



Symbiosis

ANNIE BROUGHT OUT THE BROCCOLI QUICHE AND SET IT on the deck table as the conversation with Max and Melissa broke off into small talk about the weather. She returned with a green garden salad and another round of beers. “Anyone for some iced tea?” she asked.

“Beer’s fine,” Max replied. “This is homebrew, you say? Not bad.”

“Annie’s been making beer for about ten years,” I told Max. “She makes the beer and I make the wine, and so far, we’ve lived happily ever after.”

Annie and Penny sat down at the table with us, and we dove into our lunch. “Great quiche,” Max told Annie with a smile as he gobbled it down.

“The eggs are from our own chickens,” she replied. “And the broccoli is from our garden. So is the salad.”

“This food’s as fresh as it can get,” I added.

“It’s wonderful,” agreed Melissa.

Between mouthfuls, Max steered the conversation back to their favorite subject: money. “The few people getting rich from the squandering of our non-renewable resources,” he said, “don’t want anyone to realize what they’re doing. They don’t want anyone to know that no one’s minding the store, that they have their hand in the cash register drawer. By convincing everyone that the economy is good because the money is being spent, they take our minds off the fact that our bank account is being systematically depleted,” explained Max, who paused to chug

his beer.

Melissa continued the conversation for him. “He means our natural resources are being pilfered, squandered.”

“Unfortunately,” Max added, wiping his mouth with a napkin, “the robbing of our resources is causing severe problems for our biosphere —”

“That’s the Earth,” Melissa interrupted.

“I think they know what a biosphere is,” Max chided. “The biosphere is being damaged, our basic global life support systems are being undermined, because the cash drawer is being robbed and no one gives a damn! A tiny minority is profiting at the expense of the majority! I’d say it’s unbelievable, I’d suggest that people in general are incredibly stupid. How can a few people claim the Earth’s non-renewable resources, extract them, and then sell them for their own personal profit? These are resources that have taken millions of years to create, then have laid in the ground under the feet of humanity since time immemorial, and now someone comes along and claims them? That’s what I mean about no one minding the store.”

“Are you aware of the power of the media and advertising to influence people’s decisions?” Max continued. “Well, the media are controlled by the same wealthy minority that has our government representatives in their pocketbooks. A minority that’s using up our resources as fast as they can. It *appears* that we have a good economy, but it won’t last — it can’t. It’s a one-way ticket to bankruptcy. Any accountant worth his salt can tell you that. You can’t just withdraw, withdraw, withdraw, and spend, spend, spend, forever. Our resources are limited. The future generations are going to look back at us and shake their heads in disbelief. Why would a couple of generations of Americans want to spend *everyone else’s* resources? Why would they want to waste them so flagrantly? What conceivable rationale could there possibly be for that sort of behavior?”

“Greed and ignorance,” answered Melissa. “The greed

of the people who can get away with it, and the ignorance of the people who could put a stop to it. That's where *we* come in," she said, looking at Annie and me pointedly. "Max and I are *idea* people. We suggest alternatives. We try to wake people up. An economy is necessary, but we must have one that has a future. One that recognizes the value of natural materials in their natural state. One that understands that we only have one natural bank account, an account from which all wealth is derived, an account for all people for all time, an account that can't be replenished. We need an economy that is not destructive and wasteful. Our economy must become benign with regard to this planet."

Just then a dim light bulb went off in my head. As I sat there forking spinach into my mouth, I remembered eating dinner with Professor Gaulton in Newfoundland a couple months earlier, and his robbing frenzy scenario raced through my mind. "Melissa, have you ever heard of a theory called the *robbing frenzy*? That was one of Lucy's ideas."

"Of course I have. Lucille was very interested in that concept in the last months of her life. There was a professor up in New Brunswick who she talked to about it, wasn't there?"

"Newfoundland. Yes, Brian Gaulton," I replied. "As the professor explained it, according to Lucy's theory, humans are acting like disease organisms on the planet. Do you think disease organisms could be said to have an economy of sorts? I don't mean a money economy, of course. But would you say that the over-consumption of resources would be a characteristic of a pathogen's economy?"

"Exactly," Melissa replied. "You've hit the nail on the head. Damn, I wish my students could have been so perceptive! The word 'economy' simply refers to the management and exchange of goods, services, and energy. For humans, that means manufacturing, construction, food production, and every other aspect of life requiring goods, services, or energy. Any organism has an economy, no mat-

ter how rudimentary. Even a colony of bacteria requires the flow of nutrients and energy, and thus has a simple sort of economy. A disease organism overconsumes its resource base without regard for the future, and it therefore has an economy without a future. That's why diseases kill their hosts. But diseases go on to infect other hosts. That's how they survive. Humans can't kill their host and move on to another one like a disease organism does. Unless we're going to find another planet in the galaxy and infect it, too. Lucille and I discussed this at length. She loved this analogy."

