Chapter 16

THE RESTORATION OF THE LIFE OF THE EARTH

*F*ew of us initially have the luxury of simply pulling out of the culture of empire, immediately denying it our energy. There is no blame. Establishing a culture that is in balance with the earth requires the cooperation of a group of people. One cannot simply go to the mountains and be a forager/hunter, the animals are mostly gone and the wild food plants are rare. We can work for social justice, we can work toward ecological sanity but we are still living in a culture and in a pattern that is destroying the life of the earth. To be actively mobilizing toward setting up what might be called "seed" communities is the really significant action. If people don't actually get out of the money economy to a significant degree, if they don't create a new land based culture that aids the earth, all the other political and environmental efforts will ultimately be meaningless. To be actively mobilizing toward setting up seed communities is what is most significant. Movement is now happening, the seed is being empowered. That we are moving toward food growing capability, land, community, emotional positivity, healing, integration of every level possible - and toward the top of the watersheds, that is the significant action- by whatever means we have at our disposal. Of course people must resist the destruction and move ahead on all the fronts that they are normally active in, but this becomes meaningless unless cultures of balance are also established. In the last decade of the Twentieth Century there are tremendous resources available. There is much food-growing expertise available and healing techniques- both personal and social, there are libraries full of information about specific ecosystems and there are libraries of knowledge about all of the diverse ways that societies have been formed in the past. We have all of the resources that we need.

In the past several decades a great intuitive movement toward healing and integration has taken place. This has taken place with the rise of holistic health and the resurgence of interest in spiritual knowledge. This has taken place on the mental and emotional levels with all of the support groups and holistic healing modalities that have manifest. This has also taken place with the knowledge of the physical ecology and life of the planet. Not only is conservation of primary concern, but the restoration of watersheds is beginning. No funding of "projects" has done this, no elite has organized it. It has arisen intuitively from the people in response to real needs. It is the beginnings of the decentralist answer to the contradiction of civilization. In comparison with the phantasy world of the "Golden Age" of the Nineteen Fifties it is a planetary awakening.

In the field that might be called feeding oneself and the restoration of the planetary life, a similar explosion of genius has taken place. There are now many tools and resources. The important factor is to create a practical plan that answers the question, "How do we live in balance with Nature?" This is a familiar intellectual refrain and a popular concept but the practical shape of it must be drawn and then it must be done. That first step must be taken- create the method and build the image.

The Simplicity

In order to retain our sense of reality it is necessary for us to look briefly again at where we are in our understanding of food producing, so that we can appreciate the tremendously valuable advice of the elders, even if we and the anthropologists can only glimpse the larger outlines of it. Civilized agriculture is war with the spirit of life and war with the cosmos. Agriculture is an effort to force the simplicity and unbalance of the "ten world food plants" on the cosmos. When the climax ecosystem is cleared for agriculture, the earth seeks by all means at its disposal to heal the wound. It sends in the first aid crew to revegetate the area and cover the poor oxidizing and eroding, bare soil.

If life finds some unnatural abundance of exotic plants there, like soybeans or designer flowers, it calls in all of the species of fungus, micro-organisms and insects that can eat up that sickly or unnatural life and reconvert it back into the life stream. What this means is, that it takes energy to fight life which is making an effort to rebalance itself. To do this requires fertilizers, poisons, petroleum, steel mills, agricultural universities, polluted waters, dead seas and on and on. When technicians look at a swidden plot in a rainforest and compare its productivity to a farm field and talk of how the "natives" might increase the productivity of the swidden plot to "help" them achieve some surpluses to sell so that they can exist on the margins of the money economy, what we are really looking at is trying to help them get some money so that they too can help poison and kill.

Native cultures are organic formations on the earth, they are not intellectual/ideological groups. We cannot expect that they understand the moral history of the steel axe and we cannot fault them for their "absurd truthfulness" and inability to refuse the invaders statement that there is a better way than the one they have always used. The historical corruption of natural culture has not been a contest of force between two groups but simply injury to organic cultural form, the same as a climax ecosystem is deformed by the bulldozer.

A system whose purpose is to extort surpluses from the soil requires a fight against nature, usually in the form of mono-cropping, and that all important pattern of empire- simplification and control. Our interest is in an entirely different perspective, an inverse perspective. Complexity, not immediate explosions of production is desired. Stability, fertility and diversity should constantly increase. When people are released from the extortion/profit motive in agriculture then the latitude for creative abilities is released and the scope of possibilities increases tremendously.

