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THE TRUMPETER

*Voices From the
Canadian Ecophilosophy Net Work*

"Change, to be of any consequences, must come first
at the basic philosophical level." M. Fukuoka

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AGRICULTURE: THE DISCUSSION DEEPENS

This is the third and final issue of *The Trumpeter* to focus on agriculture. Here we broaden the discussion to include animal husbandry and the interconnections of soil fertility, with plant and animal health and the quality of human life. Ethical, spiritual, biological, philosophical and other issues are raised by the facts, theories and reflections presented herein. Linda Mickley provides a careful account of the practices of factory animal farming. Gary Watson reflects on the issues of animal rights and vegetarianism and reviews some of the main value issues that have arisen in the philosophical literature. Michael Fox gives us a searching, deep analysis of empathy and its importance for understanding other species and ourselves. All three reflect upon what is crucial to inhumane vs. the humane husbandry. Stuart Hill provides personal and ecological reflections on the joys and rewards of non-violent gardening, with its humane treatment of nature and soils. All of these authors reflect on dimensions of agriculture that have not been brought out in our earlier discussions. Last, as editor, I provide some final, but not last words on our ecophilosophical explorations of agriculture, as it is currently practiced in our culture, asking will the conventional philosophy and practice of industrial farming gradually be replaced by a regenerative, sustainable, ecoagricultural philosophy and practice? If so, it would help to stimulate a regeneration of local communities. If such is our direction, then the drive toward concentration may have reached its limits, and we will be moving toward a more diversified, lower input, smaller scale farming supporting local communities.

There are many straws in the winds of change, and medical reasons, biological necessity and ecological logic might well force us to take these moves toward more integral, protective methods of supporting and feeding ourselves. We have concentrated in these pages on trying to sketch the alternative visions and practices of ecoagriculturalists who are working in all areas of food production, preparation and distribution. Sooner or later consumers are going to place demands for quality and safety ahead of cheap, but poor quality food of uncertain safety. (Many already do.) When this begins to happen on a large scale, the changes in agriculture could come very fast.

We have tried to put forth several perspectives on husbandry. There are many sound ecological reasons for having mixed species of domestic and wild animals on a farm. Some believe that we should only take from animals a surplus they produce as a result of our care; others think that any taking and keeping is wrong; still others believe we can take surplus and eat the animals as well, provided

it is done humanely. All of the perspectives we have presented agree on the necessity of sound ecological practice and humane husbandry as minimal requirements for securing our food. In an ecophilosophical sense, this type of diversity is emblematic of the way nature works and it brings in elements of reform and deep ecology.

It is a mistake to assume that wild animals are worse off than animals for whom we care. Those in factory, confinement farms are clearly worse off than wild animals, for they have (as Gary Watson says) no life of their own, and despite the hardships that sometimes occur with wild animals, these trials are part of what it is to live free and wild. Gary Watson quotes Mark Sagoff as raising the issue of wild animal suffering, and Sagoff seems to suggest that the state of wild animals is horrifying. Having spent much time observing wild animals, I along with other students of wildlife, find little plausibility in these images of suffering. (We assume here that the wild animals in question are not being tormented by humans.) The animals that we have followed year after year have their misfortunes, their fun, their affections, and their trials, just as all living beings do. We need to remind ourselves that compassion is not meddling in things we do not understand, nor is it trying to relieve another's suffering in ways that deprive that being of its own life and destiny.

The world cannot be our zoo. We must come to respect all creatures, even though we may feed on one another in the great cycles of return. Ecosophy is echoed in the lines from Deuteronomy 19:30: "I have set before you life and death, blessing and cursing; therefore choose life, that both thou and thy seed may live." An agriculture that wages chemical warfare on nature does not choose life, and its hybrid seed will eventually die. To live ecosophically as agriculturalists is to choose life, but not to fear death, for to understand the cycle of return is to know that life is reborn in the fertile soil to which death returns all beings.

The wilderness and the industrial farm are at opposite ends of a spectrum. We have looked at agriculture in focus because it reflects and is reflected in our philosophy, our values, our health, our relationships with nature. It is the basis of our civilization. Next we consider the other pole, the wilderness and what it means to our kind. We have seen that under the best forms of agriculture the lines between nature and the farm are not distinct, for ecoagriculture imitates and learns from nature, and blends its activities to it. It represents something new with old connections in wilderness and earlier farm traditions, in natural philosophies like Taoism and Amerind religions, wed to a newly emerging deep ecological understanding and scientific knowledge.

Finally, it is one hope of this issue that we

understand more fully the words of Chief Seattle spoken in his Testimony: "What is man without the animals? If all of the animals were gone, men would die from a great loneliness of spirit. For whatever happens to the animals, soon happens to man. All things are connected." Through empathy and compassion we gain a different understanding of animals. The silent language of the heart has the capacity to open each of us to sense the universal intelligence that prevades all life as a unified field that is bound together in love. (What the Greeks called agape.) Objective understanding of animals without these dimensions of love is not possible. Science as disembodied, unfeeling intellectual rationality does not and can not understand the animal with its own life, nor grasp the sense of life. Caring attention with an open heart can open worlds within worlds. We then discover the mystery of a life process which reconciles opposites through the balance of the moving heart.

Our aim in these focus issues of *The Trumpeter* has not been to exhaustively cover all of the literature, organizations, etc., but to provide a broad, cross disciplinary look at alternatives and current problems. We have attempted to provide a diversity of illustrations from which to learn. The aim of ecophilosophy is to be able to live more ecosophically, and it is hoped that the material presented in these issues can help each of us develop a more fully applied philosophy of life conducive to ecoagriculture and ecosophy. The aim of ecophilosophy is to introduce, create and apply ecological modes of conceptualization, reflection, feeling, perception and understanding to our situation, with the practical aim of finding ways of living which realize a good life in the deepest sense of these terms, as rooted in the inquiries of Socrates, who first sought to understand such a life by means of a continuous inquiry animated by love. Ecophilosophy has its esoteric and mystical sides, as well as its metatheoretical, speculative aspects. In its overall practice it is concerned to choose a life and actions that are ecosophic, instead of abstract, axiomatic systems of theory. (According to aeronautical theory the bumblebee should not be able to fly.) This is why we need to bring in considerations from science, art, religion, film, poetry and literature, for an ecophilosophical practice must use all of these as symbiots.



When the average American hears the phrase "the farm" certain images are often immediately evoked. One envisions rolling green pastures dotted with trees and cattle, neat rows of crops for both animals and humans, the milk cows waiting patiently at the barnyard gate, the enormous and protective mother hog wallowing with her piglets in the mud, and chickens scratching contentedly in the barnyard. Some city folks may even still harbor the notion that any promising picnic spot in the country may well be the territory of a ferocious charging bull, and many of our children are unsure of the connection between talking animals in the cartoons and the meat on their plates. The perpetuation of these beliefs and images is understandable when one stops to ponder the picture of the traditional family farm that is presented to the American public. In advertising, a television commercial for a fast food restaurant shows that farmer removing eggs from beneath a hen on a straw-filled nest; in our grade schools, city and suburban children are taken to "working farms" where they can pet the animals and watch a cow be milked by hand; and in television and film, the ruggedly independent family farmer is still very much in evidence, pitting his nerve and intelligence against all that Nature can toss at him.

The truth is that these images are nothing more than romanticized myth for the most part: There have been changes in farming in the past thirty or so years that have seriously threatened and jeopardized the continued existence of the mid-sized, diversified family farmer. Alarming numbers of these farmers are going into foreclosure---at the rate of four percent, or 100,000 each year (*The Washington Post*, 6 May 1984). Not only is this loss felt in the more obvious realm of farmer indebtedness and economic strife, but there are hidden costs as well, in terms of farm animal suffering in factory farming situations, land loss due to erosion and mismanagement, and the disappearance of a way of life and its accompanying cultural wisdom.

Why be concerned, the consumer may well ask, since after all, we enjoy unmatched abundances and varieties of food year-round, accompanied by relatively stable prices. Where and what are these hidden costs, invisible to the public eye, that are responsible for the decline of the family farmers?

The hidden costs are very often much like a wave effect; in that factors tend to accentuate or aggravate each other, causing peaks and troughs in other related areas as well. For example, in the mid-1970s, farmers were encouraged by a strong export market to overproduce. They borrowed, at high interest rates, in order to expand their

acres. Due to a strong dollar, farm products exports have been falling, as have land values, but the farmer must still make payments to the banks, at the high interest rates, even if he can't sell his goods at a price which will cover his expenses for producing them. In Illinois alone, farmers paid more than \$1 billion in interest in each of the last two years (*Washington Post*, 27 January 1985). With costs such as these, farmers could not afford to allow land to serve simply as grazing areas for stock; they have to plant a sure cash crop, corn or soybeans are the most popular. These crops could be used either as feed for their own animals, or sold, this giving the farmers more return on the land than they would have garnered had they left it as pasture. If the farmers took their livestock off the land, where did they put them?

These falling values for land and goods, coupled with high interest rates generated a ripple effect that changed animal husbandry practices drastically. The modern farmer chose to get his stock off the land and tried to maximize yield per acre and per animal, so he did what seemed the logical thing: He moved them indoors. Also, because of increasing labor costs, farmers opted for capital rather than labor intensive farming methods, which benefitted the banks, equipment and building manufacturers. Greater reliance upon agri-poisons (pesticides and herbicides) and animal drugs (hormones and antibiotics) are part of this shift towards increasingly capital intensive farming practices and the proliferation of large "supper farms" and farm animal factories (Fox 1983b).

And Where Have All the Animals Gone?

While the idea and practice of providing shelter for livestock is nothing new, the building of so-called environmentally controlled housing, and the often life-long confinement of the animals in this housing is a relatively new-sprung phenomenon. A case in point is the poultry industry.

