

## Destroyer Of Worlds

by Charles Sheffield

"Neither snow nor rain nor heat nor gloom of night stays these couriers from the swift completion of their appointed rounds." Those words were not penned by a dedicated employee of the United States Postal Service. They were written by Herodotos, in about 450 B.C., and he was talking about the postal system of the Persians.

The first postage stamps in the world came long after the first postal service. They were introduced in Great Britain, in 1840. They were the Penny Black and the Twopenny Blue, and the picture on their face was based on the 1837 medal portrait of Queen Victoria engraved by W. Wyon.

A reprint is a stamp printed from the original plate after that stamp is no longer valid for use as postage. Its existence tends to depreciate the price to collectors of the original stamps.

Philately, as a term used to describe the collecting of postage stamps, was a word coined in 1865 by a Frenchman, Monsieur Herpin. Before that, stamp collecting was known by the less complimentary term of timbromania.

Everyone in the world knows these things. Don't they? That's what Tom Walton seemed to believe when I first met him.

I went to his shop on 15th Street in downtown Washington in early May, on a warm and pleasant mid-afternoon. A reporter friend of mine had given me his name and the address of his store, and assured me that he knew more about stamps than any ten other people combined. To tell the truth, it was only faith in my friend Jill's opinions that persuaded me to go into that shop. The storefront was a hefty metal grating over dirty glass, and behind that on display in the window I saw nothing but a couple of battered leather books and a metal roller. It was a dump, the sort of shop you walk past without even noticing it's there.

The inside was no better. Narrow and gloomy, with a long wooden counter running across the middle to separate the customer from the shopkeeper. Bare dusty boards formed the floor and one unshaded lightbulb just above the counter served as the only illumination. Cobwebs hung across all the corners of the ceiling. As furniture there was one stool on my side and a tall armchair on the other. In that chair, peering through a jeweller's loupe at a stamp in its little cover of transparent plastic, sat a fat man in his early twenties. At the ring of the shop's doorbell he took the lens away from his eye and gave me a frown of greeting.

"Mr. Walton?" I said.

"Mmph. Yer-yes." A quiet voice, with the hint of a stammer.

"I'm Rachel Banks. I don't want to buy any stamps, or sell any, but I wondered if you could spare me a few minutes of your time. Jill Fahnestock gave me your name."

"Mm. Mmph. Yes."

It occurred to me that I should have asked Jill a few more questions. I hadn't, because there had been a fond tone in her voice that made me think Tom Walton might be an old boyfriend of hers. But seeing him now I felt sure that wasn't the case. Jill was one of the beautiful people, well-groomed and chic and dressed always in the latest fashions. Tom Walton was nice looking in a chubby sort of way, with curly fair hair, a beautiful mouth, and innocent blue eyes. But he hovered just on the right side of the indefinable

boundary of fatness beyond which I cannot see any man as a physically attractive object. Also he hadn't shaved, his shirt was poorly ironed, and he was wearing a baggy cover-all cardigan that was as shapeless as he was. There was even a smudge of oil or something around his left eye that had come from the lens he had been using.

Not Jilly's type. Not at all.

"I have a question," I said. "About a postage stamp. Or what may be a postage stamp. Jill thought you might be able to help me."

"Ah." At least that was a positive sound, a tone approaching interest. But I still had to get the preliminaries out of the way. I'd been in trouble before when I didn't announce at once who I was and what I was doing.

"I'm a private investigator," I said. "Here's my credentials."

He hardly glanced at the card and badge I held out to him. Instead, a faint expression of incredulity crept across his face, while he stared first at my face, then at my purse.

"Hmph," he said. "Hmph."

Those particular "hmphs" I could read. They meant, you don't look tough enough to be a private eye. Too young, too nervous. And anyway, where's your gun? (Raymond Chandler and Dashiell Hammett -- I'd like to bring them back to life long enough to strangle the pair of them. Between them they ruined the image.)

"I'm investigating the disappearance of Jason Lockyer," I said. I was nervous, no doubt about it. Eleanor Lockyer had that effect on me.

"Jason Lockyer. Never heard of him."

"No reason you would have. Mind if I sit down?"

I took his silence for assent and perched on the stool. Tall and skinny I may be, but high chairs were made for legs like mine.

"Lockyer is a biologist," I went on. "A specialist in algae and slime molds and a number of other things I'm forced to admit I know nothing about. He's famous in his own field, a man in his early sixties, very distinguished to look at, and apparently a first-rate teacher. He's on the faculty over at Johns Hopkins in Baltimore, as a full professor of an endowed chair, and he has an apartment there. But he also keeps an apartment here in Washington. Not to mention an apartment in Coral Gables and half an island that he owns in Maine. As you'll guess from all that, he's loaded."

With some people you can lose it right there. They resent other people's money so much, they can't work around them. Tom Walton showed nothing more than a mild disinterest in Jason Lockyer's diverse homes, and I went on: "He usually spent most of the week over on campus in Baltimore, and his wife is mostly down in Florida. So when he disappeared a couple of weeks ago his wife didn't even realize it for three or four days. She called me in last Friday."

"Why you? Why not the p -- police?"

The question came so quickly and easily that I revised my first impression of Walton. Slob, maybe, but not dumb.

"The police, too. But Eleanor Lockyer doesn't have much faith in them. When she reported that he had disappeared, all they did was file a report."

"Yeah, I know the feeling. Same as they did when my shop was robbed last year."

"She expected more. She thought when she called them they would run off and hunt for him in all directions. As it was they didn't even come to search their apartment."

I was losing him. He was starting to fidget in the armchair and fiddle with the jeweller's loupe on the counter in front of him. It didn't look as though he'd had a customer in days, but I probably had two more minutes, before he made up a reason why he was too busy to listen to me.

I opened my bag and took out a 9 by 12 manila envelope. "But I did search the apartments," I said. "All four, the one here in Washington and the one in Baltimore and then the other two. No signs that he left in a hurry, no signs of any problem. A dead loss in fact, except for one oddity. An empty envelope in the Baltimore apartment, addressed to Jason Lockyer -- didn't say Professor, didn't say Doctor, just Jason Lockyer -- standard IBM Selectric II typewriter, but there was a very odd stamp on it. Here."

I took the photograph out of the envelope and slid it across the counter. It was an 8x11 color print and I was rather proud of it. I had taken it with a high-power magnifying lens, and after half a dozen attempts I had obtained a picture with both good color balance and sharp focus. The image showed the head of a black-faced doll with staring eyes and straight hair sticking up wildly like a stiff black brush. The doll was black and green and red, and an oval red border ran around it. At the bottom of the stamp was a figure "1" and the words, 'One Googol.' My satisfaction at the work was not shared by Tom Walton. He was staring at the photo with disdain.

"It's a color enlargement," I said. "Of the postage stamp. And the picture in the middle there -- "

"It's a golliwog."

That piece of information had taken me hours to discover. "How did you know? Until two days ago I had never even heard of a golliwog."

"I used to have a doll like this when I was a kid." He was a little embarrassed, but the sight of the picture had brought him to life. "Matter of fact, it was my f -- favorite toy."

"I never knew a doll like that existed -- I had to ask dozens of people before I found one who knew what it is. It started out as a character in children's books, you know, nearly a hundred years ago. How on earth did you get one to play with?"

"Aw, I guess it was a pretty old doll. Handed down, like."

"I know the feeling -- all the clothes I ever saw came from my big sister."

For some reason he looked away awkwardly when I said that. I reached out and touched the photo.

"This is a picture of the stamp, the best one I could take of it. I was wondering what you might be able to tell me about where it was made, maybe where it came from."

He hardly glanced at it before shaking his head. "You don't understand," he said. "This is useless. And it's not a stamp intended for use as real postage."

"How do you know?"

"Well, for a start you'll notice that it hasn't been postmarked. It was on an envelope but it was never

intended to go through the mails. More important, a googol is ten to the hundredth. Making a stamp that says it has a value of 'one googol' is the sort of joke that the math class would have done back at Princeton."

It had taken me another half hour to discover what a googol was. "You went to Princeton?"

"For a while. I dropped out." His voice was unemotional as he went on: "There are plenty of interesting stamps that were never intended for postage and don't have currency value -- Christmas seals, for example, that Holboll introduced in 1903 as part of an anti-tuberculosis campaign. Some people collect those. But what you have given me isn't a stamp at all. It's just a picture of a stamp, and that's a whole lot different. For instance, you missed off the most important piece."

"Which is?"

"The edges. You've blown the main picture up big, and that's good, but to get it you've cropped all four edges. I can't see how it's perforated. That's the first problem. Then there's the materials -- the dyes and the gum, you can't tell one thing about them from a photograph. And what about the type of paper that was used? And the watermark. Look, you said you found the stamp in Lockyer's apartment. Don't you have it anymore?"

"I do."

"Then why on earth didn't you bring it with you? I've got all sorts of things in the back of my shop just for looking at stamps." He leaned closer across the counter. "If you would let me take a look at it here I'm sure I could squeeze out some information. There are analytical techniques available today that no one dreamed of twenty years ago."

Finally, some enthusiasm -- and such enthusiasm! He was itching to get his hands on the golliwog stamp. I wanted to hear more, but whatever miracles he had in the back of the shop were apparently of no interest to my stomach. It chose that moment to give a long, gurgling groan of complaint. I had breakfasted on a cup of black coffee and lunched in mid-morning on a dry bagel, and it was now after five. Hunger and nerves. I put my hand on my midriff.

"Pardon me. I think that's trying to tell me something. Look, I'm sorry about not bringing the stamp. It's locked up in my safe. I've grown so used to protecting original materials -- if I don't do it, the courts and the lawyers beat me into the ground. But if you'll let me pick your brains some more for the price of dinner..." He was going to say no, I knew it, and I hurried on, " -- then I'll go get the stamp and bring it here in the morning. And if there's work for you to do -- for God's sake don't destroy it, though -- I'll tell Mrs. Lockyer that I need you and I'll pay you at the same rate I'm being paid."

"How much?"

"Three hundred and fifty a day, plus expenses."

He didn't seem thrilled by the prospect, though it was hard to believe he made that much in a month in the store. I think it was the chance of getting a look at the stamp that sold him, because he finally nodded and said, "Let me lock up."

He turned to the unpainted inner door of the store and shielded the lock with his back while he did something to it.

"Not much in there to appeal to your average downtown thief," he said when he was done. He sounded apologetic. "No trade-in value, but a lot of the things are valuable to me."

Did Tom Walton spend everything he had on stamps? That idea was strengthened when we went out to his car, parked in the alley behind the store, and drove off to the Iron Gate Inn on N Street. He drove a 1974 white Dodge Dart rusted through at the bottom of the doors and under the fenders. I think cars are one of humanity's most boring inventions, but even I noticed that this vehicle was due for retirement.

