing categories." He swerved to avoid a rock. "Actually, what we find is, the dinosaurs were as variable as mammals are today. Some dinos are tame and cute, and some are mean and nasty. Some of them see well, and some of them don't. Some of them are stupid, and some of them are very, very intelligent."

"Like the raptors?" Gennaro said.

Muldoon nodded. "Raptors are smart. Very smart. Believe me, all the problems we have so far," he said, "are nothing compared with what we'd have if the raptors ever got out of their holding pen. Ah. I think this is as close as we can get to our Rexy."

Up ahead, the tyrannosaur was poking its head through the branches, peering toward the river. Trying to get through. Then the animal moved a few yards downstream, to try again.

"Wonder what he sees in there?" Gennaro said.

"Hard to know," Muldoon said. "Maybe he's trying to get to the microceratopsians that scramble around in the branches. They'll run him a merry chase."

Muldoon stopped the Jeep about fifty yards away from the tyrannosaur, and turned the vehicle around. He left the motor running. "Get behind the wheel," Muldoon said. "And put your seat belt on." He took another canister and hooked it onto his shirt. Then he got out.

Gennaro slid behind the wheel. "You done this very often before?"

Muldoon belched. "Never. I'll try to get him just behind the auditory meatus. We'll see how it goes from there." He walked ten yards behind the Jeep and crouched down in the grass on one knee. He steadied the big gun against his shoulder, and flipped up the thick telescopic sight. Muldoon aimed at the tyrannosaur, which still ignored them.

There was a burst of pale gas, and Gennaro saw a white streak shoot forward in the air toward the tyrannosaur. But nothing seemed to happen.

Then the tyrannosaur turned slowly, curiously, to peer at them. It moved its head from side to side, as if looking at them with alternate eyes.

Muldoon had taken down the launcher, and was loading the second canister.

"You hit him?" Gennaro said.

Muldoon shook his head. "Missed. Damn laser sights ... See if there's a battery in the case."

"A what?" Gennaro said.

"A battery," Muldoon said. "It's about as big as your finger. Gray markings."

Gennaro bent over to look in the steel case. He felt the vibration of the Jeep, heard the motor ticking over. He didn't see a battery. The tyrannosaur roared. To

Gennaro it was a terrifying sound, rumbling from the great chest cavity of the animal, bellowing out over the landscape. He sat up sharply and reached for the steering wheel, put his hand on the gearshift. On the radio, he heard a voice say, "Muldoon. This is Arnold. Get out of there. Over."

"I know what I'm doing," Muldoon said.

The tyrannosaur charged.

Muldoon stood his ground. Despite the creature racing toward him, he slowly and methodically raised his launcher, aimed, and fired. Once again, Gennaro saw the puff of smoke, and the white streak of the canister going toward the animal.

Nothing happened. The tyrannosaur continued to charge.

Now Muldoon was on his feet and running, shouting, "Go! Go!" Gennaro put the Jeep in gear and Muldoon threw himself onto the side door as the Jeep lurched forward. The tyrannosaur was closing rapidly, and Muldoon swung the door open and climbed inside.

"Go, damn it! Go!"

Gennaro floored it. The Jeep bounced precariously, the front end nosing so high they saw only sky through the windshield, then slamming down again toward the ground and racing forward again. Gennaro headed for a stand of trees to the left until, in the rearview mirror, he saw the tyrannosaur give a final roar and turn away.

Gennaro slowed the car. "Jesus."

Muldoon was shaking his head. "I could have sworn I hit him the second time."

"I'd say you missed," Gennaro said.

"Needle must have broken off before the plunger injected."

"Admit it, you missed."

"Yeah," Muldoon said. He sighed. "I missed. Battery was dead in the damned laser sights. My fault. I should have checked it, after it was out all last night. Let's go back and get more canisters."

The Jeep headed north, toward the hotel. Muldoon picked up the radio. "Control."

"Yes," Arnold said.

"We're heading back to base."

The river was now very narrow, and flowing swiftly. The raft was going faster all the time. It was starting to feel like an amusement park ride.

"Wheel" Lex yelled, holding on to the gunwale. "Faster, faster!"

Grant squinted, looking forward. The river was still narrow and dark, but farther ahead he could see the trees ended, and there was bright sunlight beyond, and a distant roaring sound. The river seemed to end abruptly in a peculiar flat line. ...

The raft was going still faster, rushing forward.

Grant grabbed for his paddles.

"What is it?"

"It's a waterfall," Grant said.

The raft swept out of the overhanging darkness into brilliant morning sunlight, and raced forward on the swift current toward the lip of the waterfall. The roar

was loud in their ears. Grant paddled as strongly as he could, but he only succeeded in spinning the boat in circles. It continued inexorably toward the lip.

Lex leaned toward him. "I can't swim!" Grant saw that she did not have her life vest clasped, but there was nothing he could do about it; with frightening speed, they came to the edge, and the roar of the waterfall seemed to fill the world. Grant jammed his oar deep into the water, felt it catch and hold, right at the lip; the rubber raft shuddered in the current, but they did not go over. Grant strained against the oar and, looking over the edge, saw the sheer drop of fifty feet down to the surging pool below.

And standing in the surging pool, waiting for them, was the tyrannosaur.

Lex was screaming in panic, and then the boat spun, and the rear end dropped away, spilling them out into air and roaring water, and they fell sickeningly. Grant flailed his arms in the air, and the world went suddenly silent and slow.

It seemed to him he fell for long minutes; he had time to observe Lex, clutching her orange jacket, falling alongside him; he had time to observe Tim, looking down at the bottom; he had time to observe the frozen white sheet of the waterfall; he had time to observe the bubbling pool beneath him as he fell slowly, silently toward it.

Then, with a stinging slap, Grant plunged into cold water, surrounded by white boiling bubbles. He tumbled and spun and glimpsed the leg of the tyrannosaur as he was swirled past it, swept down through the pool and out into the stream beyond. Grant swam for the shore, clutched warm rocks, slipped off, caught a branch, and finally pulled himself out of the main current. Gasping, he dragged himself on his belly onto the rocks, and looked at the river just in time to see the brown rubber raft tumble past him. Then he saw Tim, battling the current, and he reached out and pulled him, coughing and shivering, onto the shore beside him.

Grant turned back to the waterfall, and saw the tyrannosaur plunge its head straight down into the water of the pool at his feet. The great head shook, splashing water to either side. It had something between its teeth.

And then the tyrannosaur lifted its head back up.

Dangling from the jaws was Lex's orange life vest.

A moment later, Lex bobbed to the surface beside the dinosaur's long tail. She lay facedown in the water, her little body swept downstream by the current. Grant plunged into the water after her, was again immersed in the churning torrent. A moment later, he pulled her up onto the rocks, a heavy, lifeless weight. Her face was gray. Water poured from her mouth.

Grant bent over her to give her mouth-to-mouth but she coughed. Then she vomited yellow-green liquid and coughed again. Her eyelids fluttered. "Hi," she said. She smiled weakly. "We did it."

Tim started to cry. She coughed again. "Will you stop it? What're you crying for?"

"Because."

"We were worried about you," Grant said. Small flecks of white were drifting down the river. The tyrannosaur was tearing up the life vest. Still turned away

from them, facing the waterfall. But at any minute the animal might turn and see them. ... "Come on, kids," he said.

"Where are we going?" Lex said, coughing.

"Come *on*." He was looking for a hiding place. Downstream he saw only an open grassy plain, affording no protection. Upstream was the dinosaur. Then Grant saw a dirt path by the river. It seemed to lead up toward the waterfall.

And in the dirt he saw the clear imprint of a man's shoe. Leading up the path.

The tyrannosaur finally turned around, growling and looking out toward the grassy plain. It seemed to have figured out that they had gotten away. It was looking for them downstream. Grant and the kids ducked among the big ferns that lined the riverbanks. Cautiously, he led them upstream. "Where are we going?" Lex said. "We're going *back.*"

"I know."

They were closer to the waterfall now, the roar much louder. The rocks became slippery, the path muddy. There was a constant hanging mist. It was like moving through a cloud. The path seemed to lead right into the rushing water, but as they came closer, they saw that it actually went behind the waterfall.

The tyrannosaur was still looking downstream, its back turned to them. They hurried along the path to the waterfall, and had almost moved behind the sheet of falling water when Grant saw the tyrannosaur turn. Then they were completely behind the waterfall, and Grant was unable to see out through the silver sheet.

Grant looked around in surprise. There was a little recess here, hardly larger than a closet, and filled with machinery: humming pumps and big filters and pipes. Everything was wet, and cold.

"Did he see us?" Lex said. She had to shout over the noise of the falling water. "Where are we? What is this place? Did he see us?"

"Just a minute," Grant said. He was looking at the equipment. This was clearly park machinery. And there must be electricity to run it, so perhaps there was also a telephone for communication. He poked among the filters and pipes.

"What are you doing?" Lex shouted.

"Looking for a telephone." It was now nearly 10:00 a.m. They had just a little more than an hour to contact the ship before it reached the mainland.

In the back of the recess he found a metal door marked MAINT 04, but it was firmly locked. Next to it was a slot for a security card. Alongside the door he saw a row of metal boxes. He opened the boxes one after another, but they contained only switches and timers. No telephone. And nothing to open the door.

He almost missed the box to the left of the door. On opening it, he found a nine-button keypad, covered with spots of green mold. But it looked as if it was a way to open the door, and he had the feeling that on the other side of that door was a phone. Scratched in the metal of the box was the number 1023. He punched it in.

With a hiss, the door came open. Gaping darkness beyond, concrete steps leading downward. On the back wall he saw stenciled MAINT VEHICLE 04/22 CHARGER and an arrow pointing down the stairs. Could it really mean there was a car? "Come on, kids."

"Forget it," Lex said. "I'm not going in there."

"Come on, Lex," Tim said.

"Forget it," Lex said. "There's no lights or anything. I'm not. going."

"Never mind," Grant said. There wasn't time to argue. "Stay here, and I'll be right back."

"Where're you going?" Lex said, suddenly alarmed.

Grant stepped through the door. It gave an electronic beep, and snapped shut behind him, on a spring.

Grant was plunged into total darkness. After a moment of surprise, he turned to the door and felt its damp surface. There was no knob, no latch. He turned to the walls on either side of the door, feeling for a switch, a control box, anything at all. ...

There was nothing.

He was fighting panic when his fingers closed over a cold metal cylinder. He ran his hands over a swelling edge, a flat surface ... a flashlight! He clicked it on, and the beam was surprisingly bright. He looked back at the door, but saw that it would not open. He would have to wait for the kids to unlock it. Meantime ...

He started for the steps. They were damp and slippery with mold, and he went down carefully. Partway down the stairs, he heard a sniffing and the sound of claws scratching on concrete. He took out his dart pistol, and proceeded cautiously.

The steps bent around the corner, and as he shone his light, an odd reflection glinted back, and then, a moment later, he saw it: a car! It was an electric car, like a golf cart, and it faced a long tunnel that seemed to stretch away for miles. A bright red light glowed by the steering wheel of the car, so perhaps it was charged.

Grant heard the sniffing again, and he wheeled and saw a pale shape rise up toward him, leaping through the air, its jaws open, and without thinking Grant fired. The animal landed on him, knocking him down, and he rolled away in fright, his flashlight swinging wildly. But the animal didn't get up, and he felt foolish when he saw it.

It was a velociraptor, but very young, less than a year old. It was about two feet tall, the size of a medium dog, and it lay on the ground, breathing shallowly, the dart sticking from beneath its jaw. There was probably too much anesthetic for its body weight, and Grant pulled the dart out quickly. The velociraptor looked at him with slightly glazed eyes.

Grant had a clear feeling of intelligence from this creature, a kind of softness which contrasted strangely with the menace he had felt from the adults in the pen. He stroked the head of the velociraptor, hoping to calm it. He looked down at the body, which was shivering slightly as the tranquilizer took hold. And then he saw it was a male.

A young juvenile, and a male. There was no question what he was seeing. This velociraptor had been bred in the wild.

Excited by this development, he hurried back up the stairs to the door. With his flashlight, he scanned the flat, featureless surface of the door, and the interior walls. As he ran his hands over the door, it slowly dawned on him that he was locked inside, and unable to open it, unless the kids had the presence of mind to

open it for him. He could hear them, faintly, on the other side of the door.

"Dr. Grant!" Lex shouted, pounding the door. "Dr. Grant!"

"Take it easy," Tim said. "He'll be back."

"But where did he go?"

"Listen, Dr. Grant knows what he's doing," Tim said. "He'll be back in a minute."

"He should come back *now*," Lex said. She bunched her fists on her hips, pushed her elbows wide. She stamped her foot angrily.

And then, with a roar, the tyrannosaur's head burst through the waterfall toward them.

Tim stared in horror as the big mouth gaped wide. Lex shrieked and threw herself on the ground. The head swung back and forth, and pulled out again. But Tim could see the shadow of the animal's head on the sheet of falling water.

He pulled Lex deeper into the recess, just as the jaws burst through again, roaring, the thick tongue flicking in and out rapidly. Water sprayed in all directions from the head. Then it pulled out again.

Lex huddled next to Tim, shivering. "I *hate* him," she said. She huddled back, but the recess was only a few feet deep, and crammed with machinery. There wasn't any place for them to hide.

The head came through the water again, but slowly this time, and the jaw came to rest on the ground. The tyrannosaur snorted, flaring its nostrils, breathing the air. But the eyes were still outside the sheet of water.

Tim thought: He can't see us. He knows we're in here, but he can't see through the water.

The tyrannosaur sniffed.

"What is he doing?" Lex said again.

"Sshhhh."

With a low growl, the jaws slowly opened, and the tongue snaked out. It was thick and blue-black, with a little forked indentation at the tip. It was four feet long, and easily reached back to the far wall of the recess. The tongue slid with a rasping scrape over the filter cylinders. Tim and Lex pressed back against the pipes.

The tongue moved slowly to the left, then to the right, slapping wetly against the machinery. The tip curled around the pipes and valves, sensing them. Tim saw that the tongue had muscular movements, like an elephant's trunk. The tongue drew back along the right side of the recess. It dragged against Lex's legs.

"Eeww," Lex said.

The tongue stopped. It curled, then began to rise like a snake up the side of her body—

"Don't move," Tim whispered.

... past her face, then up along Tim's shoulder, and finally wrapping around his head. Tim squeezed his eyes shut as the slimy muscle covered his face. It was hot and wet and it stunk like urine.

Wrapped around him, the tongue began to drag him, very slowly, toward the open jaws.

"Timmy ..."

Tim couldn't answer; his mouth was covered by the flat black tongue. He could see, but he couldn't talk. Lex tugged at his hand.

"Come on, Timmy!"

The tongue dragged him toward the snorting mouth. He felt the hot panting breath on his legs. Lex was tugging at him but she was no match for the muscular power that held him. Tim let go of her and pressed the tongue with both hands, trying to shove it over his head. He couldn't move it. He dug his heels into the muddy ground but he was dragged forward anyway.

Lex had wrapped her arms around his waist and was pulling backward, shouting to him, but he was powerless to do anything. He was beginning to see stars. A kind of peacefulness overcame him, a sense of peaceful inevitability as he was dragged along.

"Timmy?"

And then suddenly the tongue relaxed, and uncoiled. Tim felt it slipping off his face. His body was covered in disgusting white foamy slime, and the tongue fell limply to the ground. The jaws slapped shut, biting down on the tongue. Dark blood gushed out, mixing with the mud. The nostrils still snorted in ragged breaths.

"What's he doing?" Lex cried.

And then slowly, very slowly, the head began to slide backward, out of the recess, leaving a long scrape in the mud. And finally it disappeared entirely, and they could see only the silver sheet of falling water.

CONTROL

"Okay," Arnold said, in the control room. "The rex is down." He pushed back in his chair, and grinned as he lit a final cigarette and crumpled the pack. That did it: the final step in putting the park back in order. Now all they had to do was go out and move it.

"Son of a bitch," Muldoon said, looking at the monitor. "I got him after all." He turned to Gennaro. "It just took him an hour to feel it."

Henry Wu frowned at the screen. "But he could drown, in that position. ..."

"He won't drown," Muldoon said. "Never seen an animal that was harder to kill."

"I think we have to go out and move him," Arnold said.

"We will," Muldoon said. He didn't sound enthusiastic.

"That's a valuable animal."

"I know it's a valuable animal," Muldoon said.

Arnold turned to Gennaro. He couldn't resist a moment of triumph. "I'd point out to you," he said, "that the park is now completely back to normal. Whatever Malcolm's mathematical model said was going to happen. We are completely under control again."

Gennaro pointed to the screen behind Arnold's head and said, "What's that?"

Arnold turned. It was the system status box, in the upper corner of the screen. Ordinarily it was empty. Arnold was surprised to see that it was now blinking yellow: AUX PWR LOW. For a moment, he didn't understand. Why should auxiliary power be low? They were running on main power, not auxiliary power. He thought perhaps it was just a routine status check on the auxiliary power, perhaps a check on the fuel tank levels or the battery charge. ...

"Henry," Arnold said to Wu. "Look at this."

Wu said, "Why are you running on auxiliary power?"

"I'm not," Arnold said.

"It looks like you are."

"I can't be."

"Print the system status log," Wu said. The log was a record of the system over the last few hours.

Arnold pressed a button, and they heard the hum of a printer in the corner. Wu walked over to it.

Arnold stared at the screen. The box now turned from flashing yellow to red, and the message now read: AUX PWR FAIL. Numbers began to count backward from twenty.

"What the hell is going on?" Arnold said.

Cautiously, Tim moved a few yards out along the muddy path, into the sunshine. He peered around the waterfall, and saw the tyrannosaur lying on its side, floating in the pool of water below.

"I hope he's dead," Lex said.

Tim could see he wasn't: the dinosaur's chest was still moving, and one forearm twitched in spasms. But something was wrong with him. Then Tim saw the white canister sticking in the back of the head, by the indentation of the ear.

"He's been shot with a dart," Tim said.

"Good," Lex said. "He practically *ate* us."

Tim watched the labored breathing. He felt unexpectedly distressed to see the huge animal humbled like this. He didn't want it to die. "It's not his fault," he said.

"Oh sure," Lex said. "He practically ate us and it's not his fault."

"He's a carnivore. He was just doing what he does."

"You wouldn't say that," Lex said, "if you were in his stomach right now."

Then the sound of the waterfall changed. From a deafening roar, it became softer, quieter. The thundering sheet of water thinned, became a trickle ...

And stopped.

"Timmy. The waterfall stopped," Lex said.

It was now just dripping like a tap that wasn't completely turned off. The pool at the base of the waterfall was still. They stood near the top, in the cave-like indentation filled with machinery, looking down.

"Waterfalls aren't supposed to stop," Lex said.

Tim shook his head. "It must be the power. ... Somebody turned off the power." Behind them, all the pumps and filters were shutting down one after another, the lights blinking off, and the machinery becoming quiet. And then there was the *thunk* of a solenoid releasing, and the door marked MAINT 04 swung slowly

open.

Grant stepped out, blinking in the light, and said, "Good work, kids. You got the door open."

"We didn't do anything," Lex said.

"The power went out," Tim said.

"Never mind that," Grant said. "Come and see what I've found."

Arnold stared in shock.

One after another, the monitors went black, and then the room lights went out, plunging the control room into darkness and confusion. Everyone started yelling at once. Muldoon opened the blinds and let light in, and Wu brought over the printout.

"Look at this," Wu said.

Time	Event	System Status
5:12:44	Safety 1 Off	Operative
5:12:45	Safety 2 Off	Operative
5:12:46	Safety 3 Off	Operative
5:12:51	Shutdown Command	Shutdown
5:13:48	Startup Command	Shutdown
5:13:55	Safety 1 On	Shutdown
5:13:57	Safety 2 On	Shutdown
5:13:59	Safety 3 On	Shutdown
5:14:08	Startup Command	Startup - Aux Power
5:14:18	Monitor-Main	Operative - Aux Power
5:14:19	Security-Main	Operative - Aux Power
5:14:22	Command-Main	Operative - Aux Power
5:14:24	Laboratory-Main	Operative - Aux Power
5:14:29	TeleCom-VBB	Operative - Aux Power
5:14:32	Schematic-Main	Operative - Aux Power
5:14:37	View	Operative - Aux Power
5:14:44	Control Status Chk	Operative - Aux Power
5:14:57	Warning: Fence Status [NB]	Operative - Aux Power
9:11:37	Warning: Aux Fuel (20%)	Operative - Aux Power
9:33:19	Warning: Aux Fuel (10%)	Operative - Aux Power
9:53:19	Warning: Aux Fuel (1%)	Operative - Aux Power
9:53:39	Warning: Aux Fuel (0%)	Shutdown

Wu said, "You shut down at five-thirteen this morning, and when you started back up, you started with auxiliary power."

"Jesus," Arnold said. Apparently, main power had not been on since shutdown. When he powered back up, only the auxiliary power came on. Arnold was thinking that was strange, when he suddenly realized that that was *normal.* That was what was supposed to happen. It made perfect sense: the auxiliary generator fired up first, and it was used to turn on the main generator, because it took a heavy charge to start the main power generator. That was the way the system was designed.

But Arnold had never before had occasion to turn the main power on. And when the lights and screens came back on in the control room, it never occurred to him that main power hadn't also been restored.

But it hadn't, and all during the time since then, while they were looking for the rex, and doing one thing and another, the park had been running on auxiliary power. And that wasn't a good idea. In fact, the implications were just beginning to hit him—

"What does this line mean?" Muldoon said, pointing to the list.

05:14:57 Warning: Fence Status [NB] Operative - Aux Power [AV09]

"It means a system status warning was sent to the monitors in the control room," Arnold said. "Concerning the fences."

"Did you see that warning?"

Arnold shook his head. "No. I must have been talking to you in the field. Anyway, no, I didn't see it."

"What does it mean, 'Warning: Fence Status'?"

"Well, I didn't know it at the time, but we were running on backup power," Arnold said. "And backup doesn't generate enough amperage to power the electrified fences, so they were automatically kept off."

Muldoon scowled. "The electrified fences were off?"

"Yes."

"All of them? Since five this morning? For the last five hours?"

"Yes."

"Including the velociraptor fences?"

Arnold sighed. "Yes."

"Jesus Christ," Muldoon said. "Five hours. Those animals could be out."

And then, from somewhere in the distance, they heard a scream. Muldoon began to talk very fast. He went around the room, handing out the portable radios.

"Mr. Arnold is going to the maintenance shed to turn on main power. Dr. Wu, stay in the control room. You're the only other one who can work the computers. Mr. Hammond, go back to the lodge. Don't argue with me. Go now. Lock the gates, and stay behind them until you hear from me. I'll help Arnold deal with the raptors." He turned to Gennaro. "Like to live dangerously again?"