Some hints from the elders about an inverse method of producing food will be gained. Producing food by adaptation to the balance of life is the inverse of modern agriculture. While looking at the techniques of the elders, it will be kept in mind that creating culture for ourselves that envelopes the practices that we create for our watersheds is a simultaneous necessity.

The Adaptation of the Most Ancient Ancestors: Rainforest Permaculture

In the age of the great ice sheets, much of the earth became more arid. In those times the rainforest was forced to retreat to refuge zones. One of these zones, for example, is the area of the relatively small Awa tribe, straddling the border of Colombia and Ecuador, near the coast of South America. This area, like the other "refuge zones" in other rainforests, is extremely rich in localized species, ones that came through the ice ages intact. Our human family survived through those ages with them. It is easily possible that direct ancestors of the Awa came through those times. These people and the other rainforest people are the ancient ones. It is they who have the sophistication of adaptation that reaches back toward our origins. The adaptation of rainforest peoples is as diverse as is the rainforest ecosystem itself but some patterns emerge in the adaptations of many of the tribes that will be helpful hints to us. We can consider it advice from the elders. The first and most striking thing about the rainforest peoples is their encyclopedic knowledge. D.A. Posey, a valiant anthropologist-advocate who has recently been arrested by the Brazilian government for effectively assisting the Kayapó tribe of the Amazon, says that the Kayapó gather, "Some 250 species of plants for their fruits and hundreds of others for their nuts, tubers and leaves." He and a co-worker A.B. Anderson state, in their 1983 survey, that of 140 plants in the Kayapó area, "only two were not considered useful by the Kayapó. Equally astonishing is that the Kayapó claimed to have planted approximately 85% of the plants collected in ten sample forest 'islands'."[1]

The rainforest people gather their needs from the environment. They create tools, clothing, ceremonial wear, building materials, and medicines as well as food. They collect waxes, oils, ointments, ornaments, perfumes, pigments, dyes, gums and resins, as other anthropologists have pointed out.[2] Insects and no doubt the roe of fish are also important food sources. Animals and fish of course are primary sources of protein for some rainforest peoples and for many other tribes horticulture is a mainstay of their stability.

Many Amazonian people rely on fishing for their basic diet. But the natural people don't always just fish, they have an intricate cultural relationship with the fish tribe, physically and spiritually. The pattern of these relationships is adaptation and mutual aid. Anthropologist J. Chernela writes of the Uanano tribe of the Amazon who gather fruit eating fish which subsist from fruit that falls from trees at the banks of the rivers.

This creative adaptation of fish and forest means that the forest, especially along the banks must be protected for the fish. As Chernela describes it, the Uanano understand the fish who congregate in spawning are conducting a "fruit-exchange" ceremonial dance. During this period the fish are protected by the people and are only caught when returning from the dance.

It is this sophistication of cultural understanding that gives these people their power of continuance (and it is mirrored in other rainforest-fishing cultures). Not the fact that the living habits of the fish are understood intellectually, but that this understanding is integrated in human culture, is what creates the sophistication.

The Complexity

Catherine Caufield, in her work, In The Rainforest, tells of the Lawa living in the rainforest of northern Thailand bordering Burma. (Now, unfortunately, according to articles in Cultural Survival, many of these stable rainforest tribes of the area are being assaulted by the Thailand central government for the familiar "national security" and anti-guerilla reasons.)[3] As Caufield describes them, the Lawa are shifting cultivators who live in settled villages and have been in the same place for many centuries. She states,

"They grow more than eighty food crops, plus another fifty for medicine and ceremonial and household uses. In addition, they collect and use more than two hundred wild plants that grow in their fallow fields. Their system supports about 80 people per square mile, taking fallow land into account. One square mile of cultivated land supports 625 people, a ratio that compares well with, for example, Britain, which has one square mile of agricultural land in use for every 750 people. Britain, of course imports 60 percent of the fresh fruit, 20 percent of the grain, and 23 percent of the meat its people consume, whereas the Lawa are self-sufficient in food."[4]

Caufield goes on to explain that they take great care of their land in terms of fire, soil erosion and soil disturbance. She says that anthropologist Peter Kunstadter has learned that young Lawa children can recognize 84 cultivated varieties of plants and another 16 useful uncultivated plants, "Even at the stage where the plants are less than a centimeter in size."[5]

The Lawa, powerful as their cultural adaptation is, are not the most complex culturally, according to researchers in Southeast Asia and the South Sea Islands. It is the more "primitive" tribes higher in the hills who know more plants, grow even more varieties, hunt in the natural forest and gather there. It is the complexity of the adaptation and the encyclopedia knowledge, then, which distinguishes the more powerful people.