As recently as thirty years ago, most laying flocks were kept in such a manner that afforded the birds some access to the out-of-doors, with the accompanying benefits of good air quality, sunlight, exercise, and social interactions. This system was admittedly labor intensive, and a layer flock of any size would undoubtedly require a goodly amount of space for nesting, feeding, and general foraging. In order to save space, and minimize labor, the idea was struck upon to confine laying hens permanently in buildings. The system became even more restrictive when egg producers realized that so many more hens could be kept if they were caged, and that this number could again be increased if the cages were stacked, one upon the another, like so many boxes. Thus, the modern battery cage system for laying hens was born,

ushered along by scientific breakthroughs in nutrition, breeding for high production, and disease prevention developed by accommodating animal production scientists at the land grant universities. Granted, the modern laying hen is capable of producing more eggs, more often and more cheaply than were her forebearers, but the cost of that pristine carton of eggs at the grocer's is apt to be very high once other factors are considered.

These other factors include the observation that many laying hens are burned out after just one egg-producing cycle. This situation is due to high energy feedstuffs, artificially long daylight cycles, and the stresses endured in the crowded cages and often poorly ventilated houses (Fox 1984). These spent hens are sold for soups and by-products such as pet foods, and processed meats. The battery caged hen also suffers from leg weakness, overgrown claws which become entangled in the wire mesh (often condemning the hen to a life of true and total immobility), and severe frustration of behavioral drives, resulting in cannibalism and feather-picking amongst cage-mates (Fox 1984).

The broiler chicken aspect of the poultry industry has become similarly intensified as well. Huge buildings are now erected to house these birds, in flocks as large as 100,000. The chickens destined for the meat shelves of America spend their entire lives in enclosures such as these, in which the atmosphere often becomes dusty and ammoniated towards the end of the growing cycle. The birds also become extremely crowded as they gain in size and weight. While these birds do have orders of magnitude more freedom of movement than do their egg-laying counterparts, inadequate ventilation, and the severe lack of appropriate space per rapidly-growing bird often causes extreme stress, and the birds suffer from flip-over syndrome (similar to a heart attack), and breast blisters from having to rest on damp, foul litter (Fox 1984).

One very significant aspect of such confinement units is that when things go wrong, they can go wrong in a big way. For example, in 1980 millions of broilers died in the Southeast and on the Delmarva Peninsula alone due to the hot, humid weather (*Washington Post* in Sept. 14, 1984). Chickens are able to cool themselves only to a very limited degree, and during power failures or weather that taxes the ventilation fans, these birds can quite literally be cooked alive in the confinement units. Laying hens are no less susceptible to the heat and humidity-related hazards. It goes without saying that freak freezing temperatures such as the Southeast has experienced during the last several winters would also seriously threaten the well-being of confinement housed poultry kept in poorly insulated buildings.

Cattle and hog producers are finding it

economically necessary to become increasingly intensified as well. The rationale is again the minimization of land-space utilized for animal production in order to get maximum return. While these animals cannot conceivably be staked in cages for their entire lives as can birds, several aspects of these livestock industries come alarmingly close to doing just that.

The two most blatant examples of this intensification have to deal with very young animals. One is that of the veal calves reared in total confinement for the "fancy" or "white" veal trade, and the other is the increasingly popular practice of weaning piglets at a very early age (2-3 weeks), and then placing them in stacked cages similar to battery hen cage units.

The veal calf industry is considered by many to be a good illustration of the resourceful farmer finding a way to make money on a commodity that might otherwise go to waste; in this case, surplus dairy calves (mainly bull calves) and milk by-products. The system works in this way: dairy cows must be bred and give birth every year in order to continue producing milk. (Cows that miscarry their calves, or are hormonally stimulated will also give milk, but physiological and economical factors preclude these situations from being widely accepted.) Calf production gives the dairyman an added edge; he can choose his own herd replacements from his crop of young female calves. However, genetic randomness determines that only 50% of the calves born will be female, and logic therefore dictates that the remaining 50% will be males. Only a minuscule percentage of these males will be needed for breeding, since most dairy cattle propagation is now done by artificial insemination utilizing frozen semen from selected bulls. When one stops to consider that there are approximately 11 million (USDA 1983) actively milking dairy cows in the US who give birth to one (and sometimes two) calves each year, (almost half of which are regarded as superfluous by-products of the milk industry), it is easy to see why people would want to utilize that resource to their advantage. It is the way in which this surplus calf population is utilized that must be questioned from ethical, economic, and consumer health standpoints.

The male calves that are not retained for breeding purposes are most likely to be reared as veal. The relatively lucky ones are slaughtered within a few days of birth as "bob" veal, which is ground for veal patties and processed meat products. The other calves, though, the ones slated for the gourmet tables as "white," "milk-fed," or "fancy" veal, will endure far more than their fair share of deprivation and suffering in their short lives. These normally gregarious, playful animals spend the entire sixteen weeks of their lives confined to narrow, wooden-floored and -sided crates, denied access to each other for

companionship, comfortable areas for resting, and to the roughage that they crave as they grow, since they are fed a totally liquid diet of milk replacer. And, as the calves grow, as calves are wont to do, the crates become too small for them to lie down comfortably, or to turn around, or to stretch their limbs. The producers declare that crating is necessary to curtail diseases, and to prevent exercise which is claimed to darken the meat (and thereby, ostensibly, rendering it unpalatable to the consumer). Both claims have been disproven: crated veal calves have been found to require upwards of five times as much medication as loose-housed calves (Friend et al. 1984), and taste tests have proven that there is no discernible difference in taste or texture once the meat is cooked.

From an economic standpoint, the veal industry feels justified in claiming that such use of these otherwise unwanted animals augments both the rural community and the dairy industry. In all sincerity, however, the crated veal industry cannot be considered a means by which farmers are beating the economic crunch, because it is not the farmers, on the whole, who are engaged in this practice. Granted, the building of crated veal units in the dairy regions may help stimulate the rural economy after a fashion, but the number of veal producers who work full-time in their chosen vocation is very small. Needless to say, an enterprise in which all the animals are continuously confined, are fed only twice a day, reach market weight in 16 weeks, and bring a premium price to boot, is very attractive indeed. In this case, intensification can be economically justified only up to a point, beyond which animal suffering exacts too high a price.

While there is truth to the veal industry's claim that they bolster the dairy industry by buying milk replacer (which is made from dry milk), the amounts bought barely cause a ripple in the sea of milk generated by the nation's amazingly (over-) productive dairy herds. Mankind's relationship with the cow as a source of milk goes back many thousands of years, and the herder/breeder's long-time influence on the milk-producing ability of the animal is very much in evidence today. The modern dairy cow is the result of long years of selective breeding for high production, and produce they do. The average dairy cow in the United States (90% of which are of the Holstein breed) is capable of producing 12,000 to 16,000 pounds of milk a year; a yield more than double that of the dairy cow of the 1950's (Niedermeier et al. 1983).

The perpetuation of such highly productive cows in an age when milk and milk products consumption in the industrialized countries is dropping must be viewed as somewhat of an enigma. Light can be shed on this puzzle by understanding that a price support system exists in this country for the dairy industry. Each year, the government attempts to

support the price of milk by agreeing to buy up excess cheese, butter, and nonfat dry milk. Critics of this system argue that the support price is too high, and therefore encourages the farmers to produce more milk than is needed (*New York Times* 1983). While it is true that farmers do produce more milk than is required by the consuming public (milk ranks fourth in popularity behind soft drinks, coffee, and beer) farmers declare that they **must** produce those quantities in order to make a fair return on their increasingly high capital investments. Dairy farmers, like other farmers, are strapped by high land costs, interest rates, and feed bills. They have the added expense of maintaining modern milking equipment, and even the cost of the cows themselves has increased in the past two decades.

So, the vicious circle perpetuates: dairy farmers as a group are forced out of business by high capital costs, (fewer new farmers can enter the industry as well); those who can stay in must expand in order to stay afloat; these produce excessive amounts of a product with a declining consumption; the consumer pays tax dollars to buy up the surplus (\$2 billion in 1983, according to a recent *Christian Science Monitor* article (Belsie, 1984), which will be stored or given away; and the animal, as in the previous cases, is caught in the center of the escalating production frenzies.

Larger herd size is one result of the push for higher production and increased capital return. Increased herd size tends to dilute the amount of individual care and attention given to each cow. Humane and gentle care is vital for the dairy cow to produce to her maximum genetic potential, as well as her general overall well-being. The intensification of dairy herds may be lagging a bit behind the other farm animal species, but not for very long. The industry is moving unerringly towards larger herds and the use of feedlot-type situations, for the economies of scale seem to dictate that lowered production, increased incidence of production-related disorders such as mastitis (udder infection) and hoof and leg problems can be offset by greater numbers of cows.

Unfortunately, most consumers are unaware of these trends affecting dairy cow welfare, since the dairy cow is still the animal that people see on their drives through the countryside. What the consumer does not see is that more cows are being handled by fewer stockpeople, the milking and feeding are becoming increasingly mechanized (on many larger farms, the operators may come in contact with the cow only when she comes into the milking area) and all too often, the cows spend little time on actual pasture (Fox 1983). In the larger herds, or on farms with little land area other than the yards and barns, the animals may spend their entire productive lives in concrete-floored enclosures, or in dirt lots, often without

adequate shade or shelter. Concrete has been shown to be extremely detrimental to animals' feet and legs, and offers scant comfort for the cows to rest on while lying and chewing their cud. Dirt lots, while easier on the feet and legs, become dust bowls or muck-filled quagmires, depending on the weather. Again, as in the concrete systems, dirt lots may provide no clean, dry resting areas for the cows. As a result, they frequently contract mastitis. Some producers use the neck stanchion system in which the cows are not even allowed the freedom of a yard, but are tied at the neck in narrow, stanchion-like stalls, often for months at a time during inclement weather.

