

Act Locally and Affect the Whole World

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Chris Maser: I'm going to talk about principles. Whatever we do as individuals, we affect the whole world but we seldom understand that. So, there are two sets of principles that I will talk about, biophysical and social.

The first biophysical principle is the first law of thermodynamics. Total amount of the energy in the universe is constant. It can be translated from one form to another but it cannot be destroyed or lessened. Therefore, there is no such thing as energy production or energy consumption. There is energy use. And if we are going to have a sustainable environment and social environmental sustainability, we have to deal with the terms as they indicate what we really mean. We have got to let go of euphemisms and be true to language.

Language is the hardest thing in the world to convey because we're drooling metaphors of things we cannot touch. I can hug my wife and tell her I love her with no words. That is truer than if I say "I love you" because I cannot give her the feeling, only talk around it.

The second law of thermodynamics is the amount of energy and forms available to do useful work can only be diminished over time. The physicists call this disorganization. I think that is a misnomer. We are organizing from complex to simpler. When you burn wood, the wood is reorganized into ash as it gives up its energy.

This is one of the important aspects to consider because when we talk about energy consumption, what does that mean? We're using energy but consumption, when you eat something, you're changing it in your body. It's a totally different thing. Then, you take those two laws and add to it one that has come up recently from a psychologist, which is brilliant and it's true. I've tested it, the law of maximum entropy production. All these is energy will select whatever path that allows it to escape by the fastest means. Maximum entropy.

Now, we do this all the time. What this is saying is that we constrain energy. For example, again, I have a wood stove. The kind of wood I put in limits how fast it burns, how I close the door, how I use the damper, how warm the house is, how the house leaks. All of these things are constraints on the escape of energy. And we do it every day in clothing. We wear clothes. If it's cold, we put on more. If it's hot, we take them off. All we're doing all our life is constraining and releasing energy. We don't do anything else. And if there's a wind chill factor, the energy escapes from our body even faster.

So, if you put these three basic laws together, it comes up with the law of cosmic unification. And that is simply the energy will always escape by the fastest means

possible. This is what we're dealing with in sustainability, the control of energy to suit our requirements. It's a basic fundamental law that unifies everything we do.

Under that are subordinate biophysical principles that govern everything we do that we keep trying to get around at tremendous costs, not only to our economy but to every generation to follow us. We have to understand that everything is a relationship. Everything in the universe is a relationship. Nothing is out of relationship. All we humans ever do is practice relationship with one another. With language, with a glass of water, setting a clock, I'm practicing a relationship, and I'm not always very good at it. All relationships are productive. There's no such thing as a nonproductive relationship because every relationship has an outcome.

The only true investment in our world is energy from the sun. Consider this now carefully. Everything else is recycling energy that is already here. Wind is not renewable energy. How do you renew wind? We use it when it comes our way. How do we renew water for electricity? We don't. We're destroying water catchments right and left. Every city, if you take the city and take the paved street, the sidewalks, the rooms of all the houses, and you were to lay them out in an area over the city, you would find you have created an impervious surface on a water catchment that prevents water to infiltrate and be stored.

What's renewable? It rushes off down the gutter, into a holding tank where it's purified. It might go in a reservoir and then where? We clear-cut the forests, which are the water catchments of the world. The water rushes out in June because it can no longer infiltrate because there is no vegetation to break it up and let it soak in. Reservoir gets filled. It spills over. In August and September, there's a water shortage. Why? It's not renewable because we don't value water until it comes down to the municipality. Water in the first order of water catchment, the headwaters, is the only thing in the world that has ecological integrity. It defines the quality of the entire basin but it has no value until it's pumped. What's renewable there?

When we eat green plants, we are eating an investment and reinvestment. Plants take sunlight, convert it to energy, and the plants take energy from the soil. When we eat meat, we're eating reinvestment. Vegetarians eat partial investment and partial reinvestment and what they expel is all reinvestment. There is no such thing as waste. Everything is recycled.