The Cultural Survival volume, Indigenous Peoples And Tropical Forests, summarizes the, so far, limited observations that have been made of true rainforest food growing, called swidden. (This is distinguished from the destructive and ignorant temporary agriculture practiced by "frontier" settlers at the edge of rainforests. This practice, which is destroying rainforests is usually referred to as slash and burn.) First, the matter of soils is known precisely by most indigenous people. Soil quality is judged by the type of vegetation growing on it. It is judged by its color, taste, smell and by

examining its subsoil moisture during various seasons. This means not that any one spot will be chosen for a plot but that each area is appropriate for plots according to the plants that will subsist best in that environment.

The food growing regime will not necessarily involve one or several plots, but may encompass many smaller ones according to the needs. During clearing of the plots, some of the plant species may be saved. Some of the tree species may be saved also for shade, wind breaks, to attract wild animals or for later use. In the planting one does not simply sow seeds but may use seeds, seedlings, cuttings, tubers and roots. In arranging the plantings, shade, light, soil, soil moisture, companion plants, nearby trees and other considerations will indicate the creation of micro-climates within the plot. All of these combinations will be transformed according to the different ecological zones that each plot has been located in. As the plot is "feathered" into the mature forest the matter of local animals is keenly considered in terms of attracting them to the area by having plants in the locale that the animals like and utilize.

The anthropologists have discovered that many plots remain in some kind of use for many years. With use, the soil and the growth of different plants in the plot changes. As the years go on, different plants are emphasized, often tending more and more toward bush and tree crops. There is mention in the literature of use of plots for 20, 30 and more years. One very important observation made by a few of the anthropologists is that this transformation from cleared plot to mature forest follows to a great extent the phases of ecological succession of the natural forest- except the tribespeople substitute useful relatives or plants of similar life habits for the plant that would ordinarily be in place during ecological succession.

As the planetary ecological crisis has deepened, anthropologist have focused their attention more clearly on the ecology of natural culture and are beginning to suggest that some "wild" rainforest environments are looking more like managed environments. Animals are attracted here and there according to the plants that are planted; the shamans of the Tukano for example, monitor the species populations and help expand or inhibit hunting. The Uanano and others work together with the fish populations. Posey adds that the Kayapó collect forest plants and replant them near camp and near main trails. This tactic he calls 'forest fields.' He says, "They use at least 54 species of plants from these forest fields, including several types of wild manioc, three varieties of wild yams, a type of bush bean and three or more wild varieties of cupa."[6]

Posey says that even now in their debilitated condition a Kayapó village may have 500 kilometers of trails that are planted and managed so that travel may go on for months at a time without resort to garden produce. Posey points to one ecological zone in which forest "islands" occur in a savanna region. When he observed the forest islands closely he perceived that they had been 75 per cent created by the Kayapó through laborious methods of upgrading of the soil environment.[7] When we consider that each of these hundreds of plant species used by the rainforest people, have individual growth habits and needs and that they have individual uses within the tribe and that they may well have individual meanings spiritually in the cultural cosmology, we are approaching some ability to conceive of the complexity with which these people live. In addition to this general over-view of swidden we should keep in mind that some rainforest ecosystems may have highly specialized

adaptations such as swamp draining, types of raised beds with water channelling between them and other unique combinations of plots on highly varied ecosystems ranging from rainforest to drier savanna or higher elevations which are within a tribes' habitat.

Beyond the European Row-Crop Garden: A Look at Some Recent Methods

The practice of clearing the forest, plowing, planting, exhausting the soil and moving on has enjoyed a long history in the empire. Gardening has been often a kind of mini-scale picture of the broadscale farming system. In recent generations developments have occurred that offer differing perspectives on this standard. Civilized gardeners have always followed the cultural standard of -more!- and since the Nineteenth Century popularization of soil fertilizing in Europe, there has been the production oriented effort to grow plants faster and bigger. One might call it the "biggest pumpkin at the county fair," syndrome. Finally attention began to shift (still today only with a small but vital minority of gardeners) to food value, hardiness and other values. A milestone was set when Sir Albert Howard published his book Soil and Health. Howard was a colonial administrator in India in the first part of the Twentieth Century. He began to experiment with soil enrichment and composted soils. During his work with the soil, he drew the conclusion that healthy soils produce healthy plants.

