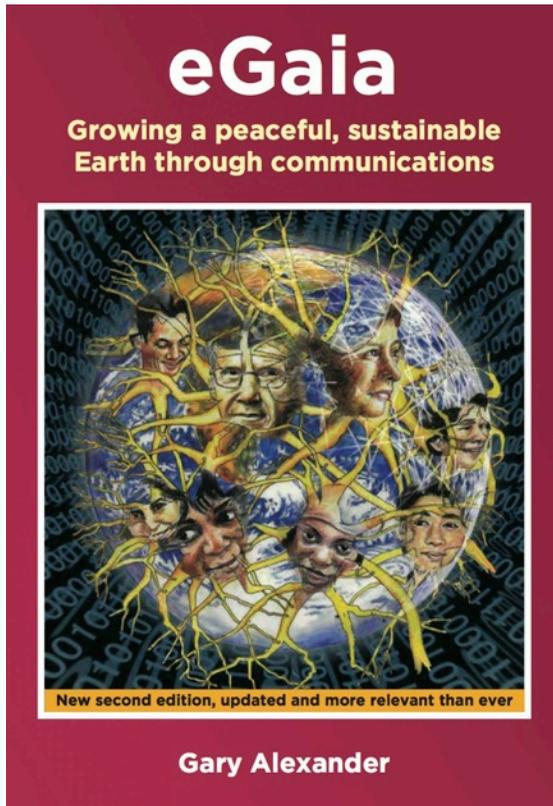


An excerpt from:



New 2nd Edition, Now more relevant
than ever!

A positive vision is emerging – a community-based, but globally linked and co-ordinated society, a global human family looking after each other and the Earth.

eGaia describes the many starting points around the world, and next big steps where they join and link up. It clarifies, gives background, principles, and a light fictional picture of a sustainable world.

“a manifesto for a new world order, disarmingly presented and written...” Prof. John Monk

“a radical and challenging approach to what Alexander terms our ‘global cancer’: biodiversity and habitat loss, war, climate change, poverty and social disintegration.

..it concentrates on the positive: what kind of society do we really want, and how might we get it?”

Prof. Godfrey Boyle



Gary Alexander worked for the Open University for 37 years, was a pioneer in collaborative learning online, has written, worked and dreamt about sustainable communities since the 1970s, helped create Summer Schools, Dance Camps, Fairs, was a Trustee of the Transition Network, and dances tango.

3 A taste of an eGaian future

What might it be like at some time in the future, when much of the change to an eGaia society had occurred? What might life be like with humanity functioning as a global nervous system? As this is still an imagined answer to the ‘miracle question’, we must resort to fiction.

Yes So now you are a Utopian novelist.

Me Not even a short story writer I'm afraid, so apologies if my characters are two-dimensional. The story is there to bring alive the social principles. It will introduce ideas that will be developed more fully later in the book. It will serve as a contrast in *Chapter 5 It's the economy stupid*, to clarify some of the madnesses in the current economic system. It inevitably embodies my fantasies and tastes and a lot of detail is very arbitrary and is just for fun. As you read it, you may find that you like the social principles, but would prefer a different tale.

The point of the story is to show some possible mechanisms:

- *peace* – how can a community handle the conflicts and problems which arise between people while maintaining a sense of mutual concern and understanding?
- *sustainability* – how could a community organise itself in such a way as to take into account the needs of the natural world – but without leading an extremely basic, ascetic life?
- *the right goals* – how could a community use communications to organise itself economically in a way which is directly determined by the needs of the natural world and humanity, rather than indirectly through monetary exchange? Can co-operative

structures provide the choice and efficiency supposedly offered by competitive markets?

This tale is set some time in the future, in a world which has moved a long way towards an eGaian society, for reasons that will be explained. It is a tale of a day in the life of some of the members of 'Pinecone Partnership', a group of perhaps several hundred people in a small provincial town in some western country. It is one of many such networks in the town, all loosely linked to each other locally and to larger global networks of different kinds.

MARI

Mari is a young girl, recently turned 16, who is just joining Pinecone Partnership in her own right. She has been using it through her parents' accounts since she was small, so she knows a lot of its members already. She has just completed an introductory training and is about to attend a joining ceremony.

Mari is very excited because she has just received a new phone, the first she has owned personally. She muses that in her mother's youth, young people had their own phones from a younger age, but now life is more austere in material goods. She sees that it is a vintage wePhone 25, one of the earliest with fully recyclable and upgradable parts. She opens the case and finds that she is the third owner, and that it still has a few of its original chips. She begins to think how she could customise it.