"Not really," Gennaro said. He was very pale.

"Fine. Then go with the others to the lodge." Muldoon turned away. "That's it, everybody. Now *move*."

Hammond whined, "But what are you going to do to my animals?"

"That's not really the question, Mr. Hammond," Muldoon said. "The question is, what are they going to do to us?"

He went through the door, and hurried down the hall toward his office. Gennaro fell into step alongside him. "Change your mind?" Muldoon growled.

"You'll need help," Gennaro said.

"I might." Muldoon went into the room marked ANIMAL SUPERVISOR, picked up the gray shoulder launcher, and unlocked a panel in the wall behind his desk. There were six cylinders and six canisters.

"The thing about these damn dinos," Muldoon said, "is that they have distributed nervous systems. They don't die fast, even with a direct hit to the brain. And they're built solidly; thick ribs make a shot to the heart dicey, and

they're difficult to cripple in the legs or hindquarters. Slow bleeders, slow to die." He was opening the cylinders one after another and dropping in the canisters. He tossed a thick webbed belt to Gennaro. "Put that on."

Gennaro tightened the belt, and Muldoon passed him the shells. "About all we can hope to do is blow them apart. Unfortunately we've only got six shells here. There's eight raptors in that fenced compound. Let's go. Stay close. You have the shells."

Muldoon went out and ran along the hallway, looking down over the balcony to the path leading toward the maintenance shed. Gennaro was puffing alongside him. They got to the ground floor and went out through the glass doors, and Muldoon stopped.

Arnold was standing with his back to the maintenance shed. Three raptors approached him. Arnold had picked up a stick, and he was waving it at them, shouting. The raptors fanned out as they came closer, one staying in the center, the other two moving to each side. Coordinated. Smooth. Gennaro shivered.

Pack behavior.

Muldoon was already crouching, setting the launcher on his shoulder. "Load," he said. Gennaro slipped the shell in the back of the launcher. There was an electric sizzle. Nothing happened. "Christ, you've got it in backward," Muldoon said, tilting the barrel so the shell fell into Gennaro's hands. Gennaro loaded again. The raptors were snarling at Arnold when the animal on the left simply exploded, the upper part of the torso flying into the air, blood spattering like a burst tomato on the walls of the building. The lower torso collapsed on the ground, the legs kicking in the air, the tail flopping.

"That'll wake 'em up," Muldoon said.

Arnold ran for the door of the maintenance shed. The velociraptors turned, and started toward Muldoon and Gennaro. They fanned out as they came closer. In the distance, somewhere near the lodge, he heard screams.

Gennaro said, "This could be a disaster."

"Load," Muldoon said.

Henry Wu heard the explosions and looked toward the door of the control room. He circled around the consoles, then paused. He wanted to go out, but he knew he should stay in the room. If Arnold was able to get the power back on—if only for a minute—then Wu could restart the main generator.

He had to stay in the room.

He heard someone screaming. It sounded like Muldoon.

Muldoon felt a wrenching pain in his ankle, tumbled down an embankment, and hit the ground running. Looking back, he saw Gennaro running in the other direction, into the forest. The raptors were ignoring Gennaro but pursuing Muldoon. They were now less than twenty yards away. Muldoon screamed at the top of his lungs as he ran, wondering vaguely where the hell he could go. Because he knew he had perhaps ten seconds before they got him.

Ten seconds.

Maybe less.

* * *

Ellie had to help Malcolm turn over as Harding jabbed the needle and injected morphine. Malcolm sighed and collapsed back. It seemed he was growing weaker by the minute. Over the radio, they heard tinny screaming, and muffled explosions coming from the visitor center.

Hammond came into the room and said, "How is he?"

"He's holding," Harding said. "A bit delirious."

"I am nothing of the sort," Malcolm said. "I am utterly clear." They listened to the radio. "It sounds like a war out there."

"The raptors got out," Hammond said.

"Did they," Malcolm said, breathing shallowly. "How could that possibly happen?"

"It was a system screwup. Arnold didn't realize that the auxiliary power was on, and the fences cut out."

"Did they."

"Go to hell, you supercilious bastard."

"If I remember," Malcolm said, "I predicted fence integrity would fail."

Hammond sighed, and sat down heavily. "Damn it all," he said, shaking his head. "It must surely not have escaped your notice that at heart what we are attempting here is an extremely simple idea. My colleagues and I determined, several years ago, that it was possible to clone the DNA of an extinct animal, and to grow it. That seemed to us a wonderful idea, it was a kind of time travel—the only time travel in the world. Bring them back alive, so to speak. And since it was so exciting, and since it was possible to do it, we decided to go forward. We got this island, and we proceeded. It was all very simple."

"Simple?" Malcolm said. Somehow he found the energy to sit up in the bed. "Simple? You're a bigger fool than I thought you were. And I thought you were a very substantial fool."

Ellie said, "Dr. Malcolm," and tried to ease him back down. But Malcolm would have none of it. He pointed toward the radio, the shouts and the cries.

"What is that, going on out there?" he said. "That's your simple idea. *Simple.* You create new life-forms, about which you know nothing at all. Your Dr. Wu does not even know the names of the things he is creating. He cannot be bothered with such details as *what the thing is called,* let alone what it *is.* You create many of them in a very short time, you never learn anything about them, yet you expect them to do your bidding, because you made them and you therefore think you own them; you forget that they are alive, they have an intelligence of their own, and they may not do your bidding, and you forget how little you know about them, how incompetent you are to do the things that you so frivolously call *simple. ...* Dear God ..."

He sank back, coughing.

"You know what's wrong with scientific power?" Malcolm said. "It's a form of inherited wealth. And you know what assholes congenitally rich people are. It never fails."

Hammond said, "What is he talking about?"

Harding made a sign, indicating delirium. Malcolm cocked his eye.

"I will tell you what I am talking about," he said. "Most kinds of power require a substantial sacrifice by whoever wants the power. There is an apprenticeship, a discipline lasting many years. Whatever kind of power you want. President of the company. Black belt in karate. Spiritual guru. Whatever it is you seek, you have to put in the time, the practice, the effort. You must give up a lot to get it. It has to be very important to you. And once you have attained it, it is your power. It can't be given away: it resides in you. It is literally the result of your discipline.

"Now, what is interesting about this process is that, by the time someone has acquired the ability to kill with his bare hands, he has also matured to the point where he won't use it unwisely. So that kind of power has a built-in control. The discipline of getting the power changes you so that you won't abuse it.

"But scientific power is like inherited wealth: attained without discipline. You read what others have done, and you take the next step. You can do it very young. You can make progress very fast. There is no discipline lasting many decades. There is no mastery: old scientists are ignored. There is no humility before nature. There is only a get-rich-quick, make-a-name-for-yourself-fast philosophy. Cheat, lie, falsify—it doesn't matter. Not to you, or to your colleagues. No one will criticize you. No one has any standards. They are all trying to do the same thing: to do something big, and do it fast.

"And because you can stand on the shoulders of giants, you can accomplish something quickly. You don't even know exactly what you have done, but already you have reported it, patented it, and sold it. And the buyer will have even less discipline than you. The buyer simply purchases the power, like any commodity. The buyer doesn't even conceive that any discipline might be necessary."

Hammond said, "Do you know what he is talking about?"

Ellie nodded.

"I haven't a clue," Hammond said.

"I'll make it simple," Malcolm said. "A karate master does not kill people with his bare hands. He does not lose his temper and kill his wife. The person who kills is the person who has no discipline, no restraint, and who has purchased his power in the form of a Saturday night special. And that is the kind of power that science fosters, and permits. And that is why you think that to build a place like this is simple."

"It *was* simple," Hammond insisted.

"Then why did it go wrong?"

Dizzy with tension, John Arnold threw open the door to the maintenance shed and stepped into the darkness inside. Jesus, it was black. He should have realized the lights would be out. He felt the cool air, the cavernous dimensions of the space, extending two floors below him. He had to find the catwalk. He had to be careful, or he'd break his neck.

The catwalk.

He groped like a blind man until he realized it was futile. Somehow he had to get light into the shed. He went back to the door and cracked it open four inches. That gave enough light. But there was no way to keep the door open. Quickly he kicked off his shoe and stuck it in the door.

He went toward the catwalk, seeing it easily. He walked along the corrugated metal, hearing the difference in his feet, one loud, one soft. But at least he could see. Up ahead was the stairway leading down to the generators. Another ten yards.

Darkness.

The light was gone.

Arnold looked back to the door, and saw the light was blocked by the body of a velociraptor. The animal bent over, and carefully sniffed the shoe.

Henry Wu paced. He ran his hands over the computer consoles. He touched the screens. He was in constant movement. He was almost frantic with tension.

He reviewed the steps he would take. He must be quick. The first screen would come up, and he would press—

"Wu!" The radio hissed.

He grabbed for it. "Yes. I'm here."

"Got any bloody power yet?" It was Muldoon. There was something odd about his voice, something hollow.

"No," Wu said. He smiled, glad to know Muldoon was alive.

"I think Arnold made it to the shed," Muldoon said. "After that, I don't know."

"Where are you?" Wu said.

"I'm stuffed."

"What?"

"Stuffed in a bloody pipe," Muldoon said. "And I'm very popular at the moment."

Wedged in a pipe was more like it, Muldoon thought. There had been a stack of drainage pipes piled behind the visitor center, and he'd backed himself into the nearest one, scrambling like a poor bastard. Meter pipes, very tight fit for him, but they couldn't come in after him.

At least, not after he'd shot the leg off one, when the nosy bastard came too close to the pipe. The raptor had gone howling off, and the others were now respectful. His only regret was that he hadn't waited to see the snout at the end of the tube before he'd squeezed the trigger.

But he might still have his chance, because there were three or four outside, snarling and growling around him.

"Yes, very popular," he said into the radio.

Wu said, "Does Arnold have a radio?"

"Don't think so," Muldoon said. "Just sit tight. Wait it out."

He hadn't seen what the other end of the pipe was like—he'd backed in too quickly—and he couldn't see now. He was wedged tight. He could only hope that the far end wasn't open. Christ, he didn't like the thought of one of those bastards taking a bite of his hindquarters.

Arnold backed away down the catwalk. The velociraptor was barely ten feet away, stalking him, coming forward into the gloom. Arnold could hear the click of its deadly claws on the metal.

But he was going slowly. He knew the animal could see well, but the grille of

the catwalk, the unfamiliar mechanical odors had made it cautious. That caution was his only chance, Arnold thought. If he could get to the stairs, and then move down to the floor below ...

Because he was pretty sure velociraptors couldn't climb stairs. Certainly not narrow, steep stairs.

Arnold glanced over his shoulder. The stairs were just a few feet away. Another few steps ...

He was there! Reaching back, he felt the railing, started scrambling down the almost vertical steps. His feet touched flat concrete. The raptor snarled in frustration, twenty feet above him on the catwalk.

"Too bad, buddy," Arnold said. He turned away. He was now very close to the auxiliary generator. Just a few more steps and he would see it, even in this dim light. ...

There was a dull thump behind him.

Arnold turned.

The raptor was standing there on the concrete floor, snarling.

It had jumped down.

He looked quickly for a weapon, but suddenly he found he was slammed onto his back on the concrete. Something heavy was pressing on his chest, it was impossible to breathe, and he realized the animal was *standing on top of him,* and he felt the big claws digging into the flesh of his chest, and smelled the foul breath from the head moving above him, and he opened his mouth to scream.

Ellie held the radio in her hands, listening. Two more Tican workmen had arrived at the lodge; they seemed to know it was safe here. But there had been no others in the last few minutes. And it sounded quieter outside. Over the radio, Muldoon said, "How long has it been?"

Wu said, "Four, five minutes."

"Arnold should have done it by now," Muldoon said. "If he's going to. You got any ideas?"

"No," Wu said.

"We heard from Gennaro?"

Gennaro pressed the button. "I'm here."

"Where the hell are you?" Muldoon said.

"I'm going to the maintenance building," Gennaro said. "Wish me luck."

Gennaro crouched in the foliage, listening.

Directly ahead he saw the planted pathway, leading toward the visitor center. Gennaro knew the maintenance shed was somewhere to the east. He heard the chirping of birds in the trees. A soft mist was blowing. One of the raptors roared, but it was some distance away. It sounded off to his right. Gennaro set out, leaving the path, plunging into the foliage.

Like to live dangerously?

Not really.

It was true, he didn't. But Gennaro thought he had a plan, or at least a possibility that might work. If he stayed north of the main complex of buildings, he

could approach the maintenance shed from the rear. All the raptors were probably around the other buildings, to the south. There was no reason for them to be in the jungle.

At least, he hoped not.

He moved as quietly as he could, unhappily aware he was making a lot of noise. He forced himself to slow his pace, feeling his heart pound. The foliage here was very dense; he couldn't see more than six or seven feet ahead of him. He began to worry that he'd miss the maintenance shed entirely. But then he saw the roof to his right, above the palms.

He moved toward it, went around the side. He found the door, opened it, and slipped inside. It was very dark. He stumbled over something.

A man's shoe.

Gennaro frowned. He propped the door wide open and continued deeper into the building. He saw a catwalk directly ahead of him. Suddenly he realized he didn't know where to go. And he had left his radio behind.

Damn!

There might be a radio somewhere in the maintenance building. Or else he'd just look for the generator. He knew what a generator looked like. Probably it was somewhere down on the lower floor. He found a staircase leading down.

It was darker below, and it was difficult to see anything. He felt his way along among the pipes, holding his hands out to keep from banging his head.

He heard an animal snarl, and froze. He listened, but the sound did not come again. He moved forward cautiously. Something dripped on his shoulder, and his bare arm. It was warm, like water. He touched it in the darkness.

Sticky. He smelled it.

Blood.

He looked up. The raptor was perched on pipes, just a few feet above his head. Blood was trickling from its claws. With an odd sense of detachment, he wondered if it was injured. And then he began to run, but the raptor jumped onto his back, pushing him to the ground.

Gennaro was strong; he heaved up, knocking the raptor away, and rolled off across the concrete. When he turned back, he saw that the raptor had fallen on its side, where it lay panting.

Yes, it was injured. Its leg was hurt, for some reason.

Kill it.

Gennaro scrambled to his feet, looking for a weapon. The raptor was still panting on the concrete. He looked frantically for something—anything-—to use as a weapon. When he turned back, the raptor was gone.

It snarled, the sound echoing in the darkness.

Gennaro turned in a full circle, feeling with his outstretched hands. And then he felt a sharp pain in his right hand.

Teeth.

It was biting him.

The raptor jerked his head, and Donald Gennaro was yanked off his feet, and he fell.

Lying in bed, soaked in sweat, Malcolm listened as the radio crackled.

"Anything?" Muldoon said. "You getting anything?"

"No word," Wu said.

"Hell," Muldoon said.

There was a pause.

Malcolm sighed. "I can't wait," he said, "to hear his new plan."

"What I would like," Muldoon said, "is to get everybody to the lodge and regroup. But I don't see how."

"There's a Jeep in front of the visitor center," Wu said. "If I drove over to you, could you get yourself into it?"

"Maybe. But you'd be abandoning the control room."

"I can't do anything here anyway."

"God knows that's true," Malcolm said. "A control room without electricity is not much of a control room."

"All right," Muldoon said. "Let's try. This isn't looking good."

Lying in his bed, Malcolm said, "No, it's not looking good. It's looking like a disaster."

Wu said, "The raptors are going to follow us over there."

"We're still better off," Malcolm said. "Let's go."

The radio clicked off. Malcolm closed his eyes, and breathed slowly, marshaling his strength.

"Just relax," Ellie said. "Just take it easy."

"You know what we are really talking about here," Malcolm said. "All this attempt to control ... We are talking about Western attitudes that are five hundred years old. They began at the time when Florence, Italy, was the most important city in the world. The basic idea of science—that there was a new way to look at reality, that it was objective, that it did not depend on your beliefs or your nationality, that it was *rational*—that idea was fresh and exciting back then. It offered promise and hope for the future, and it swept away the old medieval system, which was hundreds of years old. The medieval world of feudal politics and religious dogma and hateful superstitions fell before science. But, in truth, this was because the medieval world didn't really work any more. It didn't work economically, it didn't work intellectually, and it didn't fit the new world that was emerging."

Malcolm coughed.

"But now," he continued, "science is the belief system that is hundreds of years old. And, like the medieval system before it, science is starting not to fit the world any more. Science has attained so much power that its practical limits begin to be apparent. Largely through science, billions of us live in one small world, densely packed and intercommunicating. But science cannot help us decide what to do with that world, or how to live. Science can make a nuclear reactor, but it cannot tell us not to build it. Science can make pesticide, but cannot tell us not to use it. And our world starts to seem polluted in fundamental ways—air, and water, and land—because of ungovernable science." He sighed. "This much is obvious to everyone."

There was a silence. Malcolm lay with his eyes closed, his breathing labored.

No one spoke, and it seemed to Ellie that Malcolm had finally fallen asleep. Then he sat up again, abruptly.

"At the same time, the great intellectual justification of science has vanished. Ever since Newton and Descartes, science has explicitly offered us the vision of total control. Science has claimed the power to eventually control everything, through its understanding of natural laws. But in the twentieth century, that claim has been shattered beyond repair. First, Heisenberg's uncertainty principle set limits on what we could know about the subatomic world. Oh well, we say. None of us lives in a subatomic world. It doesn't make any practical difference as we go through our lives. Then Gödel's theorem set similar limits to mathematics, the formal language of science. Mathematicians used to think that their language had some special inherent trueness that derived from the laws of logic. Now we know that what we call 'reason' is just an arbitrary game. It's not special, in the way we thought it was.

"And now chaos theory proves that unpredictability is built into our daily lives. It is as mundane as the rainstorm we cannot predict. And so the grand vision of science, hundreds of years old—the dream of total control—has died, in our century. And with it much of the justification, the rationale for science to do what it does. And for us to listen to it. Science has always said that it may not know everything now but it will know, eventually. But now we see that isn't true. It is an idle boast. As foolish, and as misguided, as the child who jumps off a building because he believes he can fly."

"This is very extreme," Hammond said, shaking his head.

"We are witnessing the end of the scientific era. Science, like other outmoded systems, is destroying itself. As it gains in power, it proves itself incapable of handling the power. Because things are going very fast now. Fifty years ago, everyone was gaga over the atomic bomb. That was power. No one could imagine anything more. Yet, a bare decade after the bomb, we began to have genetic power. And genetic power is far more potent than atomic power. And it will be in everyone's hands. It will be in kits for backyard gardeners. Experiments for schoolchildren. Cheap labs for terrorists and dictators. And that will force everyone to ask the same question—What should I do with my power?—which is the very question science says it cannot answer."

"So what will happen?" Ellie said.

Malcolm shrugged. "A change."

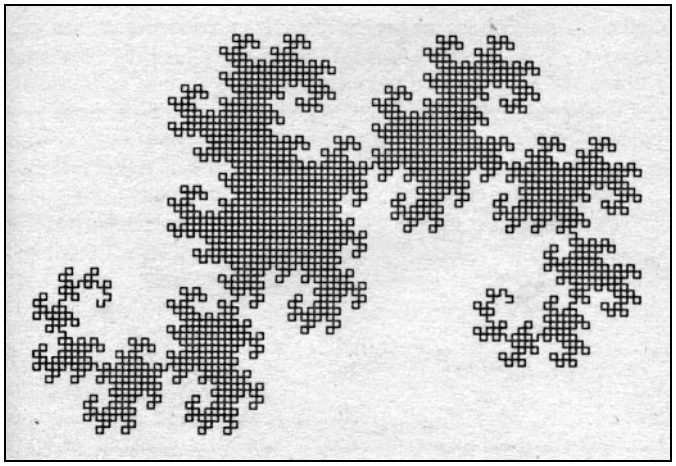
"What kind of change?"

"All major changes are like death," he said. "You can't see to the other side until you are there." And he closed his eyes.

"The poor man," Hammond said, shaking his head.

Malcolm sighed. "Do you have any idea," he said, "how unlikely it is that you, or any of us, will get off this island alive?"

SIXTH ITERATION



"System recovery may prove impossible."
IAN MALCOLM

RETURN

Its electric motor whirring, the cart raced forward down the dark underground tunnel. Grant drove, his foot to the floor. The tunnel was featureless except for the occasional air vent above, shaded to protect against rainfall, and thus permitting little light to enter. But he noticed that there were crusty white animal droppings in many places. Obviously lots of animals had been in here.

Sitting beside him in the cart, Lex shone the flashlight to the back, where the velociraptor lay. "Why is it having trouble breathing?"

"Because I shot it with tranquilizer," he said.

"Is it going to die?" she said.

"I hope not."

"Why are we taking it?" Lex said.

"To prove to the people back at the center that the dinosaurs are really breeding," Grant said.

"How do you know they're breeding?"

"Because this one is young," Grant said. "And because it's a boy dinosaur."

"Is it?" Lex said, peering along the flashlight beam.

"Yes. Now shine that light forward, will you?" He held out his wrist, turning the watch to her. "What does it say?"

"It says ... ten-fifteen."

"Okay."

Tim said, "That means we have only forty-five minutes to contact the boat."

"We should be close," Grant said. "I figure we should be almost to the visitor center right now." He wasn't sure, but he sensed the tunnel was gently tilting upward, leading them back to the surface, and—

"Wow!" Tim said.

They burst out into daylight with shocking speed. There was a light mist blowing, partially obscuring the building that loomed directly above them. Grant saw at once that it was the visitor center. They had arrived right in front of the garage!

"Yay!" Lex shouted. "We did it! Yay!" She bounced up and down in the seat as Grant parked the cart in the garage. Along one wall were stacked animal cages. They put the velociraptor in one, with a dish of water. Then they started climbing the stairs to the ground-floor entrance of the visitor center.

"I'm going to get a hamburger! And french fries! Chocolate milk shake! No more dinosaurs! Yay!" They came to the lobby, and they opened the door.

And they fell silent.

In the lobby of the visitor center, the glass doors had been shattered, and a cold gray mist blew through the cavernous main hall. A sign that read WHEN DINOSAURS RULED THE EARTH dangled from one hinge, creaking in the

wind. The big tyrannosaur robot was upended and lay with its legs in the air, its tubing and metal innards exposed. Outside, through the glass, they saw rows of palm trees, shadowy shapes in the fog.

Tim and Lex huddled against the metal desk of the security guard. Grant took the guard's radio and tried all the channels. "Hello, this is Grant. Is anybody there? Hello, this is Grant."