Today's dairy cattle are pushed to higher yields by the type of feed that they are given as well. High energy, low fiber feeds required for these heightened yields cause severe metabolic disorders such as ketosis (where the cow breaks down her own body to produce milk), and laminitis (a painful, difficult and slow-to-heal hoof inflammation) (Fox 1983a; Harvey 1983). Lessened individual attention or lowered standards of care resulting from too many cows and too few herdsmen often lead to such disorders not being diagnosed and treated in time. Affected cows will lose weight, become infertile, and drop in production, and unfortunately, their fate is usually the slaughterhouse because the dairman has neither the time nor the economic incentive to treat and recondition them (Harvey 1983). The average dairy cow today becomes "burned out" at an early age (four to five years) due to these modern management methods, whereas, in the past, with good care, dairy cows have been known to be productive for 20 years (Fox 1983a).

The economic necessity of getting the most product from a limited space has altered the way in which hogs are reared in the US as well. Traditionally, fresh pork products were available mainly in the fall and winter months, due to the fact that hogs were slaughtered in the fall. This practice was in itself one of economic necessity; hogs require protection from the harsh winter weather, and the slaughtering of all but the breeding stock eliminated the necessity of building elaborate shelters to house a large number of animals. With the advent of more so-called environmentally-controlled housing for hogs, pork products are now available year-round. Coupled with intensified housing systems, this availability has been enhanced by modern developments such as accelerated breeding rates, increased litter sizes, and early weaning of piglets. At the larger units, sows are often maintained in confinement much, if not all, of their lives. Young piglets are removed from the sow at 21 days of age (sometimes even younger) and placed in stacked nursery cages or elevated platform decks in order for the sow to be re-bred sooner (Algers 1984). Although stacked nursery decks do save space (an extremely valuable

commodity in modern animal production), they are often over-crowded. This results in unnecessary stress and suffering on the part of the young animals. The decks, with their wire mesh or slatted floors are often situated over manure collection pits, or, as in the case of the elevated battery-type cages, over another pen of piglets. In both instances, the fumes from the urine and feces may be over-powering in poorly ventilated houses. Recent studies have shown that such fumes contribute significantly to swine respiratory diseases (thus increasing the use of antibiotics), and affect human workers adversely as well (Pig Farmer 1984; Mueller 1984; Donham and Leininger 1984; and Feedstuffs 1984).

The farmers who opt for high tech swine units are finding themselves in tight times. A recent article in *National Hog Farmer* (Vansickle, 1984), a major hog production publication, reveals that these larger units which should be able to make up ground through the economies of size are just not living up to that promise. These farmers borrow huge amounts of money to build the environmentally controlled housing, yet are finding that it is almost impossible to make up these investments with better production output alone. They reach a point of diminishing returns along the scale of bigness. They find that the maintenance of the buildings, with their highly automated feeding and manure disposal systems, plus the energy required to control the temperature and humidity of the units are expenses that eat right into any profit margin. And, "environmental control" may often be just wishful thinking; inadequate heating, cooling, and ventilation systems due to mechanical disrepair or shoddiness of manufacture are commonplace. While the technology may be available, the funds may not to maintain functional systems. As a result, the farmers may just "get by" and the stock suffer needlessly.

Expenses incurred for purchasing and financing of lands, equipment, and facilities, as mentioned above, have been instrumental in the decline of the mid-sized farmer. Intensification of animal agriculture, in conjunction with farmers becoming single-species producers, has not been limited to just the poultry, swine, dairy and veal industries. Lands, especially those in the more arid areas of the Mid- and Southwest, not suited for the growing of crops due to wind forces, lack of sufficient water, or fragility of soil layers have long been utilized as grazing for ruminants such as cattle and sheep. Ruminants are physiologically adapted to be able to make good use of low-energy, high-fiber feeds which grow on these lands. These areas, however, are not immune to danger. While skyrocketing land and interest expenses may not have affected these places quite so much as in the more tillable sections of the country, ranchers are beginning to feel the consequences of the lowering

of the water tables due to rampant irrigation, prolonged over-grazing, and mismanagement of fragile ecologies, and indiscriminate predator control. And, they are responding to these problems by moving their cattle and sheep into feedlots.

While it can be safely said that the beef cattle industry has certain aspects which are very much non-intensive, other facets of it are becoming ever more mechanized and factory-like. The non-intensive aspect is that of the brood cow. The female beef cow has a life that could be considered idyllic when compared to that of a sow or a laying hen in modern systems. She is bred once a year, bears her calf in the open, belongs to a social group (the herd), forages where she can and often still receives supplemental feed in rough weather. She is able to fulfill most of her behavioral and maternal drives, as her calf is with her for about eight months, at which time the young animal is weaned, and becomes part of the "feeder" calf segment of the cycle.

Weaning itself is a traumatic experience for these youngsters, and all too often, they are additionally stressed by being dehorned, castrated, hot-iron branded, wormed, and driven into vats of anti-parasite liquids (Fox 1984). Many of these animals may be shipped to feedlots over considerable distances before they have had a chance to recover adequately from these stresses. Add these circumstances to the fact that these animals have, in all likelihood, had little contact with humans up to the time they were gathered from the range. All these factors combined account for these stressed, frightened and bewildered young animals succumbing to respiratory and intestinal diseases. In the feedlots, the young cattle are fattened on high energy feedstuffs to reach the desired market weight and marbling (fatty tissue between the muscle layers) in the shortest time possible (Fox 1984). These feeds cause gastrointestinal distress such as gastric ulcers followed by liver abscesses, acidosis from a diet too high in grains, and low in roughage, and laminitis (Fox 1984). Often, these maladies are fatal.

It is the feedlots that are the intensified facet of the beef industry; all too often hundreds of young cattle are crowded into areas with little shade, resting areas or shelter (Fox 1984). These lots become chokingly dusty, or knee-deep in excrement and mud, depending on the weather. If cattle do not gain well or become ill, they may be hauled several hours to a marketing facility to be re-sold to another feedlot. These animals, sick or weak as they are, may suffer additionally due to rough handling and poor conditions during transit. Branding, most often with a red-hot iron and no anesthetic (Fox 1984), may be performed every time the cattle change hands.

The other ruminant of economic importance in the

US livestock realm are sheep. While sheep farming has neither the economic impact nor scope of the cattle industry, several similarities do exist between them. Much like the beef cow, pregnant ewes are often left to fend for themselves over vast acreages in the West and Southwest. As a matter of fact, they may only be collected at lambing and shearing times. The caring and attentive shepherd and sheepdog who travel with the flock and foster its safety are sadly much a thing of the past. Needless to say, these animals, like the cattle, do fall prey to accidents and predators. The sheep-rancher, particularly in the larger holdings in the West and Southwest, has the uncanny ability to unerringly ascertain that all his ewe and lamb deaths are due to coyotes. It is a well know fact, however, that roving and/or feral dog packs can and do kill sheep (Fox 1984); and sheep and lambs do become sick and die from various diseases. The sickly and dead ones are fed upon by coyotes, who are erroneously blamed for their deaths. The ranchers' answer is to put out poisoned baits and carcasses, in the process condemning many non-target species such as birds of prey, small carnivores (including the endangered black-footed ferret), and scavengers to an agonizing death.

There is a decided movement towards feedlot systems for sheep, most notably for the fattening of market lambs, and the keeping of the finer-wooled breeds that fare poorly on open range due to the weight of the fleece should it get wet. These animals are prone to the same type of metabolic disorders brought on by high energy, low-fiber feedstuffs as are beef cattle. Confinement housing is designed with little consideration given to behavioral needs, and as in other such systems, increased incidence of disease is a significant indicator that the animals are being stressed.



Gay Mitchell

Drug Dependence

Another serious consideration of intensified systems is that of drug use. Drugs, such as antibiotics and growth hormones and appetite

stimulators are administered as a matter of course in many modern systems in an effort to encourage animals to grow under otherwise adverse conditions. Sub-therapeutic doses of antibiotics (that is, dosages which are below levels administered for actual treatment of disease states) such as penicillin and tetracycline have been found to cause animals to gain weight but the mechanism behind this phenomenon is somewhat unclear. Researchers believe that animals respond by gaining weight due to the fact that the antibiotics do kill harmful organisms present in the animals' environment that would otherwise cause them to go "off feed" or fail to thrive. A much more ominous result of such routine dosing of food animals with antibiotics, however, is that the constant, low levels in the animals' systems may well kill only the organisms that are sensitive to the drugs, while more resistant strains will not die off. These resistant strains are very dangerous; they will induce disease states, but be unaffected by the drugs normally used to combat them. Oftentimes, in response to resistant forms, the only recourse is to administer higher doses, or potentially more dangerous drugs. Until recently, there has been scant evidence that such resistant strains not only exist, but are capable of being transmitted to humans. Several developments have proven that this is indeed an area of grave concern. First, the incidence of antibiotic resistant organisms occurring in food animals is on the rise (Holmberg, et al. 1984); Blackburn, Schlater and Swanson, 1984; and *The Veterinary Record* 106 (23): 472); secondly, it has been shown that a mechanism does exist for the transference of resistance between organisms (O'Brien et al. 1982); thirdly, organisms have been demonstrated that exhibit multiple resistance to several drugs (Dawson et al. 1983); and lastly, a recent study by the Centers for Disease Control strongly implicates food producing animals as the source of resistant strains of Salmonella responsible for human illness and deaths (Holmberg et al. 1984).