All systems, Number 4, are defined by their function, not by their pieces in isolation. Yet we think symptomatically. We isolate the pieces and look at what they do and then we think we can hold one constant in an interactive system. Mathematics loved it. In an interactive system, it is physically impossible to have an independent variable. It is physically impossible to have a constant value. But you can have a constant process. That's a different thing.

Principle 5 that we have to understand, all relationships result in a transfer of energy. What the world is, regardless of the shape, simply different convoluted energy. That's what we are. We are walking, talking, laughing, giggling convoluted energy. We eat. We

digest. We poop. That's a conduit. A wire that takes electricity or a voice is a conduit. What are those? That's energy. Everything in the universe is based on the transference of energy one way or another, and we participate in that. That's why we have no choice but to redesign the world because we're using energy. We exist. We have a right to be here. How we change the world and why is a different issue. And that's where morality and thinking about something besides yourselves comes in. That's a different issue.

Number 6, all relationships are self-reinforcing feedback loops, every single one. Now, having said that, whether reinforcing feedback loop is positive or negative has nothing to do with nature. Ecologists are frequently saying it's a positive feedback loop or a negative one. No, it isn't. It's either positive or negative when we give it valuation. And we give it valuation when it serves some function for us, it's positive. If it doesn't, it's negative.

Nature is impartial. Nature does not care. We care. And we have to care about something beyond ourselves. All relationships have one or more tradeoffs. You can't do anything without a tradeoff. It's like a fork in a road. You have to make a choice. The fork you choose, you have to tip. The fork you don't, you forego everything. There's a tradeoff in every single choice, sometimes more. That's an inviolate principle. There is no way we can get around it.

All change is a process of constant eternal becoming. That means everything we do is novel. It's new. There is no such thing as restoration because we can't go back in time but we can repair things. Antiques can be repaired but not with the materials they were built with, not by the hand that created them. My mother used to darn socks. During World War II, we didn't have a lot. She had a darning egg and sometimes a light bulb. And watching her darn socks, I learned that there's no restoration. It took me a while to figure it out. But the parts she darned were stronger and different than the rest of the socks. What she did was repair its function. She did not restore the sock.

We have to be honest with ourselves about our limitations as well as our capabilities. We cannot go back in time ever but we can go back in space. We are not the same person from one moment, one day, one year to the next because we change as we grow, as we learn things. It's inevitable. I just turned 70. I'm certainly not what I was when I was 50 or 20. I hope I'm a little wiser. I will tell you I don't have nearly the psychological baggage I used to carry. And I find that my skin is becoming a veritable zoo of everything growing on it that you can imagine. I'm never alone anymore.

[Laughter]

All relationships are irreversible because they are constantly moving forward. They are constantly changing. We can't reverse anything. And we have to accept that. We can't go back in time so we can't restore but we can repair. Now, a very simple way of looking at it is if you went to Hawaii and had a wonderful time last year and you anticipate the same thing this year and you go and you have a miserable time. Why? Circumstances are different and you are different. And the time is different.

All systems are based on three things. Composition, structure, and function. A forest is based on the composition of the plants. The plants create a structure. The structure allows a function called wildlife habitat. If a community wants to have birds, we've got a lot of people there. They want to have birds around. The question you have to ask is, "What birds? Come here. What structure do they need?" That tells us what plants we have to plant so we have the structure so that they can have the function of nesting and so forth and so on. So, in sustainability we have to understand the function and then work backwards to what we need to create or mend in order to have a sustainable system.

The other three things every system has are cumulative effects, lag periods, and thresholds. Cumulative effects are those things that take place out of site. I go to a party and I become infected with flu virus. I don't even know it. That virus grows in me and multiplies until I begin to feel something called a threshold or a symptom. In medicine, it's called an incubation period. In an ecosystem, it's called a lag period. Everything lags. And then when you cross the threshold, you know it's there. That's when you can see it. Because we live in the invisible presence, we can't see the little changes that are taking place all the time.

If you're with your kids day in and day out, you don't notice the changes. But Grandma comes once a year and says, "My, you've grown." You've this, you've that, you've the other because there have been a lot of snapshots in-between that have been cut out. So, it goes from here to here. These are the cumulative effects. This is the threshold.