"From what I gathered, though, I don't think she thought it was necessarily an analogy," I insisted. "I think she thought humans were actually exhibiting *real* disease potential in relation to the Earth. Anyway, if we currently have an economy that parallels that of a disease organism, do you think there's an alternative?"

"Yes, yes, that's what I've been trying to say!" replied Melissa, excitedly, slapping her hand on the table. "That's what I've been trying to say all along! A disease organism has a *destructive* economy, an economy without a future. But a *symbiotic* organism, on the other hand, which is an organism that lives in harmony with its environment, also has an economy. An economy *with* a future. Both types of organisms have their own economies, both require the flow of materials and energy, but the disease organism progressively *undermines* its economy through over-consumption and waste, and eventually destroys it. Destroys its own economy and destroys itself in the process! The other, the symbiotic organism, knows how to maintain a benign economy by managing its resources properly and avoiding over-consumption and waste. It will live on indefinitely. Humanity, if we are to survive, *must* develop a symbiotic economy!"

"And that's not even the most important aspect," added Max.

"What do you mean?" Annie asked.

"It makes sense that the symbiotic economy would be

much more *preferable* for the organism involved, especially humans. Preferable in many ways. A human symbiotic economy could last indefinitely, it could allow for goods, services, and energy to be distributed among people equitably, it could guarantee prosperity, peace, meaningful and rewarding jobs, and fulfilling lives for everyone, without a sacrifice in our standard of living.”

“I’m not following you,” Annie eyed him skeptically. “How would it *not* sacrifice our standard of living?”

“The people who are robbing our store, who are promoting a destructive, wasteful economy, argue that if we stop squandering our resources, our economy will take a huge nose dive and we’ll all be back to washing our laundry on scrub boards in our back yards,” explained Max. “So people’s natural reaction is to think we can’t do *that*, therefore we must continue to squander our natural bank account like there’s no tomorrow. But this is ridiculous. Symbiotic economies, by definition, involve the exchange of goods, services, and energy in a manner that allows everyone to benefit over the long term. It’s a balanced, equitable economy. There’s no reason to believe that our average standard of living would drop simply because we shift to a more conscious economic system. Our standard of living would more than likely *improve*. We’d have cleaner air, cleaner water, better quality food, less disease, less poverty, more rewarding employment, healthier societies, and more fulfilling lives.”

“But wouldn’t we be paying a lot more for gas and oil and coal?” argued Annie. “Wouldn’t our prices go up and therefore our disposable income go down?”

“Sure, if we’re dumb enough to rely heavily on those non-renewable resources. A symbiotic organism would phase out or minimize the use of polluting, non-renewable resources as quickly as possible while finding ways to use the same resources efficiently, cleanly, and, perhaps most importantly, wisely. The people making wads of money selling gas, coal, and oil, are singing a different song. They’re telling us that we have to buy their products in

large quantities or suffer a drastic drop in our standard of living.”

“By centering our lifestyles around non-renewable resources like fossil fuels, we’ve painted ourselves into a corner,” Melissa declared. “But the people extracting and selling these resources force us, through media influence, to keep consuming them mindlessly. After all, that’s how they make their money. It’s a downward spiral, like being hooked on heroin. We’re the addicts, they’re the pushers. They steal the heroin from nature’s bank account, get us hooked on it, make a pile of money in the process, and in the meantime, our ecosystem slowly dies. It’s frightening.”

“That’s right,” Max added. “The business people goading us into consuming huge quantities of non-renewable resources aren’t motivated by altruism, they’re motivated by greed. But the truth is just the opposite of what they tell us — if we continue to burn the huge amounts of fossil fuels we’re currently using, we’ll pollute the planet beyond repair and everyone’s standard of living will plummet. We have to summon up some good old-fashioned ingenuity and find *new* ways to meet our needs, and we have to learn to see *past* the industry hype and propaganda. As a culture we have to change, to evolve, and thereby shift our direction.”

“How? How would a shift like that take place?” I asked.

“That’s the intriguing part,” answered Melissa, dabbing at her lips with a napkin. “Our personal consumptive habits must change. It’s intriguing because it puts a lot of power to make the necessary changes into our *own* hands, as individuals.”

“What sort of changes?” Annie wondered.