Lex stared at the body of the guard, lying on the floor to the right. She couldn't see anything but his legs and feet.

"Hello, this is Grant. Hello."

Lex was leaning forward, peering around the edge of the desk. Grant grabbed her sleeve. "Hey. Stop that."

"Is he dead? What's that stuff on the floor? Blood?"

"Yes."

"How come it isn't real red?"

"You're morbid," Tim said.

"What's 'morbid'? I am not."

The radio crackled. "My God," came a voice. "Grant? Is that you?"

And then: "Alan? Alan?" It was Ellie.

"I'm here," Grant said.

"Thank God," Ellie said. "Are you all right?"

"I'm all right, yes."

"What about the kids? Have you seen them?"

"I have the kids with me," Grant said. "They're okay."

"Thank God."

Lex was crawling around the side of the desk. Grant slapped her ankle. "Get back here."

The radio crackled. "—n where are you?"

"In the lobby. In the lobby of the main building."

Over the radio, he heard Wu say, "My God. They're *here*."

"Alan, listen," Ellie said. "The raptors have gotten loose. They can open doors. They may be in the same building as you."

"Great. Where are you?" Grant said.

"We're in the lodge."

Grant said, "And the others? Muldoon, everybody else?"

"We've lost a few people. But we got everybody else over to the lodge."

"And are the telephones working?"

"No. The whole system is shut off. Nothing works."

"How do we get the system back on?"

"We've been trying."

"We have to get it back on," Grant said, "right away. If we don't, within half an hour the raptors will reach the mainland."

He started to explain about the boat when Muldoon cut him off. "I don't think you understand, Dr. Grant. We haven't got half an hour left, over here."

"How's that?"

"Some of the raptors followed us. We've got two on the roof now."

"So what? The building's impregnable."

Muldoon coughed. "Apparently not. It was never expected that animals would get up on the roof." The radio crackled. "—must have planted a tree too close to the fence. The raptors got over the fence, and onto the roof. Anyway, the steel bars on the skylight are supposed to be electrified, but of course the power's off. They're biting through the bars of the skylight."

Grant said, "Biting through the bars?" He frowned, trying to imagine it. "How fast?"

"Yes," Muldoon said, "they have a bite pressure of fifteen thousand pounds a square inch. They're like hyenas, they can bite through steel and—" The transmission was lost for a moment.

"How fast?" Grant said again.

Muldoon said, "I'd guess we've got another ten, fifteen minutes before they break through completely and come through the skylight into the building. And once they're in ... Ah, just a minute, Dr. Grant."

The radio clicked off.

In the skylight above Malcolm's bed, the raptors had chewed through the first of the steel bars. One raptor gripped the end of the bar and tugged, pulling it back. It put its powerful hind limb on the skylight and the glass shattered, glittering down on Malcolm's bed below. Ellie reached over and removed the largest fragments from the sheets.

"God, they're ugly," Malcolm said, looking up.

Now that the glass was broken, they could hear the snorts and snarls of the raptors, the squeal of their teeth on the metal as they chewed the bars. There were silver thinned sections where they had chewed. Foamy saliva spattered onto the sheets, and the bedside table.

"At least they can't get in yet," Ellie said. "Not until they chew through another bar."

Wu said, "If Grant could somehow get to the maintenance shed ..."

"Bloody hell," Muldoon said. He limped around the room on his sprained ankle. "He can't get there fast enough. He can't get the power on fast enough. Not to stop this."

Malcolm coughed. "Yes." His voice was soft, almost a wheeze.

"What'd he say?" Muldoon said.

"Yes," Malcolm repeated. "Can ..."

"Can what?"

"Distraction ..." He winced.

"What kind of a distraction?"

"Go to ... the fence. ..."

"Yes? And do what?"

Malcolm grinned weakly. "Stick ... your hands through."

"Oh Christ," Muldoon said, turning away.

"Wait a minute," Wu said. "He's right. There are only two raptors here. Which means there are at least four more out there. We could go out and provide a distraction."

"And then what?"

"And then Grant would be free to go to the maintenance building and turn on the generator."

"And then go back to the control room and start up the system?"

"Exactly."

"No time," Muldoon said. "No time."

"But if we can lure the raptors down here," Wu said, "maybe even get them away from that skylight ... It might work. Worth a try."

"Bait," Muldoon said.

"Exactly."

"Who's going to be the bait? I'm no good. My ankle's shot."

"I'll do it," Wu said.

"No," Muldoon said. "You're the only one who knows what to do about the computer. You need to talk Grant through the startup."

"Then I'll do it," Harding said.

"No," Ellie said. "Malcolm needs you. I'll do it."

"Hell, I don't think so," Muldoon said. "You'd have raptors all around you, raptors on the roof. ..."

But she was already bending over, lacing her running shoes. "Just don't tell Grant," she said. "It'll make him nervous."

The lobby was quiet, chilly fog drifting past them. The radio had been silent for several minutes. Tim said, "Why aren't they talking to us?"

"I'm hungry," Lex said.

"They're trying to plan," Grant said.

The radio crackled. "Grant, are you—nry Wu speaking. Are you there?"

"I'm here," Grant said.

"Listen," Wu said. "Can you see to the rear of the visitor building from where you are?"

Grant looked through the rear glass doors, to the palm trees and the fog.

"Yes," Grant said.

Wu said, "There's a path straight through the palm trees to the maintenance building. That's where the power equipment and generators are. I believe you saw the maintenance building yesterday?"

"Yes," Grant said. Though he was momentarily puzzled. Was it yesterday that he had looked into the building? It seemed like years ago.

"Now, listen," Wu said. "We think we can get all the raptors down here by the lodge, but we aren't sure. So be careful. Give us five minutes."

"Okay," Grant said.

"You can leave the kids in the cafeteria, and they should be all right. Take the radio with you when you go."

"Okay."

"Turn it off before you leave, so it doesn't make any noise outside. And call me when you get to the maintenance building."

"Okay."

Grant turned the radio off. Lex crawled back. "Are we going to the cafeteria?" she said.

"Yes," Grant said. They got up, and started walking through the blowing mist in the lobby.

"I want a hamburger," Lex said.

"I don't think there's any electricity to cook with."

"Then ice cream."

"Tim, you'll have to stay with her and help her."

"I will."

"I've got to leave for a while," Grant said.

"I know."

They moved to the cafeteria entrance. On opening the door, Grant saw square dining-room tables and chairs, swinging stainless-steel doors beyond. Nearby, a cash register and a rack with gum and candy.

"Okay, kids. I want you to stay here no matter what. Got it?"

"Leave us the radio," Lex said.

"I can't. I need it. Just stay here. I'll only be gone about five minutes. Okay?"

"Okay."

Grant closed the door. The cafeteria became completely dark. Lex clutched his hand. "Turn on the lights," she said.

"I can't," Tim said. "There's no electricity." But he pulled down his night-vision goggles.

"That's fine for you. What about me?"

"Just hold my hand. We'll get some food." He led her forward. In phosphorescent green he saw the tables and chairs. To the right, the glowing green cash register, and the rack with gum and candy. He grabbed a handful of candy bars.

"I told you," Lex said. "I want ice cream, not candy."

"Take these anyway."

"Ice cream, Tim."

"Okay, okay."

Tim stuffed the candy bars in his pocket, and led Lex deeper into the dining room. She tugged on his hand. "I can't see *spit*," she said.

"Just walk with me. Hold my hand."

"Then slow down."

Beyond the tables and chairs was a pair of swinging doors with little round windows in them. They probably led to the kitchen. He pushed one door open and it held wide.

Ellie Sattler stepped outside the front door to the lodge, and felt the chilly mist on her face and legs. Her heart was thumping, even though she knew she was completely safe behind the fence. Directly ahead, she saw the heavy bars in the fog.

But she couldn't see much beyond the fence. Another twenty yards before the landscape turned milky white. And she didn't see any raptors at all. In fact, the gardens and trees were almost eerily silent. "Hey!" she shouted into the fog, tentatively.

Muldoon leaned against the door frame. "I doubt that'll do it," he said. "You've

got to make a *noise*." He hobbled out carrying a steel rod from the construction inside. He banged the rod against the bars like a dinner gong. "Come and get it! Dinner is served!"

"Very amusing," Ellie said. She glanced nervously toward the roof. She saw no raptors.

"They don't understand English." Muldoon grinned. "But I imagine they get the general idea. ..."

She was still nervous, and found his humor annoying. She looked toward the visitor building, cloaked in the fog. Muldoon resumed banging on the bars. At the limit of her vision, almost lost in the fog, she saw a ghostly pale animal. A raptor.

"First customer," Muldoon said.

The raptor disappeared, a white shadow, and then came back, but it did not approach any closer, and it seemed strangely incurious about the noise coming from the lodge. She was starting to worry. Unless she could attract the raptors to the lodge, Grant would be in danger.

"You're making too much noise," Ellie said.

"Bloody hell," Muldoon said.

"Well, you are."

"I know these animals—"

"You're drunk," she said. "Let me handle it."

"And how will you do that?"

She didn't answer him. She went to the gate. "They say the raptors are intelligent."

"They are. At least as intelligent as chimps."

"They have good hearing?"

"Yes, excellent."

"Maybe they'll know this sound," she said, and opened the gate. The metal hinges, rusted from the constant mist, creaked loudly. She closed it again, opened it with another creak.

She left it open.

"I wouldn't do that," Muldoon said. "You're going to do that, let me get the launcher."

"Get the launcher."

He sighed, remembering. "Gennaro has the shells."

"Well, then," she said. "Keep an eye out." And she went through the gate, stepping outside the bars. Her heart was pounding so hard she could barely feel her feet on the dirt. She moved away from the fence, and it disappeared frighteningly fast in the fog. Soon it was lost behind her.

Just as she expected, Muldoon began shouting to her in drunken agitation. "God damn it, girl, don't you do that," he bellowed.

"Don't call me 'girl,' " she shouted back.

"I'll call you any damn thing I want," Muldoon shouted.

She wasn't listening. She was turning slowly, her body tense, watching from all sides. She was at least twenty yards from the fence now, and she could see the mist drifting like a light rain past the foliage. She stayed away from the foliage. She moved through a world of shades of gray. The muscles in her legs and

shoulders ached from the tension. Her eyes strained to see.

"Do you hear me, damn it?" Muldoon bellowed.

How good are these animals? she wondered. Good enough to cut off my retreat? There wasn't much distance back to the fence, not really—

They attacked.

There was no sound.

The first animal charged from the foliage at the base of a tree to the left. It sprang forward and she turned to run. The second attacked from the other side, clearly intending to catch her as she ran, and it leapt into the air, claws raised to attack, and she darted like a broken field runner, and the animal crashed down in the dirt. Now she was running flat out, not daring to look back, her breath coming in deep gasps, seeing the bars of the fence emerge from the haze, seeing Muldoon throw the gate wide, seeing him reaching for her, shouting to her, grabbing her arm and pulling her through so hard she was yanked off her feet and fell to the ground. And she turned in time to see first one, then two—then three—animals hit the fence and snarl.

"Good work," Muldoon shouted. He was taunting the animals now, snarling back, and it drove them wild. They flung themselves at the fence, leaping forward, and one of them nearly made it over the top. "Christ, that was close! These bastards can jump!"

She got to her feet, looking at the scrapes and bruises, the blood running down her leg. All she could think was: three animals here. And two on the roof. That meant one was still missing, somewhere.

"Come on, help me," Muldoon said. "Let's keep 'em interested!"

Grant left the visitor center and moved quickly forward, into the mist. He found the path among the palm trees and followed it north. Up ahead, the rectangular maintenance shed emerged from the fog.

There was no door that he could see at all. He walked on, around the corner. At the back, screened by planting, Grant saw a concrete loading dock for trucks. He scrambled up to face a vertical rolling door of corrugated steel; it was locked. He jumped down again and continued around the building. Farther ahead, to his right, Grant saw an ordinary door. It was propped open with a man's shoe.

Grant stepped inside and squinted in the darkness. He listened, heard nothing. He picked up his radio and turned it on.

"This is Grant," he said. "I'm inside."

Wu looked up at the skylight. The two raptors still peered down into Malcolm's room, but they seemed distracted by the noises outside. He went to the lodge window. Outside, the three velociraptors continued to charge the fence. Ellie was running back and forth, safely behind the bars. But the raptors no longer seemed to be seriously trying to get her. Now they almost seemed to be playing, circling back from the fence, rearing up and snarling, then dropping down low, to circle again and finally charge. Their behavior had taken on the distinct quality of display, rather than serious attack.

"Like birds," Muldoon said. "Putting on a show."

Wu nodded. "They're intelligent. They see they can't get her. They're not really trying."

The radio crackled. "—side."

Wu gripped the radio. "Say again, Dr. Grant?"

"I'm inside," Grant said.

"Dr. Grant, you're in the maintenance building?"

"Yes," Grant said. And he added, "Maybe you should call me Alan."

"All right, Alan. If you're standing just inside the east door, you see a lot of pipes and tubing." Wu closed his eyes, visualizing it. "Straight ahead is a big recessed well in the center of the building that goes two stories underground. To your left is a metal walkway with railings."

"I see it."

"Go along the walkway."

"I'm going." Faintly, the radio carried the clang of his footsteps on metal.

"After you go twenty or thirty feet, you will see another walkway going right."

"I see it," Grant said.

"Follow that walkway."

"Okay."

"As you continue," Wu said, "you will come to a ladder on your left. Going down into the pit."

"I see it."

"Go down the ladder."

There was a long pause. Wu ran his fingers through his damp hair. Muldoon frowned tensely.

"Okay, I'm down the ladder," Grant said.

"Good," Wu said. "Now, straight ahead of you should be two large yellow tanks that are marked 'Flammable.' "

"They say '*In*-flammable.' And then something underneath. In Spanish."

"Those are the ones," Wu said. "Those are the two fuel tanks for the generator. One of them has been run dry, and so we have to switch over to the other. If you look at the bottom of the tanks, you'll see a white pipe coming out."

"Four-inch PVC?"

"Yes. PVC. Follow that pipe as it goes back."

"Okay. I'm following it. ... *Ow!"*

"What happened?"

"Nothing. I hit my head."

There was a pause.

"Are you all right?"

"Yeah, fine. Just ... hurt my head. Stupid."

"Keep following the pipe."

"Okay, okay," Grant said. He sounded irritable. "Okay. The pipe goes to a big aluminum box with air vents in the sides. Says 'Honda.' It looks like the generator."

"Yes," Wu said. "That's the generator. If you walk around to the side, you'll see a panel with two buttons."

"I see them. Yellow and red?"

"That's right," Wu said. "Press the yellow one first, and while you hold it down, press the red one."

"Right."

There was another pause. It lasted almost a minute. Wu and Muldoon looked at each other.

"Alan?"

"It didn't work," Grant said.

"Did you hold down the yellow first and then press the red?" Wu asked.

"Yes, I did," Grant said. He sounded annoyed. "I did exactly what you told me to do. There was a hum, and then a click, click, click, very fast, and then the hum stopped, and nothing after that."

"Try it again."

"I already did," Grant said. "It didn't work."

"Okay, just a minute." Wu frowned. "It sounds like the generator is trying to fire up but it can't for some reason. Alan?"

"I'm here."

"Go around to the back of the generator, to where the plastic pipe runs in."

"Okay." A pause; then Grant said, "The pipe goes into a round black cylinder that looks like a fuel pump."

"That's right," Wu said. "That's exactly what it is. It's the fuel pump. Look for a little valve at the top."

"A valve?"

"It should be sticking up at the top, with a little metal tab that you can turn."

"I found it. But it's on the side, not the top."

"Okay. Twist it open."

"Air is coming out."

"Good. Wait until—"

"—now liquid is coming out. It smells like gas."

"Okay. Close the valve." Wu turned to Muldoon, shaking his head. "Pump lost its prime. Alan?"

"Yes."

"Try the buttons again."

A moment later, Wu heard the faint coughing and sputtering as the generator turned over, and then the steady chugging sound as it caught. "It's on," Grant said.

"Good work, Alan! Good work!"

"Now what?" Grant said. He sounded flat, dull. "The lights haven't even come on in here."

"Go back to the control room, and I'll talk you through restoring the systems manually."

"That's what I have to do now?"

"Yes."

"Okay," Grant said. "I'll call you when I get there."

There was a final hiss, and silence.

"Alan?"

The radio was dead.

Tim went through the swinging doors at the back of the dining room and entered the kitchen. A big stainless-steel table in the center of the room, a big stove with lots of burners to the left, and, beyond that, big walk-in refrigerators. Tim started opening the refrigerators, looking for ice cream. Smoke came out in the humid air as he opened each one.

"How come the stove is on?" Lex said, releasing his hand.

"It's not on."

"They all have little blue flames."

"Those're pilot lights."

"What're pilot lights?" They had an electric stove at home.

"Never mind," Tim said, opening another refrigerator. "But it means I can cook you something." In this next refrigerator, he found all kinds of stuff, cartons of milk, and piles of vegetables, and a stack of T-bone steaks, fish—but no ice cream.

"You still want ice cream?"

"I told you, didn't I?"

The next refrigerator was huge. A stainless-steel door, with a wide horizontal handle. He tugged on the handle, pulled it open, and saw a walk-in freezer. It was a whole room, and it was freezing cold.

"Timmy ..."

"Will you wait a minute?" he said, annoyed. "I'm trying to find your ice cream."

"Timmy ... *something's here*."

She was whispering, and for a moment the last two words didn't register. Then Tim hurried back out of the freezer, seeing the edge of the door wreathed in glowing green smoke. Lex stood by the steel worktable. She was looking back to the kitchen door.

He heard a low hissing sound, like a very large snake. The sound rose and fell softly. It was hardly audible. It might even be the wind, but he somehow knew it wasn't.

"Timmy," she whispered, "I'm scared. ..."

He crept forward to the kitchen door and looked out.

In the darkened dining room, he saw the orderly green rectangular pattern of the tabletops. And moving smoothly among them, silent as a ghost except for the hissing of its breath, was a velociraptor.

In the darkness of the maintenance room, Grant felt along the pipes, moving back toward the ladder. It was difficult to make his way in the dark, and somehow he found the noise of the generator disorienting. He came to the ladder, and had started back up when he realized there was something else in the room besides generator noise.

Grant paused, listening.

It was a man shouting.

It sounded like Gennaro.

"Where are you?" Grant shouted.

"Over *here*," Gennaro said. "In the truck."

Grant couldn't see any truck. He squinted in the darkness. He looked out of the corner of his eye. He saw green glowing shapes, moving in the darkness. Then he saw the truck, and he turned toward it.

Tim found the silence chilling.

The velociraptor was six feet tall, and powerfully built, although its strong legs and tail were hidden by the tables. Tim could see only the muscular upper torso, the two forearms held tightly alongside the body, the claws dangling. He could see the iridescent speckled pattern on the back. The velociraptor was alert; as it came forward, it looked from side to side, moving its head with abrupt, bird-like jerks. The head also bobbed up and down as it walked, and the long straight tail dipped, which heightened the impression of a bird.

A gigantic, silent bird of prey.

The dining room was dark, but apparently the raptor could see well enough to move steadily forward. From time to time, it would bend over, lowering its head below the tables. Tim heard a rapid sniffing sound. Then the head would snap up, alertly, jerking back and forth like a bird's.

Tim watched until he was sure the velociraptor was coming toward the kitchen. Was it following their scent? All the books said dinosaurs had a poor sense of smell, but this one seemed to do just fine. Anyway, what did books know? Here was the real thing.

Coming toward him.

He ducked back into the kitchen.

"Is something out there?" Lex said.

Tim didn't answer. He pushed her under a table in the corner, behind a large waste bin. He leaned close to her and whispered fiercely: *"Stay here!"* And then he ran for the refrigerator.

He grabbed a handful of cold steaks and hurried back to the door. He quietly placed the first of the steaks on the floor, then moved back a few steps, and put down the second. ...

Through his goggles, he saw Lex peeping around the bin. He waved her back. He placed the third steak, and the fourth, moving deeper into the kitchen.

The hissing was louder, and then the clawed hand gripped the door, and the big head peered cautiously around.

The velociraptor paused at the entrance to the kitchen.

Tim stood in a half-crouch at the back of the room, near the far leg of the steel worktable. But he had not had time to conceal himself; his head and shoulders still protruded over the tabletop. He was in clear view of the velociraptor.

Slowly, Tim lowered his body, sinking beneath the table. ... The velociraptor jerked its head around, looking directly at Tim.

Tim froze. He was still exposed, but he thought, *Don't move.*

The velociraptor stood motionless in the doorway.

Sniffing.

It's darker here, Tim thought. He can't see so well. It's making him cautious.

But now he could smell the musty odor of the big reptile, and through his goggles he saw the dinosaur silently yawn, throwing back its long snout,

exposing rows of razor-sharp teeth. The velociraptor stared forward again, jerking its head from side to side. The big eyes swiveled in the bony sockets.

Tim felt his heart pounding. Somehow it was worse to be confronted by an animal like this in a kitchen, instead of the open forest. The size, the quick movements, the pungent odor, the hissing breath ...

Up close, it was a much more frightening animal than the tyrannosaur. The tyrannosaur was huge and powerful, but it wasn't especially smart. The velociraptor was man-size, and it was clearly quick and intelligent; Tim feared the searching eyes almost as much as the sharp teeth.

The velociraptor sniffed. It stepped forward—moving directly toward Lex! It must smell her, somehow! Tim's heart thumped.

The velociraptor stopped. It bent over slowly.

He's found the steak.

Tim wanted to bend down, to look below the table, but he didn't dare move. He stood frozen in a half-crouch, listening to the crunching sound. The dinosaur was eating it. Bones and all.

The raptor raised its slender head, and looked around. It sniffed. It saw the second steak. It moved quickly forward. It bent down.

Silence.

The raptor didn't eat it.

The head came back up. Tim's legs burned from the crouch, but he didn't move.

Why hadn't the animal eaten the second steak? A dozen ideas flashed through his mind—it didn't like the taste of beef, it didn't like the coldness, it didn't like the fact that the meat wasn't alive, it smelled a trap, it smelled Lex, it smelled Tim, it saw Tim—

The velociraptor moved very quickly now. It found the third steak, dipped its head, looked up again, and moved on.

Tim held his breath. The dinosaur was now just a few feet from him. Tim could see the small twitches in the muscles of the flanks. He could see the crusted blood on the claws of the hand. He could see the fine pattern of striations within the spotted pattern, and the folds of skin in the neck below the jaw.

The velociraptor sniffed. It jerked its head, and looked right at Tim. Tim nearly gasped with fright. Tim's body was rigid, tense. He watched as the reptile eye moved, scanning the room. Another sniff.