Healthy plants in turn produce healthy people and livestock. One of his experiments was to drive a herd of his brahman cattle to the next village, among a herd of diseased cattle to show that because of his healthy soil, they would be unharmed- and they were not. Another important point that he made was that the life system will attempt to eliminate the dross and the unhealthy. He insisted that if the plant is healthy it will not be focused on by the diseases and insects, as will sickly or exotic plants that are grown completely outside their space and time, because of their economic value. The backbone of Howard's system of nutrition was the science of composting. The creation of concentrated fertility in compost was the basis of his work. The observation that healthy soil creates healthy plants seems common sense today (except to the industrial agriculturalist) but was startling in its time.

J.I. Rodale, as a young man became inspired by Howard's work and started the famous magazines Organic Gardening and also Prevention. This point of view found a ready market and Rodale and his family were able to create a remarkable institution featuring a number of associated magazines, a large research farm in Emmaus, Pennsylvania and a broad readership. While Organic Gardening stuck with the row-cropping and annual plants to a large extent, the focus was turned effectively to soil and health. It is because of the Rodale family and their focusing the attention of a vigorous minority of gardeners, that we are able today to save some seed strains and also introduce and test cultivars such as quinuoa, teff and grain amaranth. As large numbers of us begin turning to personal food growing, a file of old copies of Organic Gardening will be invaluable.

Food From Trees

Civilized people and Europeans in particular live in self created boxes, often with several trees outside and a square plot called a garden which focuses on vegetables.

This comes from the civilized contraction of urban life and from the feudal farm ecology inherited from Europe in particular. Trees, tree crops and forest farming are largely left out of this picture. While the soil of row crops must be fed, trees and forests of trees build soil, pump water, provide habitat for other species and do many other services for the earth life. What we have seen is that herding and industrial agriculture are often the lowest uses of the land. Using trees as a source of sustenance and to help reforest the earth makes good sense.

The authors of Forest Farming offer some comparisons between food raising and agricultural commerce. The herder can get an average of 200 pounds of meat from an acre of rich land. This operation is generally a for-profit business. Although there may be no market for it in the money economy, in reality that same area of land could produce one and one-half tons of cereal grain, seven tons of apples, or 15-20 tons of flour from the pods of honey locust trees. (And the honey locust flour is superior in nutritional value to any cereal grain.)[8]

Some average yields of tree crops help illuminate these tremendous differences. Douglas and Hart, in Forest Farming give the yields for a few of the hundreds of tree species that yield oils, gums, nuts, fruits and many other useful items: African locust beans 10-15 tons per acre; carob, 18-20; mulberries, 8-10; persimmons, 5-7; chestnuts, 7-11; oaks 10-12; pecans, 9-11; and dates, 4-7.[9]

These authors have done a world survey of trees that can produce food for people or animals. One of the valuable effects of their studies is to show us the amazing variety of trees that are useful for survival, though they may not be useful in a "profit making" farm. Trees, aside from the reforestation imperative, offer great prospect to green culture.

The two basic texts of tree gardening are Tree Crops - A Permanent Agriculture, Russell J. Smith (Harcourt Brace & Co., 1929) and Forest Farming: Towards A Solution To Problems of World Hunger and Conservation, J. Sholto Douglas and Robert A. de J. Hart (Rodale Press, Emmaus, Pa. 1978).

Spirulina: The Sunlight and Water Food

Micro-organisms are the essential life of the earth. The numbers of them, the complexity of the roles that they play and their survival abilities make the larger forms of life that humans are accustomed to, insignificant in biological terms. Students estimate that ninety percent of the species of life on this planet cannot be seen with the human eye.

One of the recent and revolutionary developments in human food is from micro-organisms. Spirulina is a blue-green microalgae that is between 62-68% protein. Chlorella is a similar microalgae which has a protein content of 40-50%. Spirulina can be grown easily with sunlight, water and small amounts of fertilizer such as chicken manure or de-natured human excrement. Being essentially a carbon compound it can be used for food or fuel.

Yogi and philosopher, Christopher Hills has been primarily responsible for bringing this food to the hungry world population at the present time. In 1965, Hills and Dr.