I was a regular at the restaurant and I knew the menu by heart. He insisted on studying it carefully, a fixed stare of concentration on his face. I had the impression that he was more accustomed to food that came out of a paper bag.

While he read the menu I had an opportunity for a closer look at him. I changed my original estimate of his age. His innocent face said early twenties, but his hair was thinning at the temples. (Later, when I referred to him to Jill Fahnstock as 'the Walton kid' she stared at me and said, "Kid? He's thirty-two -- three years older than you." "But he looks -- I don't know -- brand-new." "You mean unused. I know. There's more to Tom than meets the eye.")

There was quite a bit of him that did meet the eye. "I'm on a diet," he explained, when he was ready to order.

"I see." Not before time, but I could hardly tell him that. "How long have you been dieting?"

"This time?" He paused. "Four years, almost."

Then he went ahead, quite unselfconsciously, to order and eat a vast meal of humous, cous-cous, and beer. I couldn't complain, because he was determined to earn his dinner. We talked about stamps, and only stamps. At first I made a feeble attempt to take notes but after a few minutes I concentrated on my own food. There was no way I would remember all that he said, and with him as my consultant I didn't need to.

Stamps are colored bits of paper that you lick and stick on letters, right?

Not to Tom Walton and a million other people. To the collectors, stamps are an obsession and an endless search. They spend their lives rummaging through dusty old collections, or bidding on large lots at auctions to get a single stamp, or writing letters all over the world for first-day covers. They have their own vocabulary -- double impressions (where a sheet of stamps has been put through the press twice, and the second imprint is slightly off from the first one); mint (a stamp with its original gum undamaged and with an unblemished face); inverted center (when a stamp is made using two plates, and a sheet is accidentally reversed when it is passed through the second press, so the stamp's center is upside down relative to its frame); tete-beche (where a plate has been made with one stamp upside down in the whole sheet of stamps).

They also have their own versions of the Holy Grail, stamps so rare and valuable that only the museums and super-rich collectors can own them: the 1856 "One-Penny Magenta" stamp from British Guiana; the Cape of Good Hope "Triangle" from the 1850's; the 1843 Brazilian "Bull's-Eye," first stamp issued in the western hemisphere; the tri-colored Basle "Dove" issued in Switzerland in 1845; the 1847 Mauritius "Post Office" stamp.

And there are the anomalies, the stamps that are interesting because of some defect in their manufacture. Tom Walton owned a 1918 U.S. Airmail stamp, an example of an inverted center in which the plane in the stamp's center is flying upside-down. He told me it was very rare, with only one sheet of a hundred stamps ever reaching the public.

I don't know how much time he spent alone in that store of his but he was starved for company. He would probably have talked to me all evening, and to my surprise I was enjoying listening to him. But by

the time we were onto baklava and a second cup of coffee my own preoccupations were beginning to take over.

"I'm sorry, Tom." I interrupted his description of the '\$1.00 Trans-Mississippi' commemorative stamp, one of his favorites. "But I've got to pay the check and go now. I promised Mrs. Lockyer that I'd be over to see her this evening at her apartment."

He nodded. "Ready when you are, Rachel."

He seemed to assume that he was going with me. I hadn't intended it, but it made sense. If I were considering adding him to the payroll it was a near-certainty that Eleanor Lockyer would want to talk to him. (Though I was not sure that I wanted to expose him to her.)

The Lockyer apartment was out in yuppie-land on Massachusetts Avenue, far from any subway stop. Tom Walton's car received an incredulous look from the guard at the main entrance, but when we told him who we were going to see he couldn't refuse to let us in. We parked between a Mercedes 560 and an Audi 5000. Tom carefully checked that all his car doors were locked.

As we went inside and entered the elevator I decided that the second cup of coffee had been a mistake. I have an incipient ulcer, and my stomach hurt. Then I decided that the coffee was not to blame. What was getting to me was the prospect of another meeting with Eleanor Lockyer.

She was on the telephone when the maid ushered us in, and she took her time in finishing the conversation. We were not invited to sit down. She was obviously preparing to go out, because she was wearing a long dress and a cape that my year's income would not have paid for. I introduced Tom Walton as someone who was helping me with the investigation. She gave him the briefest of glances with bored grey eyes, dismissed him as a nonentity, and waved her arm at the table.

"Jason's mail for the past two days. I haven't looked at most of it, but you probably want to open it all and see what's there."

"I'll do that," I said. Tom Walton began to edge his way over to the stack of letters and envelopes.

"Right. You've been working on this for four days now. I hope you have results. What have you found out?"

"Quite a bit. We're making good progress." The tone in her voice was so critical I felt obliged to overstate what I had done. "First, we can rule out any possibility of kidnapping. Wherever he went, his trip was planned. The woman who cleaned the apartment in Baltimore is sure that there are a couple of suitcases missing, along with his clothes and toilet articles. She also thinks there are some spaces in the bookcases, but she can't remember what books used to be there, though they were in the middle of a group of books about single-celled plants and animals. Second, he's almost certainly still somewhere in this country. His passport was in his study here. Third -- the absolute clincher, in my opinion -- he left his notes for the rest of the semester with his Teaching Assistant at the university. Fourth -- "

"But where is he?" she interrupted.

"I don't know."

"And you call that progress? You're telling me he could be anywhere in fifty states, millions of square miles, and you've no idea where, or how to find him. That's not what I'm paying you for. What good does that do me?"

"It's part of the whole investigative process. We have to rule out certain possibilities before I can explore

others. For instance, now that we know he wasn't abducted against his will -- Mrs. Lockyer, I don't know an easy way to ask this; but is there any chance that Jason Lockyer might have had a girl friend?"

She didn't laugh. She sneered. "Jason? Why not ask a sensible question? He has the sex drive of a lettuce. One woman in his life is too much for him."

\_You'd\_ be too much for most people. But that's the sort of thing you think and don't say. Fortunately I didn't have to ask a 'sensible question' because we were interrupted by a loud whistle from Tom Walton.

"Look at this letter!" he said. "Professor Lockyer is going to be awarded the Copley Medal of the Royal Society, for his work on bacterial DNA transfer. That's really great."

It was a breakthrough, of sorts. It proved that Tom Walton was interested in something other than postage stamps.

But it did nothing for Eleanor Lockyer. She changed the direction of her scorn. "That's just the sort of nonsense I've had to put up with for five years. Bacteria, and worms, and slimes. If anyone deserves a medal it's \_me\_, having to live with that sort of rubbish." The buzzer sounded. She looked at her watch, then at me. "I must say, I'm most disappointed and dismayed by your lack of progress. You have to do better or I'm certainly not going to keep on paying you for nothing. Get to work. Look at this apartment again, and go over that mail with a toothcomb. When you are finished here Maria will let you out. I have to go. General Shellstock's limousine is waiting downstairs and the General asked me to be on time."

She was turning to leave when Tom Walton said quietly, "Walter Shellstock, by any chance?"

"Yes. He's visiting Washington for a few days."

"Say hello."

"Hello? You mean from \_you\_?"

"Sure. Wally Shellstock's my godfather."

It was a pleasure to watch Eleanor Lockyer's reaction. Her bottom lip went down so far that I could see the receding gum-line on her lower teeth, and she said, "\_You\_. You're ... But who?..."

She had forgotten his name, or never registered it when I introduced them.

He realized her problem. "Well, in business I just use Tom Walton. But my full name is Thomas Walton Shellstock. Actually it's Thomas Walton Shellstock the Fourth, though I don't know why anyone would care about counting the numbers."

"The \_Pennsylvania\_ Shellstock's?"

"That's right. Well, have fun with Wally." Tom turned back to the pile of letters, peering at each one and ignoring Eleanor. I've never seen a woman so torn. The buzzer sounded again, this time more urgently. She turned toward the door, but then she hurried back and took Tom by the arm.

"Thomas, I'm having a small dinner party here next week. I'd love it if you could come."

"Send me an invitation. Rachel has my address."

"Of course. You and..." She turned to give me a look of frustration. It meant, I sure as hell don't want to have to invite \_you\_, you're the hired help -- but I'm not sure what your relationship is to Thomas Walton Shellstock, and if you two are screwing I may have to include you just to get him.

"Both of you," she said at last. Tom didn't give her another look, and finally she went out.

"You'd really come to her dinner party?" I said. I had a lot of questions but that seemed like the most important one.

"What do you think? Saying 'send me an invitation' is a lot easier than saying no in person."

"What are the Pennsylvania Shellstock's? She almost dropped her teeth."

"Ah." He had finished looking at the stamps on the unopened letters, and now he was sitting idly at the table. "'Old money, my d-dear,'" he said in a falsetto. "'The only real kind of money.' That's what people like Mrs. Lockyer say -- and that's why I don't use my full name. We happen to have rather a lot of it -- money, I mean, no thanks to me. Isn't she revolting?"

"I wondered if it was just me. When I hear her talk about her husband it doesn't sound like she wants me to find him. It sounds like she wants me to prove he's dead."

"I don't understand why they're married at all. You said he's in his sixties, she can't be more than forty."

"Forty-five, if she's a day," I said. Pure malice. "His first wife died -- he's got grown-up kids, and contacting them is on my agenda. Eleanor knew a good thing when she saw one. No responsibilities, lots of money -- so she grabbed him."

"No children in this marriage?"

"Perish the thought. Children, my dear, they're such a nuisance. And having them is so messy."

He was laughing without making a sound. "And worse than that, my dear, I'm told it actually hurts. Rachel, it's none of my business but I think you have a problem."

"Mrs. Lockyer? Don't I know it."

"I wasn't thinking of that. From what you said it's quite obvious that Jason Lockyer disappeared because he wanted to disappear. If he intended his wife to know about it he'd have told her. So now you're trying to go against what he wanted, just to please her. Doesn't that give you fits?"

"Tom, she's my client."

"So drop her, my dear."

"Right. And find at the end of the month I can't pay the rent. I'm in a funny business, Tom. Some of my clients are people you'd cross the street to avoid meeting. And I won't even touch the worst cases, the bitter divorce settlements and the child abusers. But the nice, normal people of the world don't seem to have much need for detectives."

There was a conscience inside all that fat, because after a moment he shook his head and said, "I'm sorry. I shouldn't have said that, it's not my business."

"No, and it never will be. Know why, Tom? Because you're rich." I was angry, but most of it was guilt. He was right, I shouldn't be hounding Jason Lockyer just to please Eleanor Lockyer. "You don't have the same pressures on you. I saw your face when I offered you three hundred and fifty dollars a day to work on this. A lousy three-fifty, you thought, that isn't worth bothering with. Why do you run that stamp store at all if you don't need money? Why don't you do something important?"

There must be a branch of etiquette that says you don't harangue near-strangers; but poor Tom Walton



didn't feel like a stranger, so I unloaded on him.