He's got me, Tim thought.

Then the head jerked back to look forward, and the animal went on, toward the fifth steak. Tim thought, Lex please don't move please don't move whatever you do please don't ...

The velociraptor sniffed the steak, and moved on. It was now at the open door to the freezer. Tim could see the smoke billowing out, curling along the floor toward the animal's feet. One big clawed foot lifted, then came down again, silently. The dinosaur hesitated. Too cold, Tim thought. He won't go in there, it's too cold, he won't go in he won't go in he won't go in. ...

The dinosaur went in.

The head disappeared, then the body, then the stiff tail.

Tim sprinted, flinging his weight against the stainless-steel door of the locker, slamming it shut. It slammed on the tip of the tail! The door wouldn't shut! The velociraptor roared, a terrifying loud sound. Inadvertently, Tim took a step back—the tail was gone! He slammed the door shut and heard it click! Closed!

"Lex! Lex!" he was screaming. He heard the raptor pounding against the door, felt it thumping the steel. He knew there was a flat steel knob inside, and if the raptor hit that, it would knock the door open. They had to get the door locked. "Lex!"

Lex was by his side. "What do you want!"

Tim leaned against the horizontal door handle, holding it shut. "There's a pin! A little pin! Get the pin!"

The velociraptor roared like a lion, the sound muffled by the thick steel. It crashed its whole body against the door.

"I can't see anything!" Lex shouted.

The pin was dangling beneath the door handle, swinging on a little metal chain. "It's right there!"

"I can't see it!" she screamed, and then Tim realized she wasn't wearing the goggles.

"Feel for it!"

He saw her little hand reaching up, touching his, groping for the pin, and with her so close to him he could feel how frightened she was, her breath in little panicky gasps as she felt for the pin, and the velociraptor slammed against the door and it opened—God, *it opened*—but the animal hadn't expected that and had already turned back for another try and Tim slammed the door shut again. Lex scrambled back, reached up in the darkness.

"I have it!" Lex cried, clutching the pin in her hand, and she pushed it through the hole. It slid out again.

"From the top, put it in *from the top!"*

She held it again, lifting it on the chain, swinging it over the handle, and down. Into the hole.

Locked.

The velociraptor roared. Tim and Lex stepped back from the door as the dinosaur slammed into it again. With each impact, the heavy steel wall hinges creaked, but they held. Tim didn't think the animal could possibly open the door.

The raptor was locked in.

He gave a long sigh. "Let's go," he said.

He took her hand, and they ran.

"You should have seen them," Gennaro said, as Grant led him back out of the maintenance building. "There must have been two dozen of them. Compys. I had to crawl into the truck to get away from them. They were all over the windshield. Just squatting there, waiting like buzzards. But they ran away when you came over."

"Scavengers," Grant said. "They won't attack anything that's moving or looks strong. They attack things that are dead, or almost dead. Anyway, unmoving."

They were going up the ladder now, back toward the entrance door. "What

happened to the raptor that attacked you?" Grant said.

"I don't know," Gennaro said.

"Did it leave?"

"I didn't see. I got away, I think because it was injured. I think Muldoon shot it in the leg and it was bleeding while it was in here. Then ... I don't know. Maybe it went back outside. Maybe it died in here. I didn't see."

"And maybe it's still in here," Grant said.

Wu stared out the lodge window at the raptors beyond the fence. They still seemed playful, making mock attacks at Ellie. The behavior had continued for a long time now, and it occurred to him that it might be too long. It almost seemed as if they were trying to keep Ellie's attention, in the same way that she was trying to keep theirs.

The behavior of the dinosaurs had always been a minor consideration for Wu. And rightly so: behavior was a second-order effect of DNA, like protein enfolding. You couldn't really predict behavior, and you couldn't really control it, except in very crude ways, like making an animal dependent on a dietary substance by withholding an enzyme. But, in general, behavioral effects were simply beyond the reach of understanding. You couldn't look at a DNA sequence and predict behavior. It was impossible.

And that had made Wu's DNA work purely empirical. It was a matter of tinkering, the way a modern workman might repair an antique grandfather clock. You were dealing with something out of the past, something constructed of ancient materials and following ancient rules. You couldn't be certain why it worked as it did; and it had been repaired and modified many times already, by forces of evolution, over eons of time. So, like the workman who makes an adjustment and then sees if the clock runs any better, Wu would make an adjustment and then see if the animals behaved any better. And he only tried to correct gross behavior: uncontrolled butting of the electrical fences, or rubbing the skin raw on tree trunks. Those were the behaviors that sent him back to the drawing board.

And the limits of his science had left him with a mysterious feeling about the dinosaurs in the park. He was never sure, never really sure at all, whether the behavior of the animals was historically accurate or not. Were they behaving as they really had in the past? It was an open question, ultimately unanswerable.

And though Wu would never admit it, the discovery that the dinosaurs were breeding represented a tremendous validation of his work. A breeding animal was demonstrably effective in a fundamental way; it implied that Wu had put all the pieces together correctly. He had re-created an animal millions of years old, with such precision that the creature could even reproduce itself.

But, still, looking at the raptors outside, he was troubled by the persistence of their behavior. Raptors were intelligent, and intelligent animals got bored quickly. Intelligent animals also formed plans, and—

Harding came out into the hallway from Malcolm's room. "Where's Ellie?"

"Still outside."

"Better get her in. The raptors have left the skylight."

"When?" Wu said, moving to the door.

"Just a moment ago," Harding said.

Wu threw open the front door. "Ellie! Inside, now!"

She looked over at him, puzzled. "There's no problem, everything's under control. ..."

"Now!"

She shook her head. "I know what I'm doing," she said.

"Now, Ellie, damn it!"

Muldoon didn't like Wu standing there with the door open, and he was about to say so, when he saw a shadow descend from above, and he realized at once what had happened. Wu was yanked bodily out the door, and Muldoon heard Ellie screaming. Muldoon got to the door and looked out and saw that Wu was lying on his back, his body already torn open by the big claw, and the raptor was jerking its head, tugging at Wu's intestines even though Wu was still alive, still feebly reaching up with his hands to push the big head away, he was being eaten while he was still alive, and then Ellie stopped screaming and started to run along the inside of the fence, and Muldoon slammed the door shut, dizzy with horror. It had happened so fast!

Harding said, "He jumped down from the roof?"

Muldoon nodded. He went to the window and looked out, and he saw that the three raptors outside the fence were now running away. But they weren't following Ellie.

They were going back, toward the visitor center.

Grant came to the edge of the maintenance building and peered forward, in the fog. He could hear the snarls of the raptors, and they seemed to be coming closer. Now he could see their bodies running past him. They were going to the visitor center.

He looked back at Gennaro.

Gennaro shook his head, no.

Grant leaned close and whispered in his ear. "No choice. We've got to turn on the computer."

Grant set out in the fog.

After a moment, Gennaro followed.

Ellie didn't stop to think. When the raptors dropped inside the fence to attack Wu, she just turned and ran, as fast as she could, toward the far end of the lodge. There was a space fifteen feet wide between the fence and the lodge. She ran, not hearing the animals pursuing her, just hearing her own breath. She rounded the corner, saw a tree growing by the side of the building, and leapt, grabbing a branch, swinging up. She didn't feel panic. She felt a kind of exhilaration as she kicked and saw her legs rise up in front of her face, and she hooked her legs over a branch farther up, tightened her gut, and pulled up quickly.

She was already twelve feet off the ground, and the raptors still weren't following her, and she was beginning to feel pretty good, when she saw the first animal at the base of the tree. Its mouth was bloody, and bits of stringy flesh

hung from its jaws. She continued to go up fast, hand over hand, just reaching and going, and she could almost see the top of the building. She looked down again.

The two raptors were climbing the tree.

Now she was at the level of the rooftop, she could see the gravel only four feet away, and the glass pyramids of the skylights, sticking up in the mist. There was a door on the roof; she could get inside. In a single heaving effort she flung herself through the air, and landed sprawling on the gravel. She scraped her face, but somehow the only sensation was exhilaration, as if it were a kind of game she was playing, a game she intended to win. She ran for the door that led to the stairwell. Behind her, she could hear the raptors shaking the branches of the tree. They were still in the tree.

She reached the door, and twisted the knob.

The door was locked.

It took a moment for the meaning of that to cut through her euphoria. The door was locked. She was on the roof and she couldn't get down. *The door was locked.*

She pounded on the door in frustration, and then she ran for the far side of the roof, hoping to see a way down, but there was only the green outline of the swimming pool through the blowing mist. All around the pool was concrete decking. Ten, twelve feet of concrete. Too much for her to jump across. No other trees to climb down. No stairs. No fire escape.

Nothing.

Ellie turned back, and saw the raptors jumping easily to the roof. She ran to the far end of the building, hoping there might be another door there, but there wasn't.

The raptors came slowly toward her, stalking her, slipping silently among the glass pyramids. She looked down. The edge of the pool was ten feet away.

Too far.

The raptors were closer, starting to move apart, and illogically she thought: *Isn't this always the way? Some little mistake screws it all up.* She still felt giddy, still felt exhilaration, and she somehow couldn't believe these animals were going to get her, she couldn't believe that now her life was going to end like this. It didn't seem possible. She was enveloped in a kind of protective cheerfulness. She just didn't believe it would happen.

The raptors snarled. Ellie backed away, moving to the far end of the roof. She took a breath, and then began to sprint toward the edge. As she raced toward the edge, she saw the swimming pool, and she knew it was too far away but she thought, *What the hell,* and leapt into space.

And fell.

And with a stinging shock, she felt herself enveloped in coldness. She was underwater. She had done it! She came to the surface and looked up at the roof, and saw the raptors looking down at her. And she knew that, if she could do it, the raptors could do it, too. She splashed in the water and thought, *Can raptors swim?* But she was sure they could. They could probably swim like crocodiles.

The raptors turned away from the edge of the roof. And then she heard

Harding calling "Sattler?" and she realized he had opened the roof door. The raptors were going toward him.

Hurriedly, she climbed out of the pool and ran toward the lodge.

Harding had gone up the steps to the roof two at a time, and he had flung open the door without thinking. "Sattler!" he shouted. And then he stopped. Mist blew among the pyramids on the roof. The raptors were not in sight.

"Sattler!"

He was so preoccupied with Sattler that it was a moment before he realized his mistake. He should be able to see the animals, he thought. In the next instant the clawed forearm smashed around the side of the door, catching him in the chest with a tearing pain, and it took all of his effort to pull himself backward and close the door on the arm, and from downstairs he heard Muldoon shouting, "She's here, she's already inside."

From the other side of the door, the raptor snarled, and Harding slammed the door again, and the claws pulled back, and he closed the door with a metallic clang and sank coughing to the floor.

"Where are we going?" Lex said. They were on the second floor of the visitor center. A glass-walled corridor ran the length of the building.

"To the control room," Tim said.

"Where's that?"

"Down here someplace." Tim looked at the names stenciled on the doors as he went past them. These seemed to be offices: PARK WARDEN ... GUEST SERVICES ... GENERAL MANAGER ... COMPTROLLER ...

They came to a glass partition marked with a sign:

CLOSED AREA
AUTHORIZED PERSONNEL ONLY
BEYOND THIS POINT

There was a slot for a security card, but Tim just pushed the door open.

"How come it opened?"

"The power is out," Tim said.

"Why're we going to the control room?" she asked.

"To find a radio. We need to call somebody."

Beyond the glass door the hallway continued. Tim remembered this area; he had seen it earlier, during the tour. Lex trotted along at his side. In the distance, they heard the snarling of raptors. The animals seemed to be approaching. Then Tim heard them slamming against the glass downstairs.

"They're out there ..." Lex whispered.

"Don't worry."

"What are they doing here?" Lex said.

"Never mind now."

PARK SUPERVISOR ... OPERATIONS ... MAIN CONTROL ...

"Here," Tim said. He pushed open the door. The main control room was as he

had seen it before. In the center of the room was a console with four chairs and four computer monitors. The room was entirely dark except for the monitors, which all showed a series of colored rectangles.

"So where's a radio?" Lex said.

But Tim had forgotten all about a radio. He moved forward, staring at the computer screens. The screens were on! That could only mean—

"The power must be back on. ..."

"Ick," Lex said, shifting her body.

"What."

"I was standing on somebody's *ear*," she said.

Tim hadn't seen a body when they came in. He looked back and saw there was just an ear, lying on the floor.

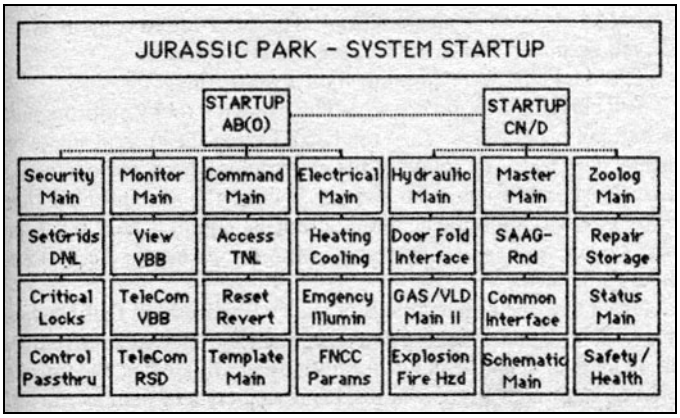
"That is really disgusting," Lex said.

"Never mind." He turned to the monitors.

"Where's the rest of him?" she said.

"Never mind that now."

He peered closely at the monitor. There were rows of colored labels on the screen:



"You better not fool around with that, Timmy," she said.

"Don't worry, I won't."

He had seen complicated computers before, like the ones that were installed in the buildings his father worked on. Those computers controlled everything from the elevators and security to the heating and cooling systems. They looked basically like this—a lot of colored labels—but they were usually simpler to understand. And almost always there was a help label, if you needed to learn about the system. But he saw no help label here. He looked again, to be sure.

But then he saw something else: numerals clicking in the upper left corner of the screen. They read 10:47:22. Then Tim realized it was the time. There were only thirteen minutes left for the boat—but he was more worried about the people in the lodge.

There was a static crackle. He turned, and saw Lex holding a radio. She was twisting the knobs and dials. "How does it work?" she said. "I can't make it work."

"Give me that!"

"It's mine! I found it!"
"Give it to me, Lex!"
"I get to use it first!"
"Lex!"
Suddenly, the radio crackled. *"What the hell is going on!"* said Muldoon's voice.
Surprised, Lex dropped the radio on the floor.

Grant ducked back, crouching among the palm trees. Through the mist ahead he could see the raptors hopping and snarling and butting their heads against the glass of the visitor center. But, between snarls, they would fall silent and cock their heads, as if listening to something distant. And then they would make little whimpering sounds.
"What're they doing?" Gennaro said.
"It looks like they're trying to get into the cafeteria," Grant said.
"What's in the cafeteria?"
"I left the kids there ..." Grant said.
"Can they break through that glass?"
"I don't think so, no."
Grant watched, and now he heard the crackle of a distant radio, and the raptors began hopping in a more agitated way. One after another, they began jumping higher and higher, until finally he saw the first of them leap lightly onto the second-floor balcony, and from there move inside the second floor of the visitor center.

In the control room on the second floor, Tim snatched up the radio which Lex had dropped. He pressed the button. "Hello? Hello?"
"—s that you, Tim?" It was Muldoon's voice.
"It's me, yes."
"Where are you?"
"In the control room. The power is on!"
"That's great, Tim," Muldoon said.
"If someone will tell me how to turn the computer on, I'll do it."
There was a silence.
"Hello?" Tim said. "Did you hear me?"
"Ah, we have a problem about that," Muldoon said. "Nobody, ah, who is here knows how to do that. How to turn the computer on."
Tim said, "What, are you kidding? Nobody knows?" It seemed incredible.
"No." A pause. "I think it's something about the main grid. Turning on the main grid ... You know anything about computers, Tim?"
Tim stared at the screen. Lex nudged him. "Tell him no, Timmy," she said.
"Yes, some. I know something," Tim said.
"Might as well try," Muldoon said. "Nobody here knows what to do. And Grant doesn't know about computers."
"Okay," Tim said. "I'll try." He clicked off the radio and stared at the screen, studying it.
"Timmy," Lex said. "You don't know what to do."

"Yes I do."

"If you know, then do it," Lex said.

"Just a minute." As a way to get started, he pulled the chair close to the keyboard and pressed the cursor keys. Those were the keys that moved the cursor around on the screen. But nothing happened. Then he pushed other keys. The screen remained unchanged.

"Well?" she said.

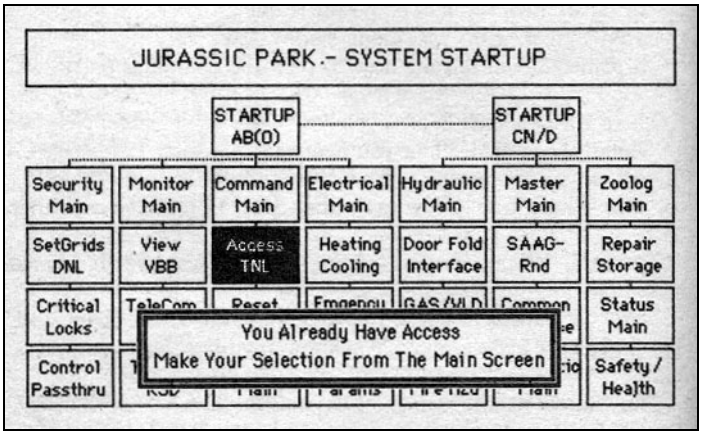
"Something's wrong," Tim said, frowning.

"You just don't know, Timmy," she said.

He examined the computer again, looking at it carefully. The keyboard had a row of function keys at the top, just like a regular PC keyboard, and the monitor was big and in color. But the monitor housing was sort of unusual. Tim looked at the edges of the screen and saw lots of faint pinpoints of red light.

Red light, all around the borders of the screen ... What could that be? He moved his finger toward the light and saw the soft red glow on his skin.

He touched the screen and heard a beep.



A moment later, the message box disappeared, and the original screen flashed back up.

"What happened?" Lex said. "What did you do? You touched something."

Of course! he thought. He had touched the screen. It was a touch screen! The red lights around the edges must be infrared sensors. Tim had never seen such a screen, but he'd read about them in magazines. He touched RESET/REVERT.

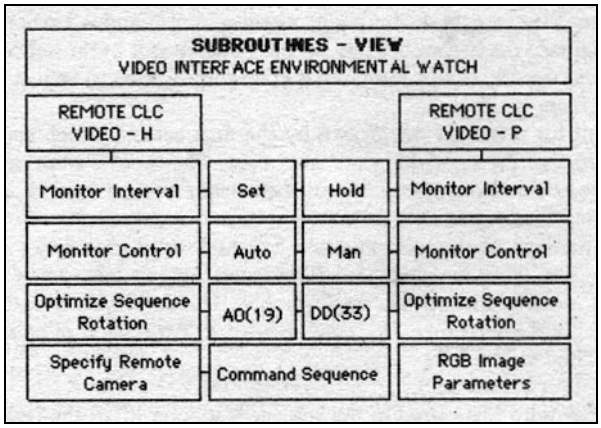
Instantly the screen changed. He got a new message:

THE COMPUTER IS NOW RESET
MAKE YOUR SELECTION
FROM THE MAIN SCREEN

Over the radio, they heard the sound of raptors snarling. "I want to see," Lex said. "You should try VIEW."

"No, Lex."

"Well, I want VIEW," she said. And before he could grab her hand, she had pressed view. The screen changed.



"Uh-oh," she said.

"Lex, will you cut it out?"

"Look!" she said. "It worked! Ha!"

Around the room, the monitors showed quickly changing views of different parts of the park. Most of the images were misty gray, because of the exterior fog, but one showed the outside of the lodge, with a raptor on the roof, and then another switched to an image in bright sunlight, showing the bow of a ship, bright sunlight—

"What was that?" Tim said, leaning forward.

"What?"

"That picture!"

But the image had already changed, and now they were seeing the inside of the lodge, one room after another, and then he saw Malcolm, lying in a bed—

"Stop it," Lex said. "I see them!"

Tim touched the screen in several places, and got submenus. Then more submenus.

"Wait," Lex said. "You're confusing it. ..."

"Will you shut up! You don't know anything about computers!"

Now he had a list of monitors on the screen. One of them was marked SAFARI LODGE: LV2-4. Another was REMOTE: SHIPBOARD (VND). He pressed the screen several times.

Video images came up on monitors around the room. One showed the bow of the supply ship, and the ocean ahead. In the distance, Tim saw land—buildings along a shore, and a harbor. He recognized the harbor because he had flown over it in the helicopter the day before. It was Puntarenas. The ship seemed to be just minutes from landing.

But his attention was drawn by the next screen, which showed the roof of the safari lodge, in gray mist. The raptors were mostly hidden behind the pyramids, but their heads bobbed up and down, coming into view.

And then, on the third monitor, he could see inside a room. Malcolm was lying in a bed, and Ellie stood next to him. They were both looking upward. As they watched, Muldoon walked into the room, and joined them, looking up with an expression of concern.

"They see us," Lex said.

"I don't think so."

The radio crackled. On the screen, Muldoon lifted the radio to his lips. "Hello, Tim?"

"I'm here," Tim said.

"Ah, we haven't got a whole lot of time," Muldoon said, dully. "Better get that power grid on." And then Tim heard the raptors snarl, and saw one of the long heads duck down through the glass, briefly entering the picture from the top, snapping its jaws.

"Hurry, Timmy!" Lex said. "Get the power on!"

THE GRID

Tim suddenly found himself lost in a tangled series of monitor control screens, as he tried to get back to the main screen. Most systems had a single button or a single command to return to the previous screen, or to the main menu. But this system did not—or at least he didn't know it. Also, he was certain that help commands had been built into the system, but he couldn't find them either, and Lex was jumping up and down and shouting in his ear, making him nervous.

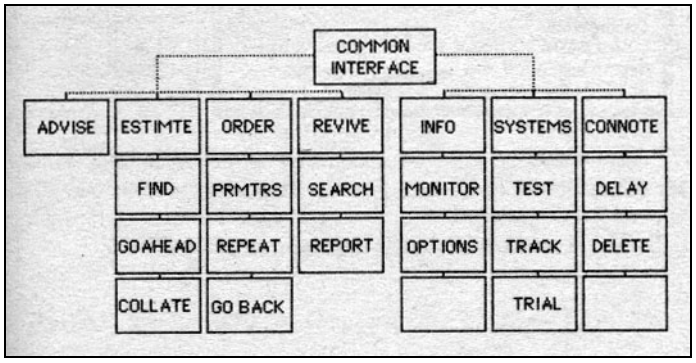
Finally he got the main screen back. He wasn't sure what he had done, but it was back. He paused, looking for a command.