Hiroshi Nakamura of Japan organized the Microalgae International Union composed of nearly 150 scientists (primarily microbiologists) to do research and offer information to the world about the use of algae for human food. By the Nineteen Seventies the Microalgae Union had worked out all of the systems necessary to mass produce this potent and easily grown food. Even though the Microalgae Union had found an inexpensive and potent food that could be one of the answers to the world food problem, to their chagrin they failed in their effort to get it adopted in any serious way by the world's governments. The simple reason for the failure was that the people that profit from the existing world food production system have their power and wealth from that system and the prospect of a new food or food supplement that is potent and inexpensive is not to their liking. Nonetheless all of the bugs have already been worked out of the systems of production and it is ready to be used as a help with the problem of world starvation and it can be one more technique in our inventory of food growing.

Comparison of protein content of Spirulina and Chlorella with common foods (% in dry weight)

Spirulina	62-68
Chlorella	40-50
Soy Bean	39
Beef	16-20
Egg	18
Fish	16-18
Wheat	6-10
Rice	7
Potato	2

Amount of organic substances of Spirulina in dry weight (%)

	Spirulina	**Chlorella**	**Soy Bean**
Protein	62-68	40-50	39
Carbohydrate	18-20	10-25	36
Lipide	2-3	10-30	19
Vitamins	pro. A, B1, B2, B6, B12, C	pro. A, B1, B, nicotinic acid	B1. B2. B6

Spirulina is grown by sunlight in water that does not freeze, provided it is kept separate from other water so that other micro-organisms do not begin to grow in it. It is harvested by filtration through ordinary cloth. The reproduction rate of Spirulina is 40X per 24 hour period, therefore one ton becomes 40 tons in one day under the most optimal conditions.

Spirulina was an important staple food of the ancient Mayans and the people of Chad in Africa now gather this food from bodies of water and make it into cakes. In any survival situation this food certainly should be considered.[10]

The Ecological Health Garden

Edmond Bordeaux Székely has developed a system to produce high quality food in a small space. Székely, a farsighted, renaissance person who spoke ten modern languages and was a philologist in Sanskrit, Aramaic, Greek and Latin, also translated important Mayan Codexes. Székely authored 68 books and translated many. It was his translating of ancient Essene documents from the Aramaic that sparked his interest in health, diet and in the Essene way of life, including their agricultural practices.

Székely sets out his method in the book The Ecological Health Garden. His method involves four units; a compost unit, an earthworm farm unit, a germination unit and a plant unit, thus the system is partly to build soil and partly to grow plants on the healthy soil. The compost unit of course is created by any organic debris that can be collected and the earthworm farm also is fed by organic debris, producing probably the highest intensity soil fertility possible and also producing earthworms in abundance for planting in the compost and in the plant boxes. The germination unit is kept in the dark and a moist medium is used for making the seeds sprout. Ten percent of the sprouted seeds are used for planting in the plant boxes and the balance is eaten. By staggering the germination times a continuous supply of sprouts can be had. The plants, which are grown in boxes, are grown in intensely fertile soil and therefore are of the highest nutritional value. In addition to the compost heap, Székely says the earthworm unit will occupy about two square yards. The germination unit will measure one square yard and for each person about 16 square yards of planting boxes will be necessary.

The principles involved in deciding what to grow in the system are:

1. maximum nutritional value;
2. plants suitable for intensive ecological gardening;
3. personal likes and dislikes;
4. preference given to plants that can be eaten in a fresh state; and plants that cannot easily be obtained elsewhere, such as in the wild state.

One of the points that is highlighted by Széckley's system is how easily we may feed ourselves in an emergency situation. This simple system that he outlines can support life. It can be even more simple if we gather the seed of selected wild plants for sprouting.

The 'Do Nothing' Farmer

Masanobu Fukuoka is a person who has caused a stir by the publication of his book, The One Straw Revolution, in which he advocates and demonstrates what he calls "do nothing farming." Fukuoka began a career with the Japanese government in an agricultural related job but soon quit in frustration to return to the farm that he had inherited from his family. For 40 some years Fukuoka has been developing a system of no plow agriculture. The results of his method of growing rice equals the harvest from the traditional intensive methods of old Japan and equals the modern industrial system of rice production. He advocates no plowing, no chemical or compost fertilizer, no weeding or herbicides and no dependence on chemicals.

"In early October, before the harvest, white clover and the seeds of fast-growing varieties of winter grain are broadcast among the ripening stalks of rice. The clover and barley or rye sprout and grow an inch or two by the time the rice is ready to be harvested. During the rice harvest, the sprouted seeds are trampled by the feet of the harvesters, but recover in no time at all. When the threshing is completed, the rice straw is spread over the field.