She switches it on, holds it up to her face so it can see her eyes and makes her 'ID face'. It quickly flashes up her personal icon. It has recognised her! She puts it in its cradle, where it rapidly downloads all her usual files and apps.

It is time for her joining ceremony. She connects to it on the phone, and quickly flips through the other young people who are part of it. Several are her good friends.

The ceremony is run by Keith, one of the elders of the Partnership, whom she has seen several times when he visited her school. She listens carefully:

"I am delighted to welcome all of you young people, most of whom I have met, to full membership of Pinecone Partnership. You are part of the first generation to have grown up in our new collaborative world society. You have the tools and the education to make it a success, and we are relying on you.

You were all born after the traumatic years of the late twenties, when the old competitive economy and top-down governments collapsed. You have heard this before, but I'll review it for this ceremony.

The more thoughtful people of my generation had been watching in horror as the world ignored the dangers to the environment, until extreme weather began to make some places uninhabitable and to badly disrupt global food supplies, while supplies of fuel became more and more expensive. There were wars and ethnic conflicts, and the growing numbers in extreme poverty led to lots of unrest. The world money system, which was hugely unstable anyway, lurched from crisis to crisis until it finally collapsed, and took with it the real economy – many of the businesses and services we all relied upon.

In desperation, people joined together in their local communities, pooling their resources to help one other. Many new community groups formed, for food, sharing goods, transport, child care, and all sorts of mutual help. People rediscovered the importance of working together in their communities. New forms of community exchange and local money sprang up. Fortunately, there were many starting points for them to learn from, and enough of the social networks and communications survived so that the best ideas spread rapidly around the world.

The apps we now use all the time – that make exchange in our communities so easy – were developed and everyone started using them. That is really what saved us.

It was like a huge mental cloud lifting from humanity: People could finally see that the old ideas of chasing money, of everyone competing with everyone else, and of power politics, were a madness that had dominated humankind for millennia.

The problems of those days are far from over. There is massive reconstruction to do. Many people are still struggling. In a perverse way, we are lucky that the economy collapsed when it did. Had it happened 10 years later, the damage to the environment might have been irreversible. It is so sad that it took a collapse to create the change, rather than a managed transition, which would have saved many lives and much destruction.

Now, at least we have a chance to repair the damage, and to build the kind of society people have dreamed about for thousands of years. It is up to us all!"

Mari finds that she has several new apps in her phone. She now has her own account in Pinecone Partnership, where she will get most of her daily needs met: food, clothes, transport and all the stuff that is made locally. She won't have to pay for any of that in money, but she will use her phone to record what she receives and gives to the community. She will be expected to contribute a reasonable number of hours of work each week, keeping the giving and receiving roughly in balance, and to keep up a good public reputation. She thinks about the kinds of work she may do, perhaps on Elderberry Farm, or Watermelon House looking after the old people. She looks at the other members, and sees that many of her school friends and friends of her parents are there.

And she now has a new account in the regional bank run by the Walnut River Valley Network, that covers a large bio-region in her part of the country. She sees that she already has a few partners,

some young people she has met on trips, and some she knows through her parents and their friends. It has its own currency, the Walnut, which she will be able to earn and spend. Most of what she wants that isn't produced in Pinecone Partnership will come through that. Again, she will have to be careful about her reputation, but she will always be dealing with people she trusts, and whom she knows or are friends of people she knows.

And there is her Eco account! This is the new global currency that links people all over the world, managed by the new World Eco Bank. She thinks about the special treats she can get from that, and perhaps the trips she might take, and wonders how she can earn some Ecos. She finds she has a few partners there already, from those exchange students that stayed with her family a few years ago, and a few that her parents have arranged for her.

And finally there is her Footprint account ('environmental footprint' is based on the impact on the environment of an object or activity). She looks at it and finds that her parents have transferred all her favourite clothes and things from their accounts to hers. As she looks through each item she can see that it includes two ratings, one for its impact on the Earth, and one for the number of hours of human effort it took to create. Her footprint is the total of the footprints of all the things in her account.

Mari has grown up with the idea that a sensible person tries to satisfy their needs while keeping their footprint at a reasonable level for their age.

You Let's see if I've got the points here. You have an economy where people mostly deal with others to whom they are connected as partners, in several groups, one very local, one regional and then global. The most local doesn't seem to use money, but the other two have their own currencies, including a global currency. They seem to use their phones rather than cash for everything.