“Well, as symbiotic beings, we have to learn how to work *with* nature, not against it,” Max responded. “Let me give you some examples. Take light, for instance. We currently produce most of our light by generating electricity and then burning it in light bulbs. That usually requires huge amounts of fossil fuels, with an incredible amount of

pollution. In any case, our lighting devices produce a lot of heat, which is waste energy. It's the light that we want, not the heat. Lightning bugs, or fireflies, on the other hand, produce light without heat. Their source of energy? Other smaller insects. Obviously, it's possible to produce cool light directly from natural, organic ingredients, at room temperature. That's the sort of thing we humans need to be figuring out. Another example is the common spider. Its silk is one of the strongest fibers known. It spins its silk from what it ingests — house flies, crickets, and other bugs. Obviously, very strong fibers can be made using only natural, organic, renewable, raw materials, at body temperature. Humans instead make fibers in ways that are very dirty, wasteful, energy intensive, and polluting. We could learn nature's ways too, if we wanted to. And if we humans were half as smart as we think we are, that's exactly what we'd do."

"But don't you think that's unrealistic?" asked Annie. "We're not going to be able to do anything like that in the immediate future, wouldn't you agree?"

"Why not?" Melissa challenged. "Besides, there are lots of other things we certainly *can* do immediately." By this time we had finished lunch and were leaning back in our chairs watching Penny gather dishes off the patio table.

"There's dessert, by the way," Annie reminded us.

"I am *stuffed*," Melissa replied, patting her stomach contentedly.

"Count me in," Max said. "I can't refuse dessert."

Annie asked Penelope to serve the last course. Delighted to be playing hostess, she rushed inside and immediately came back out balancing a tray of dishes set with golden slices of cake and fresh red strawberries. Beside each slice, I noticed with amusement, she had placed a small, purple pansy. As soon as Melissa eyed the decadent dessert, she changed her mind and decided she'd have some as well.

"As I was saying, Annie," Melissa mumbled, spooning the shortcake into her mouth, "there's a lot of stuff we can personally do immediately to shift toward a symbiotic

economy. In fact, a lot is already happening. Max and I are not fringe kooks crying alone in the wilderness. There are lots and lots of people around the world who are aware of the dire problems facing us today and are trying to do something about them.”

“Yes, we heard about the World Scientist’s Warning to Humanity,” I remarked.

“Besides scientists, though, there are people in the business world too, who are trying to make products that are more symbiotic,” Max said. “Cars don’t have to be the big, heavy, wasteful things they are today. They’re being redesigned to be light, energy efficient, and recyclable. Although, admittedly, American car makers are way behind the rest of the world in this regard. They keep cranking out big gas guzzlers like they don’t have a clue.”

“And people keep buying them,” added Melissa. “Advertising obviously works.”

“Some people are learning how to phase out the need for petroleum through the use of hydrogen fuel cells,” Max continued. “Appliances are being reengineered to be recyclable and much more energy efficient. And made of recycled materials, as well.”

“Building materials can also be manufactured without waste, pollution, or toxic chemicals,” added Melissa. “We could be recycling our buildings instead of demolishing them and dumping them in landfills. Wood can be harvested sustainably; structures can be designed to be energy efficient and recyclable; fibers and fabrics don’t need to be processed with environmentally damaging chemicals and poisons. Of course, none of these things will ever happen if people aren’t aware of the need for them. And that awareness probably won’t come from TV. Just the opposite — it seems that the more people are exposed to commercial media, the more convinced they are that they should buy wastefully.”

“Take food for example,” continued Max. “Food can be produced in sustainable, non-toxic ways. Natural soil fertility can be protected and built up through the recycling

of organic materials. There are an endless number of beneficial alternatives that we can support today, right now, if people only knew how critically we need to switch to a symbiotic way of life on this planet.”

“For example,” explained Melissa, thumbing through some papers in her brown briefcase, “did you know that in the United States, ah, here it is, we throw away so many aluminum cans that we could rebuild our entire fleet of commercial airliners every three months with the wasted metal? Did you know that we now use 98 tons of resources to make only one ton of paper, or that a laptop computer, when manufactured, produces four thousand times its weight in waste?”

“Incredible,” we agreed.

“And we’re not sitting here trying to sell you anything,” Max added with a smile. “What do *we* have to gain by telling you this stuff? We’re just glad to have someone who will listen to us. So many people have closed minds when it comes to issues like this. Media personalities have convinced the average American that anything resembling environmentalism is bad, and that anyone who offers any criticism of our economy, no matter how constructive, is a quack. The wool has been pulled over America’s eyes, big-time. That’s what’s incredible to me!”