After a few moments he sighed. "All right, all right. I'll help you look for Jason Lockyer. And why do I run the stamp store? I'll tell you, I do it to avoid conversations like this -- with my own damned family. They're all over-achievers, and they went on at me for years, telling me to go out and change the world -- run for public office, or buy a position on the New York Stock Exchange, or win a Nobel Prize." His voice was becoming steadily louder. "I don't want to do any of those things. I want a nice, peaceful life, looking at interesting things. And no one else is willing to let me do that! That's one nice thing about stamps. The family accepts that I'm running a business, they stay away and the stamps don't harass you."

That was the moment when I began to revise my opinion of Tom Walton. I had neatly pegged him as a pleasant, shy, introverted and slightly cooky young man, preferring stamps to people, silence to speeches, and solitude to most types of company. I didn't think he knew how to shout. Now I saw another side of him, stronger and more determined. Anyone who got between Tom and what he wanted was in for a tough time.

Maria had heard the noise from another room of the apartment -- she could have heard it from any room, and maybe out in the street. She appeared at the door and politely asked us if we were ready to leave. We were. Both of us became subdued. Thomas Walton Shellstock (the Fourth) drove me back to my apartment on Connecticut Avenue. We didn't speak.

As he stopped in front of the building he said: "I hate all this, Rachel. Really hate it. I'm not interested in looking for Jason Lockyer, and if I see his wife ever again that will be too soon."

I reached over and switched off the ignition key. "I know how you must feel," I said. "But I hope you'll decide to stick with it. It would be easy for you to say to hell with it, and quit. I feel the same way myself, but you know I can't do that. For one thing I need the money, and for another I could get a complaint that will cost me my license. And I need your help on this -- you can see I'm floundering. Please, Tom. Don't back out now."

It was unfair pressure, and I knew it. After a couple of silent moments Tom lifted his head to look up at the front of the building.

"Oh, hell," he said. "If you want to, bring that lousy golliwog stamp around to my store tomorrow morning."

(Looking back, I see this as the critical moment when I began to use Tom Walton's essential niceness to ease him out of his shell. And if it was also the first step in saving or destroying the world, that's another matter -- I certainly didn't suspect it at the time.)

I opened the door and stepped out. "Thanks, Tom," I said. "You're a real nice guy and I won't forget this. See you about ten o'clock. Goodnight."

I walked away quickly. I wanted to be inside the lobby before he could tell me he had changed his mind.

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I had taken the liberty of carrying Jason Lockyer's newly-arrived mail away in my purse from the Lockyer apartment. After all, Eleanor had just about ordered me to take it away and study it.

After two coffees and that conversation with Tom Walton I knew it was going to be difficult to go to sleep (yes, I have a conscience, too). I didn't even try. I spread out the mail on the kitchen table and

began to go through it piece by piece. About half-past eleven I had a breakthrough, courtesy of the U.S. Postal Service. It's rare to thank the USPS for slow service, but I was ready to do it.

Although the letters had all been delivered to Lockyer's apartment that morning or the day before, one of them had been \_mailed\_ nearly three weeks earlier. It should have reached Jason Lockyer long before he left for parts unknown, but of course it hadn't.

It bore a first-class postage stamp and a near-illegible postmark. I could make out the date and the letters "CO" -- Colorado -- at the bottom, but the town name was impossible. The handwritten envelope was addressed to Professor Jason Lockyer. Inside was a second envelope, this time with nothing written on it -- but there was a golliwog stamp in the upper right corner. And inside \_that\_ was the following typed message:

\_I think it's time to give you another progress report, even though it's sooner than I said. Seven and Eight are running along so-so, nothing much different from what you heard about in my last report. But Nine -- you'd never believe Nine if you didn't see it for yourself. It's still changing, and no one can estimate an end-point. The crew are supposed to go inside in another week. Marcia says we'll be in no danger and she wants us to stay there longer than usual. She's done something new on the DNA splicing, and she believes that Nine is moving to a totally different limit, one with a Strange Attractor we've never seen before. She thinks it may be the one we've been searching for all along. Me, I'm afraid it may be the ultimate boss system -- the real Mega-Mother. Certainly the efficiency of energy utilization is fantastic -- more than double any of the others, and still increasing.\_

\_I tell you frankly, I'm scared, but I'll have to go in there. No way out of it. You told me that if I ever wanted advice you'd give it. I think that's what we all need here, a new look without any publicity. Any chance you can arrange to come? I'll write again or telephone in the next few days to keep you up-to-date. Then maybe you can tell me it's all my imagination.\_

The one-page letter was unsigned and undated, but I had the date on the postmark. And I had the log of Jason Lockyer's incoming long-distance phone calls at the university and at each apartment. It should be straightforward to find out who had written the cryptic note.

By half-past one I had changed my ideas about that. The incoming log showed nothing from Colorado anywhere near the right dates. As a final act of desperation I at last went to the log of Jason Lockyer's outgoing calls, ones he had placed himself. I had looked at this log before, but he made so many calls to so many places that I had not been able to see anything significant.

Sweet success.

It jumped out at me in the first ten seconds of looking. Six days after this letter had been mailed, Lockyer had placed a series of four phone calls in one day to Nathrop, Colorado. One call had lasted for over forty minutes. I checked in my National Geographic atlas. Nathrop was a small town about seventy miles west of Colorado Springs. It lay on the Arkansas River with the Sawatch Range of the High Rockies rearing up to over fourteen thousand feet just to the west.

Nathrop, Colorado.

For the first time, I had a place to look for Jason Lockyer that was smaller than the continental United States.

Within two minutes I knew I would be going to Nathrop myself. Calling that telephone number was a tempting thought, but there was a danger that it might make Jason Lockyer run before I had a chance to talk to him face to face. The real question was, would I tell Eleanor Lockyer what I was doing? She was

my client, so the natural answer was, yes, she had to know and approve. But now I had to face Tom's question: did I want to find Jason Lockyer for her when he didn't want to be found?

I went to bed. I spent the rest of the night tossing and turning in mixed feelings of satisfaction and uneasiness.

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I was standing at the door of Tom's shop on 15th Street by eight-thirty. Nice district. I was propositioned twice, and would have been moved on, too, if I hadn't been able to show the cops my license.

Tom's white Dodge wheezed around the corner at nine o'clock. He saw me and waved before he turned to park in the alley behind the building. He was eating an Egg McMuffin. I'm not a breakfast person, but I wished I had one.

"Got the stamp?" he said as soon as he came out of the alley. He was wearing a tan sports coat and matching flannels, and a well-ironed white shirt. His hair was combed and he was so clean-shaven his skin had a scraped look.

"Better than that. I have two of them."

I explained while he was opening the front door of the store.

"Good," he said. "It's nice to have a spare. It means I won't have to be quite so c-careful with the first one. And if you want my opinion, you ought to find Jason Lockyer and hear his side of the story before you tell Eleanor Lockyer a damned thing."

He went straight past the counter, unlocked the inner door, and waved me through.

It was just as well that I had learned the previous night that Tom was from a wealthy family. Otherwise, the word that would have entered my head when I stepped through the beige-painted wooden door into the rear of the store would have been: drugs. Money had been spent here, lots of money, and in downtown D.C. big money says illegal drugs more often than you would believe. At the back of the store was a massive Mosler safe, the sort of thing you'd normally see in a top-secret security installation or a bank vault. There was a well-equipped optical table along one wall and a mass of computer gear along another. Tom explained to me that it was an Apollo image analysis workstation, with a digitizer and raster scanner as input devices.

"I can view a stamp or a marking ink with a dozen different visible wavelength filters," he said. "Or in ultraviolet or multiband infrared. We can do chemical tests, too, on a tiny corner, so small you'd never know we'd touched it. I have verniers that will measure to a micron or better, and the raster scanner will create a digital image for computer processing. I can do computer matching against all the standard papers and inks."

"And the safe?"

"Stamps. They're negotiable currency, of course, but that's not the point. The old and rare ones have a worth quite unrelated to their face value."

Just like Tom Walton.

He took the envelope containing the first golliwog stamp and placed it carefully on a light-table. Those fat fingers were surprisingly precise and delicate. As he placed a high-powered stereo lens in position and

bent over it, he said: "Why are you rejecting the most obvious reason at all for Jason Lockyer running off -- that he c-can't stand his wife? Seems to me he has an excellent reason, right there."

"If he just wanted to get away from her he wouldn't need to disappear. He had good legal advice before they married. They have a marriage contract, and if they split up he knows exactly how much it would cost him. He can afford it. All he would have to do is stay over in Baltimore and tell his lawyers to go ahead with the separation papers. If he were to die, that's another matter. She gets a lot more. I think that's one reason why Eleanor is willing to pay me to find out what happened. She wants that money so bad she can taste it."

I watched as Tom grunted in satisfaction and straightened up. He fed the second envelope carefully into a machine that looked like a horizontal toaster.

"The thousand dollar version of the old steam kettle," he said. "It takes the stamp off the cover with minimal damage to the mucilage. Here it comes." The stamp was appearing from the other side of the machine on a little porcelain tray. He removed it, placed it between two pieces of transparent film, and secured it in position on the scanner.

"There's one other reason why I'm sure Lockyer's not planning to stay away forever," I went on. "He didn't take any check books, and he hasn't used any credit cards. What will he do when he runs out of money?"

"What about coupon clipping?" asked Tom. And then, when I looked puzzled, "I mean dividends. If he's like me he gets dividend checks all the time, and he can cash them easily. All he would have to do is change the mailing address for receipt of those, and he could live off them indefinitely."

"Damn. I never thought of that. I'll have to check it."

He closed the cover on the scanner, leaned back, and stared at me. "It's none of my business, but how did you get into this detective work? And how long have you been doing it?"

"Six years. Two years on my own, since my uncle died. It was really his business, and I used to help him out in the summers when I was still in school. When I graduated a job was hard to find. Tell an employer you have a double degree in English and psychology and it's like saying you have AIDS and leprosy."

"But why do you stay in it?"

"Well, I've got an investment. There's a hundred and fifty eight dollars fee for the application for a D.C. license. And another sixteen-fifty for fingerprinting, and thirty for business cards. It adds up."

I was trying to tease him, but he was too smart and it didn't work.

"Do you make any money?" he asked.

He wasn't teasing at all, he was just making conversation while the scanner did its thing on the stamp. But unfortunately it did work. I've grown hypersensitive about what I do for a living. I broke up with my last boyfriend, Larry, over just this subject.

"I pay the rent," I snapped back at him. "And I bought your dinner last night. You say you're rich but I didn't see you itching to pick up the tab."

"I've been trained not to," he said quietly. "That's one of the things I was told at my mother's knee -- everyone in the world will try to soak you for a loan or a f-free meal, as soon as they find out you're a Shellstock. I guess that's another reason why I'm Tom Walton. But I'll buy you dinner anytime you want

to, Rachel."