"Do something, Timmy!"

"Will you shut up? I'm trying to get help." He pushed TEMPLATE-MAIN. The screen filled with a complicated diagram, with interconnecting boxes and arrows.

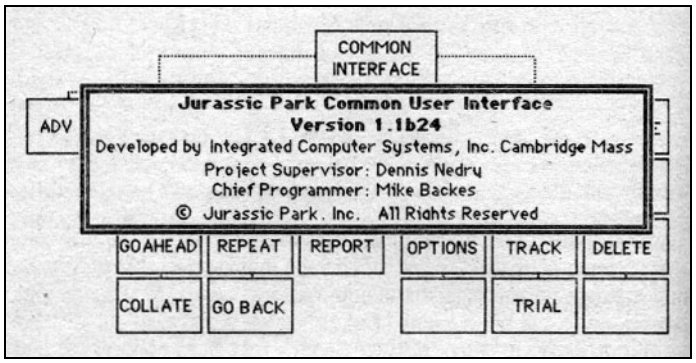
No good. No good.

He pushed COMMON INTERFACE. The screen shifted:

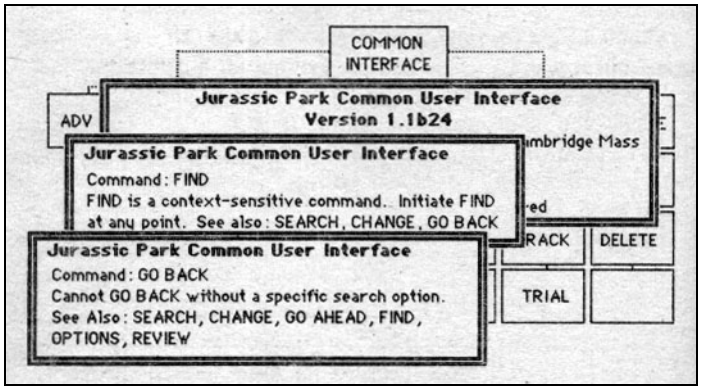


"What's that?" Lex said. "Why aren't you turning on the power, Timmy?"

He ignored her. Maybe help on this system was called "info.' He pushed INFO.

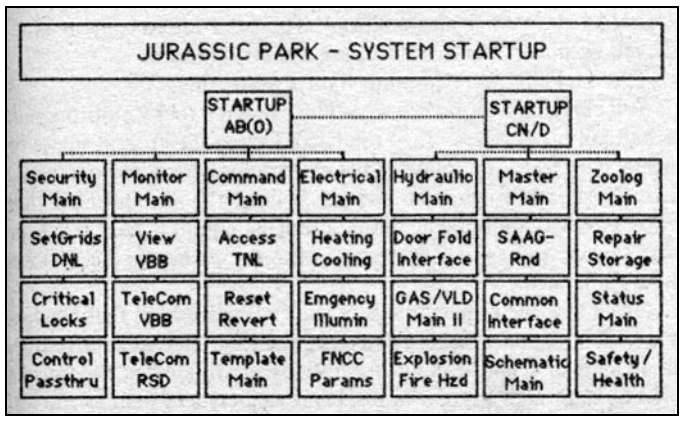


"Tim-ee," Lex wailed, but he had already pushed FIND. He got another useless window. He pushed GO BACK.

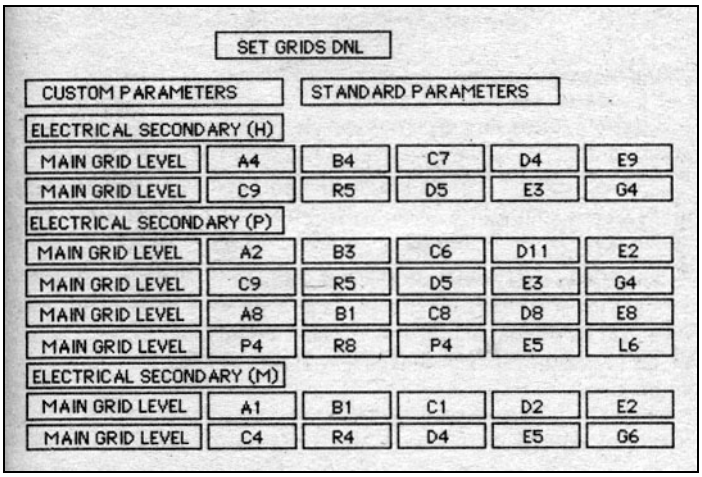


On the radio, he heard Muldoon say, "How's it coming, Tim?" He didn't bother to answer. Frantic, he pushed buttons one after another.

Suddenly, without warning, the main screen was back.



He studied the screen. ELECTRICAL MAIN and SETGRIDS DNL both looked like they might have something to do with grids. He noticed that safety/health and critical locks might be important, too. He heard the growl of the raptors. He had to make a choice. He pressed SETGRIDS DNL, and groaned when he saw it:



SET GRIDS DNL

CUSTOM PARAMETERS		STANDARD PARAMETERS			
ELECTRICAL SECONDARY (H)					
MAIN GRID LEVEL	A4	B4	C7	D4	E9
MAIN GRID LEVEL	C9	R5	D5	E3	G4
ELECTRICAL SECONDARY (P)					
MAIN GRID LEVEL	A2	B3	C6	D11	E2
MAIN GRID LEVEL	C9	R5	D5	E3	G4
MAIN GRID LEVEL	A8	B1	C8	D8	E8
MAIN GRID LEVEL	P4	R8	P4	E5	L6
ELECTRICAL SECONDARY (M)					
MAIN GRID LEVEL	A1	B1	C1	D2	E2
MAIN GRID LEVEL	C4	R4	D4	E5	G6

He didn't know what to do. He pushed STANDARD PARAMETERS.

STANDARD PARAMETERS

Park Grids	B4-C6	Outer Grids	C2-D2
Zoological Grids	BB-07	Pen Grids	R4-R4
Lodge Grids	F4-D4	Maint Grids	E5-L6
Main Grids	C4-G7	Sensor Grids	D5-G4
Utility Grids	AH-B5	Core Grids	A1-C1

Circuit Integrity Not Tested
Security Grids Remain Automatic

Tim shook his head in frustration. It took him a moment to realize that he had just gotten valuable information. He now knew the grid coordinates for the lodge! He pushed grid F4.

POWER GRID F4 (SAFARI LODGE)

COMMAND CANNOT BE EXECUTED. ERROR-505

(Power Incompatible with Command Error.
Ref Manual Pages 4.09-4.11)

"It's not working," Lex said.
"I know!" He pushed another button. The screen flashed again.

POWER GRID D4 (SAFARI LODGE)

COMMAND CANNOT BE EXECUTED. ERROR-505

(Power Incompatible with Command Error.
Ref Manual Pages 4.09-4.11)

Tim tried to stay calm, to think it through. For some reason he was getting a

consistent error message whenever he tried to turn on a grid. It was saying the power was incompatible with the command he was giving. But what did that mean? Why was power incompatible?

"Timmy ..." Lex said, tugging at his arm.

"Not *now,* Lex."

"Yes, now," she said, and she pulled him away from the screen and the console. And then he heard the snarling of raptors.

It was coming from the hallway.

* * *

In the skylight above Malcolm's bed, the raptors had almost bitten through the second metal bar. They could now poke their heads entirely through the shattered glass, and lunge and snarl at the people below. Then after a moment they would pull back, and resume chewing on the metal.

Malcolm said, "It won't be long now. Three, four minutes." He pressed the button on the radio: "Tim, are you there? Tim?"

There was no answer.

Tim slipped out the door and saw the velociraptor, down at the far end of the corridor, standing by the balcony. He stared in astonishment. How had it gotten out of the freezer?

Then, as he watched, a second raptor suddenly appeared on the balcony, and he understood. The raptor hadn't come from the freezer at all. It had come from outside. It had *jumped* from the ground below. The second raptor landed silently, perfectly balanced on the railing. Tim couldn't believe it. The big animal had jumped ten feet straight up. More than ten feet. Their legs must be incredibly powerful.

Lex whispered, "I thought you said they couldn't—"

"Ssshh." Tim was trying to think, but he watched with a kind of fascinated dread as the third raptor leapt to the balcony. The animals milled aimlessly in the corridor for a moment, and then they began to move forward in single file. Coming toward him and Lex.

Quietly, Tim pushed against the door at his back, to re-enter the control room. But the door was stuck. He pushed harder.

"We're locked out," Lex whispered. "Look." She pointed to the slot for the security card alongside the door. A bright red dot glowed. Somehow the security doors had been activated. "You idiot, you locked us out!"

Tim looked down the corridor. He saw several more doors, but each had a red light glowing alongside. That meant all the doors were locked. There was nowhere they could go.

Then he saw a slumped shape on the floor at the far end of the corridor. It was a dead guard. A white security card was clipped to his belt.

"Come on," he whispered. They ran for the guard. Tim got the card, and turned back. But of course the raptors had seen them. They snarled, and blocked the way back to the control room. They began to spread apart, fanning out in the hallway to surround Tim and Lex. Their heads began to duck rhythmically.

They were going to attack.

Tim did the only thing he could do. Using the card, he opened the nearest door off the hallway and pushed Lex through. As the door began to close slowly behind them, the raptors hissed and charged.

LODGE

Ian Malcolm drew each breath as if it might be his last. He watched the raptors with dull eyes. Harding took his blood pressure, frowned, took it again. Ellie Sattler was wrapped in a blanket, shivering and cold. Muldoon sat on the floor, propped against the wall. Hammond was staring upward, not speaking. They all listened to the radio.

"What happened to Tim?" Hammond said. "Still no word?"

"I don't know."

Malcolm said, "Ugly, aren't they. Truly ugly."

Hammond shook his head. "Who could have imagined it would turn out this way."

Ellie said, "Apparently Malcolm did."

"I didn't imagine it," Malcolm said. "I *calculated* it."

Hammond sighed. "No more of this, please. He's been saying 'I told you so' for hours. But nobody ever wanted this to happen."

"It isn't a matter of wanting it or not," Malcolm said, eyes closed. He spoke slowly, through the drugs. "It's a matter of what you think you can accomplish. When the hunter goes out in the rain forest to seek food for his family, does he expect to control nature? No. He imagines that nature is beyond him. Beyond his understanding. Beyond his control. Maybe he prays to nature, to the fertility of the forest that provides for him. He prays because he knows he doesn't control it. He's at the mercy of it.

"But you decide you won't be at the mercy of nature. You decide you'll control nature, and from that moment on you're in deep trouble, because you can't do it. Yet you have made systems that require you to do it. And you can't do it—and you never have—and you never will. Don't confuse things. You can make a boat, but you can't make the ocean. You can make an airplane, but you can't make the air. Your powers are much less than your dreams of reason would have you believe."

"He's lost me," Hammond said, with a sigh. "Where did Tim go? He seemed such a responsible boy."

"I'm sure he's trying to get control of the situation," Malcolm said. "Like everybody else."

"And Grant, too. What happened to Grant?"

Grant reached the rear door to the visitor center, the same door he had left twenty minutes before. He tugged on the handle: it was locked. Then he saw the little red light. The security doors were reactivated! Damn! He ran around to the

front of the building, and went through the shattered front doors into the main lobby, stopping by the guard desk where he had been earlier. He could hear the dry hiss of his radio. He went to the kitchen, looking for the kids, but the kitchen door was open, the kids gone.

He went upstairs but came to the glass panel marked CLOSED AREA and the door was locked. He needed a security card to go farther.

Grant couldn't get in.

From somewhere inside the hallway, he heard the raptors snarling.

The leathery reptile skin touched Tim's face, the claws tore his shirt, and Tim fell onto his back, shrieking in fright.

"Timmy!" Lex yelled.

Tim scrambled to his feet again. The baby velociraptor perched on his shoulder, chirping and squeaking in panic. Tim and Lex were in the white nursery. There were toys on the floor: a rolling yellow ball, a doll, a plastic rattle.

"It's the baby raptor," Lex said, pointing to the animal gripping Tim's shoulder.

The little raptor burrowed its head into Tim's neck. The poor thing was probably starving, Tim thought.

Lex came closer and the baby hopped onto her shoulder. It rubbed against her neck. "Why is it doing that?" she said. "Is it scared?"

"I don't know," Tim said.

She passed the raptor back to Tim. The baby was chirping and squeaking, and hopping up and down on his shoulder excitedly. It kept looking around, head moving quickly. No doubt about it, the little thing was worked up and—

"Tim," Lex whispered.

The door to the hallway hadn't closed behind them after they entered the nursery. Now the big velociraptors were coming through. First one, then a second one.

Clearly agitated, the baby chirped and bounced on Tim's shoulder. Tim knew he had to get away. Maybe the baby would distract them. After all, it was a baby raptor. He plucked the little animal from his shoulder and threw it across the room. The baby scurried between the legs of the adults. The first raptor lowered its snout, sniffed at the baby delicately.

Tim took Lex's hand, and pulled her deeper into the nursery. He had to find a door, a way to get out—

There was a high piercing shriek. Tim looked back to see the baby in the jaws of the adult. A second velociraptor came forward and tore at the limbs of the infant, trying to pull it from the mouth of the first. The two raptors fought over the baby as it squealed. Blood splattered in large drops onto the floor.

"They *ate* him," Lex said.

The raptors fought over the remains of the baby, rearing back and butting heads. Tim found a door—it was unlocked—and went through, pulling Lex after him.

They were in another room, and from the deep green glow he realized it was the deserted DNA-extraction laboratory, the rows of stereo microscopes abandoned, the high-resolution screens showing frozen, giant black-and-white

images of insects. The flies and gnats that had bitten dinosaurs millions of years ago, sucking the blood that now had been used to re-create dinosaurs in the park. They ran through the laboratory, and Tim could hear the snorts and snarls of the raptors, pursuing them, coming closer, and then he went to the back of the lab and through a door that must have had an alarm, because in the narrow corridor an intermittent siren sounded shrilly, and the lights overhead flashed on and off. Running down the corridor, Tim was plunged into darkness—then light again—then darkness. Over the sound of the alarm, he heard the raptors snort as they pursued him. Lex was whimpering and moaning. Tim saw another door ahead, with the blue biohazard sign, and he slammed into the door, and moved beyond it, and suddenly he collided with something big and Lex shrieked in terror.

"Take it easy, kids," a voice said.

Tim blinked in disbelief. Standing above him was Dr. Grant. And next to him was Mr. Gennaro.

Outside in the hallway, it had taken Grant nearly two minutes to realize that the dead guard down in the lobby probably had a security card. He'd gone back and gotten it, and entered the upper corridor, moving quickly down the hallway. He had followed the sound of the raptors and found them fighting in the nursery. He was sure the kids would have gone to the next room, and had immediately run to the extractions lab.

And there he'd met the kids.

Now the raptors were coming toward them. The animals seemed momentarily hesitant, surprised by the appearance of more people.

Grant pushed the kids into Gennaro's arms and said, "Take them back someplace safe."

"But—"

"Through there," Grant said, pointing over his shoulder to a far door. "Take them to the control room, if you can. You should all be safe there."

"What are you going to do?" Gennaro said.

The raptors stood near the door. Grant noticed that they waited until all the animals were together, and then they moved forward, as a group. Pack hunters. He shivered.

"I have a plan," Grant said. "Now go on."

Gennaro led the kids away. The raptors continued slowly toward Grant, moving past the supercomputers, past the screens that still blinked endless sequences of computer-deciphered code. The raptors came forward without hesitation, sniffing the floor, repeatedly ducking their heads.

Grant heard the door click behind him and glanced over his shoulder. Everybody was standing on the other side of the glass door, watching him. Gennaro shook his head.

Grant knew what it meant. There was no door to the control room beyond. Gennaro and the kids were trapped in there.

It was up to him now.

Grant moved slowly, edging around the laboratory, leading the raptors away from Gennaro and the kids. He could see another door, nearer the front, which was marked TO LABORATORY. Whatever that meant. He had an idea, and he hoped he was right. The door had a blue biohazard sign. The raptors were coming closer. Grant turned and slammed into the door, and moved beyond it, into a deep, warm silence.

He turned.

Yes.

He was where he wanted to be, in the hatchery: beneath infrared lights, long tables, with rows of eggs and a low clinging mist. The rockers on the tables clicked and whirred in a steady motion. The mist poured over the sides of the tables and drifted to the floor, where it disappeared, evaporated.

Grant ran directly to the rear of the hatchery, into a glass-walled laboratory with ultraviolet light. His clothing glowed blue. He looked around at the glass reagents, beakers full of pipettes, glass dishes ... all delicate laboratory equipment.

The raptors entered the room, cautiously at first, sniffing the humid air, looking at the long rocking tables of eggs. The lead animal wiped its bloody jaws with the back of its forearm. Silently the raptors passed between the long tables. The animals moved through the room in a coordinated way, ducking from time to time to peer beneath the tables.

They were looking for him.

Grant crouched, and moved to the back of the laboratory, looked up, and saw the metal hood marked with a skull and crossbones. A sign said CAUTION BIOGENIC TOXINS A4 PRECAUTIONS REQUIRED. Grant remembered that Regis had said they were powerful poisons. Only a few molecules would kill instantaneously. ...

The hood lay flush against the surface of the lab table. Grant could not slip his hand under it. He tried to open it, but there was no door, no handle, no way that he could see. ... Grant rose slowly, and glanced back at the main room. The raptors were still moving among the tables.

He turned to the hood. He saw an odd metal fixture sunk into the surface of the table. It looked like an outdoor electrical outlet with a round cover. He flipped up the cover, saw a button, pressed it.

With a soft hiss, the hood slid upward, to the ceiling.

He saw glass shelves above him, and rows of bottles marked with a skull and crossbones. He peered at the labels: CCK-55 ... TETRA-ALPHA SECRETIN ... THYMOLEVIN X-1612. ... The fluids glowed pale green in the ultraviolet light. Nearby he saw a glass dish with syringes in it. The syringes were small, each containing a tiny amount of green glowing fluid. Crouched in the blue darkness, Grant reached for the dish of syringes. The needles on the syringes were capped in plastic. He removed one cap, pulling it off with his teeth. He looked at the thin needle.

He moved forward. Toward the raptors.

He had devoted his whole life to studying dinosaurs. Now he would see how

much he really knew. Velociraptors were small carnivorous dinosaurs, like oviraptors and dromaeosaurs, animals that were long thought to steal eggs. Just as certain modern birds ate the eggs of other birds, Grant had always assumed that velociraptors would eat dinosaur eggs if they could.

He crept forward to the nearest egg table in the hatchery. Slowly he reached up into the mist and took a large egg from the rocking table. The egg was almost the size of a football, cream-colored with faint pink speckling. He held the egg carefully while he stuck the needle through the shell, and injected the contents of the syringe. The egg glowed faint blue.

Grant bent down again. Beneath the table, he saw the legs of the raptors, and the mist pouring down from the tabletops. He rolled the glowing egg along the floor, toward the raptors. The raptors looked up, hearing the faint rumble as the egg rolled, and jerked their heads around. Then they resumed their slow stalking search.

The egg stopped several yards from the nearest raptor.

Damn!

Grant did it all again: quietly reaching up for an egg, bringing it down, injecting it, and rolling it toward the raptors. This time, the egg came to rest by the foot of one velociraptor. It rocked gently, clicking against the big toe claw.

The raptor looked down in surprise at this new gift. It bent over and sniffed the glowing egg. It rolled the egg with its snout along the floor for a moment.

And ignored it.

The velociraptor stood upright again, and slowly moved on, continuing to search.

It wasn't working.

Grant reached for a third egg, and injected it with a fresh syringe. He held the glowing egg in his hands, and rolled it again. But he rolled this one fast, like a bowling ball. The egg rattled across the floor loudly.

One of the animals heard the sound—ducked down—saw it coming—and instinctively chased the moving object, gliding swiftly among the tables to intercept the egg as it rolled. The big jaws snapped down and bit into it, crushing the shell.

The raptor stood, pale albumen dripping from its jaws. It licked its lips noisily, and snorted. It bit again, and lapped the egg from the floor. But it didn't seem to be in the least distressed. It bent over to eat again from the broken egg. Grant looked down to see what would happen. ...

From across the room, the raptor saw him. *It was looking right at him.*

The velociraptor snarled menacingly. It moved toward Grant, crossing the room in long, incredibly swift strides. Grant was shocked to see it happening and froze in panic, when suddenly the animal made a gasping, gurgling sound and the big body pitched forward onto the ground. The heavy tail thumped the floor in spasms. The raptor continued to make choking sounds, punctuated by intermittent loud shrieks. Foam bubbled from its mouth. The head flopped back and forth. The tail slammed and thumped.

That's one, Grant thought.

But it wasn't dying very fast. It seemed to take forever to die. Grant reached up

for another egg—and saw that the other raptors in the room were frozen in mid-action. They listened to the sound of the dying animal. One cocked its head, then another, and another. The first animal moved to look at the fallen raptor.

The dying raptor was now twitching, the whole body shaking on the floor. It made pitiful moans. So much foam bubbled from its mouth that Grant could hardly see the head any more. It flopped on the floor and moaned again.

The second raptor bent over the fallen animal, examining it. It appeared to be puzzled by these death throes. Cautiously, it looked at the foaming head, then moved down to the twitching neck, the heaving ribs, the legs. ...

And it took a bite from the hind leg.

The dying animal snarled, and suddenly lifted its head and twisted, sinking its teeth into the neck of its attacker.

That's two, Grant thought.

But the standing animal wrenched free. Blood flowed from its neck. It struck out with its hind claws, and with a single swift movement ripped open the belly of the fallen animal. Coils of intestine fell out like fat snakes. The screams of the dying raptor filled the room. The attacker turned away, as if fighting was suddenly too much trouble.

It crossed the room, ducked down, and came up with a glowing egg! Grant watched as the raptor bit into it, the glowing material dripping down its chin.

That makes two.

The second raptor was stricken almost instantly, coughing and pitching forward. As it fell, it knocked over a table. Dozens of eggs rolled everywhere across the floor. Grant looked at them in dismay.

There was still a third raptor left.

Grant had one more syringe. With so many eggs rolling on the floor, he would have to do something else. He was trying to decide what to do when the last animal snorted irritably. Grant looked up—the raptor had spotted him.

The final raptor did not move for a long time, it just stared. And then it slowly, quietly came forward. Stalking him. Bobbing up and down, looking first beneath the tables, then above them. It moved deliberately, cautiously, with none of the swiftness that it had displayed in a pack. A solitary animal now, it was careful. It never took its eyes off Grant. Grant looked around quickly. There was nowhere for him to hide. Nothing for him to do ...