All systems are cyclical. There is not a linear system in the universe except our thinking and what we are trying to force economics into, and that's why it isn't working. A linear system can only destroy its support base because it has got to be constant growth. That is not physically possible in our world and we have got to acknowledge that. We are tuned in to the growth cycle. We don't want the down cycle. Look at all the people that get Botox, for heaven's sake. What's wrong with wrinkles? I've earned every one of them. I might look a little wiser, if I'm lucky. Botox, uplifts, dyeing your hair, all for appearance, but it doesn't change anything.

The cyclical nature of the system, if you really want to understand it, think of a spring. Little springs that fit in the clock are very small, gentle, and very close together. The springs under a big semi-truck are huge, wide apart, and very rigid. Cycles are like that. There is no such thing in the textbook as they have it as a perfect circle. A cycle comes back but it never touches its beginning. It's like a spring. It approximates its beginning.

There is an old forest and it burns. Let's say it was 700 years old. Thousands of years later, there might be another old forest there but it's going to be a different forest. Different trees, different composition, different spacing but still a forest. It has approximated what it was a thousand years ago but it's not the same forest.

So, cycles are not perfect circles. They are curvilinear. Now, this is the only place linearity comes in. Linearity comes in only in the sense that nothing can be reversal. It's always going forward but it's going forward in a spiral. It's not going forward like this. Now, the spirals are important because part of it is growth, part of it is decomposition.

Growth, decomposition. Growth, decomposition. Every cycle feeds on the dying part of itself in order to grow.

Thirteen, systemic changes based on self-organized criticality. Every biophysical system organizes itself from one critical state to another. And at their critical state, it collapses and starts reorganizing again. A forest which everybody is familiar with grows and accumulates dead wood. It takes energy in from the sun. It transforms that to sugars. They go down to the ground and feed the mycorrhizal fungi. They are attached to the roots. The fungi go in the soil and get water, phosphorus, nitrogen and move it into the trees. They feed the trees, the trees feed the fungus. The forest grows.

The bacteria fix nitrogen. They feed the trees and the fungus. The fungus produces an extract that allows the mycorrhizal spores, this is yeast now, to germinate. The animal eat the fruiting bodies. The heat of the animal gets the spores ready to germinate. The animal poops where it's digging. There is an available root. The spore germinates and inoculates. The tree grows up. It goes by the the root system. It goes up and so forth.

Now, the tree dies. Parts of it fall to the ground. It's dead wood. That's stored energy. When enough of this has accumulated in a few dry years, there's a sudden fire. And it burns the forest and the forest starts over again. It starts some grasses and ferns. They change the site. When it has changed enough, the shrubs move in. The shrubs change it more until they can't survive. And the trees move in and it builds up again until it reaches the next stage. There's another fire. Boom. It starts over. Self-organized criticality from one critical state to another. And every civilization has done this usually through agriculture and it has caused a collapse.

Biophysical principle 14, dynamic disequilibrium moves all systems. There is nothing in nature that is in balance. It's always dynamic unbalance. This old myth of disturbed nature and remove disturbance and go back to what it was doesn't happen. Nature goes from this balance down, up again, down. It's a constant readjustment of evolution. In all systems, the last ones are open. If anyone talks to you about closed-loop technology, that's a pipe dream. There is no such thing.

You all know what amber is? Fossilized pitch. Insects get caught in it. It preserves them. That's the most exquisitely perfectly preserved fossils in the world but still an open system because light can penetrate. Jams and jellies. I hear people talk about preserving an ecosystem. You can't do that. Preservation means to kill it so it doesn't change. That's why jams and jellies are preserves but they're not closed systems. Light still penetrates these jars. There is no such thing as a closed system so there cannot be closed-loop technology.

Now, those are some of the biophysical laws. In a couple of books that I have done, I went back and looked at the hunter-gatherers because I have worked with indigenous groups. They are not where we are because they don't want to be. But I looked at how human behavior evolved. And it evolved through sharing called "usufruct".