Which of course left me feeling like the ultimate jerk. I hadn't bought him dinner -- the Lockyers had, since it would be on my expense account. And he knew that, yet he offered to buy me dinner out of his own pocket. I'd slapped him and he was offering the other cheek.

"Let me tell you about the golliwog stamp," he went on. I was quite ready to let him change the subject. "There's more to be measured, but a few things are obvious already. First, look at the perforations on the edge of the stamp. Even without a lens you can see that only the top and bottom are perforated, with the sides clean. That means this stamp is from a vertical coil -- a roll of stamps rather than a sheet, with the stamps joined at top and bottom, not at the sides. And even without measuring I can tell you this is 'perf 12' -- twelve perforations in twenty millimeters. Nothing unusual about any of this, though horizontal coils are more common. What's more interesting is the way the stamp was produced. Take a look."

He moved me to the light-table and showed me how to adjust the binocular lens to suit my eyes.

"See the pattern of lines across the stamp? That's called a *\_laid batonne\_* paper, a woven paper with heavier lines in a certain direction. And there's no watermark -- that's a pretty sure sign that these stamps were never intended for use as commercial postage."

"So what's the point of them?"

"My guess is that they were made to identify a certain group of people -- like a secret sign, or a password. Put one of these on the envelope, you see, and it proves you're one of the inside group. I've seen it done before, though this is an unusually well-executed design for that sort of thing. The choice of a golliwog supports my idea, because it's not a symbol I'd ever expect to see on a commercial stamp. Now, look at the actual design of the golliwog."

I stared at it and waited for revelation.

"There are five main processes used in manufacturing stamps," he went on. "First, engraved *\_intaglio\_*, where a design is cut directly into the surface of the plate -- that's been used for as long as stamps have been made. Second, letterpress, in which the design is a *\_cameo\_*, a pattern raised in relief above the surface of the plate. Third, lithography, which uses water and an oily ink drawn on a stone, or actually on a metal surface prepared to simulate stone. Fourth, embossed, where a die is used to give the stamp a raised surface. Fifth, photogravure, where the lines are photographed onto a film covering the plate, and then etched onto the surface as though they were an engraving. Clearly, what you are looking at there is a photogravure."

Clearly. To him, perhaps. "I'll believe you. But I don't see where that takes us." I was losing interest in stamps and itching to head off for Colorado. I didn't have the gall to tell him, though, not when he thought what he was doing was important.

"It takes us to a very definite place." All signs of stammer had gone from Tom's voice. "To Philadelphia. You see, there aren't all that many people who do the design work for stamps. And I'm ninety-five percent sure I recognize the designer of that one you're looking at. I know his style. He likes vertical coils, and he likes to do intaglio photogravure. His name is Raymond Sines, and if you want me to I'll call Ray right now."

Why hadn't he told me that to start with, instead of giving me the rigmarole about *\_intaglio\_* and *\_cameo\_*? Because he liked to talk about stamps, that's why.

I stopped pretending to look at the golliwog. "I'm not sure what talking to Raymond Sines would do for

me. How well do you know him?"

He hesitated. I was learning. Hesitation in Tom Walton usually meant uneasiness.

"So-so. I've met Ray a few times informally, at the Collectors' Club in New York City. He's a pretty peculiar guy. Very smart, and a terrific artist and designer. But when he gets away from stamps he's a one-subject talker. He's a space-nut, and a founder member of Ascent Forever -- a group who design space habitats."

"I don't see that taking us to Jason Lockyer. Do you realize that yesterday I had no leads and now I have two? And they go off in wildly different directions."

"Two's a lot better than zero. And I think you may need them both."

I saw his point. Nathrop showed a population of less than five hundred people, so if Lockyer was there I couldn't miss him, but it was also a wilderness area with hundreds of square miles of land and very few people. So if he \_wasn't\_ in the town...

"I'm afraid you're right," I said. "It could be that whoever wrote the letter to Lockyer was just using the Nathrop post office mail box and telephone. What do we do if we go there and find nothing?"

"We come back. Do you have the letter with you? If so, I'd like to see it for myself."

I handed it over and watched while he read it. "Make any sense to you?"

He shook his head. "Strange Attractor?"

"I know. I've never heard the phrase before."

"I have. I can tell you what it means at the Scientific American level. It's a math-physics thing, where you keep feeding the output of a system back in as a new input. Sometimes it converges to a steady state -- an attractor; sometimes it goes wild, and ends up unstable or with total chaos; and sometimes it sort of wanders around a region -- around a strange attractor. The type of behavior depends on some critical system variable, like flow rate or chemical concentration or temperature. It's obvious from this letter that the writer is involved in a set of experiments -- but it's anybody's guess as to what field they're in. And Mega-Mother?" He placed the letter back on the light-table. "Maybe he's using 'Strange Attractor' to mean something different from what I've seen before. I don't think we're going to get much out of this."

"I'm not, that's for sure. And it's irrelevant. I'm trying to find Jason Lockyer, not solve puzzles. Useless or not, I guess I have to head for Colorado."

"Will you hold off for one day -- so I can make a quick run up to Philly. Ray Sines has his own engraving shop there and I want to drop in on him."

"What do you think he can tell you?"

"If I knew, I wouldn't be going." Tom took a blank envelope over to the typewriter next to the safe and typed his own name on it. Then he removed the golliwog stamp from the scanner, placed a thin layer of gum on the back of it, and carefully stuck it on the envelope. Finally he placed the letter from Colorado inside it. "I'll call Ray now and tell him I'm interested in tracing works by an early American engraver. That's quite true, and he's bound to be interested. And during the meeting I want him to catch a look at this." He held up the envelope. "And we'll t-take it from there."

\* \* \* \*

I had expected Eleanor Lockyer to quiz me about my proposed travel and give me a general hard time. Instead she was sweet and reasonable, and didn't ask me one question about where I was going, or why.

"Tell Thomas that the invitation is in the mail," she said. "It will be just a small, intimate group, no more than a dozen."

"I'll tell him." (I didn't.)

He wanted to drive to Philadelphia in the Dodge death-trap. I talked him out of it by suggesting that if we went by train we could fly straight to Denver after our meeting with Sines. Tom seemed surprised that I wanted to go with him, but he didn't seem to mind.

"Just don't say too much about stamps or engraving," he said.

The least of my worries.

Ray Sines was younger than I had expected, a thin, red-faced man of about thirty who suffered premature baldness. He was attempting the disastrous trick of training the remaining strands of hair to a pattern that covered his whole head, and every couple of minutes he ran his hand in a circular motion around his scalp. The top of his head looked like a rotary shoe-polisher. His office, above an industrial warehouse, reminded me of Tom's store, dusty and shabby and somehow irrelevant to what went on there.

He showed pleasure and no surprise at our visit, and he and Tom went off at once into their polite sarabande of talk about Gibbons and Scott and Minkus catalogs, the location of the printing equipment of the legendary Jacob Perkins of Massachusetts, and the newly-discovered stamps of the 1842 City Despatch Post of New York City. I sat on the edge of my chair, drank four cups of coffee that I would later regret, and itched for Tom to get to the real business.

After about an hour and a half I realized the dreadful truth: he wasn't going to do it. The envelope and the golliwog stamp were there in Tom's case, standing by his leg -- and it was going to stay there. He had had no trouble devising a theoretical plan to startle information out of Ray Sines, but when it came to the act he couldn't bring himself to begin.

Finally I reached down, hoisted the case, and placed it on Tom's lap. "The catalog. Don't you have a catalog in here that you want to show Mr. Sines?"

Tom glared at me, but he was stuck. He opened the case and peered inside. "I don't know if I remembered to bring it," he said. While Sines looked on he lifted out a layer of papers and placed them on the low table in front of us. On top was the envelope addressed to him, with its prominent golliwog stamp.

Sines stared at it and his face lit up. "I didn't know you were a member!" he said to Tom. Then he gave me a quick and nervous look.

"Yes," Tom started to say. "Both of us -- "

"Member of what?" I rapped at Sines. If this were a secret organization any self-respecting member would check a stranger's credentials before admitting its existence.

For answer, Sines reached behind him and produced a whole roll of golliwog stamps. "My design," he said proudly. "I worked harder on this than on any commercial assignment. It's all right, you can talk to me. I was one of the first people that Marcia allowed in. When did you join?"

Tom looked at me beseechingly.

"I came in about four months ago," I said. "Tom's a recent acquisition, he joined just a month back."

"Terrific!" Sines leaned back in his chair and beamed at both of us. "If you haven't been out to the site already, there's a real treat in store for you."

I reached into my purse and waved our airline tickets at him. "We're on our way there now. Maybe you can tell us, what's the best way once we arrive at the airport?"

He frowned at me. "Isn't someone meeting you?"

We were moving onto tricky ground. I had an urge to get out quickly, but we needed information. "Everyone has their hands full," I said. "There seem to be problems with one of the systems -- Seven, is it?"

"No, it's Nine." He relaxed again. "Yes, I hear it's still doing funny things. We'll get the right one eventually. Where are you flying to?"

"Denver."

"Pity. You should have flown to Colorado Springs. Either way, though, you'll have some pretty high driving ahead of you. Take Route 285 out of Denver until you meet Route 24 into Buena Vista. Go north from there and you should see the site on your left, up on the slopes of Mount Harvard."

"How far from Nathrop?" I asked.

"A few miles. But if you get there, you've gone the wrong way out of Buena Vista. Pretty good steak restaurant, though, if you do make the wrong turn." He frowned. "If you would like me to call ahead and try to arrange --"

"No. Please don't." I took Tom's arm and stood up. "We'd hate to make a nuisance of ourselves before we even arrive. And we'd better go now, our plane leaves in an hour and a half."

"You'll need a cab." He stood up, too. "I just wish I was going with you. Give me a call when you get back, tell me what you think of things out there. For me, it's the most exciting thing that's happened in my whole life."

He escorted us to the entrance of the building. "Ascend forever!" he said as we left, and raised his arm.

"Ascend forever!" I replied, but Tom said nothing. As soon as Sines was out of sight and sound he exploded at me. "I hate that sort of thing!"

"You think I enjoy it?" I had the caffeine shakes and I needed to go to the bathroom. "I know we lied to him, but what did you want me to do? Break down and explain to Sines that we went there to trick him?"

He didn't reply. But I suspected that it was not the lying that had him upset. It was me, pushing the attache case at him, pushing him to do something alien to his temperament. He'd never believe me, but I was as upset about that as he was.

\* \* \* \*

Denver's Stapleton Airport is at five thousand feet; our drive south and west from there took us steadily higher. Within the hour we were up over nine thousand, with snow-capped mountains filling the sky ahead. I had never been to Colorado before and the scenery bowled me over -- magnificent country, like



moving to a different planet after the rampant azaleas and dogwoods of May in Washington.