People also have records of the 'Footprint', which seems to measure their social and environmental impact.

Me Yes, that's about right. There are different kinds of trading relationship, some more like a 'gift economy', others more like money, but always based on personal relationship and with a strong element of reputation, so that where money is used it doesn't dominate. And 'Footprint' measures real cost: effect on the Earth and on other people, expressed directly, rather than (as now) hidden or ignored within monetary cost. And apps on the social networks are the key to making it work.

ALBERT

Albert is 49 and manages Apple Transport, a small firm he built up that was once a car showroom and garage. He nearly lost the business during the big crash, but because he had such a good reputation, he was supported first by the community and then by the new regional bank. For all practical purposes the business is a co-operative 'owned' by the community it serves, including both its customers and its employees, who are intensely loyal to it. Apple Transport takes full responsibility for all aspects of its customers' vehicles. It gets them, services and updates them and disposes of them.

Albert spends about three days each week working for Apple Transport, which is considered to be a lot. A couple of his employees share his managerial responsibilities and stand in for him when needed. Albert often spends another day or two working at other small jobs which interest him. He also helps out at the market garden/farm and at the town hospital.

He starts each day on his tablet, looking at Apple Transport's sign-up sheets on Pinecone Partnership. First he checks that enough people have signed up to work for him over the next few days. He has a workforce of about 5-10 each week, most of whom work a few days

each week. They are drawn from a much larger pool who work for him from time to time. He always has enough in reserve to cover absences or peak workloads. The workforce is variable but well organised and reliable. Many of them work at more than one transport vehicle co-operative locally. All of his employees put in some hours as part of their contribution to Pinecone Partnership, but they also get paid flexibly in Walnuts and Ecos, as they need them.

He has to pay in Walnuts for standard parts that are made regionally, and in Ecos for electronic parts that are made in large international factories. He earns Walnuts and Ecos by doing work for people outside Pinecone Partnership.

Most vehicles are electric these days, which are much more efficient than older petrol vehicles. While their batteries are being charged they act as storage to balance the variability of the wind and wave-generated electricity that power them. A few use bio-fuels. Most vehicles are shared or are owned by businesses or by public transport. Many people use bicycles and walk when they can, while those who are less able use electric bicycles or public transport.

There is a rating system on-line which most of the customers use after every visit. Albert prides himself that his garage and his employees almost always receive very high ratings. That is the basis of his very strong customer loyalty. He and his staff carefully check out each case of a low rating to see what they can learn from it. Can they improve their working practices? Does someone need more training? Was it a misunderstanding and if so, how can they avoid that in future?

Albert sees that he could do with two more workers for Friday because a lot of customers have booked in. He sends a text message to all his regulars pointing this out. If this doesn't do the trick within the next day or so, he will make a few phone calls and sort it out. And then next Monday almost no-one has booked in. So he emails two of

the staff due to work then and tells them not to come in. He hopes they will be happy to have the day off.

He looks through the messages in the Regional Transport Network, which links all the firms like his as well as the researchers in the university and other related trade networks. They all support each other as much as they can, as they aren't in competition. Each has its own niche: its regular customers, its own specialities.

There are regular meetings of people from each firm, where they review any problems they are having, advise each other on solutions, and work out how they can support each other, such as buying specialised equipment that they can share between them. If there are any disputes between members, the Regional Transport Network has people who can help solve them constructively.

As a senior person in his industry locally, Albert has also qualified as an inspector, and he signs up to inspect two firms in the area. He also puts Apple Transport down for inspection. With the inspections, customer ratings, and research information he gets, his firm is kept on its toes and is far more up-to-date and efficient than it ever was in the old days of competition. There is no central regulation needed, and through the regional and global links it has the strengths of multinationals of earlier generations.

He has a group of customers who enjoy having older vehicles, and with his help, can usually keep them going indefinitely. All his vehicles use fuel very efficiently, and with all the recycling of parts and the sharing of vehicles, they add very little to each customer's footprint.

It is quite a light day for Apple Transport. There are only two mechanics around, so Albert helps them out. He has farmed out a couple of jobs to another firm that had a few cancellations.

You Clearly transport is much more environmentally friendly here. But the main thing that strikes me is flexibility. People seem to work when it suits them.

Me Yes, it's important that people are motivated to work because they like the work and because of the respect it gives them. The workload can be adjusted either up or down to follow demand. Albert has neither need nor desire to advertise or to try to influence demand. The business is driven by quality and service, not making money. Quality is maintained by feedback and peer inspection, not fear of loss of customers or government regulation. That makes it function as an error-correcting control system so it is stable and resilient. Socially, it has some of the qualities of an extended family.