So, I propose that there are 15 human social principles that we could call a unifying construct like that of the universe to be called a commons usufruct law. Usufruct is a noun from ancient Roman law and now part of many civil systems. Usufruct means that one has the personal right to enjoy all the advantages derivable from the use of something that belongs to another, provided the substance of the thing being used is not injured in any way. What that says is if you have a common garden, everybody can pick an apple from a tree but they cannot destroy the tree or damage it. You can use it in common because it's part of the commons. Now, the commons are those things in the world that are everyone's birthright. Clean air, clean water, fertile soil, everyone's birthright. An ocean that is healthy, not overfished, not polluted, that's a birth right.

In Canada, for example, the indigenous First Nations people have a legal usufructuary right to hunt fish without restriction on Crown lands, just like our national forests. In a more industrialized setting, a farmer might rent an unused field to a neighbor, thus enabling the neighbor to sow and reap the harvest of the land or perhaps use it as a pasture for livestock but cannot destroy or injure it.

On public range lands in the Western United States, the latter arrangement between the federal government and the local rancher is known as a grazing allotment. By law, they cannot degrade the grazing allotment because they don't own it any more than you own your house. You're renting it from the future. We don't own land. We don't own our homes. We're caretakers. We're trustees because somebody else must use it when we're gone. Do we have a right to degrade that which we cannot own? That is the question.

The legal definition of usufruct in the United States is usufruct is a right in a property owned by another, normally for a limited time or until death. It is the right to use the property to enjoy the fruits and income of the property, to rent the property and collect the rents, all to the exclusion of the underlying owner. In other words, the owner has temporarily given up that right. The usufructuary has the full right to use the property but cannot dispose of the property nor can it be destroyed.

The extent of usufructuary is defined by agreement and may be for a time-stated term. Covering only certain stages of properties, it could be set to terminate if certain conditions are met, such as a marriage of a child or a remarriage of a spouse. It could be rented to several people to share jointly and it can be given to one person for a period of time and to another for some other stated event. That is the legal statement from our law.

The subordinate principles that govern humanity that we need to consider when we deal with one another, if we are really serious about social environmental sustainability, are sharing life's experiences. We're making ourselves into abstractions with isolation through the Internet. I mean, texting and all of these other gadgets which I know nothing about are not connecting us. They're connecting some intellectual part of us but where's the heart in it? Where's the inflection? Where's the voice? Where's the pat in the shoulder or the smile? They're all missing.

We are truly alone in the world, every one of us, from the moment we're born, in fact, in the womb until the moment we die. A mother giving birth cannot share the experience

with the child. The child cannot share the experience with the mother. They have two different experiences. Two people in a deep love affair cannot share the experience. They feel differently. I cannot tell my wife how beautiful the sunset is except with words. And what are words? Words are names of things. They're metaphors for feelings that we cannot express, we can't show, we can't have the other person touch.

That's the way we share our experiences, through metaphors that talk around things but can never touch them directly. That's why it is so important that we are very careful with what we say and we mean what we say and we say what we mean and understand. You may not understand me. I've been married 28 years and we still have misunderstandings because what I said is not what she heard. And what she heard isn't what I said and vice versa. And we have to accept that, not argue about who's right. "You said this. By God, I heard you say it." "No, you heard it. I didn't say it. I accept what you heard. You need to accept what I said." And they can be vastly different things based on our different experiences. Even identical twins have that issue.

So, we can talk around something but we can never touch it. We are alone and being alone is not what our being in life is about. It's about sharing. So, we need to focus more in cooperation but cooperation without coordination is often an empty cup.

Competition is killing the planet as we know it. And it's often contrived competition based on contrived scarcity, which is an economic construct to keep the price up. But it's becoming a real construct because what we compete for is not out there someplace. It's money. It turns out that from the economic point of view, a tree does not have intrinsic value nor does gold nor does a fish. They have conversion potential. That means they have no value until they're converted into a product that can be sold. Therein lies one of the problems, that Nature has intrinsic value, not extrinsic or economic value. When we put a value on that, we are missing its function, its purpose, its point. And the tradeoff is we're slowly killing our planet and making everything more and more finite.