Tom was less impressed. He had been here before -- "skiing in Vail and Aspen, while I tried to persuade the family that they weren't doing me any favors by sending me. I finally managed to break a leg, and that did it."

On the plane and again in the car we beat to death what we learned from Ray Sines, and what we knew or surmised about its relevance to Jason Lockyer's disappearance.

"Ascend Forever is in the middle of this," said Tom. "Or perhaps it's a subgroup of them. More likely that, because they're going through a procedure to keep it a big secret, and that's quite impossible with thousands of participants."

"A pretty childish procedure, don't you think? I haven't run across special stamps and secret symbols and hidden messages since I was in high school."

"You'd never make a Freemason. And I knew a bunch of people at Princeton who were still into private codes. Let's go on. They have some project -- "

" -- a group of projects. Remember Seven, Eight and Nine. Which also means there's probably a One through Six -- "

" -- OK, at least nine projects, but they're probably all doing similar things. There is some sort of development activity associated with them and it's out in the Colorado mountains, west of Nathrop and Buena Vista. It's pretty big, visible from a fair distance. And it's in some sort of trouble -- "

" -- or part of it is. Remember, Seven and Eight are doing fine. It's Nine that's off, enough to want Jason Lockyer to come out and take a look at what's going on."

"And he's a famous biologist. But the projects have something to do with strange attractors. Not to mention the old Mega-Mother." Tom shrugged. "You're the detective. Can you put it together?"

"Not a clue. Unless Jason Lockyer has other talents, and the group are calling on those to help them."

Grasping at straws. We both knew it and after a while we dropped it in favor of general chat. We uncovered a total of three common acquaintances, not counting Jill Fahnestock, and we agreed that except for Jill we liked none of them. He found out, to his horror, that the purple mark on my left forearm was the scar of a bullet-wound, inflicted when a man I approached in a child custody case fired at me without warning. ("Cocaine," I said. "He was carrying eight ounces of it, nothing to do with child custody. I was just unlucky -- or lucky, depending on your point of view.") I found out, with equal horror, that Tom carried no health insurance of any kind and did not propose to get any. ("Health insurance is for people who don't have money. Obviously, it costs more on average to buy insurance than it does to be sick -- otherwise, how could insurance companies stay in business. Health insurance is a bourgeois concept, Rachel." That last sentence was to annoy me, but this time I handled it better.)

He ate when he was happy. So did I. The fact that he was forty pounds overweight while I was too thin to please anyone but a clothes designer was lost on neither of us.

Eventually we stopped talking and simply sat in companionable silence. Tom was one of the rare people whose presence you enjoy without speaking.

Buena Vista came finally into view, a town that couldn't be more than a couple of thousand people. For the past half hour we had scanned the mountains ahead of us for any anomalies and seen nothing, even though it was a glittering spring day and visibility was perfect.

I had been driving, because we were renting a Toyota Celica and since I was considering buying one I wanted to see how it handled. When we reached Buena Vista I stopped the car at what looked like a general purpose store on the main through street.

"You need to buy something?" said Tom.

"Information. Want to come in with me?"

The bored youth behind the counter knew instantly what I was talking about. "The Observatory, you mean," he said. "You can see it from the road, but you have to look hard. Take the road north and look for a gravel cut off to the left. That goes all the way on up, you can't miss it." He stared at us. "You'll be working there?"

"No. Just visiting."

"Ah. They say they're making a spaceship up there, one that's going off to the end of the universe."

"I don't know about that. We'll see." I bought two cans of coke and we left.

"So much for the big secret," Tom said when we were back in the car. "They're practically running guided tours."

"If you want to hide something, disguise it as something else that local people don't much care about -- like an observatory."

Tom up-ended his can of coke. He inhaled it more than drank it, in one long gulp. "What about the spaceship?"

"Safe enough. No one in their right mind would believe it." We had a major decision to make as we drove up the winding gravel-covered road. Would we barrel on up to the entrance, or would we leave the car and play Indian Scout?

We discussed it for another minute, then compromised. A complex of buildings stood on the south-facing slope of the mountainside. We parked the car three quarters of a mile away, where the top of the blue Toyota would barely be visible over the top of the final ridge. I led the way as we walked until we had a good view. The location was well above ten thousand feet, and three minutes walk up the slight incline left us gasping.

There were five major structures ahead. Three of them were large, hemispherical, geodesic domes, made of glass or plastic. Two of those were transparent, and we could see shadows inside where trees or shrubs seemed to be growing marked off by triangular support ribbing of painted metal or yellow plastic. The third dome was apparently of tinted material, and its wall panels gleamed dull orange-red. The three domes stood in roughly an equilateral triangle, each one sixty feet across, and at the center of that triangle were two more conventional buildings. They were white and square-sided, with the look of prefabricated or temporary structures. I counted seven cars parked outside the larger one.

A stiff breeze blew from the west, and even in the bright sunlight it was too cold to stand and watch for more than a few minutes. In that time no one appeared from any of the buildings or domes, nor was there evidence of activity within.

We went back to the car and sat inside. I put my hand on my stomach. The coke had been a mistake. I had the jitters and a pain that ran from my solar plexus around the lower right-hand side of my ribs.

"What now?" said Tom. He looked like the detective, calm and confident. His question probably meant

he had made up his own mind what we ought to do.

I burped, in as ladylike a way as I could manage. "If Jason Lockyer is inside one of those buildings it won't do us any good to sit here. And if Jason Lockyer's not inside, and he's a thousand or two thousand miles away, it still won't do us any good do sit here."

"My thoughts exactly." It was his turn to reach out and turn a car's ignition key. "Let's do it, Rachel. Let's go up there and take the golliwog by the horns."

I eased up the slope at a sedate twenty miles an hour, all my attention on the road. Halfway there, Tom said, "Hold on a minute. Is something wrong with my eyes?"

I stopped the car. It took a few moments, then I saw it, too. The orange-red dome had changed color to a darker, muddier tone, with rising streaks of deep purple within it. Tom and I looked at each other.

"We'll never find out from here," I said. I let in the clutch -- badly -- and we jerked forward again. We crept all the way up to the larger building and parked in the line of cars. I did an automatic inventory. A new Buick, two old Mustangs, a Camaro that had been in an accident and needed body-work, two VW Rabbits, and an ancient Plymouth that made even Tom's car look fresh off the assembly line. The same sort of mix as I might expect to see in a Washington car park, but with a bit more Buy-American. The air was clear, the sunlight blinding, and there was not a sound to be heard. Living in the city you forget how quiet real quiet can be. We walked over to the building -- aluminum-sided, I now saw -- almost on tiptoe. My pulse rate was up in the hundreds, and I could feel it in my ears, the loudest sound in the world.

"Inside?" whispered Tom.

I nodded and he led the way. The front door was closed but not locked. It opened to a big lobby about twenty feet square, spotlessly clean and containing nothing but half a dozen metal-frame chairs. As we paused I heard a clatter of footsteps on the aluminum floor, and a man carrying a couple of thick notebooks came hurrying in. Tom and I froze.

"Well, thank Heaven," the new arrival said. "I didn't know anyone was coming out. We've been so short-handed this last week I've been on continuous double shifts."

New York accent, California tan. He was no more than twenty-two or twenty-three, and he was wearing an all-white uniform like a medical orderly. The first impression was of a clean-cut, clean-living lad who should have been carrying an apple for his teacher along with his notebooks. A closer look added something different. He had a spaced-out glassy stare in his eyes, a look that I had seen before only among the ranks of the Moonies and the Hara Krishnas.

"First visit?" he said.

Tom and I nodded. I hope I looked as casual and at ease as he did.

"Great. You'll love it here. I'm Scott."

"Rachel," I said. As I took his outstretched hand the inside of my head made its own swirling list of mysteries: vanished professor -- -golliwog stamp roll -- observatory -- spaceship -- biology experiment -- strange attractor -- religion -- sanctuary -- lunatic asylum.

What was I missing?

"I'll tell Marcia you're here." Scott had shaken hands with Tom and was heading off along a passageway.

"But let's settle you in first, and then find something for you to do."

We followed him to a long room with a dozen beds and a shower and toilet facility at the far end. "You'll sleep in here," Scott said. "Make yourselves comfortable. I'll be back in five minutes."

I sat down shakily on one of the beds. Hard as a rock. "Prison? Military barracks? Hospital? Tom, we were crazy to come here."

"Don't you want to find Lockyer?" Tom shook his head. "Not prison, not hospital. Boy Scouts, or the dorm in Vermont summer camp. Kids away from home for a big adventure, mummy and daddy miles away. But they've gone unisex."

"What is this place?"

"I don't know. Sounds like Marcia's the kingpin, whoever she is. Or queenpin. Or camp counsellor. Everyone defers to her, even Ray Sines." He went across to the window and stood gazing out at it. "My imagination, or is it changing again?"

I followed his pointing finger. The third dome was now a mottled and virulent green. A flowing column of darker color seemed to be rising steadily through the paint on the dome. Before we could discuss what we were seeing Scott came hurrying back in.

"Right," he said. "A quick look around, then introductions will have to wait until tonight. We'll need uniforms."

He led us to an array of tall lockers at the end of the room. While he watched -- no thoughts of privacy here -- Tom and I took off our outer garments and replaced them with aseptic-looking white uniforms identical to the one that Scott was wearing. Tom had a little trouble finding one that fitted him; the members of Ascend Forever were presumably an undernourished group.

When we were dressed to Scott's satisfaction he took us to the entrance hall -- and back outside the building. Tom gave me a quick glance. Why bother with sterile clothing if we were going to be outside? Answer: sterility was not the point; uniformity was.

We marched to one of the three domes and peered in through the transparent wall panels. I saw a sloping floor with a little fountain at the upper end, close to where we were standing. A trickle of water ran across the dome's interior and vanished at the other side. The rest of the floor was covered with dusty-looking plants, growing half-heartedly in a light-colored soil. The plants looked tired, and slightly wilted. In the center of the floor stood the skeleton of a much smaller dome, with only half its walls paneled, and within that structure three human figures were bending over what looked like a computer console.

A telephone handset hung on the outside of the dome, and Scott reached for it. "New arrivals," he said. "Any changes?"

The three figures inside straightened to stare out at us and waved a greeting. "Welcome aboard." The voice on the phone was young, friendly, and enthusiastic. "Nothing special happening here. We've been trying to find out what's wiping out the legumes, but we don't have an answer. Oxygen and nitrogen down a little bit more -- still decreasing."

"Still trying changed illumination?"

"Just finished it. We're putting in a bit less power from the ceiling lights, we're making it longer wavelength. We won't know how it works for a while."

"No danger, though?"

"Not yet. No matter what, we'll have another couple of weeks before we begin to worry. But it's a pain to see it go this way. Three weeks ago we were pretty sure this one would make it."