“We probably wouldn’t be so sympathetic ourselves, Max, if we hadn’t recently been through these Lucy escapades. They’ve been real eye-openers for us. For example, you say that Americans aren’t aware of these issues. Well, Eduardo said something about ‘our people’ being deaf and blind,” Annie said.

“How can you hear anything with a set of earphones blaring commercial media into your ears?” asked Max. “How can you see anything with your eyes glued to a TV set? Your Eduardo fellow was right in that sense. Many Americans have loaned their eyes and ears to commercial interests. They’re no longer aware of the real world around them. It’s time they take their eyes and ears back.”

“Think of it this way,” Melissa said. “A clam can make

one of the hardest organic materials known, its shell, simply by sucking in sea water. We humans are so far out of touch with nature, and so damned self-centered, that nature's miracles may be right underfoot, but we wouldn't see them even if we tripped over them. We already live in a sustainable world — it's all around us. *We're* the ones out of sync. Did you know that four million pounds of raw materials are required to meet the *yearly* needs of the average American family today? Four million pounds!"

"Not to mention that the average American individual requires a *ton* of water every *day*," added Max. "Literally. Two thousand pounds. And when they're done using that water, it's polluted!"

"We produce over fifty *trillion* pounds of waste every year in the United States! Imagine that!" continued Melissa. "That's fifty thousand *billion* pounds. It's mind-boggling. And when you think that the *rest* of the world has twenty-one times as many people as *we* do in the United States, and they think *they* need to live like *us*, then you can see that we have an impending disaster now developing on this planet."

"What we're telling you is only the tip of the iceberg, folks," added Max, solemnly. "We haven't even mentioned the loss of topsoil, climate change, species extinctions, and the many, many, other symptoms of a poorly planned economy."

"So what're we supposed to do?" implored Annie. "It's overwhelming. Where do we start?"

"Start right here, right now," Melissa said. "Life is short and then you die. You must act now if you're going to make any difference in this fragile world. Perhaps Eduardo taught you that. There are lots of things you can do."

"Such as?" she pressed.

"Well, for example, there are really simple things," Melissa explained. "Read the ingredients in the food you buy. Avoid anything artificial. Companies that put artificial flavors and colors into their foods are doing it only for their profit, certainly not for your health. Instead, buy

organically grown foods, foods without harmful chemicals. Here's another thing: avoid household cleaning agents that don't clearly state they're non-toxic. Some of the most common household cleaners contain chemicals that have been proven to cause cancer. If we stop buying these products, the companies will either improve them or go out of business. That's the power of the consumer."

"Of an *informed* consumer," corrected Max. "People buy bad products because they see them advertised. Because the advertisements are slick, and the ingredients are never discussed in the ads."

"That's right," continued Melissa. "Why just the other day, I heard an ad on the radio for disposable storage containers for storing leftovers. Can you imagine? So now, when you forget about your leftovers, and they mold in the refrigerator, you just throw them out — containers and all. And it's not like the containers are being recycled; they're just going directly into landfills, along with the food. Ludicrous! We shouldn't buy things in containers that have to be thrown away in the first place."

"Every damned thing nowadays comes in a plastic throwaway box," huffed Max. "Where's the economic wisdom in that? You know, this stuff we're telling you should be taught at every level of our educational system, from kindergarten up through graduate school. Churches should be on the bandwagon too, encouraging symbiotic living among members of their congregations. There could be more civic groups dedicated to restoration of the planet. Boy scouts, girl scouts, fraternities and sororities, the PTA, everyone can pitch in."

Melissa continued, "We should all be supporting businesses that are trying to shift toward symbiotic practices. Boycott the polluters — don't buy their products. But most of all, be informed, be aware. All of the necessary information is out there, and if you expend only a small amount of energy to look for it, you'll find it. It's mostly common sense. And you can begin to shift your lifestyle toward a symbiotic one without anyone even knowing it. And who

knows? Maybe your friends, neighbors, and relatives will catch on too. It has to start somewhere. Why not with you?”

“That reminds me of one of the basic rules of life,” I said flippantly. “You can’t judge a person by their relatives! Not to change the subject or anything.”

Annie laughed, dry as dust. “Does that go for spouses too, dear?”

“Yes, and speaking of rules of life,” added Max, “here’s another: you should never criticize someone until you’ve walked a mile in their shoes. Do you know why?”

“Well, because you don’t really know them until you’ve lived like them?” Annie offered.

“No. Because then you’ll be a mile away and you’ll have their shoes!” Max laughed uproariously at his own joke. The rest of us looked at each other straight-faced, then broke out laughing too.

Go to Chapter 32