Grant's gaze was fixed on the raptor, moving slowly, laterally. Grant moved, too. He tried to keep as many tables as he could between himself and the advancing animal. Slowly ... slowly ... he moved to the left. ...

The raptor advanced in the dark red gloom of the hatchery. Its breath came in soft hisses, through flared nostrils.

Grant felt eggs breaking beneath his feet, the yolk sticking to the soles of his shoes. He crouched down, felt the bulge of the radio in his pocket.

The radio.

He pulled it from his pocket and turned it on.

"Hello. This is Grant."

"Alan?" Ellie's voice. "Alan?"

"Listen," he said softly. "Just talk."

"Alan, is that you?"

"Talk," he said again, and he pushed the radio across the floor, away from him, toward the advancing raptor.

He crouched behind a table leg, and waited.

"Alan. Speak to me, please."

Then a crackle, and silence. The radio remained silent. The raptor advanced. Soft hissing breath.

The radio was still silent.

What was the matter with her! Didn't she understand? In the darkness, the raptor came closer.

"... Alan?"

The tinny voice from the radio made the big animal pause. It sniffed the air, as if sensing someone else in the room.

"Alan, it's me. I don't know if you can hear me."

The raptor now turned away from Grant, and moved toward the radio.

"Alan ... please ..."

Why hadn't he pushed the radio farther away? The raptor was going toward it, but it was close. The big foot came down very near him. Grant could see the pebbled skin, the soft green glow. The streaks of dried blood on the curved claw. He could smell the strong reptile odor.

"Alan, listen to me. ... Alan?"

The raptor bent over, poked at the radio on the floor, tentatively. Its body was turned away from Grant. The big tail was right above Grant's head. Grant reached up and jabbed the syringe deep into the flesh of the tail, and injected the poison.

The velociraptor snarled and jumped. With frightening speed it swung back toward Grant, jaws wide. It snapped, its jaws closing on the table leg, and jerked its head up. The table was knocked away, and Grant fell back, now completely exposed. The raptor loomed over him, rising up, its head banging into the infrared lights above, making them swing crazily.

"Alan?"

The raptor reared back, and lifted its clawed foot to kick. Grant rolled, and the foot slammed down, just missing him. He felt a searing sharp pain along his shoulder blades, the sudden warm flow of blood over his shirt. He rolled across the floor, crushing eggs, smearing his hands, his face. The raptor kicked again, smashing down on the radio, spattering sparks. It snarled in rage, and kicked a third time, and Grant came to the wall, nowhere else to go, and the animal raised its foot a final time.

And toppled backward.

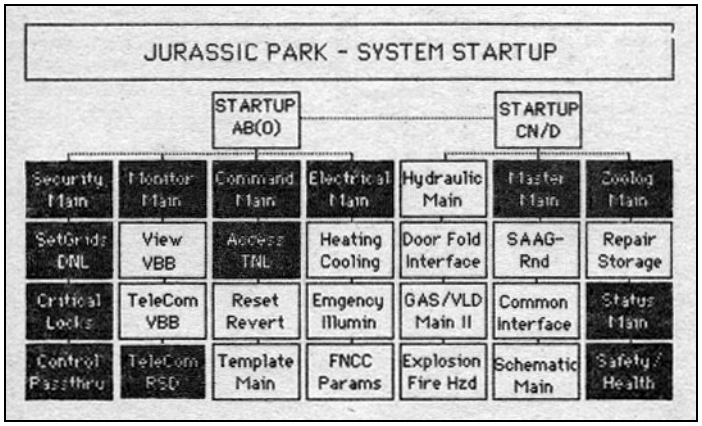
The animal was wheezing. Foam came from its mouth.

Gennaro and the kids came into the room. Grant signaled them to stay back. The girl looked at the dying animal and said softly, "Wow."

Gennaro helped Grant to his feet. They all turned, and ran for the control room.

CONTROL

Tim was astonished to find the screen in the control room was now flashing on and off. Lex said, "What happened?"



Tim saw Dr. Grant staring at the screen, and gingerly moving his hand toward the keyboard. "I don't know about computers," Grant said, shaking his head.

But Tim was already sliding into the seat. He touched the screen rapidly. On the video monitors, he could see the boat moving closer to Puntarenas. It was now only about two hundred yards from the dock. On the other monitor, he saw the lodge, with the raptors hanging down from the ceiling. On the radio, he heard their snarls.

"Do something, Timmy," Lex said.

He pushed SETGRIDS DNL, even though it was flashing.

The screen answered:

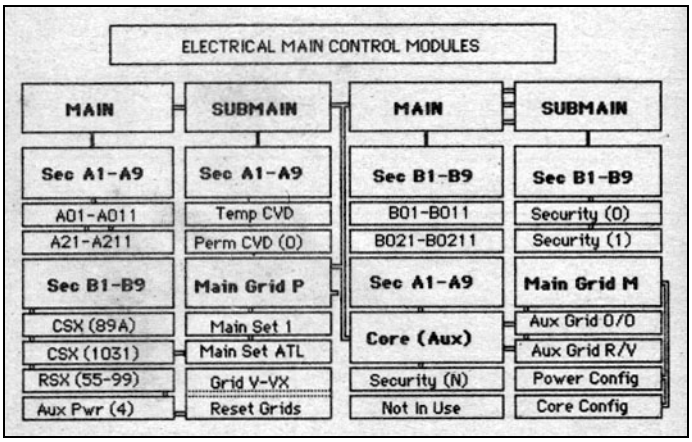
WARNING: COMMAND EXECUTION ABORTED
(AUX POWER LOW)

"What does that mean?" Tim said.

Gennaro snapped his fingers. "That happened before. It means auxiliary power is low. You have to turn on main power."

"I do?"

He pushed ELECTRICAL MAIN.



Tim groaned.

"What are you doing now?" Grant said. The whole screen was starting to flash.

Tim pushed MAIN.

Nothing happened. The screen continued to flash.

Tim pushed MAIN GRID P. He felt sick to his stomach with fear.

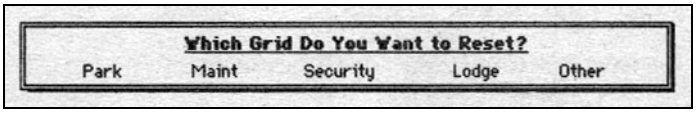
MAIN POWER GRID NOT ACTIVE/AUXILIARY POWER ONLY

The screen was still flashing. He pushed MAIN SET 1.

MAIN POWER ACTIVATED

All the lights in the room came on. All the monitor screens stopped flashing. "Hey! All right!"

Tim pressed RESET GRIDS. Nothing happened for a moment. He glanced at the video monitors, then back at the main screen.



Grant said something that Tim didn't hear, he only heard the tension in his voice. He was looking at Tim, worried.

Tim felt his heart thumping in his chest. Lex was yelling at him. He didn't want to look at the video monitor anymore. He could hear the sound of the bars bending in the lodge, and the raptors snarling. He heard Malcolm say, "Dear God ..."

He pushed LODGE.

SPECIFY GRID NUMBER TO RESET.

For a frozen interminable moment he couldn't remember the number, but then he remembered F4, and he pressed that.

ACTIVATING LODGE GRID F4 NOW.

On the video monitor he saw an explosion of sparks, sputtering down from the ceiling of the hotel room. The monitor flared white. Lex shouted "What did you do!" but almost immediately the image came back and they could see that the raptors were caught between the bars, writhing and screaming in a hot cascade of sparks while Muldoon and the others cheered, their voices tinny over the radio.

"That's it," Grant said, slapping Tim on the back. "That's it! You did it!"

They were all standing and jumping up and down when Lex said, "What about the ship?"

"The what?"

"The *ship*," she said, and pointed to the screen.

On the monitor, the buildings beyond the bow of the ship were much larger, and moving to the right, as the ship turned left and prepared to dock. He saw crewmen heading out to the bow, preparing to tie up.

Tim scrambled back to his seat, and stared at the startup screen.

He studied the screen. TeleCom VBB and TeleCom RSD both looked like they might have something to do with telephones. He pressed TELECOM RSD.

YOU HAVE 23 WAITING CALLS AND/OR MESSAGES.
DO YOU WISH TO RECEIVE THEM NOW?

He pushed NO.

"Maybe the ship was one of the waiting calls," Lex said. "Maybe that way you could get the phone number!"

He ignored her.

ENTER THE NUMBER YOU WISH TO CALL
OR PRESS F7 FOR DIRECTORY.

He pushed F7 and suddenly names and numbers spilled over the screen, an enormous directory. It wasn't alphabetical, and it took a while to scan it visually before he found what he was looking for:

VSL ANNE B. (FREDDY) 708-3902

Now all he had to do was figure out how to dial. He pushed a row of buttons at the bottom of the screen:

DIAL NOW OR DIAL LATER?

He pushed DIAL NOW.

WE'RE SORRY, YOUR CALL CANNOT BE COMPLETED AS DIALED.
{ERROR-598)
PLEASE TRY AGAIN

He tried it again.

He heard a dial tone, then the tone of the numbers being automatically dialed in rapid succession.

"Is that it?" Grant said.

"Pretty good, Timmy," Lex said. "But they're almost there." On the screen, they could see the prow of the ship closing on the Puntarenas dock. They heard a high-pitched squeal, and then a voice said, "Ah, hello, John, this is Freddy. Do you read me, over?"

Tim picked up a phone on the console but heard only a dial tone.

"Ah, hello, John, this is Freddy, over?"

"Answer it," Lex said.

Now they were all picking up phones, lifting every receiver in sight, but they heard only dial tones. Finally Tim saw a phone mounted on the side of the console with a blinking light.

"Ah, hello, control. This is Freddy. Do you read me, over?"

Tim grabbed the receiver. "Hello, this is Tim Murphy, and I need you to—"

"Ah, say again, didn't get that, John."

"Don't land the boat! Do you hear me?"

There was a pause. Then a puzzled voice said, "Sounds like some damn kid."

Tim said, "Don't land the ship! Come back to the island!"

The voices sounded distant and scratchy. "Did he—name was Murphy?" And another voice said, "I didn't get—name."

Tim looked frantically at the others. Gennaro reached for the phone. "Let me do this. Can you get his name?"

There was the sharp crackle of static. "—got to be a joke or else—a—frigging ham operator—omething."

Tim was working on the keyboard, there was probably some kind of a way to find out who Freddy was. ...

"Can you hear me?" Gennaro said, into the phone. "If you can hear me, answer me now, over."

"Son," came the drawled reply, "we don't know who the hell you are, but you're not funny, and we're about to dock and we've got work to do. Now, identify yourself properly or get off this channel."

Tim watched as the screen printed out FARRELL, FREDERICK D. (CAPT.).

"Try this for identification, Captain Farrell," Gennaro said. "If you don't turn that boat around and return to this island immediately, you will be found in violation of Section 509 of the Uniform Maritime Act, you will be subject to revocation of license, penalties in excess of fifty thousand dollars, and five years in jail. Do you hear that?"

There was a silence.

"Do you copy that, Captain Farrell?"

And then, distantly, they heard a voice say, "I copy," and another voice said, "All ahead stern." The boat began to turn away from the dock.

Lex began to cheer. Tim collapsed back in the chair, wiping the sweat from his forehead.

Grant said, "What's the Uniform Maritime Act?"

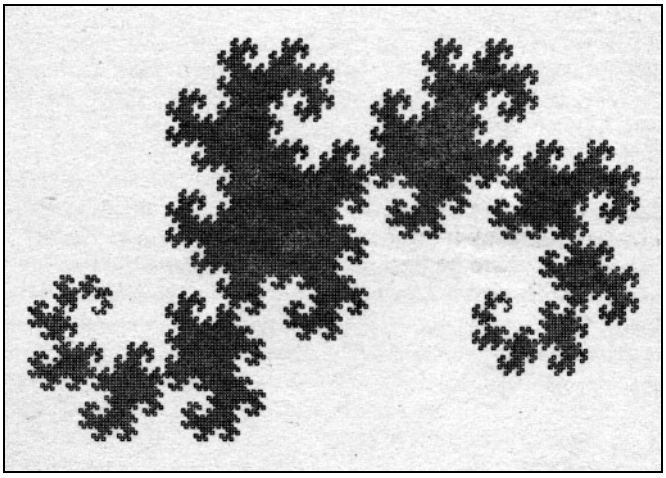
"Who the hell knows?" Gennaro said.

They all watched the screen in satisfaction. The boat was definitely heading away from the shore.

"I guess the hard part's finished," Gennaro said.

Grant shook his head. "The hard part," he said, "is just beginning."

SEVENTH ITERATION



"Increasingly, the mathematics will demand the courage to face its implications."
IAN MALCOLM

DESTROYING THE WORLD

They moved Malcolm to another room in the lodge, to a clean bed. Hammond seemed to revive, and began bustling around, straightening up. "Well," he said, "at least disaster is averted."

"What disaster is that?" Malcolm said, sighing.

"Well," Hammond said, "they didn't get free and overrun the world."

Malcolm sat up on one elbow. "You were worried about that?"

"Surely that's what was at stake," Hammond said. "These animals, lacking predators, might get out and destroy the planet."

"You egomaniacal *idiot*," Malcolm said, in fury. "Do you have any idea what you are talking about? You think you can destroy the planet? My, what intoxicating power you must have." Malcolm sank back on the bed. "You can't destroy this planet. You can't even come close."

"Most people believe," Hammond said stiffly, "that the planet is in jeopardy."

"Well, it's not," Malcolm said.

"All the experts agree that our planet is in trouble."

Malcolm sighed. "Let me tell you about our planet," he said. "Our planet is four and a half billion years old. There has been life on this planet for nearly that long. Three point eight billion years. The first bacteria. And, later, the first multicellular animals, then the first complex creatures, in the sea, on the land. Then the great sweeping ages of animals—the amphibians, the dinosaurs, the mammals, each lasting millions upon millions of years. Great dynasties of creatures arising, flourishing, dying away. All this happening against a background of continuous and violent upheaval, mountain ranges thrust up and eroded away, cometary impacts, volcanic eruptions, oceans rising and falling, whole continents moving ... Endless constant and violent change ... Even today, the greatest geographical feature on the planet comes from two great continents colliding, buckling to make the Himalayan mountain range over millions of years. The planet has survived everything, in its time. It will certainly survive us."

Hammond frowned. "Just because it lasted a long time," he said, "doesn't mean it is permanent. If there was a radiation accident ..."

"Suppose there was," Malcolm said. "Let's say we had a bad one, and all the plants and animals died, and the earth was clicking hot for a hundred thousand years. Life would survive somewhere—under the soil, or perhaps frozen in Arctic ice. And after all those years, when the planet was no longer inhospitable, life would again spread over the planet. The evolutionary process would begin again. It might take a few billion years for life to regain its present variety. And of course it would be very different from what it is now. But the earth would survive our folly. Life would survive our folly. Only we," Malcolm said, "think it wouldn't."

Hammond said, "Well, if the ozone layer gets thinner—"

"There will be more ultraviolet radiation reaching the surface. So what?"

"Well. It'll cause skin cancer."

Malcolm shook his head. "Ultraviolet radiation is good for life. It's powerful energy. It promotes mutation, change. Many forms of life will thrive with more UV radiation."

"And many others will die out," Hammond said.

Malcolm sighed. "You think this is the first time such a thing has happened? Don't you know about oxygen?"

"I know it's necessary for life."

"It is *now*," Malcolm said. "But oxygen is actually a metabolic poison. It's a corrosive gas, like fluorine, which is used to etch glass. And when oxygen was first produced as a waste product by certain plant cells—say, around three billion years ago—it created a crisis for all other life on our planet. Those plant cells were polluting the environment with a deadly poison. They were exhaling a lethal gas, and building up its concentration. A planet like Venus has less than one percent oxygen. On earth, the concentration of oxygen was going up rapidly—five, ten, eventually twenty-one percent! Earth had an atmosphere of pure poison! Incompatible with life!"

Hammond looked irritated. "So what is your point? That modern pollutants will be incorporated, too?"

"No," Malcolm said. "My point is that life on earth can take care of itself. In the thinking of a human being, a hundred years is a long time. A hundred years ago, we didn't have cars and airplanes and computers and vaccines. ... It was a whole different world. But to the earth, a hundred years is *nothing.* A million years is *nothing.* This planet lives and breathes on a much vaster scale. We can't imagine its slow and powerful rhythms, and we haven't got the humility to try. We have been residents here for the blink of an eye. If we are gone tomorrow, the earth will not miss us."

"And we very well might be gone," Hammond said, huffing.

"Yes," Malcolm said. "We might."

"So what are you saying? We shouldn't care about the environment?"

"No, of course not."

"Then what?"

Malcolm coughed, and stared into the distance. "Let's be clear. The planet is not in jeopardy. *We* are in jeopardy. We haven't got the power to destroy the planet—or to save it. But we might have the power to save ourselves."

UNDER CONTROL

Four hours had passed. It was afternoon; the sun was falling. The air conditioning was back on in the control room, and the computer was functioning properly. As near as they could determine, out of twenty-four people on the island, eight were dead and six more were missing. The visitor center and the Safari Lodge were both secure, and the northern perimeter seemed to be clear of

dinosaurs. They had called authorities in San José for help. The Costa Rican National Guard was on its way, as well as an air ambulant to carry Malcolm to a hospital. But over the telephone, the Costa Rican guard had been distinctly cautious; undoubtedly calls would go back and forth between San José and Washington before help was finally sent to the island. And now it was growing late in the day; if the helicopters did not arrive soon, they would have to wait until morning.

In the meantime, there was nothing to do but wait. The ship was returning; the crew had discovered three young raptors scampering about in one of the aft holds, and had killed the animals. On Isla Nublar, the immediate danger appeared to have passed; everyone was in either the visitor center or the lodge. Tim had gotten quite good with the computer, and he flashed up a new screen.

Total Animals 292

Species	Expected	Found	Ver
Tyrannosaurs	2	1	4.1
Maiasaurs	22	20	??
Stegosaurs	4	1	3.9
Triceratops	8	6	3.1
Procompsognathids	65	64	??
Othnielia	23	15	??
Velociraptors	37	27	??
Apatosaurs	17	12	3.1
Hadrosaurs	11	5	3.1
Dilophosaurs	7	4	4.3
Pterosaurs	6	5	4.3
Hypsilophodontids	34	14	??
Euoplocephalids	16	9	4.0
Styracosaurs	18	7	3.9
Microceratops	22	13	4.1
Total	**292**	**203**	

"What the hell is it doing now?" Gennaro said. "Now it says there are *fewer* animals?"

Grant nodded. "Probably."

Ellie said, "Jurassic Park is finally coming under control."

"Meaning what?"

"Equilibrium." Grant pointed to the monitors. On one of them, the hypsilophodonts leapt into the air as a pack of velociraptors entered the field from the west.

"The fences have been down for hours," Grant said. "The animals are mingling with each other. Populations reaching equilibrium—a true Jurassic equilibrium."

"I don't think it was supposed to happen," Gennaro said. "The animals were never supposed to mix."

"Well, they are."

On another monitor, Grant saw a pack of raptors racing at full speed across an open field toward a four-ton hadrosaur. The hadrosaur turned to flee, and one of the raptors jumped onto its back, biting into the long neck, while others raced forward, circled around it, nipped at its legs, leapt up to slash at the belly with

their powerful claws. Within minutes, six raptors had brought down the larger animal.

Grant stared, silently.

Ellie said, "Is it the way you imagined?"

"I don't know what I imagined," he said. He watched the monitor. "No, not exactly."

Muldoon said quietly, "You know, it appears all the adult raptors are out right now."

Grant didn't pay much attention at first. He just watched the monitors, the interaction of the great animals. In the south, the stegosaur was swinging its spiked tail, warily circling the baby tyrannosaur, which watched it, bemused, and occasionally lunged forward to nip ineffectually at the spikes. In the western quadrant, the adult triceratopsians were fighting among themselves, charging and locking horns. One animal already lay wounded and dying.

Muldoon said, "We've got about an hour of good daylight left, Dr. Grant. If you want to try and find that nest."

"Right," Grant said. "I do."

"I was thinking," Muldoon said, "that, when the Costa Ricans come, they will probably imagine this island to be a military problem. Something to destroy as soon as possible."

"Damn right," Gennaro said.

"They'll bomb it from the air," Muldoon said. "Perhaps napalm, perhaps nerve gas as well. But from the air."

"I hope they do," Gennaro said. "This island is too dangerous. Every animal on this island must be destroyed, and the sooner the better."

Grant said, "That's not satisfactory." He got to his feet. "Let's get started."

"I don't think you understand, Alan," Gennaro said. "It's my opinion that this island is too dangerous. It must be destroyed. Every animal on this island must be destroyed, and that's what the Costa Rican guard will do. I think we should leave it in their capable hands. Do you understand what I'm saying?"

"Perfectly," Grant said again.

"Then what's your problem?" Gennaro said. "It's a military operation. Let them do it."

Grant's back ached, where the raptor had clawed him. "No," he said. "We have to take care of it."

"Leave it to the experts," Gennaro said.

Grant remembered how he had found Gennaro, just six hours earlier, huddled and terrified in the cab of a truck in the maintenance building. And suddenly he lost his temper and slammed the lawyer up against the concrete wall. "Listen, you little bastard, you have a responsibility to this situation and you're going to start living up to it."

"I am," Gennaro said, coughing.

"No, you're not. You've shirked your responsibility all along, from the very beginning."

"The hell—"

"You sold investors on an undertaking you didn't fully understand. You were

part owner of a business you failed to supervise. You did not check the activities of a man whom you knew from experience to be a liar, and you permitted that man to screw around with the most dangerous technology in human history. I'd say you shirked your responsibility."

Gennaro coughed again. "Well, now I'm taking responsibility."

"No," Grant said. "You're still shirking it. And you can't do that any more." He released Gennaro, who bent over, gasping for breath. Grant turned to Muldoon. "What have we got for weapons?"

Muldoon said, "We've got some control nets, and shock prods."

"How good are these shock prods?" Grant said.

"They're like bang sticks for sharks. They have an explosive capacitor tip, delivers a shock on contact. High voltage, low amps. Not fatal, but it's definitely incapacitating."

"That's not going to do it," Grant said. "Not in the nest."

"What nest?" Gennaro said, coughing.

"The raptor nest," Ellie said.

"The *raptor nest?"*

Grant was saying, "Have you got any radio collars?"

"I'm sure we do," Muldoon said.

"Get one. And is there anything else that can be used for defense?"

Muldoon shook his head.

"Well, get whatever you can."