"Maybe it will." Scott waved to the people inside. "We'll keep trying, too. Now that I have some help maybe I'll have time to run an independent analysis."

He hung the handset back on its closed stand and pointed to the panel next to it. "This is all new," he said. "And a real improvement. We have dual controls now, inside and outside. Temperature and humidity and lighting levels in the dome can be controlled from this panel here. When we started out, all the controls were inside and it was a real pain. If there was no crew we had to send someone through the airlock whenever we wanted to vary the interior environmental conditions."

He started towards the middle of the complex. "Anyway, that's Eight," he said as we walked. "Not going too good now. Seven is a lot better."

"What happened to One through Six?" asked Tom.

"They went to stable end-forms, but they weren't ones that humans could live in. So we brought the crews back outside, closed down the operations, and re-used the domes."

He didn't notice Tom's raised eyebrows, and went on, "But Nine's the interesting one! I'll warn you now, though, you won't see much of the inside of it from here. We've had to ship a TV camera to the interior, to supplement the audio descriptions, otherwise we'd be short of data. But we'll take a look through the panels, anyway."

We were closing on the strangest of the domes, and now I could see that its wall panels were neither painted nor made of opaque materials. They were coated on the inside. Scott went to a telephone set in the wall -- in that respect this was identical to the other dome.

"Marcia?" he said. "New arrivals. How about clearing a patch, so we can take a look inside Nine?"

The coating of the wall panels was close in color to the way we had first seen it, an orange-red with a touch of brown. While we stood and watched, a circular cleared patch began to appear on the wall panel closest to us. Soon we could see a hand holding a plastic scraper.

"Tough coating," said a woman's voice. "A good deal tougher than yesterday."

The clear patch was finished and about a foot across. In the middle of that patch a frowning black face suddenly appeared. It was that of a woman, with protruding eyes and black straight hair that stuck out wildly in all directions.

We hadn't found Jason Lockyer; but we had found the inspiration for the design of the golliwog stamp.

"New arrivals," said Scott again. The tone of his voice was quite different from the way it had been at the other dome. Now he was respectful and subdued, almost fearful.

This time there was no cheery wave. The golliwog face stared hard at me and Tom. "What chapter?" said a gruff voice through the handset.

We had no choice.

"Philadelphia," I said.

"Your names?"

"Rachel Banks and Tom Walton."

\_The way to the car was around the dome and then dead ahead. We could be in it in thirty seconds and driving down the mountain. On the other hand, Scott was acclimatized to ten thousand feet and we were not. I couldn't run more than fifty yards without stopping for breath, and overweight Tom was sure to be in worse shape...\_

While those thoughts were running through my head the face on the other side of the panel had disappeared. We stood there for about thirty seconds, while my instinct to run became stronger and stronger. I was all ready to shout at Tom to make a break for it when Marcia's face appeared again at the panel. Already the wall was partly coated, and she had to use the scraper again to clear it.

"I've told all the chapters," she said. "I have to approve any new members \_in advance\_ of joining -- and certainly in advance of being sent here. We must check on you two. And while that's being done we can't afford any risks. Building Two, Scott. You're responsible for them."

There was no doubt who was in charge. And I had waited too long. I half-turned, and found that Marcia had used her brief absence to call for reinforcements. Four men were on their way over to the dome, all young and tanned and fit-looking.

Tom looked to me for direction. I shook my head. Marcia's check on us was going to show that we were not members of whatever group she led, we could be sure of that. But this was not the time or place to look for an escape. I suddenly realized something I should have been aware of minutes ago: the car keys were in my purse -- and my purse was back at the lockers with the rest of my clothes. Thank God I hadn't told Tom to run for it. I would have felt like the world's prize idiot, sitting inside the car while our pursuers came closer and I explained to him that I had no way to start the engine.

We were escorted, very politely, to the second and smaller of the two white buildings. I noticed for the first time that it had no windows.

"This is just part of the standard procedure," said Scott. He was embarrassed. "I know everything will be all right. I'll check as soon as I can with the group leader in Philadelphia, and then I'll come and let you out. Help yourself to any food you want from the refrigerator."

The door was thick and made of braced aluminum. It closed behind us. And locked.

We were standing in a room with three beds, a kitchen, and one other door. Tom went across to it.

"Locked," he said after a moment. "But padlocked on \_this\_ side. Where do you think it leads?"

"Not outside, that's for sure. Probably upstairs. It wouldn't help, though -- there are no windows there, either." I went across to the refrigerator and found a carton of milk. I had savage heartburn and what I would have really liked was a Mylanta tablet, but they were also in my purse. I was proving to be quite a klutz of a detective.

Tom was still over at the door. "It's wood, not aluminum. And nowhere near as strong as the one that leads outside."

"Good. Can you break the damned thing open?"

"Break it!" He stared at me in horror. "Rachel, this is someone's private property."

"It sure as hell is. Tom, I know you were brought up to regard personal property as sacred. But we're in a fix. That bloody golliwog woman is all ready to serve us on the half-shell, and I don't give a shit about property. Break it." I was drinking from the carton -- most unhygienic, but I was past caring. "Whatever they plan to do with us, I doubt if adding a broken door to the list of crimes will make much difference. Have fun. Smash away."

"Well, if you're really think we have to." Tom was still hesitating. "All right, I'll do it. With luck I won't need to do any actual smashing."

He wandered over to the kitchen area of the room and found a blunt knife. The door's padlock was held in position by four wood screws. It took him only three or four minutes to remove all of them. He swung the door open and we found we were looking at the foot of a tightly spiraling staircase.

"We can't get out this way," I said. "But there's nothing better to do. Let's take a look."

He went up the stairs in front of me, clutching the central support pole. On the second floor we came to another door, this one unlocked.

Tom opened it. We were looking at a carbon copy of the room below, but with one important difference. At the table in the kitchen area sat a man with a loaf of bread and a lump of cheese -- Edam, by the look of it -- in front of him. Next to those stood a bottle of red wine, and the man facing us had a full glass in his hand and was sniffing at it thoughtfully. When the door opened he looked up in surprise.

I think I was more surprised than he was, though of course I had no right to be. I knew him from his picture. We were looking at Jason Lockyer.

\* \* \* \*

The introductions and explanation of who we were and how we got there took a few minutes.

"And it seems we're all stuck here," I said.

"Well, there are worse places," said Lockyer. We had set a couple more chairs around the table and were all sitting there. "I ought to apologize, because of course this is all my fault. When I look back I can see I started the whole damned thing."

He was a small, neatly-built man with a good-humored face and the faint residual of a Boston accent. The fact that he was locked up, with no idea what was likely to happen to him next, did nothing to ruin his appetite. His only complaint was the quality of the wine. ("California 'burgundy,'" he said. "It shouldn't be allowed to use the name. It's no excuse to say wine like this is cheap. It ought to be free.")

"Three years ago," he went on, "I was invited to give a talk to the local chapter of Ascend Forever in Baltimore. I had no idea what to say to them, until one of my best students -- Marcia Seretto -- who was also a member of the society, mentioned the society's interest in establishing stand-alone colonies out in space. That would imply a completely stable, totally re-cycling environment. After that it was obvious what I had to talk about.

"Most people know that one fully re-cycling environment, driven only by energy from the sun, already exists. That's the biosphere of the planet Earth. What I pointed out -- and what got Marcia so excited that she almost had a fit -- was the existence today of other biospheres. They were small, and they only supported life at the microbe level, but they were -- and are -- genuine miniature ecospheres, relying on nothing but solar energy to keep them going. The first ones were made by Clair Folsome in Hawaii in 1967, and they're still going."

"Small?" I asked. "How small?"

"You sound like Marcia. Small enough to fit in this wine bottle. The original self-sustaining ecospheres lived in one-liter containers."

"That's \_small\_," said Tom.

"You also sound like Marcia. \_Too small\_, she said. But she asked me if it would be possible to design an ecosphere that was big enough for a few humans to live in -- and live off, in the sense that it would provide them with food, water, and air -- but not much bigger than a house. I told her I didn't see why not, and I even sketched out the way I would go about designing the mix of living organisms to do it. You need something that does photosynthesis, and you need saprophytes that help to decompose complex organic chemicals to simpler forms. But with an adequate energy supply there's no reason why an ecosphere to support humans has to be Earth-sized.

"Marcia graduated, and I thought she had taken a job somewhere on the West Coast. I didn't worry about her, because she was the most charismatic person I had ever met. She seemed able to talk the rest of the students into doing anything. It turned out that I was right but I had underestimated her. The next thing I knew, I had a letter from another one of my students. He wanted to know what end-forms were possible when you started an ecosphere with a given mix of organisms. The answer, of course, is that today's theories are inadequate. No one knows where you'll finish. But it was the first hint I had that something had gone on beyond my lecture. I sent him a reply, and a week later in my In-Box at the university I found a letter with an odd stamp on it, like a caricature of a black-faced doll."

"A golliwog," I said.

"So I learned. I also realized that it looked a lot like Marcia. The letter said that I was the official founding father of the Habitat League. I've seen stuff like that before, silly student jokes. So it didn't worry me. But \_then\_ I began to receive anonymous letters with the same stamp. And when I read those, I began to worry."

"We saw one," I said. "It was sent to you but the mails fouled up the delivery."

"The person who wrote them said that Marcia had set up her own organization within Ascend Forever, with its own chapters and its own sponsors for funding. She had organized a camp in Colorado -- this one -- and they were following my advice on setting up self-sustaining ecospheres that could be used as a model for space habitats. I replied to him, saying the Colorado mountains were not a bad site, but they weren't the best."

"Why not?"

"Simulated space environment," said Tom, before Lockyer could answer. "If you want to match the spectrum of solar radiation in low earth orbit, you should go as high as you can and as near the equator as you can, where the sunlight is less affected by the atmosphere. Somewhere in the Andes near Quito would be ideal."

"You're a member of the Habitat League?" Lockyer was worried.

"Never heard of them until today. But I've read about space colonies and habitats."

"Then you probably know that you have to do things a lot differently than they're done in the Earth's natural biosphere. For example, the carbon dioxide cycle on Earth, from atmosphere, through plants and animals, and back to the atmosphere, takes eight to ten years. In the ecospheres that I helped to design,



that was down to a day or two. And that means other changes -- major ones. And that means unpredictable behavior of the ecosphere, and no way to know the stable end conditions without trying them. Sometimes the whole ecosphere will damp down to a low level where only microbial life forms can be supported. That happened in the first half dozen attempts out here. And there was always the possibility of a real anomaly, a thriving, stable ecosphere that seemed to be heading to an end-point equal in vigor to the Earth biosphere, but grossly different from it."

"Ecosphere Nine?" I said.