Antibiotics are just the tip of the iceberg of drugs that lurks beneath our modern animal agricultural systems. The consumer may well ask at this point if some drugs aren't necessary to maintain animal health and prevent disease? The answer is yes, but with qualifications. Many drugs are necessary to improve the animals' general health and well being. Examples are worming medications and drugs used for the control of external parasites and pests. The problems arise when these drugs are not withdrawn from feeds or the environment with the accepted regulations, and the meat, milk, or eggs of the treated animals consequently contain contaminants and residues. A strong case in point is that of a chemical fly killer known as Larvadex(tm), made by the Ciba-Geigy Corporation. It was noted in a recent article

in the **Washington Post** (June 30, 1984) that Larvadex(tm), when fed to chickens and excreted in the manure will control flies which are attracted to it. The article went on to state that this chemical was being used in 28 states last August (1983), until the Environmental Protection Agency discovered that its active ingredient, cyromazine, leaves a potentially cancer causing residue in eggs and chicken meat. The EPA has said that the substance may not be used until the company conducts research showing the level, if any, at which this chemical is safe.

In addition to these drugs, others such as appetite and growth stimulators must be viewed as of dubious benefit. Many appetite stimulators are derived from arsenic, and accidental or deliberate non-compliance with withdrawal regulations, or non-detection of carcass residues could have dire consequences.

Growth stimulators are commonly steroidal hormones that are either endogenous (occur naturally in the body), or synthetically produced (but similar chemically to the natural ones). The most widely used growth stimulators are derivations or analogues of the sex steroids, such as estrogens or testosterone. While administration of these substances to animals and to people does increase growth and muscling, one must wonder at the validity or even sanity of such use when certain facts are considered. Fact one: It has been known for 50 years by the scientific community that there exists a causal association between the endogenous sex steroids and the formation of neoplasms, or cancers (Faber and Arcos 1983). Fact two: Much of the research done on these drugs has been performed on rats, whose reproductive physiology is, the scientists admit, quite different from that of humans in some respects (Farber, Arcos, and Crawford, 1983). Cross-species application of research findings, especially when dealing with potential carcinogens should be questioned. And lastly, fact three: Although research is now saying that levels of these drugs retained as residues in edible tissues is far below that produced by the humans themselves (and thereby posing no significant danger as cancer potentiators), one must call to mind the case of DES (diethylstilbestrol). DES was widely used as a growth enhancer for cattle, but was banned from use when it was linked to cervical cancer in the daughters of women who were exposed to it (**USDA Issue Briefing Paper**, No. 25, May 8, 1980). The effects of such drugs on fetal tissues or on adolescents is not yet well known or understood. Abnormal sexual changes such as early maturation of sexual organs or the development of ovarian tumors in pre-pubescent females have been noted in Puerto Rico. This problem is believed to be caused by high levels of estrogens in local poultry (**Washington Post**, Sept. 16, 1984).

Ultimate Manipulation

Advocates of high technology agriculture are not content to just alter the animals' environments, (both internally with drugs and externally with confinement systems), readjust the breeding habits to suit themselves, or to selectively breed for chickens with large breasts and white skin, double muscled beef cattle, and hogs that reach market weight at five or less months. They wish to be able to manipulate the animal at that most basic level of all, the gene. Genetic manipulation is the newest, and perhaps, the most questionable trick in the argibusness bag. These new technologies would allow for alteration and manipulation of animals' genetic materials, and therefore, their reproductive and growth potentials could be shaped at the cellular level. The production frenzy mentality reigns supreme in this new field as well; research has already been successfully conducted that could conceivably be utilized to create ever larger hogs and cattle. Another area, that of the twinning phenomenon, is being actively explored. Isolation and mass production of the gene responsible for multiple births could induce the development of litters of livestock which normally bear only one or two young. Microorganisms are being researched that, when introduced to a cow or sheep's stomach, would allow that animal to break down extremely high fiber, low nutrition waste products. We are already feeding cows manure from chickens, and cardboard; what other unnatural substances could we expect our animals to use, given the properly altered microbes?

With this new technology, the "perfect" farm animal, the one which produces the most eggs, milk, or meat in the shortest time using the cheapest feeds, is now more likely to be produced in the laboratory than in the barn. Several crucial and timely questions must be raised before a head-long push for the development of these genetically manipulated food animals can be sanctioned.

Can we really say with any amount of certainty or peace of mind that the development of more "efficient" cow, pig, or chicken "biomachines" is worth the cost in terms of the probable loss and suffering of many experimental animals born and sacrificed along the way? And what of the "super-sized" animals; Common sense alone tells us that such animals will produce more milk and meat, but at what cost to them, us, and our environment? It is conceivable that they will require more feed, different housing conditions, cause increased manure disposal problems, and develop new diseases because their genetic make-up has been so profoundly changed. The genetically engineered farm animals of tomorrow may well present the same problems as do the selectively bred factory farmed animals of today: The economies of scale will force the farmers to raise more animals than they can

realistically humanely care for. The vicious circle of treating production diseases with drugs will begin anew, and the consumers will again be taking the risk of eating animal products that have harmful residues.

Not all genetic research should be banned---that would be a narrow world view. Medical science has at its fingertips the means by which many diseases---of both animals and humans---could be made less harmful or even cured, and such research must be supported. But the wholesale experimentation on sentient animals, merely for economics of short-termed abundance is to be questioned.

The Sowing of Agribusiness

And so, a sad and somewhat alarming pattern seems to be emerging in modern agriculture. The mid-sized family farmer, once the mainstay of American agriculture, is rapidly becoming an endangered species. He is being squeezed out by rising capital costs, and the inability to compete with corporate backed agribusiness; his land and equipment are mortgaged to the hilt; and his animals are increasingly coming under the province of the mass producer. Data from the Census Bureau released in Sept. 1984 (*Washington Post, New York Times*, Sept. 4, 1984) bear these observations out: From 1978 to 1982, it was found that farms with 2,000 or more acres grew from 63,301 to 64,525, while numbers of mid-sized farms (50-999 acres) fell from 1,553,887 to 1,442,137. As for food animal production, this same study found that a relative handful of large farming operations exercise dominance: only 1 percent of the farms sold 500 or more head of cattle and calves, but these accounted for almost 50% of the sales; only 16% of all hog operations sold 500 or more hogs, but they had 70% of the market; and (not surprisingly, based on how monopolistic the poultry industry has become), farms with more than 20,000 hens and pullets made up just 2% of all poultry producers, but held 79% of the market. These figures go far in proving that farming and animal husbandry are becoming more a way to do business than a way of life. This attitude is further reflected in the advice given farmers by former Secretary of Agriculture, Earl Butz, "Get big or get out." Those who cannot get big, do get out, and fewer young farmers are finding it possible to go into farming for themselves. These often become "contract growers" for corporate poultry or pork enterprises. There is nothing intrinsically wrong with working for a corporation, many of us do it as a life's work, but the monetary investment and long-term high interest rates for the modern technology of confinement systems is more than likely crippling to farmers just getting started.

Agriculture has become agribusiness, with some unattractive tactics that often accompany big

business: Tax credits for depreciation of buildings and equipment, and tax shelters and other loopholes that favor the development of "super farms" and monopolistic control of agriculture by non-farming investors. Government programs can also be used to assist large farming interests; under the federal PIK (payment in kind) program, in which farmers get paid for idling lands (to counteract surpluses), fifty-one farms were large enough to collect \$1 million each (*Washington Post*, Nov. 1, 1984).

Unfortunately, the agribusiness attitude of exploitation is not limited to just animal agriculture. Crop lands are pushed to the limits of yield as well, with monoculture (the planting of one crop on extensive acreage) being a common practice. Our most tillable lands are now planted, season after season, in one crop, soybeans or corn being the rule. Heavy doses of synthetic petro-based fertilizers are applied in hopes of replenishing the growth enhancing nutrients which traditionally were sustained by the application of manure, the rotation of crops, and allowing the land to lie fallow on occasion. The demand for high yields tax not only the best lands, but marginal lands are brought under the plow as well. Thus soil erosion is on the rise, with an estimated six billion tons lost per year. The increased soil loss, resultant siltation of rivers and estuaries, and lowering of deep-water aquifers due to extensive irrigation is ironic, when it is recognized that three out of every five acres are now farmed for international trade, not for the filling of America's grain bins (The Cornucopia Project, 1981). But, the consumer may ask at this point, isn't America feeding a hungry world? Yes, but only in part. . .most of the crop grains exported are meant for animal feeds to support the meat habits of the rich in other industrialized nations, or those that are rapidly becoming developed.

Agribusiness does not stop at just the exploitation of American lands and farmers; it is also busy exporting the technology with which other nations can learn to over-work their own soils, deforest their own lands, and introduce species and strains of livestock that will survive and prove worthwhile **only** with the capital outlay necessitated by concomitant intensive systems (The Cornucopia Project, 1981). One particularly devastating example of the introduction of modern agricultural practices is the deforestation of tropical rainforest in Central and South America for cattle ranching. It is estimated that 20,000 square kilometers of forest is cleared annually in Central and South America, and the majority of the cleared land is devoted to the raising of cattle for export to fast-food industries of North America, Europe and Japan (Rubinoff 1984). These lands, once lacking their protective ground covers and tree root systems, quickly erode, and become

infertile. The tropical rain forests are perhaps the last Edens of the world; they harbor rich reserves of as-yet undiscovered insects, animals and plants. To lose the forests due to the Western based craving for beef is unconscionable.

The Reckoning

American farmers feed more people per farmer today than their counterparts did even twenty years ago. But at what cost is this productivity and abundance, in terms of the land, the animals and the farmers themselves? The farmers are not inherently or deliberately cruel, they could not possibly consciously neglect or mistreat their animals, and expect to make any kind of return for long. It is an extension of this logic that allows the confinement "factory" proponents to state that since their animals are productive, they are obviously not compromised in terms of well being and welfare. This is not the case, however. It has been shown, again and again, that animals will continue to function and produce even when suffering injury and stress: Battery hens will continue to lay their one egg every 17 hours even when their backs are de-feathered and scratched to open sores by their cage-mates; dairy cows will continue to produce even when their feet are painfully inflamed from laminitis; crated veal calves will still gain weight even when suffering from anemia and diarrhea from an iron-deficient, all liquid diet; pigs will still reach market weight, even if crowded to the point of cannibalism; and beef cattle can still be used as steaks even if in severe distress from ulcers prior to slaughter.