EAVIS

Eavis is the manager of Elderberry Farm. Now 60, he has been a farmer all of his life and comes from a farming family. He often reflects on the complete transformation of farming within his lifetime. During the crash, he, like many other farmers, very nearly lost his land. Farms are mostly now owned by community land trusts, with the farmers as stewards, managing them for the benefit of the community. He was very unhappy about that for a long time, but has come to see that it actually works a lot better for him. He is a real farmer now, not a businessman.

The word farm doesn't really do it justice anymore. In a way it is a modern high-tech version of what medieval estates used to provide. Elderberry Farm is one of the principal sources of food (vegetables, grains, meat) for Pinecone Partnership and other local networks. But it does much more. Its woodlands provide fuel for the community and wood for furniture and building materials. The wood is also used as the raw material for the chemicals which Pinecone Plastics needs, replacing the oil an earlier generation would have used. The farm is a re-cycling centre for organic wastes which are converted to fertilisers and 'biochar' to absorb carbon and which also produce gas and alcohol as fuels. Up on Pinecone Ridge is a row of large wind

turbines producing electricity. Elderberry Farm is a major supplier of fuel and electricity to homes, factories and workshops in the area. The result of all this is that Elderberry Farm helps the people of Pinecone Partnership keep their ecological footprint very low.

The farming methods have changed radically too. There has been extensive planting of trees and perennial plants, as part of the world's desperate attempt to remove some of the carbon dioxide from the atmosphere that it put there before the crash. It still isn't clear whether global warming can be stopped.

Woodlands have been extended to include fruit, nuts, berries and many other perennial edible plants. They are the home to deer, pigs, and various other animals that live wild and are culled for food by the farm. Organic agro-forestry has become the norm, with even the remaining fields looking more like mixed grassland than earlier single crop farming.

The farm now requires a lot more labour than it did in the 20th century. However, this has not proved to be a problem, as Eavis supplements his small core of skilled staff with large numbers of casual workers.

The farm has been planted with an eye to aesthetics as well as food efficiency. It is now considered very beautiful and is a popular place for Pinecone people, who come to work there, just hang out, or participate in various events.

Eavis used to enjoy pop festivals and camps in his youth. He has turned Elderberry Farm into a place where people come to work during the day and to be entertained and party in the evenings. He regularly books entertainment and theatre workshops, catering for different interests on different dates. In between, people come and entertain themselves. Elderberry Farm has become as popular with performers as with its farm labourers. They often wander amongst the labourers, with songs and street theatre.

He gets on his computer to check on the bookings for the next week. He sees that Bertha and her friends have booked again. They are regulars and so have experience with the work. They don't need to be paid, as their work is part of their contribution to Pinecone Partnership. He looks at the list of tasks coming up and selects a few he thinks would appeal to Bertha's gang. There is a tremendous variety due to the rich nature of the farm. His skill, as a good modern farm manager, is to keep the farm as near as he can to a natural ecosystem while intervening just enough to make most of its produce of value to people.

You This farm is an environmentalist's dream. It's organic, feeds local people, looks good, supplies energy, reduces carbon dioxide. I'm not sure quite what is the point of turning it into a festival, though.

Me The point of the festival atmosphere is to create motivation to work. Farm labour is made attractive by spreading it widely among the people the farm feeds and making the work fun. Isn't that better than forcing it upon the poor? It's a different kind of relationship than you usually get between a farm, its customers and workers. That way the issue of competition with other farms nearby or across the world doesn't arise.

HENRIETTA

Henrietta is 76 and lives in Watermelon House, a large co-operative hostel owned by Pinecone Partnership. It caters largely for single people and couples without children, but also includes a few families. It was converted into a hostel from a redundant hospital. It has sections that are adapted to the needs of the elderly and those with disabilities.

Henrietta is partially disabled physically, as a result of a stroke a few years ago, but her mind is sharp. She likes making an active contribution to the community. Pinecone Partnership has opened

opportunities for this in ways that would have been impossible for older and disabled people in earlier times. She likes living in a mixed community with people of all ages. She often works in the kitchen in Watermelon House, as she has always loved cooking. Often when there is cooked food left over, she puts it in small containers, freezes it and sends it to the Sustainable Supermarket. She has almost no need for money, as Pinecone Partnership supplies all her regular needs.