Muldoon went away. Grant turned to Gennaro. "Your island is a mess, Mr. Gennaro. Your experiment is a mess. It has to be cleaned up. But you can't do that until you know the extent of the mess. And that means finding the nests on the island. Especially the raptor nests. They'll be hidden. We have to find them, and inspect them, and count the eggs. We have to account for every animal born on this island. Then we can burn it down. But first we have a little work to do."

Ellie was looking at the wall map, which now showed the animal ranges. Tim was working the keyboard. She pointed to the map. "The raptors are localized in the southern area, down where the volcanic steam fields are. Maybe they like the warmth."

"Is there any place to hide down there?"

"Turns out there is," she said. "There's massive concrete waterworks, to control flooding in the southern flatlands. Big underground area. Water and shade."

Grant nodded. "Then that's where they'll be."

Ellie said, "I think there's an entrance from the beach, too." She turned to the consoles and said, "Tim, show us the cutaways on the waterworks." Tim wasn't listening. "Tim?"

He was hunched over the keyboard. "Just a minute," he said. "I found something."

"What is it?"

"It's an unmarked storage room. I don't know what's there."

"Then it might have weapons," Grant said.

They were all behind the maintenance building, unlocking a steel storm door, lifting it up into the sunlight, to reveal concrete steps going down into the earth. "Damned Arnold," Muldoon said, as he hobbled down the steps. "He must have known this was here all along."

"Maybe not," Grant said. "He didn't try to go here."

"Well, then, Hammond knew. Somebody knew."

"Where is Hammond now?"

"Still in the lodge."

They reached the bottom of the stairs, and came upon rows of gas masks hanging on the wall, in plastic containers. They shone their flashlights deeper into the room and saw several heavy glass cubes, two feet high, with steel caps. Grant could see small dark spheres inside the cubes. It was like being in a room full of giant pepper mills, he thought.

Muldoon opened the cap of one, reached in, and withdrew a sphere. He turned it in the light, frowning. "I'll be damned."

"What is it?" Grant said.

"MORO-12," Muldoon said. "It's an inhalation nerve gas. These are grenades. Lots and lots of grenades."

"Let's get started," Grant said grimly.

"It likes me," Lex said, smiling. They were standing in the garage of the visitor center, by the little raptor that Grant had captured in the tunnel. She was petting the raptor through the cage bars. The animal rubbed up against her hand.

"I'd be careful there," Muldoon said. "They can give a nasty bite."

"He likes me," Lex said. "His name is Clarence."

"Clarence?"

"Yes," Lex said.

Muldoon was holding the leather collar with the small metal box attached to it. Grant heard the high-pitched beeping in the headset. "Is it a problem putting the collar on the animal?"

Lex was still petting the raptor, reaching through the cage. "I bet he'll let me put it on him," she said.

"I wouldn't try," Muldoon said. "They're unpredictable."

"I bet he'll let me," she said.

So Muldoon gave Lex the collar, and she held it out so the raptor could smell it. Then she slowly slipped it around the animal's neck. The raptor turned brighter green when Lex buckled it and closed the Velcro cover over the buckle. Then the animal relaxed, and turned paler again.

"I'll be damned," Muldoon said.

"It's a chameleon," Lex said.

"The other raptors couldn't do that," Muldoon said, frowning. "This wild animal must be different. By the way," he said, turning to Grant, "if they're all born females, how do they breed? You never explained that bit about the frog DNA."

"It's not frog DNA," Grant said. "It's amphibian DNA. But the phenomenon happens to be particularly well documented in frogs. Especially West African frogs, if I remember."

"What phenomenon is that?"

"Gender transition," Grant said. "Actually, it's just plain changing sex." Grant explained that a number of plants and animals were known to have the ability to change their sex during life—orchids, some fish and shrimp, and now frogs. Frogs that had been observed to lay eggs were able to change, over a period of months, into complete males. They first adopted the fighting stance of males, they developed the mating whistle of males, they stimulated the hormones and grew the gonads of males, and eventually they successfully mated with females.

"You're kidding," Gennaro said. "And what makes it happen?"

"Apparently the change is stimulated by an environment in which all the animals are of the same sex. In that situation, some of the amphibians will spontaneously begin to change sex from female to male."

"And you think that's what happened to the dinosaurs?"

"Until we have a better explanation, yes," Grant said. "I think that's what happened. Now, shall we find this nest?"

They piled into the Jeep, and Lex lifted the raptor from the cage. The animal seemed quite calm, almost tame in her hands. She gave it a final pat on the head, and released it.

The animal wouldn't leave.

"Go on, shoo!" Lex said. "Go home!"

The raptor turned, and ran off into the foliage.

Grant held the receiver and wore the headphones. Muldoon drove. The car bounced along the main road, going south. Gennaro turned to Grant and said, "What is it like, this nest?"

"Nobody knows," Grant said.

"But I thought you'd dug them up."

"I've dug up *fossil* dinosaur nests," Grant said. "But all fossils are distorted by the weight of millennia. We've made some hypotheses, some suppositions, but nobody really knows what the nests were like."

Grant listened to the beeps, and signaled Muldoon to head farther west. It looked more and more as if Ellie had been correct: the nest was in the southern volcanic fields.

Grant shook his head. "You have to realize: we don't know all the details about the nesting behavior of living reptiles, like crocodiles and alligators. They're difficult animals to study." But it was known that in the case of American alligators, only the female guarded the nest, awaiting the time of hatching. The bull alligator spent days in early spring lying beside the female in a mating pair, blowing bubbles on her cheeks to bring her to receptivity, finally causing her to lift her tail and allow him to insert his penis. By the time the female built her nest, two months later, the male was long gone. The female guarded her cone-shaped, three-foot-high nest ferociously, and when the hatchlings began to squeak and emerge from their shells, she often helped break open the eggs, then nudged them toward the water, sometimes carrying them in her mouth.

"So adult alligators protect the young?"

"Yes," Grant said. "And there is also a kind of group protection. Young alligators make a distinctive distress cry, and it brings any adult who hears it—parent or not—to their assistance with a full-fledged, violent attack. Not a threat display. A full-on attack."

"Oh." Gennaro fell silent.

"But dinos aren't reptiles," Muldoon said laconically.

"Exactly. The dinosaur nesting pattern could be much more closely related to that of any of a variety of birds."

"So you actually mean you don't know," Gennaro said, getting annoyed. "You don't know what the nest is like?"

"No," Grant said. "I don't."

"Well," Gennaro said. "So much for the damn experts."

Grant ignored him. Already he could smell the sulfur. And up ahead he saw the rising steam of the volcanic fields.

The ground was hot, Gennaro thought, as he walked forward. It was actually *hot.* And here and there mud bubbled and spat up from the ground. And the reeking, sulfurous steam hissed in great shoulder-high plumes. He felt as if he were walking through hell.

He looked at Grant, walking along with the headset on, listening to the beeps. Grant in his cowboy boots and his jeans and his Hawaiian shirt, apparently very cool. Gennaro didn't feel cool. He was frightened to be in this stinking, hellish place, with the velociraptors somewhere around. He didn't understand how Grant could be so calm about it.

Or the woman. Sattler. She was walking along, too, just looking calmly around.

"Doesn't this bother you?" Gennaro said. "I mean, worry you?"

"We've got to do it," Grant said. He didn't say anything else.

They all walked forward, among the bubbling steam vents. Gennaro fingered the gas grenades that he had clipped to his belt. He turned to Ellie. "Why isn't he worried about it?"

"Maybe he is," she said. "But he's also thought about this for his whole life."

Gennaro nodded, and wondered what that would be like. Whether there was anything he had waited his whole life for. He decided there wasn't anything.

Grant squinted in the sunlight. Ahead, through veils of steam, an animal crouched, looking at them. Then it scampered away.

"Was that the raptor?" Ellie said.

"I think so. Or another one. Juvenile, anyway."

She said, "Leading us on?"

"Maybe." Ellie had told him how the raptors had played at the fence to keep her attention while another climbed onto the roof. If true, such behavior implied a mental capacity that was beyond nearly all forms of life on earth. Classically, the ability to invent and execute plans was believed to be limited to only three species: chimpanzees, gorillas, and human beings. Now there was the possibility that a dinosaur might be able to do such a thing, too.

The raptor appeared again, darting into the light, then jumping away with a

squeak. It really did seem to be leading them on.

Gennaro frowned. "How smart are they?" he said.

"If you think of them as birds," Grant said, "then you have to wonder. Some new studies show the gray parrot has as much symbolic intelligence as a chimpanzee. And chimpanzees can definitely use language. Now researchers are finding that parrots have the emotional development of a three-year-old child, but their intelligence is unquestioned. Parrots can definitely reason symbolically."

"But I've never heard of anybody killed by a parrot," Gennaro grumbled.

* * *

Distantly, they could hear the sound of the surf on the island shore. The volcanic fields were behind them now, and they faced a field of boulders. The little raptor climbed up onto one rock, and then abruptly disappeared.

"Where'd it go?" Ellie said.

Grant was listening to the earphones. The beeping stopped. "He's gone."

They hurried forward, and found in the midst of the rocks a small hole, like a rabbit hole. It was perhaps two feet in diameter. As they watched, the juvenile raptor reappeared, blinking in the light. Then it scampered away.

"No way," Gennaro said. "No way I'm going down there."

Grant said nothing. He and Ellie began to plug in equipment. Soon he had a small video camera attached to a hand-held monitor. He tied the camera to a rope, turned it on, and lowered it down the hole.

"You can't see anything that way," Gennaro said.

"Let it adjust," Grant said. There was enough light along the upper tunnel for them to see smooth dirt walls, and then the tunnel opened out suddenly, abruptly. Over the microphone, they heard a squeaking sound. Then a lower, trumpeting sound. More noises, coming from many animals.

"Sounds like the nest, all right," Ellie said.

"But you can't *see* anything," Gennaro said. He wiped the sweat off his forehead.

"No," Grant said. "But I can hear." He listened for a while longer, and then hauled the camera out, and set it on the ground. "Let's get started." He climbed up toward the hole. Ellie went to get a flashlight and a shock stick. Grant pulled the gas mask on over his face, and crouched down awkwardly, extending his legs backward.

"You can't be serious about going down there," Gennaro said.

Grant nodded. "It doesn't thrill me. I'll go first, then Ellie, then you come after."

"Now, wait a minute," Gennaro said, in sudden alarm. "Why don't we drop these nerve-gas grenades down the hole, then go down afterward? Doesn't that make more sense?"

"Ellie, you got the flashlight?"

She handed the flashlight to Grant.

"What about it?" Gennaro said. "What do you say?"

"I'd like nothing better," Grant said. He backed down toward the hole. "You ever seen anything die from poison gas?"

"No ..."

"It generally causes convulsions. Bad convulsions."

"Well, I'm sorry if it's unpleasant, but—"

"Look," Grant said. "We're going into this nest to find out how many animals have hatched. If you kill the animals first, and some of them fall on the nests in their spasms, that will ruin our ability to see what was there. So we can't do that."

"But—"

"You made these animals, Mr. Gennaro."

"I didn't."

"Your money did. Your efforts did. You helped create them. They're your creation. And you can't just kill them because you feel a little nervous now."

"I'm not a little nervous," Gennaro said. "I'm scared shi—"

"Follow me," Grant said. Ellie handed him a shock stick. He pushed backward through the hole, and grunted. "Tight fit."

Grant exhaled, and extended his arms forward in front of him, and there was a kind of whoosh, and he was gone.

The hole gaped, empty and black.

"What happened to him?" Gennaro said, alarmed.

Ellie stepped forward and leaned close to the hole, listening at the opening. She clicked the radio, said softly, "Alan?"

There was a long silence. Then they heard faintly: "I'm here."

"Is everything all right, Alan?"

Another long silence. When Grant finally spoke, his voice sounded distinctly odd, almost awestruck.

"Everything's fine," he said.

ALMOST PARADIGM

In the lodge, John Hammond paced back and forth in Malcolm's room. Hammond was impatient and uncomfortable. Since marshaling the effort for his last outburst, Malcolm had slipped into a coma, and now it appeared to Hammond that he might actually die. Of course a helicopter had been sent for, but God knows when it would arrive. The thought that Malcolm might die in the meantime filled Hammond with anxiety and dread.

And, paradoxically, Hammond found it all much worse because he disliked the mathematician so much. It was worse than if the man were his friend. Hammond felt that Malcolm's death, should it occur, would be the final rebuke, and that was more than Hammond could bear.

In any case, the smell in the room was quite ghastly. Quite ghastly. The rotten decay of human flesh.

"Everything ... parad ..." Malcolm said, tossing on the pillow.

"Is he waking up?" Hammond said.

Harding shook his head.

"What did he say? Something about paradise?"

"I didn't catch it," Harding said.

Hammond paced some more. He pushed the window wider, trying to get some fresh air. Finally, when he couldn't stand it, he said, "Is there any problem about going outside?"

"I don't think so, no," Harding said. "I think this area is all right."

"Well, look, I'm going outside for a bit."

"All right," Harding said. He adjusted the flow on the intravenous antibiotics.

"I'll be back soon."

"All right."

Hammond left, stepping out into the daylight, wondering why he had bothered to justify himself to Harding. After all, the man was his employee. Hammond had no need to explain himself.

He went through the gates of the fence, looking around the park. It was late afternoon, the time when the blowing mist was thinned, and the sun sometimes came out. The sun was out now, and Hammond took it as an omen. Say what they would, he knew that his park had promise. And even if that impetuous fool Gennaro decided to burn it to the ground, it would not make much difference.

Hammond knew that in two separate vaults at InGen headquarters in Palo Alto were dozens of frozen embryos. It would not be a problem to grow them again, on another island, elsewhere in the world. And if there had been problems here, then the next time they would solve those problems. That was how progress occurred. By solving problems.

As he thought about it, he concluded that Wu had not really been the man for the job. Wu had obviously been sloppy, too casual with his great undertaking. And Wu had been too preoccupied with the idea of making improvements. Instead of making dinosaurs, he had wanted to improve on them. Hammond suspected darkly that was the reason for the downfall of the park.

Wu was the reason.

Also, he had to admit that John Arnold was ill suited for the job of chief engineer. Arnold had impressive credentials, but at this point in his career he was tired, and he was a fretful worrier. He hadn't been organized, and he had missed things. Important things.

In truth, neither Wu nor Arnold had had the most important characteristic, Hammond decided. The characteristic of *vision.* That great sweeping act of imagination which evoked a marvelous park, where children pressed against the fences, wondering at the extraordinary creatures, come alive from their storybooks. Real *vision.* The ability to see the future. The ability to marshal resources to make that future vision a reality.

No, neither Wu nor Arnold was suited to that task.

And, for that matter, Ed Regis had been a poor choice, too. Harding was at best an indifferent choice. Muldoon was a drunk. ...

Hammond shook his head. He would do better next time.

Lost in his thoughts, he headed toward his bungalow, following the little path that ran north from the visitor center. He passed one of the workmen, who nodded curtly. Hammond did not return the nod. He found the Tican workmen to be uniformly insolent. To tell the truth, the choice of this island off Costa Rica had

also been unwise. He would not make such obvious mistakes again—

When it came, the roar of the dinosaur seemed frighteningly close. Hammond spun so quickly he fell on the path, and when he looked back he thought he saw the shadow of the juvenile T-rex, moving in the foliage beside the flagstone path, moving toward him.

What was the T-rex doing here? Why was it outside the fences?

Hammond felt a flash of rage: and then he saw the Tican workman, running for his life, and Hammond took the moment to get to his feet and dash blindly into the forest on the opposite side of the path. He was plunged in darkness; he stumbled and fell, his face mashed into wet leaves and damp earth, and he staggered back up to his feet, ran onward, fell again, and then ran once more. Now he was moving down a steep hillside, and he couldn't keep his balance. He tumbled helplessly, rolling and spinning over the soft ground, before finally coming to a stop at the foot of the hill. His face splashed into shallow tepid water, which gurgled around him and ran up his nose.

He was lying face down in a little stream.

He had panicked! What a fool! He should have gone to his bungalow! Hammond cursed himself. As he got to his feet, he felt a sharp pain in his right ankle that brought tears to his eyes. He tested it gingerly: it might be broken. He forced himself to put his full weight on it, gritting his teeth. Yes.

Almost certainly broken.

In the control room, Lex said to Tim, "I wish they had taken us with them to the nest."

"It's too dangerous for us, Lex," Tim said. "We have to stay here. Hey, listen to this one." He pressed another button, and a recorded tyrannosaur roar echoed over the loudspeakers in the park.

"That's neat," Lex said. "That's better than the other one."

"You can do it, too," Tim said. "And if you push this, you get reverb."

"Let me try," Lex said. She pushed the button. The tyrannosaur roared again. "Can we make it last longer?" she said.

"Sure," Tim said. "We just twist this thing here. ..."

Lying at the bottom of the hill, Hammond heard the tyrannosaur roar, bellowing through the jungle.

Jesus.

He shivered, hearing that sound. It was terrifying, a scream from some other world. He waited to see what would happen. What would the tyrannosaur do? Had it already gotten that workman? Hammond waited, hearing only the buzz of the jungle cicadas, until he realized he was holding his breath, and let out a long sigh.

With his injured ankle, he couldn't climb the hill. He would have to wait at the bottom of the ravine. After the tyrannosaur had gone, he would call for help. Meanwhile, he was in no danger here.

Then he heard an amplified voice say, "Come on, Timmy, I get to try it too. Come on. Let me make the noise."

The kids!

The tyrannosaur roared again, but this time it had distinct musical overtones, and a kind of echo, persisting afterward.

"Neat one," said the little girl. "Do it again."

Those damned kids!

He should never have brought those kids. They had been nothing but trouble from the beginning. Nobody wanted them around. Hammond had only brought them because he thought it would stop Gennaro from destroying the resort, but Gennaro was going to do it anyway. And the kids had obviously gotten into the control room and started fooling around—now, who had allowed that?

He felt his heart begin to race, and felt an uneasy shortness of breath. He forced himself to relax. There was nothing wrong. Although he could not climb the hill, he could not be more than a hundred yards from his own bungalow, and the visitor center. Hammond sat down in the damp earth, listening to the sounds in the jungle around him. And then, after a while, he began to shout for help.

Malcolm's voice was no louder than a whisper. "Everything ... looks different ... on the other side," he said.

Harding leaned close to him. "On the other side?" He thought that Malcolm was talking about dying.

"When ... shifts," Malcolm said.

"Shifts?"

Malcolm didn't answer. His dry lips moved. "Paradigm," he said finally.

"Paradigm shifts?" Harding said. He knew about paradigm shifts. For the last two decades, they had been the fashionable way to talk about scientific change. "Paradigm" was just another word for a model, but as scientists used it the term meant something more, a world view. A larger way of seeing the world. Paradigm shifts were said to occur whenever science made a major change in its view of the world. Such changes were relatively rare, occurring about once a century. Darwinian evolution had forced a paradigm shift. Quantum mechanics had forced a smaller shift.

"No," Malcolm said. "Not ... paradigm ... beyond ..."

"Beyond paradigm?" Harding said.

"Don't care about ... what ... anymore ..."

Harding sighed. Despite all efforts, Malcolm was rapidly slipping into a terminal delirium. His fever was higher, and they were almost out of his antibiotics.

"What don't you care about?"

"Anything," Malcolm said. "Because ... everything looks different ... on the other side."

And he smiled.

DESCENT

"You're crazy," Gennaro said to Ellie Sattler, watching as she squeezed backward into the rabbit hole, stretching her arms forward. "You're crazy to do that!"

She smiled. "Probably," she said. She reached forward with her outstretched hands, and pushed backward against the sides of the hole. And suddenly she was gone.

The hole gaped black.

Gennaro began to sweat. He turned to Muldoon, who was standing by the Jeep. "I'm not doing this," he said.

"Yes, you are."

"I can't do this. I can't."

"They're waiting for you," Muldoon said. "You have to."

"Christ only knows what's down there," Gennaro said. "I'm telling you, I can't do it."

"You have to."

Gennaro turned away, looked at the hole, looked back. "I can't. You can't make me."

"I suppose not," Muldoon said. He held up the stainless-steel prod. "Ever felt a shock stick?"

"No."

"Doesn't do much," Muldoon said. "Almost never fatal. Generally knocks you flat. Perhaps loosens your bowels. But it doesn't usually have any permanent effect. At least, not on dinos. But, then, people are much smaller."

Gennaro looked at the stick. "You wouldn't."

"I think you'd better go down and count those animals," Muldoon said. "And you better hurry."

Gennaro looked back at the hole, at the black opening, a mouth in the earth. Then he looked at Muldoon, standing there, large and impassive.

Gennaro was sweating and light-headed. He started walking toward the hole. From a distance it appeared small, but as he came closer it seemed to grow larger.

"That's it," Muldoon said.

Gennaro climbed backward into the hole, but he began to feel too frightened to continue that way—the idea of backing into the unknown filled him with dread—so at the last minute he turned around and climbed head first into the hole, extending his arms forward and kicking his feet, because at least he would see where he was going. He pulled the gas mask over his face.

And suddenly he was rushing forward, sliding into blackness, seeing the dirt walls disappear into darkness before him, and then the walls became narrower—much narrower—terrifyingly narrow—and he was lost in the pain of a squeezing compression that became steadily worse and worse, that crushed the air out of his lungs, and he was only dimly aware that the tunnel tilted slightly upward, along the path, shifting his body, leaving him gasping and seeing spots before his

eyes, and the pain was extreme.

And then suddenly the tunnel tilted downward again, and it became wider, and Gennaro felt rough surfaces, concrete, and cold air. His body was suddenly free, and bouncing, tumbling on concrete.

And then he fell.

* * *

Voices in the darkness. Fingers touching him, reaching forward from the whispered voices. The air was cold, like a cave.

"—okay?"

"He looks okay, yes."

"He's breathing. ..."

"Fine."

A female hand caressing his face. It was Ellie. "Can you hear?" she whispered.

"Why is everybody whispering?" he said.

"Because." She pointed.

Gennaro turned, rolled, got slowly to his feet. He stared as his vision grew accustomed to the darkness. But the first thing that he saw, gleaming in the darkness, was eyes. Glowing green eyes.

Dozens of eyes. All around him.

He was on a concrete ledge, a kind of embankment, about seven feet above the floor. Large steel junction boxes provided a makeshift hiding place, protecting them from the view of the two full-size velociraptors that stood directly before them, not five feet away. The animals were dark green with brownish tiger stripes. They stood upright, balancing on their stiff extended tails. They were totally silent, looking around watchfully with large dark eyes. At the feet of the adults, baby velociraptors skittered and chirped. Farther back, in the darkness, juveniles tumbled and played, giving short snarls and growls.