We must begin to re-evaluate our agricultural systems. Are farmers content to be caught in an economic bind that is often just as cruel as any of the intensive systems? Are consumers comfortable with consuming animal products gained from such systems? Are scientists and researchers unable to devise methods by which animals can be reared humanely, lands husbanded regeneratively, and food produced without drug or chemical dependence? Are we, as a nation with a long history of independence, willing to be dependent upon corporate-based mechanization and monoploy funding for something as basic as our very food? The time of reckoning has come. The restoration and reformation of US agriculture is one of our most urgent national priorities, a priority, which while slow to be recognized by the government and consumers alike, must be addressed if the family farmer is to survive, and America continue to have a plentiful and wholesome food supply.

The solutions are quite obvious in some instances, not so in others but they have one common thread: Few are easily accomplished. This basic difficulty aside, many people in the farming, consumer, and scientific spheres are beginning to

take the bull by the horns, so to speak, and find answers to the production and welfare problems that plague modern agriculture. (And this is what alternative, sustainable ecoagriculture is all about. ed.)

(At this point in her paper Ms. Mickley describes forms of more humane husbandry, as well as new organizations and approaches that have been covered in *The Trumpeter*. We include the Humane Society chart below which summarizes many of her observations.)

DAIRY COWS	<i>More Acceptable:</i> open pastures with shade trees or in open barns with free access to stalls and an outdoor corral. <i>Unacceptable:</i> outdoor corrals without shade or shelter; continuous restraint in separate stalls, usually in winter; overcrowded in free-stall barns.
POULTRY*	<i>More Acceptable:</i> well-insulated and ventilated buildings with birds free on floor covered with dry deep-litter (often chopped straw or corn cobs) and with birds having easy access to food and water, and adequate space for birds to be able to avoid others easily. <i>Unacceptable:</i> poorly insulated and ventilated buildings that become over-heated in the summer and the air highly ammoniated and/or dusty, especially in winter, with birds being allowed one square foot or less of floor space each, close to slaughter age.
BEEF	<i>More Acceptable:</i> free-range rearing and "finishing" (fattening) in open range or pastures with shade trees; open corrals with shade and shelter protection in winter; half-open barns with access to outside corral. <i>Unacceptable:</i> feedlot corrals with no shade or shelter; overcrowded closed-in sheds for "finishing."
SHEEP	<i>More Acceptable:</i> free-range rearing and "finishing" in open range or pastures with good shepherding to reduce need for predator control; finishing in half-open barns or sheds with access to outside open pens. <i>Unacceptable:</i> feedlot corrals with no shade or shelter; overcrowded in closed-in sheds for finishing.
PIGS	<i>More Acceptable:</i> well-managed open pasture "finishing," with shade and shelter; open front and modified open front buildings that are well ventilated and give good protection from climatic extremes and are not overstocked. Straw bedding is a plus. <i>Unacceptable:</i> total confinement buildings that are poorly insulated and ventilated and in which the pigs are given eight square feet or less of floor space each up to slaughter age. Totally slatted floors. Overcrowded battery cages for early-weaned piglets.
SOWS	<i>More Acceptable:</i> outdoor pastures; well-insulated and ventilated individual houses or arks with shade and shelter; well-managed group pens in confinement buildings. <i>Unacceptable:</i> total confinement buildings in which sows are kept in narrow individual stalls or are tethered to the ground.
LAYING HENS	<i>More Acceptable:</i> "free-range" in well-managed pasture with access to a shed or house with perches and nest boxes, with straw or other suitable floor litter. Or a covered or half-open barn or aviary with perches, nest boxes, and suitable floor litter in which birds are not overstocked. <i>Unacceptable:</i> battery cages, of which there are many different designs. Some designs are more humane than others, and on some farms birds are overstocked, four and even five birds being kept in a cage twelve inches by eighteen inches or by twenty inches. Two or three birds in such a cage size is more acceptable, and ideally each bird should be allowed at least 600 square centimeters of floor space.
VEAL CALVES	<i>More Acceptable:</i> being raised and "finished" in group pens, ideally with straw bedding; or being raised for the first five to six weeks in separate stalls and then finished in group pens and fed some grains or hay. <i>Unacceptable:</i> being raised and finished in single stalls, crates, or pens in which they cannot walk or turn around.

*Chickens are sometimes slaughtered at a few weeks of age and are sold as "cornish hens." Since these live for a shorter period than regular broilers and other birds sold as "poultry," it can be considered less inhumane to select these smaller birds that have been subjected to quantitatively less stress during the course of their short lives.

The Future of Farming

The preceding pages have presented some rather foreboding facts. Granted, we could feel reasonably complacent at this point, and claim that enough is being done; what with direct marketing, and a seemingly flourishing farmer's market system, animal scientists who are beginning to conduct research on animal preferences and behavioral

needs, and at least two bills being considered at the Federal level (to further humane husbandry and conservation). What more can we do to insure our family farmers stay in business, our animals are humanely treated, and our food supply is safe? The climate is indeed changing but will these changes come to fruition in time to safeguard the family farmer, and guarantee the future of American Agriculture? . . .

Animal agriculture has a valuable niche in the history of American agriculture, but in order for this niche to remain viable, it must be husbanded by humane and ecologically sound stewardship and an increased awareness that stress and deprivation of farm animals will be viewed as cruel and inhumane.

In addition, more pressure must be brought to bear on the funding institutions, (especially the USDA) for our land grant universities to encourage more research into regenerative agriculture technologies, and support for studies on humane, ethology-oriented animal housing and rearing systems. Veterinary and animal science students should be presented with the tenets of morality, and ethics of animal care, and less immersed in the mechanistic, Cartesian mind-set of scientific dogma and animal "production" technology.

Consumers also need to be more aware of how intricately linked their lives are with those of the farm animals, and not just in terms of the dinner table, either. It has been said that meat is actually a by-product of the rendering industry. Let us take, for example, the cow. Cow hides are used for leather, but does the consumer know that the hair on the hide makes its way into upholstery, furniture, and mattresses? Even the hair from the insides of a cow's ears is used in fine paint brushes. Cows have horns and hooves too, and these go into combs, buttons, and knife handles. Bones become bone-meal to feed our lawns and our pets, as does dried blood. Tallow, or beef fat, is much prized as a constituent of soaps, while melatonin, from the cow's pineal gland, is much sought after in medical research. Rennet, an enzyme present in calves' stomachs, is used for curdling milk in the manufacture of cheeses.

We depend much on animal derived products, but many are replaceable. Much as we were able to discover and refine jojoba oil as a replacement for sperm whale oil, we can manufacture plastics as supple as leather, and breed a bacteria to produce rennet (and at a considerably lower cost, in this particular case). Also, when the connection is made between intensive "factory" farming and the wholesale use of antibiotics, and other drugs to boost production, and the resultant consumer risks, the continued practice of such confinement methods is doubly unconscionable. The sensibility of vegetarianism as a response must be noted in the light of these factors, and if many of our animal products continue to be hazards to human health,

vegetarianism or semi-vegetarianism may well become the response of the majority of the people of the US in an effort to salvage American agriculture from a dire future.

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Further Observations & Facts About Agriculture

* "Whether you are the carnivorous type or not, meat animals and other livestock combined accounted for 48.3 percent of the total cash receipts from farming in 1981. Considering that those figures represent almost half of our agriculture, an examination of the US food system would be grossly incomplete without a close look at the meat and livestock industry." (*Cornucopia Newsletter*, Spring 1983, Rodale Press.)

* "A field study in a Missouri county confirmed the widely held idea that owner-operators protect land against soil loss better than tenants do." **Proposed 1985 Farm Bill Changes: Taking the Bias Out of Farm Policy**, Proceedings of the Institute for Alternative Agriculture, 9200 Edmonston Rd., Suite 117, Greenbelt Maryland, 20770.

* Small farms constitute 61 % of the total number of farms, but they depend only marginally upon farm sources for their income.

* 90 % of technical economies are realized on farms ranging in size from 175 to 450 acres for wheat and from 300 to 395 for corn and cotton, depending on location. USDA publication **A Time to Choose: Summary Report on the Structure of Agriculture**, 1981.

* "The mineral elements of the soil are in fact transformed by the plant into organic compounds which have a dietetic value very different from the same element under its mineral form." "This is the scientific philosophy that I have evolved for myself through watching my cows at grass. Grass reveals with dazzling clarity a truth which must never be forgotten: The soil must be kept in good health if the animal is to remain in good health. The same is true of Man. Soil science is the foundation of protective medicine, the medicine of tomorrow." Andre Voisin, **Soil, Grass and Cancer**, Crosby Lockwood and Son, London, 1959.

* If the rise in the US dollar on international markets is taken into account (the price driven up by speculators and by the US government's deficit and interest rates) US grain should sell internationally at \$4.50 rather than the \$2.50 on the current market. Further, the US government allows US corporations to import goods produced abroad to be handled exactly as if they were produced at home. The classification for such goods

is "American product produced abroad". Under this rubric US companies can be partners with South American and Central American beef and wheat producers. Economic costs of producing beef and wheat in those areas are far below the costs in the US, although the environmental and other costs are very high. Couple this with tax shelters for factory farming at home and you have a situation designed to empty the farm of animals and small producers. The end result of this kind of policy would be the destruction of US agriculture and the eventual ownership of US agricultural land by Corporations and foreigners. US producers would become tenant farmers. (See the article by H. Willis in **Acres USA** August 1985, **A Bankrupt Agriculture**, pages 4-5, and for a summary of the contradictory nature of US farm policies see the excellent article by Ward Sinclair, "The Farmers are Victims of Plenty" in the **Washington Post National Weekly Edition**, April 15, 1985, p.6 ff.)