Henrietta spends much of her time organising the Transport Users Co-op. It functions as a self-organising taxi and delivery service for Pinecone Partnership, as very few people now have their own vehicles. The co-op owns a small fleet of cars, mini-buses and vans, mostly electric, which are supplied and cared for by Apple Transport.

It is heavily used by children and people with limited mobility, saving huge effort for parents and carers. They like and trust it because they generally know the drivers. Henrietta and the drivers take their user ratings very seriously and try to learn from any low ones.

Today she will be getting a visit from Françoise's young son, whom she often sees. He helps her clean her room, and enjoys the stories she tells him about the bad old days before Pinecone Partnership. She was a real consumer and always had the latest gadget. Now she misses them, but the social benefits far outweigh that.

She tells him about her own mother, and how difficult things were when she was old and infirm. In those days, old people had to rely on help from the government, from strangers paid out of taxation. Now the community looked after its own, as it did in earlier generations.

You Interesting... this is a clear mixture of the environmental and the social. You've got a responsive, friendly, semi-public transport system which must save a lot of fuel. If it worked well, some people wouldn't want their own cars.

Me Yes, there is concern for the Earth and a co-operative social structure. And the way the Transport Co-op is

organised illustrates the error-correcting feedback system working to the right goals.

FRANCOISE

Francoise is 38 and lives with her partner, Gerry and their two children. Their older son, who is 12, often spends afternoons at Watermelon House, where he has several adopted 'grandparents' among the elderly residents, including Henrietta. He runs errands and does odd jobs for them. They help look after him, teach him and feed him.

Both children have busy social lives. Francoise frequently uses the apps on her phone to arrange for them to be taken and collected by the Transport Users Co-op organised by Henrietta. But more often they walk or cycle. These days traffic is so much lighter and there is so much less street crime that Francoise thinks that is quite safe.

Francoise usually works for several days each week in the Pinecone Plastics factory. It is still legally a part of an old-style multi-national that was re-organised during the period of the crash. It has close links with their other factories and research labs around the world so keeps the benefits of global scale. At the same time, it has become a co-operative, integrated within Pinecone Partnership. After struggling for years, it has recently been upgraded with the most modern automated equipment and serves a wide range of needs for Pinecone people.

Organising the upgrade was a major job for Francoise a year ago, but she had a lot of help. She had to find out the best equipment to get, and make arrangements with their suppliers, who mostly gave her credit in the regional and global currencies, which she then needed to earn. She had to arrange some guarantees from the regional bank. She remembers that this was a lot more complicated than smaller changes, where she could draw upon members and businesses within

the Partnership for labour and materials without needing to pay them or raise funds.

The factory is a large modern building which, like many others, is roofed with solar panels. Some panels are photovoltaic and produce electricity; others are thermal to heat water. It also has an algae plant that produces liquid fuels and removes carbon dioxide from the atmosphere, as everyone is desperate to do that now. Most of its additional needs for fuel and electricity are supplied by Elderberry Farm.

It tends to adjust its workload seasonally, increasing its output when the wind or the solar energy are greater, and reducing output when they are lower.

Most of the raw materials needed by Pinecone Plastics come from recycled plastic from components it has made in the past. Most of its output is designed for this. Additional raw materials are made by chemically digesting wood and other vegetable matter from Elderberry Farm, and are part of the money-free partnership. Some comes from farther afield, and are paid for in Walnuts or Ecos. All of this helps keep the ecological footprint of its products very low. One of Francoise's regular tasks is to find sources for specialised materials from collaborating factories and farms in the region.

Today she is working on some new car body panels that Albert's Apple Transport has ordered. She doesn't have the design for that model in her library, so sends a message to the other plastics factories in the region asking for help. In her inbox there is a short article from the regional research labs describing an easier way to clean out used moulds. That will save her and all the other plastics factories hours. In the old days, one firm would use information like that to gain competitive advantage over the others.

She finds a request for dustbins from a factory in the next county, (its machine has broken down) and offers to produce them.

You Another environmentalist's dream! It uses renewable energy and local raw materials.

Me Yes, and re-use and recycling means it provides its customers with a good material living standard at low environmental cost. Also, notice that it responds to the requests from its customers and that there is mutual support between similar businesses. By co-operating, not competing, they can be much more efficient. They don't need to go out looking for customers. Its workload varies with the seasons, with the weather, with demand. The communication networks are what make it practical. All this makes it very much more efficient than today's businesses in serving the community and the environment, but not in making money.