Gennaro did not dare to breathe.

Two raptors!

Crouched on the ledge, he was only a foot or two above the animals' head height. The raptors were edgy, their heads jerking nervously up and down. From time to time they snorted impatiently. Then they moved off, turning back toward the main group.

As his eyes adjusted, Gennaro could now see that they were in some kind of an enormous underground structure, but it was man-made—there were seams of poured concrete, and the nubs of protruding steel rods. And within this vast echoing space were many animals: Gennaro guessed at least thirty raptors. Perhaps more.

"It's a colony," Grant said, whispering. "Four or six adults. The rest juveniles and infants. At least two hatchings. One last year and one this year. These babies look about four months old. Probably hatched in April."

One of the babies, curious, scampered up on the ledge, and came toward them, squeaking. It was now only ten feet away.

"Oh Jesus," Gennaro said. But immediately one of the adults came forward, raised its head, and gently nudged the baby to turn back. The baby chittered a

protest, then hopped up to stand on the snout of the adult. The adult moved slowly, allowing the baby to climb over its head, down its neck, onto its back. From that protected spot, the infant turned, and chirped noisily at the three intruders.

The adults still did not seem to notice them at all.

"I don't get it," Gennaro whispered. "Why aren't they attacking?"

Grant shook his head. "They must not see us. And there aren't any eggs at the moment. ... Makes them more relaxed."

"Relaxed?" Gennaro said. "How long do we have to stay here?"

"Long enough to do the count," Grant said.

As Grant saw it, there were three nests, attended by three sets of parents. The division of territory was centered roughly around the nests, although the offspring seemed to overlap, and run into different territories. The adults were benign with the young ones, and tougher with the juveniles, occasionally snapping at the older animals when their play got too rough.

At that moment, a juvenile raptor came up to Ellie and rubbed his head against her leg. She looked down and saw the leather collar with the black box. It was damp in one place. And it had chafed the skin of the young animal's neck.

The juvenile whimpered.

In the big room below, one of the adults turned curiously toward the sound.

"You think I can take it off?" she asked.

"Just do it quickly."

"Oo-kay," she said, squatting beside the small animal. It whimpered again.

The adults snorted, bobbed their heads.

Ellie petted the little juvenile, trying to soothe it, to silence its whimpering. She moved her hands toward the leather collar, lifted back the Velcro tab with a tearing sound. The adults jerked their heads.

Then one began to walk toward her.

"Oh *shit*," Gennaro said, under his breath.

"Don't move," Grant said. "Stay calm."

The adult walked past them, its long curved toes clicking on the concrete. The animal paused in front of Ellie, who stayed crouched by the juvenile, behind a steel box. The juvenile was exposed, and Ellie's hand was still on the collar. The adult raised its head, and sniffed the air. The adult's big head was very close to her hand, but it could not see her because of the junction box. A tongue flicked out, tentatively.

Grant reached for a gas grenade, plucked it from his belt, held his thumb on the pin. Gennaro put out a restraining hand, shook his head, nodded to Ellie.

She wasn't wearing her mask.

Grant set the grenade down, reached for the shock prod. The adult was still very close to Ellie.

Ellie eased the leather strap off. The metal of the buckle clinked on concrete. The adult's head jerked fractionally, and then cocked to one side, curious. It was moving forward again to investigate, when the little juvenile squeaked happily and scampered away. The adult remained by Ellie. Then finally it turned, and

walked back to the center of the nest.

Gennaro gave a long exhalation. "Jesus. Can we leave?"

"No," Grant said. "But I think we can get some work done now."

In the phosphorescent green glow of the night-vision goggles, Grant peered down into the room from the ledge, looking at the first nest. It was made of mud and straw, formed into a broad, shallow basket shape. He counted the remains of fourteen eggs. Of course he couldn't count the actual shells from this distance, and in any case they were long since broken and scattered over the floor, but he was able to count the indentations in the mud. Apparently the raptors made their nests shortly before the eggs were laid, and the eggs left a permanent impression in the mud. He also saw evidence that at least one had broken. He credited thirteen animals.

The second nest had broken in half. But Grant estimated it had contained nine eggshells. The third nest had fifteen eggs, but it appeared that three eggs had been broken early.

"What's that total?" Gennaro said.

"Thirty-four born," Grant said.

"And how many do you see?"

Grant shook his head. The animals were running all over the cavernous interior space, darting in and out of the light.

"I've been watching," Ellie said, shining her light down at her notepad. "You'd have to take photos to be sure, but the snout markings of the infants are all different. My count is thirty-three."

"And juveniles?"

"Twenty-two. But, Alan—do you notice anything funny about them?"

"Like what?" Grant whispered.

"How they arrange themselves spatially. They're falling into some kind of a pattern or arrangement in the room."

Grant frowned. He said, "It's pretty dark. ..."

"No, look. Look for yourself. Watch the little ones. When they are playing, they tumble and run every which way. But in between, when the babies are standing around, notice how they orient their bodies. They face either that wall, or the opposite wall. It's like they line up."

"I don't know, Ellie. You think there's a colony metastructure? Like bees?"

"No, not exactly," she said. "It's more subtle than that. It's just a tendency."

"And the babies do it?"

"No. They all do it. The adults do it, too. Watch them. I'm telling you, they line up."

Grant frowned. It seemed as if she was right. The animals engaged in all sorts of behavior, but during pauses, moments when they were watching or relaxing, they seemed to orient themselves in particular ways, almost as if there were invisible lines on the floor.

"Beats me," Grant said. "Maybe there's a breeze. ..."

"I don't feel one, Alan."

"What are they doing? Some kind of social organization expressed as spatial

structure?"

"That doesn't make sense," she said. "Because they all do it."

Gennaro flipped up his watch. "I knew this thing would come in handy one day." Beneath the watch face was a compass.

Grant said, "You have much use for that in court?"

"No." Gennaro shook his head. "My wife gave it to me," he explained, "for my birthday." He peered at the compass. "Well," he said, "they're not lined up according to anything. ... I guess they're sort of northeast-southwest, something like that."

Ellie said, "Maybe they're hearing something, turning their heads so they can hear. ..."

Grant frowned.

"Or maybe it's just ritual behavior," she said, "species-specific behavior that serves to identify them to one another. But maybe it doesn't have any broader meaning." Ellie sighed. "Or maybe they're weird. Maybe dinosaurs are weird. Or maybe it's a kind of communication."

Grant was thinking the same thing. Bees could communicate spatially, by doing a kind of dance. Perhaps dinosaurs could do the same thing.

Gennaro watched them and said, "Why don't they go outside?"

"They're nocturnal."

"Yes, but it almost seems like they're hiding."

Grant shrugged. In the next moment, the infants began to squeak and hop excitedly. The adults watched curiously for a moment. And then, with hoots and cries that echoed in the dark cavernous space, all the dinosaurs wheeled and ran, heading down the concrete tunnel, into the darkness beyond.

HAMMOND

John Hammond sat down heavily in the damp earth of the hillside and tried to catch his breath. Dear God, it was hot, he thought. Hot and humid. He felt as if he were breathing through a sponge.

He looked down at the streambed, now forty feet below. It seemed like hours since he had left the trickling water and begun to climb the hill. His ankle was now swollen and dark purple. He couldn't put any weight on it at all. He was forced to hop up the hill on his other leg, which now burned with pain from the exertion.

And he was thirsty. Before leaving the stream behind, he had drunk from it, even though he knew this was unwise. Now he felt dizzy, and the world sometimes swirled around him. He was having trouble with his balance. But he knew he had to climb the hill, and get back to the path above. Hammond thought he had heard footsteps on the path several times during the previous hour, and each time he had shouted for help. But somehow his voice hadn't carried far enough; he hadn't been rescued. And so, as the afternoon wore on, he began to

realize that he would have to climb the hillside, injured leg or not. And that was what he was doing now.

Those damned kids.

Hammond shook his head, trying to clear it. He had been climbing for more than an hour, and he had gone only a third of the distance up the hill. And he was tired, panting like an old dog. His leg throbbed. He was dizzy. Of course, he knew perfectly well that he was in no danger—he was almost within sight of his bungalow, for God's sake—but he had to admit he was tired. Sitting on the hillside, he found he didn't really want to move any more.

And why shouldn't he be tired? he thought. He was seventy-six years old. That was no age to be climbing around hillsides. Even though Hammond was in peak condition for a man his age. Personally, he expected to live to be a hundred. It was just a matter of taking care of yourself, of taking care of things as they came up. Certainly he had plenty of reasons to live. Other parks to build. Other wonders to create—

He heard a squeaking, then a chittering sound. Some kind of small birds, hopping in the undergrowth. He'd been hearing small animals all afternoon. There were all kinds of things out here: rats, possums, snakes.

The squeaking got louder, and small bits of earth rolled down the hillside past him. Something was coming. Then he saw a dark green animal hopping down the hill toward him—and another—and another.

Compys, he thought with a chill.

Scavengers.

The compys didn't look dangerous. They were about as big as chickens, and they moved up and down with little nervous jerks, like chickens. But he knew they were poisonous. Their bites had a slow-acting poison that they used to kill crippled animals.

Crippled animals, he thought, frowning.

The first of the compys perched on the hillside, staring at him. It stayed about five feet away, beyond his reach, and just watched him. Others came down soon after, and they stood in a row. Watching. They hopped up and down and chittered and waved their little clawed hands.

"Shoo! Get out!" he said, and threw a rock.

The compys backed away, but only a foot or two. They weren't afraid. They seemed to know he couldn't hurt them.

Angrily, Hammond tore a branch from a tree and swiped at them with it. The compys dodged, nipped at the leaves, squeaked happily. They seemed to think he was playing a game.

He thought again about the poison. He remembered that one of the animal handlers had been bitten by a compy in a cage. The handler had said the poison was like a narcotic—peaceful, dreamy. No pain.

You just wanted to go to sleep.

The hell with that, he thought. Hammond picked up a rock, aimed carefully, and threw it, striking one compy flat in the chest. The little animal shrieked in alarm as it was knocked backward, and rolled over its tail. The other animals immediately backed away.

Better.

Hammond turned away, and started to climb the hill once more. Holding branches in both hands, he hopped on his left leg, feeling the ache in his thigh. He had not gone more than ten feet when one of the compys jumped onto his back. He flung his arms wildly, knocking the animal away, but lost his balance and slid back down the hillside. As he came to a stop, a second compy sprang forward, and took a tiny nip from his hand. He looked with horror, seeing the blood flow over his fingers. He turned and began to scramble up the hillside again.

Another compy jumped onto his shoulder, and he felt a brief pain as it bit the back of his neck. He shrieked and smacked the animal away. He turned to face the animals, breathing hard, and they stood all around him, hopping up and down and cocking their heads, watching him. From the bite on his neck, he felt warmth flow through his shoulders, down his spine.

Lying on his back on the hillside, he began to feel strangely relaxed, detached from himself. But he realized that nothing was wrong. No error had been made. Malcolm was quite incorrect in his analysis. Hammond lay very still, as still as a child in its crib, and he felt wonderfully peaceful. When the next compy came up and bit his ankle, he made only a halfhearted effort to kick it away. The little animals edged closer. Soon they were chittering all around him, like excited birds. He raised his head as another compy jumped onto his chest, the animal surprisingly light and delicate. Hammond felt only a slight pain, very slight, as the compy bent to chew his neck.

THE BEACH

Chasing the dinosaurs, following the curves and slopes of concrete, Grant suddenly burst out through a cavernous opening, and found himself standing on the beach, looking at the Pacific Ocean. All around him, the young velociraptors were scampering and kicking in the sand. But, one by one, the animals moved back into the shade of the palm trees at the edge of the mangrove swamp, and there they stood, lined up in their peculiar fashion, watching the ocean. They stared fixedly to the south.

"I don't get it," Gennaro said.

"I don't, either," Grant said, "except that they clearly don't like the sun." It wasn't very sunny on the beach; a light mist blew, and the ocean was hazy. But why had they suddenly left the nest? What had brought the entire colony to the beach?

Gennaro flipped up the dial on his watch, and looked at the way the animals were standing. "Northeast-southwest. Same as before."

Behind the beach, deeper in the woods, they heard the hum of the electric fence. "At least we know how they get outside the fence," Ellie said.

Then they heard the throb of marine diesels, and through the mist they saw a ship appearing in the south. A large freighter, it slowly moved north.

"So that's why they came out?" Gennaro said.

Grant nodded. "They must have heard it coming."

As the freighter passed, all the animals watched it, standing silent except for the occasional chirp or squeak. Grant was struck by the coordination of their behavior, the way they moved and acted as a group. But perhaps it was not really so mysterious. In his mind, he reviewed the sequence of events that had begun in the cave.

First the infants had been agitated. Then the adults had noticed. And finally all the animals had stampeded to the beach. That sequence seemed to imply that the younger animals, with keener hearing, had detected the boat first. Then the adults had led the troop out onto the beach. And as Grant looked, he saw that the adults were in charge now. There was a clear spatial organization along the beach, and as the animals settled down, it was not loose and shifting, the way it had been inside. Rather, it was quite regular, almost regimented. The adults were spaced every ten yards or so, each adult surrounded by a cluster of infants. The juveniles were positioned between, and slightly ahead of, the adults.

But Grant also saw that all the adults were not equal. There was a female with a distinctive stripe along her head, and she was in the very center of the group as it ranged along the beach. That same female had stayed in the center of the nesting area, too. He guessed that, like certain monkey troops, the raptors were organized around a matriarchal pecking order, and that this striped animal was the alpha female of the colony. The males, he saw, were arranged defensively at the perimeter of the group.

But unlike monkeys, which were loosely and flexibly organized, the dinosaurs settled into a rigid arrangement—almost a military formation, it seemed. Then, too, there was the oddity of the northeast-southwest spatial orientation. That was beyond Grant. But, in another sense, he was not surprised. Paleontologists had been digging up bones for so long that they had forgotten how little information could be gleaned from a skeleton. Bones might tell you something about the gross appearance of an animal, its height and weight. They might tell you something about how the muscles attached, and therefore something about the crude behavior of the animal during life. They might give you clues to the few diseases that affected bone. But a skeleton was a poor thing, really, from which to try and deduce the total behavior of an organism.

Since bones were all the paleontologists had, bones were what they used. Like other paleontologists, Grant had become very expert at working with bones. And somewhere along the way, he had started to forget the unprovable possibilities—that the dinosaurs might be truly different animals, that they might possess behavior and social life organized along lines that were utterly mysterious to their later, mammalian descendants. That, since the dinosaurs were fundamentally birds—

"Oh, my God," Grant said.

He stared at the raptors, ranged along the beach in a rigid formation, silently watching the boat. And he suddenly understood what he was looking at.

"Those animals," Gennaro said, shaking his head, "they sure are desperate to escape from here."

"No," Grant said. "They don't want to escape at all."

"They don't?"

"No," Grant said. "They want to migrate."

APPROACHING DARK

"Migrating!" Ellie said. "That's fantastic!"

"Yes," Grant said. He was grinning.

Ellie said, "Where do you suppose they want to go?"

"I don't know," Grant said, and then the big helicopters burst through the fog, thundering and wheeling over the landscape, their underbellies heavy with armament. The raptors scattered in alarm as one of the helicopters circled back, following the line of the surf, and then moved in to land on the beach. A door was flung open and soldiers in olive uniforms came running toward them. Grant heard the rapid babble of voices in Spanish and saw that Muldoon was already aboard with the kids. One of the soldiers said in English, "Please, you will come with us. Please, there is no time here."

Grant looked back at the beach where the raptors had been, but they were gone. All the animals had vanished. It was as if they had never existed. The soldiers were tugging at him, and he allowed himself to be led beneath the thumping blades and climbed up through the big door. Muldoon leaned over and shouted in Grant's ear, "They want us out of here now. They're going to do it now!"

The soldiers pushed Grant and Ellie and Gennaro into seats, and helped them clip on the harnesses. Tim and Lex waved to him and he suddenly saw how young they were, and how exhausted. Lex was yawning, leaning against her brother's shoulder.

An officer came toward Grant and shouted, *"Señor:* are you in charge?"

"No," Grant said. "I'm not in charge."

"Who is in charge, please?"

"I don't know."

The officer went on to Gennaro, and asked the same question: "Are you in charge?"

"No," Gennaro said.

The officer looked at Ellie, but said nothing to her. The door was left open as the helicopter lifted away from the beach, and Grant leaned out to see if he could catch a last look at the raptors, but then the helicopter was above the palm trees, moving north over the island.

Grant leaned to Muldoon, and shouted: "What about the others?"

Muldoon shouted, "They've already taken off Harding and some workmen. Hammond had an accident. Found him on the hill near his bungalow. Must have fallen."

"Is he all right?" Grant said.

"No. Compys got him."

"What about Malcolm?" Grant said.

Muldoon shook his head.

Grant was too tired to feel much of anything. He turned away, and looked back out the door. It was getting dark now, and in the fading light he could barely see the little rex, with bloody jaws, crouched over a hadrosaur by the edge of the lagoon and looking up at the helicopter and roaring as it passed by.

Somewhere behind them they heard explosions, and then ahead they saw another helicopter wheeling through the mist over the visitor center, and a moment later the building burst in a bright orange fireball, and Lex began to cry, and Ellie put her arm around her and tried to get her not to look.

Grant was staring down at the ground, and he had a last glimpse of the hypsilophodonts, leaping gracefully as gazelles, moments before another explosion flared bright beneath them. Their helicopter gained altitude, and then moved east, out over the ocean.

Grant sat back in his seat. He thought of the dinosaurs standing on the beach, and he wondered where they would migrate if they could, and he realized he would never know, and he felt sad and relieved in the same moment.

The officer came forward again, bending close to his face. "Are you in charge?"

"No," Grant said.

"Please, *señor,* who is in charge?"

"Nobody," Grant said.

The helicopter gained speed as it headed toward the mainland. It was cold now, and the soldiers muscled the door closed. As they did, Grant looked back just once, and saw the island against a deep purple sky and sea, cloaked in a deep mist that blurred the white-hot explosions that burst rapidly, one after another, until it seemed the entire island was glowing, a diminishing bright spot in the darkening night.

EPILOGUE: SAN JOSÉ

Days went by. The government was polite, and put them up in a nice hotel in San José. They were free to come and go, and to call whomever they wished. But they were not permitted to leave the country. Each day a young man from the American Embassy came to visit them, to ask if they needed anything, and to explain that Washington was doing everything it could to hasten their departure. But the plain fact was that many people had died in a territorial possession of Costa Rica. The plain fact was that an ecological disaster had been narrowly averted. The government of Costa Rica felt it had been misled and deceived by John Hammond and his plans for the island. Under the circumstances, the government was not disposed to release survivors in a hurry. They did not even permit the burial of Hammond or Ian Malcolm. They simply waited.

Each day it seemed to Grant he was taken to another government office, where he was questioned by another courteous, intelligent government officer. They made him go over his story, again and again. How Grant had met John Hammond. What Grant knew of the project. How Grant had received the fax from New York. Why Grant had gone to the island. What had happened at the island.

The same details, again and again, day after day. The same story.

For a long time, Grant thought they must believe he was lying to them, and that there was something they wanted him to tell, although he could not imagine what it was. Yet, in some odd way, they seemed to be waiting.

Finally, he was sitting around the swimming pool of the hotel one afternoon, watching Tim and Lex splash, when an American in khakis walked up.

"We've never met," the American said. "My name is Marty Guitierrez. I'm a researcher here, at the Carara station."

Grant said, "You were the one who found the original specimen of the *Procompsognathus*."

"That's right, yes." Guitierrez sat next to him. "You must be eager to go home."

"Yes," Grant said. "I have only a few days left to dig before the winter sets in. In Montana, you know, the first snow usually comes in August."

Guitierrez said, "Is that why the Hammond Foundation supported northern digs? Because intact genetic material from dinosaurs was more likely to be recovered from cold climates?"

"That's what I presume, yes."

Guitierrez nodded. "He was a clever man, Mr. Hammond."

Grant said nothing. Guitierrez sat back in the pool chair.

"The authorities won't tell you," Guitierrez said finally. "Because they are afraid, and perhaps also resentful of you, for what you have done. But something very peculiar is happening in the rural regions."

"Biting the babies?"

"No, thankfully, that has stopped. But something else. This spring, in the

Ismaloya section, which is to the north, some unknown animals ate the crops in a very peculiar manner. They moved each day, in a straight line—almost as straight as an arrow—from the coast, into the mountains, into the jungle."

Grant sat upright.

"Like a migration," Guitierrez said. "Wouldn't you say?"

"What crops?" Grant said.

"Well, it was odd. They would only eat agama beans and soy, and sometimes chickens."

Grant said, "Foods rich in lysine. What happened to these animals?"

"Presumably," Guitierrez said, "they entered the jungles. In any case, they have not been found. Of course, it would be difficult to search for them in the jungle. A search party could spend years in the Ismaloya mountains, with nothing to show for it."

"And we are being kept here because ..."

Guitierrez shrugged. "The government is worried. Perhaps there are more animals. More trouble. They are feeling cautious."

"Do you think there are more animals?" Grant said.

"I can't say. Can you?"

"No," Grant said. "I can't say."

"But you suspect?"

Grant nodded. "Possibly there are. Yes."

"I agree."

Guitierrez pushed up from his chair. He waved to Tim and Lex, playing in the pool. "Probably they will send the children home," he said. "There is no reason not to do that." He put on his sunglasses. "Enjoy your stay with us, Dr. Grant. It is a lovely country here."

Grant said, "You're telling me we're not going anywhere?"

"None of us is going anywhere, Dr. Grant," Guitierrez said, smiling. And then he turned, and walked back toward the entrance of the hotel.

THE END.

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In preparing this novel, I have drawn on the work of many eminent paleontologists, particularly Robert Bakker, John Homer, John Ostrom, and Gregory Paul. I have also made use of the efforts of the new generation of illustrators, including Kenneth Carpenter, Margaret Colbert, Stephen and Sylvia Czerkas, John Gurche, Mark Hallett, Douglas Henderson, and William Stout, whose reconstructions incorporate the new perception of how dinosaurs behaved.

Certain ideas presented here about paleo-DNA, the genetic material of extinct animals, were first articulated by Charles Pellegrino, based on the research by George O. Poinar, Jr., and Roberta Hess, who formed the Extinct DNA Study Group at Berkeley. Some discussions of chaos theory derive in part from the commentaries of Ivar Ekeland and James Gleick. The computer programs of Bob Gross inspired some of the graphics. The work of the late Heinz Pagels provoked Ian Malcolm.

However, this book is entirely fiction, and the views expressed here are my own, as are whatever factual errors exist in the text.