* France is one European country that has managed to prevent this kind of drift in agriculture, for the French have long perceived their sovereignty to lie in maintaining their traditional rural culture. The irony is that the US government's huge deficit has been acquired primarily by spending on defense (while Congress and the President refuse to pay for it with additional taxes). The day is soon coming when the chickens will come home to roost and the interest on the debt will be so large that the US government will be forced to inflat its currency. President Johnson tried to have guns and butter during the Vietnam war and financed that military build up through deficit spending. An inflation that soared until the early 80s (fueled also by accelerating energy prices) was the result and the deflationary rough ride from 1981 onward was a reaction to trying to control inflation through monetary policy.

* In 1979 New Yorkers spent 6 million dollars to move 24,000 tons of broccali to New York from California, and this required the consumption of 950,000 gallons of fuel for transport. (From Rodale's Cornucopia Project.)

* A sustainable agriculture must meet 4 main goals: 1. It should be economically viable; 2. it must be ecologically sound; 3. it must be socially just; 4. it must be humane. From a statement by Terry Gips, Executive Director, International Alliance for Sustainable Agriculture, University of Minnesota, 1701 University Ave, S. E. Room 202, Minn. Mn 55414.

* "(W)e have an ethical obligation to treat animals humanely that **work** for us and from whose exploitation society benefits. Likewise (although this was resisted for decades) industrial workers have a right to **humane treatment**--a safe environment in which to work that will not jeopardize their physical and mental health. The

issue here is one of rights and obligation, neither of which can be dismissed on economic grounds, otherwise a society that places financial gain over the intrinsic value and dignity of others, animals and humans alike, is morally reprehensible. While it may be acceptable on grounds of necessity to exploit animal and human life for some essential social good, such exploitation brings a burden of indebtedness which must be redeemed with respect, compassion, humane ethics, and equal and fair consideration of others' rights. It is unsound to argue that, since industrial society exploits human labor, there is nothing wrong in exploiting animals and nature for society's benefit and even--on the grounds of social or economic necessity---violating their right to humane treatment. Such a materialistic, dominionistic, and human-centered view is all too prevalent in our society that has yet to apply the egalitarian principle of justice and mercy to all living things." Michael W. Fox in an interview in *Acres USA*, June 1985, pages 23-25.

* Along the same lines as the above we might add the following reflection: Public employees, meaning all public employees, should be treated in the most exemplary fashion and their status should not be reduced to industry's standards. The government as employer should set only the highest standards for fairness and compassion in its treatment of its employees. It should exemplify our highest ideals and values.

* You cannot properly irrigate a crop by pouring all of the water on the highest spot, nor can you enrich a whole society by giving all of the benefits and powers to a few; in a very deep sense a society is only as prosperous as its poorest primary producers and its poorest group of people.

* In 1975 the US contained 132 million head of cattle, by 1978 the herds had declined to 111 million. In 1960 the US imported almost no beef, and today the US is the world's largest importer of beef. Large areas of tropical forests are being razed to grow beef for this export market. In Brazil, e.g. close to 11 million acres were cleared between 1966 and 1975 for beef production. In Costa Rica the number one factor in rain forest destruction is cattle ranching. (*Acres USA*, June 1985, page 1.)

* There are more than 350,000 species of plants in the world. Over 20,000 are found in the US and Canada, 30,000 in China, 45,000 in Africa and 100,000 in South America. Over 80,000 plant species are edible. Historically people have used only 3,000 species for food, but today 95 % of all of our calories and protein are supplied by just 30 species. More than half of all human food energy and protein comes from wheat, rice and corn. (See Sam Iker, *International Wildlife*, July-August, 1979, p. 29.)

* A recent study by the World Resources Institute in Washington D.C., estimates that 313,000

illnesses among 4 million workers in agriculture are caused by pesticides. The symptoms researchers found to be widespread were dizziness, severe skin rashes, and nausea. They expressed concern about the long-term effects of these exposures on rates of cancer, sterility and birth defects. (*Seattle Times/Seattle PI*, July 14, 1985, page A10.)

* "According to a 1980 report by the General Accounting Office, 14 percent of all meat and poultry sampled by the Department of Agriculture between 1974 and 1976 contained illegally high levels of drugs and pesticides." (*Cornucopia Newsletter*, Spring 1983.)

* "A grain fed steer will produce a carcass that is about 30 % fat and about 50% lean. Only 9% of the entire carcass is nutritional material. By way of contrast, the roaming animal has between five and ten time more nutrient material than storage fat." (*Cornucopia Newsletter*, op cit.)

* "Of the 143 drugs and pesticides GAO identified as likely to leave residues in raw meat and poultry, 42 are known to cause or are suspected of causing cancer; 20 of causing birth defects; and 6 of causing mutations." (*Cornucopia Newsletter*, op cit)

* "In terms of energy efficiency, Wes Jackson and Marty Bender of The Land Institute in Salina, Kansas, conclude that even if a farm is powered by ten draft animals, it is still more energy efficient than a tractor powered farm." (*Cornucopia Newsletter*, op cit.)

* In 1940, 2.4 million dairy farmers supplied the milk demand of a population of about 130 million. Today, only 200,000 dairy farmers--one twelfth the 1940 number--support a population of 220 million and yet produce huge surpluses." (*Cornucopia*, op cit.)

* 48 % of all non-hybrid garden seeds are available from only one source out of 239 companies. The US government only allocates \$40,000 a year to the collection and preservation of vanishing genetic resources on which US agriculture may depend in the future. These observations from *The Garden Seed Inventory*, edited by Kent Whealy, available from Seed Saver Publications, Decorah, Iowa. This is the most complete, up to date inventory on seeds and sources available.

* "Any hope that we might 'breed plants to tolerate diseases' is a vain hope when it was neither drugs nor poisons but soil fertility (both organic and inorganic) which protected the virgin crops grown into their much-admired ecological climaxes of pure stands of nearly 'perfect' plants. If deficient plant nutrition, especially with reference to proteins, brings on disease and pests as nature testifies and has been experimentally demonstrated, then to believe that we could breed for such resistance is the equivalent of believing that we could breed a plant to tolerate starvation. An experiment set up to test this hypothesis would

last only one generation and would be no more logical than breeding a race of bachelors. A very essential but missing part would ruin the hopes of the anticipated or planned results from the experiment." (William A. Albrecht, *The Albrecht Papers*, page 156. See Margaret Merrill's review in this issue.)

* "There has been much concern over the possibility that fats in eggs and meat cause high cholesterol levels. Some nutritionists now believe that high sugar and alcohol intake is responsible. However, it is a good idea to remove as much fat as possible from poultry and other meats prior to cooking since pesticides and other fat-soluble agrichemicals accumulate in fatty tissue. The liver and kidneys of farm animals also accumulate various drug residues and toxic heavy metals such as cadmium, so it is best to avoid eating such internal organs, except perhaps from very young animals and those raised without drug additives in their feed. Antibiotic and other drug residues in farm animal produce are a serious potential human health hazard. However, humanely raised animals, being kept under conditions which are less stressful than on intensive 'factory' farms, require fewer if any drugs in their feed to help combat stress. Of the almost \$2 billion farmers spend each year on drugs, \$438.6 million goes for the purchase of antibiotics as feed additives. Thus, eating less farm animal produce reduces the risks of consuming potentially hazardous drug residues, along with growth hormones, appetite stimulants such as arsenic, and agrichemical residues, especially pesticides, and carcinogenic molds (aflatoxins) from cereal grains fed to the animals, which accumulate variously in their body fat, in the fat in milk and egg yolks, and in their livers. So there is an interconnection between the well-being of farm animals, farmer's costs, and consumer health." (Michael W. Fox, p. 23, same interview as cited above.)

* The numerous essential elements necessary for good nutrition and health are "all required for the life of the animal. The functions of giving energy, growing body tissues, protecting them from invasion and destruction through some foreign protein feeding on them and of reproducing a new body are not naturally separated and compartmentalized. **They are integrated.** (Italics added.) They are all part and parcel of the same cell. Each element may be involved in many functions there." (*Albrecht Papers*, p. 70)

* "We are about to realize that good health lies very near to good fertile soil. When this realization matures to its fullness, each and every one will assume his share of the responsibility in the maintenance of the fertility of our soil, and thereby the better health of both man and beast." (*Albrecht Papers*, p. 187)

* With serious problems in health, environment, agriculture and the economy, it seems strange that

there is not more debate on these matters, but that instead public attention is diverted away from them by a focus on Starwars, drug abuse, pornography, international terrorism and the like. Why is this? This is not to say that the latter are not important, but why, e.g., is it drug abuse for someone to voluntarily consume pot or coke, but not to feed people food that drugs them in the form of agrichemical residues? The latter is a problem of far greater proportions and certainly from a moral standpoint indefensible since individuals do not choose to consume these potentially very harmful substances.

* Stuart Hill lists the four main tenets of ecoagriculture to be the following: 1. The food system must be based on renewable energy resources, ideally produced locally, used efficiently, and in such a way that the sustainability of the support system is not threatened; 2. all sustainable biological systems rely on the cycling of nutrients; 3. all life is subject to biochemical constraints; the synthesis and use of organic chemicals that have no counterpart in nature must be stopped; 4. biological systems tend to become more complex with time, thus ecoagriculture requires the use of mixed cultures. (Writing in the *Agrologist*, Fall, 1979, p. 11.)

* "The transition to an (ecoagriculture) will require the involvement of all Canadians, including governments through their responsible leadership, and consumers through their responsible purchasing and preparation of foods and through their increasing willingness to grow some of their own foods or to participate in the food system in other ways. In the future, farms will have more management and labor input per area, they will be more diversified, and will primarily serve local markets with which they will be more integrated. Entry into agriculture will be made easier with the help of various government schemes. More people will be employed, at least part-time, on farms. Foods will be less processed, less travelled, and less prepared. Rural communities will flourish and Canadians will be healthier and more satisfied." (Stuart Hill, op cit.)