"You've got it. That one was first established four months ago, with its own initial mix of macro and micro lifeforms. Almost from the beginning it began to show strange oscillatory behavior -- cyclic patterns of development that weren't exactly repeating. It reminded me when I saw it of the famous life cycle and aggregation patterns of the amoebic slime molds, such as Dictyostelium discoideum, though you may be more reminded of the behavior of the Belousov-Zhabotinsky chemical reaction, or of the Oregonator and Brusselator systems. They all have limit cycles around stable attractor conditions."

I guess he saw the expression on my face. "Well," he went on, "let's just say that the behavior of Ecosphere Nine originally had some resemblance to phenomena in the literature. But it isn't in a stable limit cycle. The man who wrote to me was worried by that, because he was one of the people who would live in Nine's habitat. He called me and asked if I would make a trip out here and look at Nine, without telling anyone back home where I was going -- he had promised to keep this secret, just as all the others had.

"I agreed, and I must say I was fascinated by the whole project. When I arrived here, ten days ago, I was greeted very warmly -- almost embarrassingly warmly -- by Marcia Seretto, and shown Nine with great pride. In her eagerness to show me how my ideas had been implemented it did not occur to her immediately to ask why I was here. Nine was doing wonderfully well as a possible space habitat, easily sustaining the three humans inside it. But I realized at once that it hadn't stabilized. And it has still not stabilized. It is evolving, and evolving fast. I have no idea of its end state, but I do know this: the life cycles in Ecosphere Nine are more efficient than those on Earth and that means they are biologically more aggressive. I pointed that out to Marcia, and five days ago I recommended action."

A door slammed downstairs and I heard a hubbub of voices.

"What did you recommend?" asked Tom. He ignored the downstairs noise.

"That the human occupants of Nine be removed from it at once. And that the whole ecosphere be sterilized. I appealed to the staff to support my views. But I didn't realize at the time how things are run here. Marcia controls everything, and I think she is insane. She violently opposed my suggestions, and to prove her point that there is no danger she herself went in to Ecosphere Nine. She is there now, together with the man who brought me out here. And she insisted that I be held here. No one will say for how long, or what will happen to me next."

There was a clatter of footsteps on the spiral staircase and Scott burst into the room followed by the other four who had brought us here. His face was pale, but he was obviously relieved when he saw all three of us quietly seated at the table.

"You lied," he said to me. "You have nothing to do with our Philadelphia chapter, or any other. You have to come with me. Marcia wants to talk to you. Both of you."

"What about me?" said Lockyer.

"She didn't say anything about seeing you."

"Well, I need to talk to her." He stood up. "Let's go."

"We're not supposed to take you."

"We won't go if Lockyer doesn't," I said quickly. "You'll have to drag us."

Scott and the others looked agonized. They weren't at all the types to approve of violence, but they had to follow orders. "All right," said Scott at last. "All of you. Come on."

He led the three of us downstairs, with the others close behind. I expected to go back to the dome and peer in again through a cleared patch of wall panel, but instead we headed for the main building. I looked across at the dome. It was almost four in the afternoon and the sun was lower in the sky. The dome's internal lights must be on, for its panels were glowing now with a mottling of pale purples and greens.

When we had entered the main building earlier in the day it had seemed deserted. Now it swarmed with people. The entrance area had been equipped with a 48-inch tv projection screen, a tv camera, and about twenty chairs. Men and women were sitting on the chairs, staring silently at the screen. They were all in their early twenties and they all had the same squeaky-clean airhead look that we had first noticed in Scott.

As the main attraction we were led to chairs in the front row, and found ourselves staring up at the screen.

What we were looking at had to be the interior of Ecosphere Nine. There was a purple-green tinge to the air, as though it were filled with microscopic floating dust motes, and as the camera inside Nine panned across the interior I could see peculiar mushroom-shaped plants, three or four feet high, rising from the floor. And that floor was nothing like the soil we had seen in Ecosphere Eight. It was a fuzzy, wispy carpet of pale green and white, as though the whole area had been planted with alfalfa sprouts. As I watched, the carpet rippled and began to change color to a darker tone.

Lockyer grunted and leaned forward, but before the color change was complete the camera had zoomed in on three figures sitting on the floor near the far side of the dome. It focused still closer, so that only Marcia Seretto was in the field of view.

She must have been able to see exactly what was happening in the room we were in, because she at once pointed her finger at us. "I gave no instructions for him to be brought here," she said in a hoarse voice. The golliwog face was angry. "Can't you obey the simplest directive?"

"The other two refused to come without Professor Lockyer." Scott was close to grovelling. "I thought the best thing to do was bring all three of them."

"I was the one who insisted on being here, Marcia," said Lockyer. He was not at all put out by her manner and he was studying her closely. "And I was quite right to do so. You have to get out of Nine -- at once. Take a look at yourself, and listen to yourself. Look around you at the air. You're inhaling spores all the time, the air is full of them, and God knows what they'll do to you. And look at those fungi -- if they are still fungi -- like nothing you've ever seen before. The habitat is changing faster than ever."

She glared out of the screen at him. "Professor Lockyer, I respect you as a teacher, but on matters like this you don't know what you are talking about. I feel fine, the people in here with me feel fine. This is just what we have been looking for, a small habitat that will support humans and is perfect for use in space." She waved her arm. "Take a close look. We have more efficient energy utilization than we ever dreamed of, and that means we can make more compact living environments."

"Marcia, didn't you understand what I said?" Lockyer was not the type to raise his voice, but he spoke more slowly and clearly, as though to a small child. "You're not in a stable environment, as you seem to think. You are involved with a different attractor from any you've seen before, and everything in the ecosphere will be governed by it. You hear me? \_The habitat is evolving\_. And you form part of the habitat. If you remain there, neither I nor anyone else can predict what is going to happen. You have to get out -- now."

She ignored him completely. "As for you two," she said to me and Tom. "I don't know why you came here and I don't much care. You represent a sheer nuisance and I'm not going to allow you to interfere with our work."

"So what are you going to do with us?" I asked.

"We don't owe you one thing. No one asked you two to come here, no one wanted you to come here. We'll decide if you leave and when you leave." Her protruding eyes bulged farther than ever and she rapped out: "What we're doing is more important than any individual. But I'll listen to you. If you can offer any reason why you shouldn't be held until we're ready to let you go, tell me now."

The force of personality, even through a tv link, was frightening. It made my nerves jangle and I could think of nothing at all to say. The surprise came from Tom.

"Professor Lockyer was your professor, wasn't he?" he said quietly. "The spiritual father of the Habitat League."

"What of it?"

"He provided you with the original idea for habitats, and the original designs for them. He's one of the world experts on microbial life forms, far more knowledgeable than anyone here. When he says it's dangerous in Nine, shouldn't you believe him?"

"I respect Professor Lockyer. But he has no experience with habitats of this size. And he's wrong about Nine." Marcia glared at us. "Anything else?"

When we did not speak she nodded and said, "Scott, take them back. All three of them. And then I want you here."

Within ten minutes we were back upstairs in the windowless building and sitting again at the same table. The thick outer door on the ground floor had been locked, and two women members of the project had been left outside as guards. They had a radio unit with them, and knowing Marcia's style it wouldn't have surprised me if the two of them were expected to watch us all night.

Lockyer picked up his wine glass, still half-full from our rapid departure. "At least we know where we are with Marcia."

"She's a maniac," I said. "How long does she intend to stay in that habitat?"

"Maybe months. Certainly weeks."

"Continuously?"

He nodded. "She has to. That's the whole point about the habitat being a complete ecosphere. She's part of it, and if she leaves she upsets the thermal and material balance. Also, anyone who goes in and out provides a disturbance of another type, too: they carry foreign organisms. Even if it's only bacteria or viruses, every new living entry destroys the totally sealed nature of the habitat."

I was listening with half an ear and trying to think of ways we might get away. But Tom came to full attention and grabbed my arm hard enough to hurt. "Are you saying what I think you are?" he said to Lockyer. "When Marcia Seretto comes out of Ecosystem Nine, she'll bring out with her anything that happens to be in there."

"Roughly speaking. Of course, I'm talking mainly at a micro-organism level. She won't come out carrying plants and fungi."

"But you have no idea which part of the habitat is the 'aggressive' part. For all you know, when Marcia and the others step out of that habitat they'll be carrying with them the seeds of something that is more efficient and vigorous than the natural biosphere here on Earth. The damned thing could take over the whole planet. It'll be the Mega-Mother they talked about in that letter, wiping out the natural biosphere -- and maybe we won't be able to live in it."

Lockyer put down his glass and frowned at the table. "I don't think so," he said at last. "The chances are, any ecosystem that works in the habitat won't be well-suited to control the Earth's biosphere. If it were, it should have occurred naturally during biological history."

Then he was silent for a much longer interval, and when he looked up his face was troubled. "But I am reminded of one thing. Marcia had an excellent understanding of recombinant DNA techniques. If she has been using them, to create tailored forms that provide efficient energy utilization and a more efficient ecosphere..."

"Then we'll all be in trouble when she comes out -- and the longer she stays in there, the worse the odds." Tom jumped to his feet. "We can't risk wiping out Earth life, even if the chances are only one in a million that it will happen. We have to get the people out of Nine -- and sterilize it."

"Sure. How do we get out of here for starters?" I said.

But Tom was already rushing down the spiral stairs. By the time I followed him he was hurtling towards the heavy outside door. He hit it at full speed, all two hundred and thirty pounds of him. It didn't cave in or fly open, but it certainly shivered on its hinges.

Tom hammered at it with both fists. "Open up!" he roared. "Open up!"

Only an idiot or a genius would expect jailers to respond to a command like that, but the Habitat League members were different -- or maybe they were just used to obeying orders.

"What do you want?" said a nervous voice.

"We have to get out. There's a -- a f -- fire in here."

There was a scream of horror from the other side of the door, and the rattling of a key. Before the door could fully open Tom was pushing through. The two women were standing there, mouths gaping.

I tried to move past Tom. I knew what would happen next. He could never bring himself to hit a woman and he would just stand there. They had been foolish enough to let us out, but now they would either shout for help over the radio or run for the other building -- and they were used to being at ten thousand feet. We would never keep up. It was up to me to stop them.

I had underestimated Tom. He reached out and grabbed the girls by the neck, one in each hand. While I watched in astonishment he banged their heads ruthlessly together and dropped the women half-stunned to the floor.

This was Tom, the gentlest of men! I stared at him in disbelief. I thought, \_You've come a long way, baby\_.

But he was off, blundering away in the semi-darkness towards the dome that housed Ecosystem Nine. "Take care of them," he shouted over his shoulder. "I need five minutes."

They didn't need much taking care of. They were down in the dirt, flinching away when I bent towards them. I picked up the radio and swung it by its strap against the wall of the building. The case cracked open and the batteries flew out. When I bent over one of the women and grabbed her arm, she moaned in fear and wriggled away from me.