The third principle that is social is the art of living lies in how we practice relationships. The better we are in practicing relationships, the easier time we have in life and the gentler we are in the landscape. After all, it's a reciprocal relationship. In Silver City, Nevada, in the 1800s they overgrazed while they were digging for silver. And in the early 1900s, they had some severe storms. And before the week was out, they had a 50-foot deep gully down Main Street. It's still there called the Big Gully. That's because they overgrazed. There was nothing left to hold the soil and the water washed out the town. The reciprocal relationship was the rain was coming, they destroyed the vegetation that broke up the raindrops, allowed it to infiltrate. They got the gully. They were treated the way they treated Nature.

Now, I met some beautiful people today. And if I want to visit with one of them, it's incumbent in me to determine how I must behave towards them to allow them to reciprocate. It's the same thing with land. If we want something from the environment, we have to ask ourselves how much we treat it to allow it to continue to produce the goods and services we require. Now, what do we want? Want, need and demand are all parts of want. We need to deal with necessities, requirements first, because that's

something we cannot do without. And then we ask how much more can we extract without destroying the system.

There is more beauty in peace than ugliness and cruelty in the world and in society. It's a matter of what we focus on. And it is basically inner esthetics, what we find to be beautiful. But the media makes money hyping fear and terror. How many people do you know that are terrorists? How many people do you know that are so severely dysfunctional that they would walk up and poke a knife in you versus how many people do you know that are basically good and decent, hardworking, caring, frightened, and all the same things that you are?

We are being taught fear. A few years ago I was in an airport and two little kids came running up to each other, about 2 years old. They grabbed each other, they hugged, they kissed, they slobbered all over. It was beautiful until the mothers came. One mother grabbed this one, another grabbed that one and yanked them apart, bawling, frightened, to the opposite sense of the airport. Why? One was black and one was white.

In that instance, fear and racism was taught and it didn't need to be. Those kids were teaching the world a lesson of love and compassion and not tolerance, acceptance. Tolerance is just to cover up for lack of acceptance. I'll tolerate you but I don't accept you. Those children were our teachers. Children are always our teachers. Their innocence, their intuitive wisdom are our teachers. And we are not listening, we need to.

People must be equally informed on all issues. Otherwise, it's us versus them, secrets like the last administration. This country was the most secretive in my lifetime. And where there's a secret, there is some skullduggery somewhere. If we don't live openly by the principles we profess, we're lying to the world and to ourselves and we make ourselves lesser. No one does it to us.

We have to consciously limit our wants. As I said this afternoon in the panel, when I was working in Egypt years ago, I took some water from my canteen rather idly and dumped it in a Roman well out in the desert. And I watched the water sinking to the sand. And I thought about it and I realized at the time that a well can never be filled from the top. It has got to be filled from the bottom, from inside. That's consumerism. We are spiritually bankrupt. We are trying to fill up our emptiness with things. It is not possible. You want one thing but as soon as you get it home, do you really want the thing? How long does it last? How long does it hold your attention?

There are linear garbage dumps all over this country called storage units. They would have so much junk in them that I have seen at times. The people can't have it in their house but they can't throw it away because they spent money on it. If they throw it away, they won't get their money's worth. But they're not getting their money's worth while it's sitting in the shed for 50 years unused, either. And somebody else could use it. Somebody needs it. So, if we consciously limit our wants, there's more for everyone else and maybe, just maybe, there'll be enough to go around.

What we create with our thoughts and actions are never-ending stories. If there's a quiet pool of water here and I drop a pebble in it, the rings go out. When it touches a blade of grass, it moves the grass. It disturbs the spider on the grass. That's a never-ending story. The spider responds and something else happens. If I drop two pebbles from different heights or a hundred pebbles at once, all those intersecting rings are the cause. A cause has an effect that becomes a cause and another effect, a cause and another effect. That's the never-ending story. Now, we don't see where they dissipate but we can see them go out and get broader and touch more things.