* Seven principles of ecoagriculture have been stated by Charles Walters and C. J. Fenzau in the forward to *An Acres USA Primer* (see review this issue) as follows: 1. Simplistic nitrogen, phosphorus and potassium (N, P and K) fertilization means malnutrition for plants, animals and men because either a shortage or marked imbalance of plant nutrients prevent balanced plant health and therefore animal and human health; 2. Plants in touch with exchangable soil nutrients needed to develop proper fertility loads, structure, and stabilized internal hormone and enzyme potentials, provide their own protection against insect, bacterial and fungal attack; 3. Insects and nature's predators are a disposal crew. They are

summoned when they are needed, and they are repelled when they are not needed; 4. Weeds are an index of the character of the soil. It is therefore a mistake to rely on herbicides to eradicate them, since these things deal with effect, not cause; 5. Crop losses in dry weather, or during mild cold snaps, are not so much the result of drought and cold as nutrient deficiency; 6. Toxic rescue chemistry hopes to salvage crop production that is not fit to live so that animals and men might eat it, always with consequences for present and future generations of plants, animals and men; 7. Man made molecules of toxic rescue chemistry do not exist in nature's blueprints for living organisms. Since they have no counterpart in nature, they will not likely break down biologically in a time frame suitable to the head of the biotic pyramid, namely man. Carcinogenic, mutagenic and teratogenic molecules of toxic rescue chemistry have no safe level and no tolerance level."

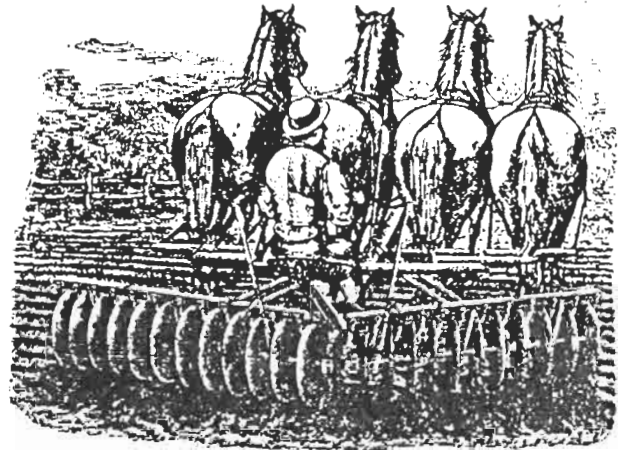
* Walters and Fenzau summarize their many observations in the same Primer by saying: "NPK formulas as legislated, . . . mean malnutrition, insect, bacterial and fungal attack, toxic rescue chemistry, weed takeover, crop loss in dry weather, and general loss of mental acuity---plus degenerative metabolic disease---among the population, all when people use thus fertilized and protected food crops. Therefore the answer to pest crop destroyers is sound fertility management in terms of exchange capacity, PH modification, and scientific farming principles..."

* "While it is claimed that US agriculture is highly 'efficient,' it is not widely recognized that US taxpayers are part of this agricultural treadmill. The government pays out huge sums in price supports to subsidize and boost agricultural production (often at the cost of wildlife habitat), which leads to overproduction. Surpluses that are bought and stored by the government at further expense to the taxpayer may be sold back to producers (as in the case of milk surplus to veal producers) for a nominal sum; Projected crop loans, price supports, and other payments in 1984 have been estimated to cost the taxpayer around \$20 billion. While farmers need some price supports to stay in business, the economic treadmill is causing the agricultural system to collapse into the hands of a few controlling oligopolies which are the primary financial beneficiaries." (Michael W. Fox, writing in *Farm Animal Welfare and the Human Diet*, The Humane Society, Washington, D. C., 1983, p. 12.)

* "Other beliefs that oppose the farm animal welfare movement include the notion that farm animals do not have emotions and therefore have no intrinsic needs and wants and are incapable of suffering in any way analogous to how we experience pain, fear, anxiety, frustration, and boredom. However, there is now increasing scientific

evidence that points to the contrary: animals are more similar to us physically and psychologically than they are different." (Fox, Ibid, p. 13)

* "(A)nimals of similar sentience should be accorded the right to equal and fair treatment. It is biologically, ethically, and legally inconsistent that a dog owner can be prosecuted for castrating or branding it, or keeping it in a small pen or crate its entire life, yet farm animals of similar sentience have no such legal protection and have lower moral status in society." (Fox Ibid p. 13, footnote.)



* The older horse agriculturalists like our grandfathers would never have doubted for a moment that farm animals have emotions and awareness and can suffer. Anyone who has worked closely with animals such as horses and dogs in a non-dominionistic way comes to realize that they are much more deeply aware than one thinks at first. Humans subjected to the kind of treatment that many farm animals suffer also become listless, seem to lack feeling and become depressed. Studies of many primates in close confinement zoos have led to new enclosure designs because it has been realized that those animals kept in small cages were suffering from severe psychological disorders and showed only a fraction of their intelligent capacities. Many traditions, such as the Buddhist, have taught that all sentient beings are capable of enlightenment. There is a western religious mystical tradition that sees all animals as expressions of the same universal, intelligent life force, and humans are capable of attuning themselves to the silent language of cross species communication only through respect, compassion and love. The silent language is the language of the heart. Animals have been shown to be especially helpful to children and adults who suffer from various emotional disorders because such people are more able to respond to the language of the heart. To be cut off from other sentient beings, and to live on their suffering and maltreatment, is to lose a touch with a major part of our larger heritage as humans of this earth.

(For the importance of animals to the human culture and psyche see Paul Shepard's book **Thinking Animals**, Viking Press, New York, 1978. For a subjective, at times mystical account of the language of silence and the difference the approach of the heart makes to interspecific communication see the books of A. J. Boone, especially **The Language of Silence**, Harper and Row, New York, 1970.)

* 1,000 calories of energy are being expended in the US for each calorie of processed foods consumed. Vitamins and minerals are lost in processing. (**Farm Animal Welfare**, op cit.)

* Less than twenty-one percent of food stores in the US are supermarkets, yet they accounted for 77 percent of all sales in 1980. (**Farm Animal Welfare**, op cit)

* Not all jurisdictions are failing to act to save the family farm. "The Nebraska Center for Rural Affairs has succeeded in getting a referendum passed into law that states: 'Non-family owned corporations are prohibited from owning or operating any farms or ranches in the state.' This law's importance is evident when one considers that tax write-offs for building depreciation and livestock deaths can offer a very attractive tax shelter for large corporations: corporations that can afford to house animals intensively, and thereby force local producers out of business due to inability to compete in the marketplace." (As reported by Linda D. Mickley in **Trends in Agriculture**, the part not published in her article in this issue of **The Trumpeter**.)

* Of the 94 million hogs born in 1981, close to 80% spent part of their lives in close confinement. (**Humane Society Fact Sheet on Hogs**.)

* 90 % of all dairy cows in the US are Holsteins, which produce 2.5 times as much milk as her 1950s counterpart, or 12,000-16,000 lbs per cow per year. (**Humane Society Fact Sheet on Dairy Cattle**)

* US consumers per capita consumed 104 lbs of beef per year in 1981. (Canadians consume considerably more per capita.) (**Humane Society Fact Sheet on Beef**)

* Per capita consumption of poultry in the US in 1981 was 53lbs which involved the slaughter of 4.1 billion birds. (**Humane Society Fact Sheet on Broiler Chickens**)

* 95 % of all eggs consumed in the US are from hens jammed into battery cages. (**Humane Society Fact Sheet on Laying Hens**)

* "Agriculture as an industrial procedure is running head-on into nature's stern requirements in the Flemish part of Belgium. Some 10 million hogs are raised in that region. The latest speculation is that all 10 million will be destroyed to extinguish swine fever. Concentration of the animals in crowded housing has turned the epizootic into a runaway disease engine. Only 18 commercial farms are producing the entire inventory of

animals. Similar hog factories are taking over the entire US production, just as that has been the case with poultry." (**Acres USA**, August 1985, p. 6)

* "Very few chickens and beef animals are grown without the aid of some very dangerous chemicals. Monensin is one of them. Monensin comes under the heading of a class of substances called ionosphores. Ionosphores in turn are some of the most powerful drugs known when measured in terms of their action on the cardiovascular system. Poultry fed the substance retain enough monensin in body tissues to pose a danger to human beings eating such food routinely. This translates into monensin being a danger to people with coronary heart disease problems, according to University of Miami researcher, Mohammed Fahim, Ph.D. Experiments on animals suggest that monensin levels as low as 2ppb can induce a detectable effect on a dog's coronary arteries. Human beings who are sensitive to the substance must be alert to the dangers of commercial meat and poultry products because of the health hazard involved." (**Acres USA**, Ibid)

* As they raise cattle without exposure to poisonous sprays, artificial growth stimulants, chemical fertilizers and other harmful additives, the Wolfe's Neck Farm in Rr 1, Box 71, Freeport, Maine, 04032, is an example of an organic beef farm. Contact Cornucopia Project for news of other organic growers.

* "An American farmer must feed his cattle roughly 7 pounds of grain to produce a pound of beef. Pigs, by comparison, need 3.25 pounds of grain to yield a pound of pork; broilers need 2.25 pounds for a pound of chicken. Catfish, however, require only 1.7 pounds of grain to produce a pound of fish." (**State of the Earth 1985**, by Lester Brown, et al., **Natural History**, Vol. 94, No 4, April 1985, pp. 51-85.)