GERRY

Gerry is one of those energetic people who can't stop doing things. He spends several days working in the Sustainable Supermarket, but then invariably signs up for several shifts around the community. He often drives the minibuses and vans for Henrietta's Travel Co-op, he and his rugby mates take shifts together working on the roads and parks (always a good laugh), and he occasionally shows off his newly developed cooking skills in the hospital kitchen.

To help at mealtimes, Gerry often brings back frozen meals from the Sustainable Supermarket. These are not the old-fashioned, highly processed kind but are usually locally made by enthusiastic cooks in Pinecone Partnership.

The Sustainable Supermarket work provides him with his major challenges. It is very different from the supermarkets of old. Although it is still legally part of one of the big three from the early 21st century, in practice it is more like a medieval marketplace, serving its local community. It is a distribution place for most of what is produced by Pinecone Plastics, Elderberry Farm and other local

organisations: food, clothing, goods, everything. Most are locally produced and where they serve members of Pinecone Partnership, don't involve money. A significant proportion may come from anywhere in the world, usually paid in Ecos. It has strong links with distributors and other sustainable supermarkets.

Parts of the supermarket and its garden are full of small stalls from local workshops and other enterprises. This includes furniture, craft items, refurbished and re-designed clothing, renewed appliances. Anything that can be repaired, recycled or improved passes through it. It is a main collection place for re-cycling. This began to grow during the crash, when people couldn't really buy much new.

The food is mostly fresh, organic and local, but there are plenty of cooked meals, made by those Pinecone people who love cooking. The result is that it helps the people of Pinecone Partnership live well while keeping their ecological footprint low.

As markets have always been, it is an important meeting place. It has been beautifully decorated, with sculptures and other artwork. There is always entertainment of some sort, and lots of stalls.

The challenge for Gerry is to provide the best match he can of supply and demand. Through the social networks he keeps careful track of what people want and what is available. He often puts out polls and questionnaires asking about what people want in the future. People routinely rate what they have received so he has feedback on quality and satisfaction.

The bulk of what the sustainable supermarket provides is routine and in plentiful supply. That includes the basic food staples, household goods and appliances. Much of this is ordered through people's phones. They either collect it in person or the supermarket delivers it, helped by the Transport Users Co-op. When people order something the sustainable supermarket doesn't usually carry, Gerry searches through the trade networks to find it. For luxury items, he and the other markets have developed a number of strategies. That batch of

a special, new ice cream flavour was offered on a first-come, first-served basis. Jewellery, art and other rare items sometimes circulate, with people holding onto them for a few months, or even just for a special occasion. Sometimes there are prize draws for special items.

You OK, so most things are local. That reduces transport which is good for the environment. But why do you need prize draws? Why don't people simply buy what they want?

Me Gerry tries to match supply and demand as best he can. He doesn't need to influence demand to improve his cash flow. Most of what we use money for is done through information: real costs (footprint), finding out what people want, organising who will do what work, knowing what is available. But some things are scarce and need some form of rationing, such as prize draws. Today they would be 'rationed' to the rich.

CONAN

Conan is 25. He lives with his girlfriend, Delilah, in Watermelon House. Conan and Delilah eat most of their meals in the hostel's large dining room, which caters not only for residents, but also often for their guests or visitors to the community. The dining room walls are an ever-changing art gallery. It is also frequently used for musical and community events. It is a social focus for its residents.

Conan likes doing things with his hands, working with machines and tools. He sees himself as a craftsman and an artist. His work is mostly around the hostel, but he is also a regular worker at Apple Transport. He loves the challenge of taking old cars that no-one wants anymore and updating, repairing and customising them so they will once again be someone's pride and joy.

He starts his day by checking his shifts at Apple Garage, and signs up for the date when his friend Sasha is on. Conan then looks through the list of jobs people have asked for in the hostel. There is that tricky

plumbing job with the awkwardly sized pipe. He fills in an order form to have it custom made at Pinecone Plastics factory. A few seconds later a receipt comes back saying it has been booked and will be ready in two days. He then selects two jobs to get on with for the morning, but decides he will spend the afternoon working on his new mural for the dining room.

Conan is troubled by quite dramatic mood swings. Sometimes his temper is easily triggered, and he has a history of violence both to people and to things. People are aware of his difficulties and help him to handle them, partly by helping him avoid situations in which his anger will be triggered. There have been times when his mood has become so dark that he has been put into a secure community for the duration. When he has injured someone, he has been helped to understand fully what he has done, has had to make peace with the victim, and do something agreed to attempt to make up for the injury.