So, we have to be conscious of that. If a child runs into you, you can either scold it and teach it fear or pick it up and dust it off and say "That's OK" and teach it acceptance. Teach it trust and love. A young man rushing somewhere runs into an old man and knocks him over. The old man looks at the young man for a moment and says, "Son, as you now are I once was. As I now am, you will one day be." That's the never-ending story and that's the tradeoff. How do we treat one another? What are we teaching by the way we treat one another?

Because children do not do as I say, they do as I do. Children learn by example. What kind of examples are we setting? What do we want to set? Simplicity is the key to contentment, adaptability, and survival. Any idiot can make something complicated. It takes a real genius to keep it simple. There are also fewer parts to go wrong so it's a lot less expensive in the long run. We need to learn to marvel at the abundance and resilience of the Earth and learn to understand how to protect that so that we can pass it forward to the next generation. We can do that. That's no secret. We know enough to do that. It's a matter of doing it.

The hunter-gatherers, the only property they could own outright was what they could carry with them. Their bows and arrows, their gathering basket, their hunting knife. Later on, it was the wigwam or teepee. Whatever they could carry, they could own. Everything else was shared. By Cherokee law, three clans could hunt on a property or one could hunt, one could camp, one could fish, but they did no damage. They didn't own the property. And so, when the British came over and made treaties with the indigenous Americans, they were buying the land. The indigenous Americans thought they were paying for use of the land, hence, the wars.

It was a totally different culture and it was superimposed on this continent by the British, by the invaders, and they were invaders at that time. Now, I do not refer to them as Native Americans because I was born here. That makes me a native, too. And they are not, strictly speaking, native because there were at least three waves of immigrants onto the North and South American continents. They were unpeopled originally. So, they too came in but they were here first and longer. So, I think of them indigenous but I think of myself as native. This is my country, too, my land, too, and I owe it the allegiance of consciousness.

Nature, spirituality, and human welfare are all paramount to social environmental sustainability. If we take care of one another, if we argue for one another's dignity, then everybody can pull it together. Otherwise, it's us against them and that's competitive.

Everyone must have the right to vote. The hunter-gatherers had the right to vote. They voted with their feet. If they didn't like somebody, they got up and moved. We can't do that but everybody has a right to a vote. They must have a right to a vote because everyone is right from their point of view, their background, their upbringing, their perception. Our perception is our truth. How we perceive the world is our truth. It can't be otherwise. So, what we deal with one another is right and different. Now how do we negotiate the differences?

But when I do environmental conflict resolution, I've discovered that we disagree on about 20% of the things, which means we agree on 80% but we're fixated on that 20%. That's what we go to court over. The 20% is negotiable if we accept that we agree on the 80% but we don't do that because it's what I want. If I don't get mine now, somebody else will get it. That's the competition we've been taught. That's the fear we've been taught. The fear of loss.

The stock market is based on fear. Greed is fear of not having enough. Loss is fear of losing what you have. So, when the market is up, everybody is greedy. They're afraid of losing an opportunity. When the market is down, they're afraid of losing their money. Why do we overexploit? If I discover something, the moment I see a value in it, my ego sees that somebody else might get it. So, I've got to get as much as I can for me because after all I found it, it's my right, and we've overexploited through all of time. And we don't want to lose what we have so we want subsidies, which means everybody pays for somebody else's greed, somebody else's fear of not having enough for loss.

So, everyone needs the right to vote and we must choose. Folks, there is no such thing as no choice in terms of not wanting to do something. Now, the things we don't have a choice in, we're going to die but we may choose how. We have to eat and we can choose but we can't choose about choosing. Not choosing is still making a choice. In that, we have no choice. So, the thing is, are we going to make wise ones or unwise ones? That's the question.

And if we make a mistake, we can always choose to choose again. There's no such thing as being locked into anything except in our mind. And we change the world simply because we exist and we use energy. We're transforming the world and in that we have no choice but we have a choice in how we do it. And finally, the last one is we must kill to live. We have no choice in that.