"Between mid-November and mid-December is a good time to broadcast the pellets containing the rice seed among the young barley or rye plants, but they can also be broadcast in spring. A thin layer of chicken manure is spread over the field to help decompose the straw, and the year's planting is complete. "In May the winter grain is harvested. After threshing, all of the straw is scattered over the field.

"Water is then allowed to stand in the field for a week or ten days. This causes the weeds and clover to weaken and allows the rice to sprout up through the straw. Rain water alone is sufficient for the plants during June and July; in August fresh water is run through the field about once a week without being allowed to stand. The autumn harvest is now at hand.

"Such is the yearly cycle of rice/winter grain cultivation by the natural method. The seeding and harvesting so closely follow the natural pattern that it could be considered a natural process rather than an agricultural technique."[11]

Every year that Fukuoka has used this method his soil has grown richer because the natural cycle of feeding the soil continues. This is different than even traditional Japanese agriculture that burned the straw in former times (industrial methods are now uniformly used in Japan).

One interesting and simple trick that Fukuoka has developed is to coat the seeds of the rice and vegetables that he sows with clay, simply by mixing the seed and the clay and sifting it through a wire mesh. This prevents the chickens and birds from eating the seed when it is broadcast on the surface.

Fukuoka reclaimed some of the nearby hillsides that had been abandoned after the soil had been exhausted by farming. He hauled in ferns, straw and other organic material from higher up the mountain and hauled in rotting logs to help build up the soil. He also planted a fast growing acacia variety from Australia. These trees, being legumes, help the soil at the lower levels where the tree roots penetrate. As the mountainside

had previously been clear cut, pine sprouts grew from some of the stumps. Many of these he let grow. He planted a number of varieties of fruit trees in this area and also broadcast clover seed. He says that six to ten acacias per quarter acre were enough to fertilize the deep soil and help the fruit trees which he says only once needed to have the brush and trees immediately around them cut back. On the surface soil he planted clover and the Japanese radish called daikon, a strong growing plant that will reseed itself. Fukuoka also cut back the weeds periodically with a scythe to help provide more green manure. Now, Fukuoka reports, "As a result of this thick weed/clover cover, over the past twenty years, the surface layer of the orchard soil, which had been hard red clay, has become loose, dark colored, and rich with earthworms and organic matter."[12]

Fukuoka also broadcasts many vegetable seeds as he does rice. These he places on the hillsides and between the trees in the orchard. These vegetables reseed themselves year after year and change their quality for the better, Fukuoka feels, back toward their original wild ancestors.

One of the values of Fukuoka's work is to show that by following the principles of nature one can at least equal modern industrial methods. He also demonstrates that feeding the soil is the key to healthy plants and healthy people who consume them.

He says that, "Doctors and medicine become necessary when people create a sickly environment."

In Fukuoka's natural, "do nothing" farming style, time is allowed for human pursuits. He suggests writing poetry and Haiku such as did the traditional farmers of Japan. "In caring for a quarter acre field," reports Fukuoka, "One or two people can do all the work of growing rice and winter grain in a matter of a few days."[13]

He goes on to explain that if 22 bushels (1,3000 pounds) of rice and 22 bushels of winter grain are harvested from a quarter acre field, then the field will support five to ten people, along with an hour or so per day maintaining the balance of the farm. He points out that, "If the field were turned over to pasturage, or if the grain were fed to cattle, only one person could be supported per quarter acre."[14]

Fukuoka's food growing has much to recommend it simply in its Taoist-like philosophy. He says, for example:

"The farmer became too busy when people began to investigate the world and decided that it would be 'good' if we did this or did that. All my research has been in the direction of not doing this or that. These thirty years have taught me that farmers would have been better off doing almost nothing at all.

"The more people do, the more society develops, the more problems arise. The increasing desolation of nature, the exhaustion of resources, the uneasiness and disintegration of the human spirit, all have been brought about by humanity's trying to accomplish something. Originally there was no reason to progress, and nothing that had to be done. We have come to the point at which there is no other way than to bring about a 'movement' not to bring anything about."[15]

European Mystic Gardening

Another method created in this century is Bio-dynamic Gardening. The foundation of the Bio-dynamic method was set out in 1924 by the German mystic, Rudolph Steiner, though it draws upon the folk tradition of Europe going back to early Indo-European days. Bio-dynamic gardening is a wholistic perspective that takes into account the movements of the planets and the earth as well as the activities of the soil and plants. In an alchemical sense it asks for the discipline of observation such that the consciousness of the gardener and the surrounding life are expanded.