You You have some communal living for those not in families, which makes environmental sense. But the interesting thing is that we now have a villain. Not everyone here is perfect.

Me Conan is not a villain. He is more difficult than most but he lives in a community which has learned to handle him with sympathy and in a way which repairs the emotional and physical damage as best it can. In our world he would probably have been put into a prison which would have turned him into a bitter but well-trained criminal.

You This strategy must rely upon there being relatively few such people around.

Me Yes it does. They aren't grown and hardened as they are today. Conan didn't grow up with peers who respected and glorified his violence. He always had opportunities to make positive contributions to his community that

gave him approval and respect. That is what made his problems manageable. This is an example of society as an error-correcting control system in the social realm. The understanding that is shown to him and that he had to show to his victims is an example of using communication to solve social problems.

DELILAH

Delilah has lived in Watermelon House with Conan for several years. She loves his playfulness and his practical talents. She has had special training to help him handle his darker moods. Like many young people nowadays, she splits her time between various passionate interests. For her, it is dancing. Delilah has had dance training since she was a child. She is very popular in the region, getting bookings for solo performances and as a choreographer running classes and workshops. With the current revival of the arts, the opportunities are much greater than in earlier generations.

Besides dancing, Delilah's main job is as a community banker, working for the Walnut Valley Regional Bank and also as an agent for the World Eco Bank. In practice this means she is a go-between, sorting out agreements between people and businesses that don't know each other. She worked with Françoise, finding people to supply the equipment she needed for the factory upgrade. Her role was to convince them that Françoise was worthy of credit, and that her bank would guarantee the payment if needed.

Money is totally electronic, with payments made largely through people's phones. Accounts become negative when a business or individual needs something big and the debt is paid over an agreed period. Delilah works with clients, helping to work out the most suitable credit limits and payment times. No interest is ever charged for credit, but sometimes there are small fees. Money is never in short supply, as it is created in the process of debts being formed and dissolves as they are repaid.

You So, the money system here is very different. No interest on loans! Money never in short supply!

Me Yes, here the money system serves the community rather than dominating it. It supports exchange where needed.

BERTHA

Bertha is 17 and lives with her family. This morning she looks on the network for confirmation of her booking for the coming weekend at Elderberry Farm. She and her friends go there often to work on the farm while enjoying the music and dance that is laid on for them in the evenings. She loved the last dance workshop she did there with Delilah and knows there will be another one this weekend.

Pinecone Partnership has been a major support for her education, especially in her teenage years. Much of her education has been based around project work, some developed herself. Other projects are devised and set up by her teachers. Many have been collaborative projects, usually including some of her friends, but often with young people in other parts of the country or the world. Through the network she can find other young people to work with her, share information, co-ordinate work, and do background research.

Bertha looks on the network for replies to her application for a trip to an Eastern European country where there are still vestiges of ethnic conflict. This is part of her training in cultural conflict resolution, which she hopes will become one of her main career areas.

From early childhood Bertha (along with all the other children) has been taught the communication skills which people have learned to see as the foundation of social education. Through games and little plays they have learned how to listen, how to put yourself in another's shoes, how to check that you have been understood or understand another. Her current ambitions build on that basic education.

On her trip she will be a trainee in a large team made up of locals and people from around the world. They were assembled in response to reports of the growing popularity of some agitators who were stirring up hatred of an ethnic minority. The team has several main strategies. They look at the discontents among the people who are receptive to the agitators. They acknowledge those discontents and help seek resolution for them. They also use a combination of media events and local community activities to help both groups in conflict to see the others as full people rather than as shadowy hate figures. They create opportunities for both communities to meet and work together socially. The leaders of this team are highly trained and experienced. They know how important it is to get into an area where trouble is brewing early enough, and with enough support and resources from outside. Then they can usually defuse the conflict before the hatred becomes too great on both sides. Bertha hopes she might eventually become that kind of team leader.

Bertha has planned to travel slowly, visiting various places on the way. Through the Accommodation Co-op in Pinecone Partnership she has found the names of people in all the places she plans to visit. They are all friends of people known to Pinecone Partnership who offer temporary room and board to friends of friends, as do many people in Pinecone Partnership. Several have replied offering her rooms. Similarly, she finds messages from the Ride-sharing Co-op offering her lifts for about half of the journeys she will need to make. For the remainder, she books seats for the buses and trains she will be taking and pays for them in Ecos.

You A new tack. You seem to think childhood education about communication is crucial and that really big social problems can be headed off if they are caught early. You must be assuming that the local government and society around the troubled area allow the team in and support it. That wouldn't happen today.