So, in the Christian tradition, I wonder about the Old Testament that says, "Thou shalt not kill." Thou shalt not kill what? I'm assuming it means each other because they certainly slaughtered animals. And even the vegan kills to eat or causes to be killed. When you cut the head off the root of a lettuce, you're killing a living thing. There's no difference slitting the throat of a sheep or a goat. The only difference is the sheep or goat is closer to us. It is more demonstrable. But it's still killing. We have no choice. If you don't want to kill, sit down and don't eat, you kill yourself in starvation.

These are some of the things that we have to deal with. We have no choice if we're going to be sustainable. But you know, folks, the challenge we face is the teachers who taught

the principles. People began to worship the teachers and didn't live the teaching. We have to turn that around. If we are going to survive with any kind of quality and dignity, we have to learn to understand these principles and live by them. Then, we're playing by the rules Nature set up. And Nature does not cheat and will not let us cheat, though we try over and over and over. And remember, we care. Nature doesn't need us but we need Nature. We are an inseparable part of the system. And God, it's a beautiful system. If we each choose to leave the world a little better for having been here, we'll make the right choices.

Thank you.

[Applause]

Audience 1: I heard you speak earlier and I heard some other people who were speaking earlier use the word "resilience".

Chris Maser: Yes. Good.

Audience 1: Right. I love that word. It's a good word, something that we're striving for. And then you also have said that restoration is not what we're striving but rather repair. And so, I'm trying to figure out resilience. I've always thought of resilience as sort of returning to an original state, but you used this wonderful spiral image...

Chris Maser: Right.

Audience 1: Cycling around. But now the key point in everything I think you said is about relationships, that we find that resilience in rediscovering our relationships. So, how do we redevelop our skills at relationship?

Chris Maser: Relationship is being present in the moment and being aware of what you do rather than just doing it habitually. And this little yapping pup in your mind that comes on all the time, you have to turn it off. You have to be aware of what you're doing. And resilience is important because there is no such thing as redundancy. There are backups. The backup makes the system resilient because if something happens here, something else can take over there. The military is more backup than any other agency in the world out of fear.

We need backups out of resilience in the system. My hometown had manual water. It didn't get "redundancized" by the computer. They blew it. Economically, they look at efficiency, not effectiveness. So, they saw the manual override is redundant and efficient costing money but it didn't get taken out at the time. So, instead of having a computer, we will still have water. My hometown would have been resilient. Eugene wouldn't have because they had everything computerized. If electricity went out or the computer went kaput, they're out of water. They're not resilient. They couldn't combat but we could.

And efficiency is economics. Effectiveness is nature. Nature is not efficient but highly effective. Pine trees produce millions of pollen grains to pollinate a few cones. But they've been around for millions of years. The pollen is very high in protein. It's eaten up.

It's not additional waste in nature. It's all recycled. That is effective but it also makes nature resilient.

Thank you, folks. One more?

Audience 2: When I hear you speak of consciousness, there does seem to be a shift in consciousness going on throughout the world. How can we, who are really trying to focus and be present at the moment and be aware and not be driven by ego, help foster that sense of awareness and appreciation? And what can we as a species and as individuals do? Obviously, we're all very concerned to be here. How can we help promote that shift?

Chris Maser: Truth cannot be defined. Truth can only be lived. If you live your truth and you live it consciously, you are teaching by your action. That allows everybody else to learn with their dignity intact because you're setting an example and showing what is possible without denigrating anyone. We make an error when we try to convince someone that we're right because we first have to convince them they're wrong and we've already stolen their dignity.

So, it's our actions through which we teach consciousness. When I was working as a scientist for the government, I would get so frustrated because in those days I was much younger and I didn't see anything, any change. And one day my little voice told me, "You're a farmer. Your task is to plant seeds, not to worry about the outcome," because the outcome has been an unconditional gift that the person can use as it suits them. If I have an expectation, I'm giving them a condition and if they don't live up to it, then I get upset. My task is to plant the seeds of ideas firmly and gently and then leave the field to germinate as it will. If someone asks me a question, I can weed the field. But I'll go nowhere with the expectation of doing anything except the very best I can to plant good seeds.

Thank you.

[Applause]