Bio-dynamics too, relies heavily upon composting, but, this is a composting method with cosmic significance. Wolf D. Storl, a practitioner of the method says:

"Bio-dynamics, though not disparaging of common sense, is concerned essentially with consciousness-expansion in regard to plants, animals and soil. The attempt is made to look into the deeper spirit of nature. Out of this deeper awareness, based on exquisite observation of nature, the approach calls for not letting things run their natural course, but for intensifying certain natural processes (creating optimal animal populations, making special compost preparations, planting selected companion plants at certain cosmic constellations), aiding nature where she is weak after so many centuries of abuse, short-cutting destructive processes, and using human intelligence, kindness and good will to foster positive developments (planting hedges for birds, planting bee pastures, etc.). Bio-dynamics is a human service to the earth and its creatures, not just a method for increasing production or for providing healthy food."

With its emphasis of right relationship to the earth, Bio-dynamics outlines a symbolic method of thought which is applied alchemically to life and its activities. Fundamental to this are the four elements of fire, air, water and earth. These "elements" symbolize tendencies of movement and condition, such as warm, dry, moist, expansive and contractive. These tendencies are seen as basic to the way the material world functions and are used as templates of thought and analysis.

Findhorn: Communication With the Spirit of Life

Findhorn, now well known in New Age circles, is located in a transformed trailer park on the north coast of Scotland. In this cold, damp, sandy, sterile and generally inhospitable area that is farther north than Moscow, a center of energies has manifest a remarkable synthesis of people and plants. The Center was begun by a retired Royal Airforce Captain named Peter Caddy and his wife Eileen, who communicates directly with esoteric spiritual levels. The couple who were living a "normal" life, with Peter working as a hotel manager, began to experience personal and marital crises. These developed into considerable anguish and stress in their lifestyle. Both of them were ultimately reduced to a point of desperation. Eileen developed clairaudience and began to be guided by a voice. Because of their experiences, they came to depend upon the guidance and perplexed as they were, they were guided to the nondescript and forbidding piece of sandy spit that is now known as Findhorn Garden. With only a tiny pension and after some crisis, these two moved out of a fairly luxurious middle-class life, into what was really a tiny trailer house slum, and in a decade, a spiritual center was functioning whose story had spread world-wide- without these two ever having to plan or worry about where the energy would come from to manifest the

vision. As they adjusted to the strange environment, a woman named Dorothy MacLean joined with them and she began to be guided by nature spirits toward garden building and this Peter carried out.

The various life forms that gave guidance were given the names of the traditional culture of the area such as devas, Pan, elves, sprites, nymphs and such. The word symbols put on the consciousness of these living beings are without a doubt inherited, with modification from Celtic culture which inherited it from the pre-Indo-European cultures that built Stonehenge. The arrangements of the names of these different spirits shows the pattern of lives within lives and consciousness within consciousness. There are water sprites and "elementals," who then are also part of plants. There are names for plant species and animal species and then finally there is Pan, the spirit of the whole of Nature. Pan encompasses these other "component" spirits. The inherited language shows that people recognized life functioning within life and spirits within spirits.

The humans of Findhorn put absolute faith in the advice they received from these spirits and unusual things began to occur among the living things in the garden, things like the now legendary forty pound cabbages. The fact that the whole garden rested on what would normally be relatively sterile sea shore sand with only a few inches of compost on the surface added to the amazement. As the communication developed, trees and bushes were added to the garden and a multitude of flower varieties. As human community began to manifest around these people, the gigantism of the vegetables began to lessen, but the vitality of the living garden arrangement did not. The energy then seemed to manifest in the human community that was being created and the life energies it was manifesting.

Manifesting was one of the central themes of the community. The sense was to integrate oneself with the cosmic life, accept the guidance given as to what one should do and then expect and have absolute faith that the means to achieve that guidance would manifest.