Me This future society is geared up to resolve conflicts, which it accepts as arising regularly. It uses communication to acknowledge people's concerns and promote mutual understanding, rather than imposing solutions by force. Teaching communications skills is crucial so that people simply don't get caught up in conflicts and difficult relationships as easily as they do today. I cannot over-emphasize this.

JOLINE

Joline is a single woman aged 50 with two grown children. She plays the flute, and frequently is seen wandering the fields and woodlands at Elderberry Farm entertaining the farm workers.

Joline is known throughout the area for her skills as a counsellor and mediator. She works with individuals, couples, families and work groups. She has a reputation as the person to call when conflicts begin to appear in a workplace. With her help, a solution can usually be found before the conflict gets too serious.

She is sometimes called in by the Regional Bank, when there is a dispute over charges and payments. She always works to find a mutually agreed solution. She reflects that this work would have been done by courts in earlier generations. And also, how much simpler transactions are within Pinecone Partnership where there are no money payments.



Another of Joline's interests is helping to co-ordinate the co-operatives and businesses that make up Pinecone Partnership. All of them are autonomous, and make their own decisions about their day-to-day running. But they all affect one another too, and there are sometimes disagreements. Joline calls regular meetings of groups of businesses, like the Plastics factories, and the farms. At these meetings, they review the functioning of all the members, highlighting problems and seeking solutions, planning joint strategies where they could all benefit.

Joline's skill is in helping groups with different views to understand each other's point of view, and then in finding solutions that are acceptable to everyone. The respect in which she is held means people are usually willing to accept her solutions. It sometimes amuses her to think that she is the modern equivalent of a politician. Yet in many ways she is the opposite of old-time politicians, who used to make a point of disagreeing with their rivals.

Most decision-making is the business of the co-ops and other organisations, but issues like land use require the agreement of everyone. There was a proposal to expand the gardens of

Watermelon House into what had been a small park. Such decisions are normally made by consensus as much as possible, rather than majority vote, so that majorities cannot impose their will upon minorities.

You This is meant to show how the community is organised co-operatively.

Me Yes. Just as our society now has well-understood skills of building roads and repairing them when needed, an eGaian society would need well-understood skills of co-ordinating groups and individuals. This is at least as important as concern for the natural world. It underpins the kind of collaborative society needed to solve our environmental problems.

KEITH

Keith is pushing 60 and for most of his earlier life he was a full-time academic, working at the local university as an environmental scientist. Now his life is much more varied. He enjoys being able to spend time on more physical pursuits, which keeps him feeling alive and healthy. He often spends time at Elderberry Farm.

Some of Keith's work at Elderberry Farm is physical labouring, for the fun of it and to keep him healthy, but he also works as a scientific adviser. One of Keith's main contributions to Elderberry Farm is to keep in touch through the networks with the scientific community that specialises in agro-forestry farms of that sort. He gets advice when they have problems and learns of new approaches.

Keith is mostly content these days, enjoying his life, but as a scientist, he is also very aware that there are still major environmental problems left. At least, human impact on the Earth is slowing down, with less transport, local production, more recycling, less pollution, renewable energy sources. It's just as well, as with much less oil, farming especially has had to change radically. Much effort has gone

into restoring and rebuilding wilderness areas and sea habitats and finding ways to remove carbon dioxide from the atmosphere.

He has seen the major changes in people's attitudes towards consumption. Nowadays, when people consume anything, the effect on their ecological footprint is automatically calculated. It has become a matter of pride to live well while keeping your ecological footprint low.

But far more important for people's everyday lives have been the social changes. The community focus and the communications skills have reduced crime, alienation and have improved family life. Economic uncertainty is rarely a problem and most people do work they enjoy. Perhaps most important of all is the sense of connection to each other and to the Earth. The idea that people function like a nervous system of the Living Earth has taken on an almost religious or spiritual character, adding to the love and joy in all the Earth's peoples.

You Isn't that last bit a little over the top?

Me Sure, this is an over the top story. It's the answer to the miracle question. Do you want to settle for less in your hopes and dreams? This is not a let's-be-miserable-to-save-the-Earth future. I've tried to show how interconnected the environmental and social aspects are, and that solutions to the environmental problems come out of major social changes. Faced with the need for major changes because of the global cancer, surely there is no point in going for some partial solution which still leaves the world full of misery? The answer to the miracle question is the change from humanity as a global cancer to humanity as a global nervous system.