"Inside," I said. With Lockyer's help -- he had finally sauntered downstairs and out of the building -- I pushed them through the door, slammed it, and turned the key. Then I walked -- slowly, I might need my wind in a minute or two -- towards the main building. Tom had said he needed five minutes. If anything had been sent over the radio before I destroyed it, I wasn't sure I could guarantee him five seconds.

I sneaked closer in the gathering darkness with Lockyer just behind me. The door of the building remained closed, and there was no sign of activity there. I crept forward to look in the window. Three people sat quietly reading.

"The dome!" said Lockyer in an urgent whisper. Then he moved rapidly away from me.

I looked after him. The third dome, the one that housed Nine, was glowing bright pink in the night. The internal lighting level had been turned way up.

After one more glance at the main building -- all still quiet there -- I headed after Lockyer. If one of the project teams happened to be outside, they would surely be drawn to the bright dome. I could help Tom better there than I could anywhere else.

He was standing by the dome controls and trying to peer in through one of the wall panels. The telephone was in his hand but he was not using it.

"Can't get any response," he said when he saw me. "I called inside, told Marcia to get the hell out of there while they could. But not a word back. Not one word."

I saw that the illumination level on the control panel had been turned to its maximum and the internal temperature was set at sterilization level -- a hundred and twenty Celsius, hot enough to kill any organism that I knew about, hot enough even to destroy the Mega-Mother. The panel control knobs were broken off and lay on the floor.

"Tom, you'll kill them."

"I hope not. I warned them. I'm not going to stop. I won't stop until Ecosphere Nine is burned clean, and anyway I \_can't\_ stop it -- I bugged the controls here." He turned to Lockyer. "These people all respect you, they'll at least listen. Go back to the building where they have the tv, and see what's going on inside Nine. Tell them all that Marcia has to get out in the next ten minutes, otherwise she'll be cooked."

Lockyer didn't flap easily. He nodded and set off without a word. I stood around useless for a while, and finally followed him. There was nothing to be done here and at least I could confirm what Lockyer said to the others.

The door was wide open when I got there and the building reception area was empty. Lockyer stood frozen in front of the big tv screen. It was still turned on, with the dome's camera set to provide a general view of the interior. The glare of lights at their maximum setting showed every detail.

Nine had changed again. No part of it resembled any Earth plant or animal that I could recognize. The floating spores were gone but the air was filled with tiny, wriggling threadworms, supported on gossamer strands attached to the walls and ceiling. The fuzzy carpet of green and white alfalfa sprouts had gone, too, passing through a color change and a riotous growth. The sprouts had formed long, wispy tendrils of purple-black, threading the whole interior and wriggling like a tangle of thin snakes across the floor and up the walls. They were connected to the squat mushroom plants, and small black spheres hung on them like beads on a necklace.

The increased lighting level seemed to be driving the whole ecosphere to a frenzy of activity. A crystalline silver framework of lines and nodes was forming, linking all parts of the dome into a tetrahedral lattice. The habitat pulsed with energy. As I watched a new wave of black spheres began to inch their way towards the middle of the dome, where a great cluster of them sat on a lumpy structure near the dome's center.

It took me a few seconds to recognize that structure. It was formed of Marcia and her two companion crew members.

They sat quietly on the floor of the dome. Black spheres formed a dense layer over their bodies, and long tendrils of wriggling white grew from ears, mouths, and nostrils. Their skins had a wrinkled, withered look.

I grabbed at Lockyer's arm. "We have to get back to the dome," I exclaimed. "Turn off the heat. Marcia and the others are still inside and they're..."

They're still alive, I was going to say. But when I looked at them I could not believe it.

"No point now," said Lockyer in a hushed voice. "It's too late." And then, still capable of objective analysis, he added, "Drained. Drained and absorbed. They are on the way to becoming part of the ecosphere. It's evolving faster than ever, accepting everything. Look at the walls."

I saw that the dome's wall panels had an eroded, eaten look. Where the gossamer threads were attached, the hard panel material was being dissolved. In places the plastic support ribbing was almost eaten through. Given a little more time, Ecosphere Nine would break free of the dome's constraint and have access to the vast potential habitat of Earth.

But Nine would not be given time.

The internal temperature was rising rapidly. As we watched the support tendrils began to writhe and convulse. The silver network shivered. Black spheres were thrown free and rolled around on the floor, pulping delicate filaments beneath them. As the mushroom structures split open, ejecting a black fluid that splattered across the interior, it was easy to see the ecosphere as one great organism, sucking in more and more energy from the blazing lights and fighting desperately for survival while the temperature went up and up.

(There was a clatter of footsteps and two men and a woman came into the room. Lockyer and I hardly noticed them. They sensed that something final and terrible was happening and they joined us, staring in horror at the tv screen.)

Ecosphere Nine was losing its battle. The black spheres inflated and burst, throwing off puffs of vapor like popping corn as the internal temperature rose above boiling point. Gossamer threads shrivelled and fell to the floor, long tendrils writhed and withered. In the blistering heat the broken mushroom structures sagged and dwindled, sinking back to floor level.

Steam filled the interior, and in the final moments it was difficult to see; but I was watching when the last spheres fell away from Marcia and her companions, and the tendrils trailed limp from their open mouths. What remained was hardly recognizable as human beings. Their bodies were eaten away, corroded to show the staring white bones of chest and limbs.

And then, quite suddenly, it ended. Tendrils slowed and drooped, spheres lay on the floor like burst balloons. The silver lattice disappeared. Inside the dome, nothing moved but rising steam.

Lockyer felt his way towards one of the metal chairs and collapsed into it. The three camp members next to him clung to each other and wept.

I went outside and called to Tom. "Are you all right?"

"I'm fine but I can't see into the dome. What's happening?"

"It's over," I said. "It's dead. They're all dead."

And then I leaned over in the cold Colorado night, and vomited until I thought I was going to die, too.

\* \* \* \*

I thought that was the end, but of course it was just the beginning.

No one could think of sleep that night. There seemed to be a thousand things to do: police to be informed, families told, the interior of the dome inspected, the bodies recovered.

But none of this could begin until the morning, and some of it would take much longer; the dome needed at least forty-eight hours to cool before anyone could go inside.

Tom, Jason Lockyer and I went back to our former prison and sat at the table, talking and drinking wine. I didn't ask the vintage or the pedigree, and I didn't care what it would do to my stomach or my liver. I sluiced it down -- we all did.

"Thank God it's over," I said, after several minutes of silence.

Lockyer sighed. "Back to the real world. Pity in some ways, I quite like it here. You've no idea how complimented a professor feels when his students appreciate him enough to take his teaching and actually implement it. I'll be sorry to leave."

Not a word about wife Eleanor, waiting with her claws out back in Washington.

"I don't think you should leave," said Tom. "In fact, I don't think any of us should leave. It would be irresponsible."

He was sitting with his shirtsleeves rolled up and his hands in a bowl of cold water. There were great bruises on them, from where he had hammered on the metal door, and his fingertips were bloody from tearing off the dome's control knobs.

"But there's nothing to do here now," I said. "With Marcia dead the group will break up."

"I hope not. I hope they will all stay here." Tom looked at Lockyer. "The job's not finished, is it?"

Lockyer shook his head. "I think I know what you mean and no, it's not finished. There is no self-contained ecosphere that can support a human population."

"Who cares?" My mind was boiling over with a hundred dreadful images from the interior of Habitat Nine. I couldn't get out of my head the thought of Marcia and the others, invaded by the organisms of the habitat. Had she realized what was happening to her in those final few minutes before her mind and body succumbed? I hoped not.

"If I have the choice," I went on, "I'll never look at an ecosphere again -- never. Let the Ascend Forever people have their fun, but keep me out."

"That's the problem," said Tom. "We can't stay out. No one can. We destroyed Ecosphere Nine, but this group isn't the only one trying to create self-contained habitats. There must be a dozen others around the world."

"At least that," said Lockyer. "The Habitat League used to send me newsletters."

"Fine." I didn't like the expression on Tom's face -- all the softness had gone from it. "Let them play. That doesn't mean we have to."

"I'm afraid it does," said Tom. "If the endpoint for the biological forms of Ecosphere Nine is a stable attractor, it can arise from a whole variety of different starting conditions. So if people keep on experimenting, Nine can show up again. We were lucky. Nine didn't break free and come into contact with Biosphere One -- the whole Earth -- but it came close. If one did get free, you couldn't sterilize the Earth the way we did with the chamber."

"But that seems like a case against fooling around any more with the ecospheres," I protested. "If more habitats are made here they'll add to the danger of a wild one getting loose."

Lockyer and Tom looked at each other. "She's right, of course," said Lockyer. "But so are you, Tom. We're damned if we do and we're damned if we don't. We have to keep working, so we'll understand ways that ecospheres can develop and learn how to handle dangerous forms."

"And we need to find a biosphere that people can live in in space," said Tom. "We're going to need it -- in case anything like Nine ever gets free on Earth."

\* \* \* \*

That was two months ago. Tom, Jason Lockyer and I went back to Washington, but only to clean up unfinished business that the three of us left behind. Then we returned to Colorado.

Amazingly, nearly half the staff of the project elected to stay on. They are a dedicated group, putting the project ahead of everything. Even before Marcia brainwashed them, they were all space fanatics. Thanks to them, the project picked up again with hardly a hitch. Ecospheres Ten, Eleven and Twelve are already in operation. None of them looks particularly promising -- and none looks anything like Nine.

Naturally, every aspect of ecosphere development is closely monitored. Jason Lockyer supervises every biological change and approves every technique used. It is hard to imagine how any group could be more careful.

And Tom runs the whole show -- shy, introverted, overweight Tom Walton. But he is not the man I met in his stamp shop in Washington. He has lost thirty pounds, he doesn't stammer, he never mentions stamps. He does not have Marcia's domineering manner, but he makes up for that with his sense of urgency. And if he pushes others, he pushes himself harder. Like Ecosphere Nine, he is still changing, developing, evolving. He will become -- I don't know what.

I'm not sure I like the new Tom Walton -- the Tom I helped to shape -- as well as the old one.



Sometimes I feel that I, like Marcia, created my own monster, so that now under his leadership we must all play God, the Builder of Worlds.

And also, perhaps, their annihilator.

(It was Jason Lockyer, the calmest and most cerebral of our group, who recalled Robert Oppenheimer's quotation of Vishnu from the *Bhagavad Gita*, at the time of the testing of the first atomic bomb: "I am become Death, the Destroyer of Worlds.")

Which brings my thoughts, again and again, to Marcia. How much did she understand at the very end, as Nine took her for its own and the world around her faded? Surely she knew at least this much, that she had created a monster. But Nine was *her* monster, her baby, her private universe, her unique creation, and in some sense she must have loved it. Loved it so much that when logic said the ecosphere must be destroyed, she could not bring herself to do it. She must have somehow justified her actions. What did she say, what did she think, how did she *feel*, in those last minutes?

I hope that I will never know.