The unique neo-tribal sharing of energies at Findhorn transcended the shallow image of rules, structure and rigid community form. Paul Hawken, a visitor to Findhorn in the mid-Nineteen Seventies says:

"Although this community grows, it does not go out and work for anything it requires. Everything here is produced by the 'law of manifestation' which is the tenet that if you are following that voice within you which is the higher consciousness common to all men, then you are 'in the right place at the right time, doing the right thing' and all of your needs will be met. Your needs- not your desires. The faith that they feel is like a rock-it is immovable. Such absolute faith can have its problems when it occasionally meets the dualistic consciousness of the confused beings who stalk the earth, and I guess that is just about everybody including me. People, sometimes a little self-righteous in their ambivalent state, are sometimes shocked by the absolutes of Findhorn. This is not a community where itinerants can wander in and by invoking their presence claim 'rights'. There is no minority view here simply because there is no majority. There are not two sides to an argument because there are no arguments. What sounds wonderful to some may sound a bit frightening to others. At Findhorn, there are no regulations, there are no orders, there are no chains of command, but

there is a group constantly striving to maintain an improve their receptivity to God and each other in order to channel light and truth to Earth. So there is no rule or knowing how something will come to the community and likewise there is no planning for the 'future'-there is only the simple faith that in time all needs will be met."[16]

Another encouraging point about Findhorn is that it shows possibilities of people stepping out of civilization and being able to manifest a positive emotional environment in a group. Hawken reports:

"Unfolding at Findhorn is an environment highly conducive to the transformation of consciousness. I never heard anyone at Findhorn criticize anyone else while I was there. I repeat, during my two-week stay, I never heard a single negative word about another person. There is no set of dogmas, diets, meditative techniques, or physical exercises to aid or bring about such consciousness."[17]

In the experience of Findhorn everyone was living intensely in the 'here and now', an experience akin to being able to do what you've really wanted to do for a length of time. At Findhorn, according the Hawken, they had an explanation for this:

"It is felt here that because we concentrate so much on our 'image' of ourself, we must constantly hold ourselves in check and re-adjust either ourselves or external reality to conform to this image. Since this is essentially an energy turned in on itself, it does not renew itself easily. This leads to mental and physical fatigue, self-consciousness, lack of self-assurance, and a hindered vision of true reality.

Those who are able to release this heavy burden of 'image' and personality experience a great release of energy which was formerly used to hide and conform oneself. Findhorn provides for people, young and old, a matrix within which they can rapidly undergo this process of transformation. The energy which is released is merged with the energies which come from higher levels. The merging of these two energies creates a synergistic effect where the whole exceeds the sum of the parts. The remarkable thing about Findhorn is that so many here are living embodiments of that change, yet Findhorn lacks obvious techniques, dogmas, or religious doctrines to hasten along this process or bring it about."[18]

NOTES

1 *Indigenous Peoples And Tropical Forests:Models of Land Use and Management from Latin America.* Cultural Survival Report #27. Jason W. Clay. Cultural Survival Inc. pub. Cambridge, Mass. 1988. p. 5.

2 Prance, Campbell and Nelson 1977. *Quoted in Indigenous Peoples And Tropical Rainforests*. p. 5.

3 *Cultural Survival Quarterly*. Vol. 12, #4. 1988. "Resettlement And Relocation," part II.

4 *In The Rainforest*. Catherine Caufield. Alfred A. Knopf pub. New York. 1985. p. 136.

5 ibid. p. 136.

6 Clay. *Indigenous Peoples And Tropical Forests*. op. cit. summary from text. Posey quotation. p. 51.

7 ibid. p. 55.

8 *Forest Farming: Toward A Solution To Problems of World Hunger and Conservation*. J. Sholto Douglas & Robert A. de J. Hart. Rodale Press. Emmaus, Pa. 1978. p. 5. (nutrition p. 37).

9 Douglas & Hart. *Forest Farming*. op. cit. p. 5.

10 *Honolulu Star Bulletin*. March 29, 1972. "The Solution for Hunger Is a Small Matter" Jocelyn Fujii. P. B-2.

The Mass Production of Spirulina: A Helical Blue-Green Algae As A New Food. Dr. Hiroshi Nakamura. Microalgae International Union pub. London. 1970.

11 *The One-Straw Revolution: An Introduction To Natural Farming*. Masanobu Fukuoka. Rodale Press. Emmaus, Pa. 1978. pp. 42-44.

12 ibid. p. 64.

13 ibid. p. 3.

14 ibid. p. 103.

15 ibid. p. 159.

16 *Findhorn - a Center of Ligh*t. Paul Hawken. Tao Pub. Boston, Mass. 1974. pp. 27,28.

17 ibid. p. 33.

18 ibid. pp. 37, 38.