* In the tropics "76,000 acres of trees are cleared daily--an annual loss of forested area nearly the size of Pennsylvania. And in the northern tier of industrial countries, damage linked to air pollutants or acid rain affects trees covering more than 12 million acres---an area the size of New Jersey and Maryland combined." (**State of the Earth 1985**, op cit)

* "Toxic Lawn Care: The days of lawn care businesses lacing walkways and lawns with 2, 4-D and other toxic genetic chemicals may be numbered, if a municipal trend picks up steam. From coast to coast, communities are proposing ordinances based on the assumption that chemical lawn care is hazardous. In Wauconda, Illinois, a town of 5,700, a year old law forbids spraying pesticides unless signs are posted warning people to keep pets and children off the grass for 72 hours. It is becoming a model law other communities are turning into ordinances." (**Acres USA**, June, 1985, p. 22.) Many communities are voting themselves nuclear free zones. (Why not make the continent a nuclear free

zone?) Why not make each community a life safe zone where no biocides are used? We could make a commitment to compost organic refuse, recycle, use organic and biological controls for lawns, trees and gardens. Local communities could have educational programs in which student teams monitor environmental quality, and help to disseminate current knowledge on how to landscape and grow food without chemical warfare. We could ban all open burning of refuse. Local communities need to regenerate their own agricultural capacity to feed themselves in dietary staples. Buying locally and from organic growers would contribute a great deal to helping to regenerate local economies, as would new community efforts toward housing its citizens without outside borrowing. The same applies to local generation of energy and its conservation. Let us move to a truly sustainable, solar, biologically sound agriculture and commerce, where persons, the quality of life, respect for other beings and peace with neighbors and nature is the norm. We could pledge to eliminate all violence from our lives, including our entertainment (such as movies and magazines), and to enthusiastically return to the community our full support for the sustenance it supplies to each of us.

ANIMALS, ETHICS AND AGRICULTURE
 by Gary Watson *

Some of the standard practices in our culture are a deep misfortune for many non-human animals. We deliberately confine, skin, irradiate, blind, bash, shock, sicken, poison, stunt, deform, and slay billions upon billions of sentient creatures each year. Some of this treatment occurs in the course of scientific research. Much of it occurs in the course of delivering food to our tables.

Many people are vaguely aware that eating veal or pate de foie gras, say, is morally problematic. But qualms about these decadent delicacies do not begin to touch the problem. Even our more standard fare depends upon the unnatural confinement and deaths of billions of animals in the United States each year. (This figure includes hundreds of millions of cattle, pigs, and sheep, and three billion chickens -- not to mention marine species). The common diet in our culture is largely the product of a system of "factory farming" whose victims live in misery from birth to death.¹

Animals of the kind we like to eat need room to move. They require fresh air and the opportunities for social relationships. The conspicuous feature of factory farming is a mode of confinement that systematically frustrates these natural needs.

Factory farming first developed in the poultry industry near the end of World War II. Poultry farmers came to understand that the natural role of

exercise and sunlight in growth and bone development could be supplanted, with profit, by vitamins A and D. Poultry farms have become intensive flesh and egg factories, in which "broilers" and "layers" are forced to remain idle in cramped and overheated conditions, without natural light.² As Peter Singer puts it, "every natural instinct the birds have is frustrated. They cannot walk around, scratch the ground, dust-bathe, build a nest, stretch their wings" or establish the ordinary social relations of a flock.³

In the case of "livestock", procedures are not yet so intensive. About one-half of red meat and milk products is produced by factory farming (in contrast to some ninety percent of poultry). Once again, the elementary needs of these animals for movement, mating, and rearing of offspring are severely frustrated. Some pig farms are now total confinement systems in which "the pigs never see the light of day until they go to market; they are conceived, born, weaned, and 'finished' in specialized buildings similar to those used in poultry industries."⁴

We must also take note of the stress and terror of the final hours before slaughter. Claims that the actual methods of execution are painless are often dubious. One writer observes that

Kosher slaughter especially needs to be changed, eliminating the cruel (and actually very unkosher) practice of shackling and hanging an animal by one hind leg before its throat is cut. A 1,000 lb. steer, hanging by one leg, will twist and struggle, tearing tendons and fracturing the bones in the leg that is shackled.⁵

The conditions of factory farming were first exposed in Britain by Ruth Harrison, whose writing led to public pressure on the British Minister of Agriculture to establish an advisory committee composed of leading experts on animals and agriculture. The resulting Brambell Report had this to say:

...certain facts are clear enough to justify action. Whilst accepting the need for much restriction, we must draw the line at conditions which completely suppress all or nearly all the natural, instinctive urges and behavior patterns characteristic of actions appropriate to the high degree of social organization as found in the ancestral wild species and which have been little, if at all, bred out in the process of domestication. In particular it is clearly cruel so to restrain an animal for a large part of its life that it cannot use any of its normal locomotory behavior patterns.

The report recommended the following principle:

In principle we disapprove of a degree of confinement of an animal which necessarily frustrates most of the major activities which make up its natural behavior....An animal should at least have sufficient freedom of movement to be able without difficulty to turn around, groom itself, get up, lie down and stretch its limbs.⁶

That is not much to ask, but in the twenty ensuing years, this minimal proposal has had little effect on law or agricultural practice.

What moral conception of the non-human world permits these kinds of treatment? Although these practices are due to recent technological development, the attitudes that permit them are all too traditional and entrenched. These animals are seen as commodities whose welfare is taken into account only when it is thought to be profitable. As Peter Singer puts it, the "factory farm is nothing more than the application of technology to the idea that animals are means to our ends."⁷

The idea of treating others simply as means to one's own ends was given brilliant philosophical expression by Immanuel Kant,⁸ who wrote that human beings are not mere things, to be used for another's ends, but are "ends-in-themselves". Unfortunately, Kant's teachings could not accommodate non-human animals. For the moral status of "ends-in-themselves" is grounded by Kant in capacities that few if any other animals share, namely in the capacity for a rational will. Only those with a rational will (or perhaps the potential for that) are **persons**, everything else is a **thing**. This means that the way we treat cows is of no direct moral significance. It is of significance only if it affects one's inhibitions against cruelty to people, for example.

This dichotomy is congenial to our present practices. But even folks who contribute to factory farming without compunction do not fully accept it in general. They do not apply it to pets, and they would be appalled by wanton cruelty. Rather, we seem to make a tripartite division, according to which non-human animals occupy some morally intermediate zone between persons and things. (And as Midgley points out, even some of our morally dubious uses of animals presuppose that they are not **merely** things; sport hunting and bullfighting require us to see the animal as a worthy opponent.⁹) But once it is acknowledged that animals have some moral status, it becomes difficult to justify the kinds of treatment involved in our agricultural procedures. This cognitive dissonance is resolved either by mystifying the nature of these procedures, through advertising and other means, or by relying upon such demonstrably unwarranted platitudes as that

(tragically) we require animal flesh to live, that we are by nature carnivorous.

Many writers in the animal liberation movement charge our culture with "speciesism",¹⁰ the attitude that membership in the human species by itself confers moral superiority on human beings. Strictly speaking, the Kantian outlook is not "speciesist" in this sense, since rationality, not species-membership, is the crucial qualification. A rational Martian would be a person, for example, as would other animals if they should turn out to be rational agents. But these same writers point out that the Kantian criterion, and indeed any other criterion besides being human, will have the effect of morally disqualifying some human beings -- for example, a retarded child or an insane adult.

Strictly speaking, speciesism does not entail the total disqualification of non-human beings. It means granting greater weight to some interests simply because they are interests of human beings. It is compatible with granting some weight to the interests of other animals. So speciesism admits of degrees. It is even compatible with allowing that some relatively trivial human interests (say, in certain culinary pleasures) should give way to animals' interests in avoiding severe suffering. Thus a weak form of speciesism could oppose many current food production practices.

The main rival to Kantianism in moral philosophy has been **utilitarianism**. Some leading exponents of animal liberation have based their protests on this outlook. According to it, one should consider the welfare of all sentient creatures and promote practices which foster the greatest good for the greatest number. Traditionally, utilitarians have been in the forefront of humanitarian reforms.¹¹

With its emphasis on suffering, utilitarianism raises an issue that has proven divisive within the animal liberation movement. Are more traditional forms of husbandry, in which, ideally anyway, animals could live more or less naturally up to the point of painless slaughter, morally objectionable? Is killing a healthy animal in itself wrong? Some animal liberationists have found utilitarianism wanting on this issue. For them, exploitation rather than suffering is the crucial moral notion. Insofar as welfare is construed hedonistically, in terms of felt experience, utilitarians could not object to the painless killing of a creature. Suppose we could so anesthetize animals that they would not suffer from the kinds of confinement characteristic of factory farming? What would be the moral objection to doing so? Suffering is not the only morally relevant consideration. We would still be intervening in animals' lives in ways that amount to regarding them simply as human resources. Instead of, or at least in addition to, the notion of utility, some philosophers think we need to invoke the notion of animal rights.¹²

Some utilitarians accept the view that killing is not in itself bad. Other utilitarians attempt to define animal welfare more broadly. Animals have interests besides avoiding suffering; they want, for example, to go on living. For these utilitarians, even painless killing will be problematic.

However, the basis for ascribing such interests remains controversial. The desire to go on living requires cognitive capacities, for example, an awareness of oneself as a subject of continued experience, that many would be reluctant to attribute to the creatures we tend to eat.

The notion of suffering raises another issue that should be of special interest to the readers of this journal. A number of writers have claimed to see an incompatibility between the animal liberation movement and the environmental movement. Here the idea is that the humanitarianism underlying the former movement implies that we should protect animals from nature. For, as Mark Sagoff puts it: "The misery of animals in nature beggars by comparison every other form of suffering in the world. Mother Nature is so cruel to her children she makes Frank Perdue look like a saint."¹³ The goal of environmentalism is to preserve "the diversity, integrity, beauty, and authenticity of the natural environment", but Sagoff sees "no reason at all to suppose that" achieving this goal "would make animals better off in the long run". Instead, to be consistent, the humanitarian should seek the conversion of wilderness areas into zoological farms which might provide "humane, managed environments". Environmentalism, like nature, is concerned with species, not individuals. Contrary to humanitarianism, Sagoff suggests, it "is not suffering per se that concerns us. What outrages us is human responsibility for that suffering". The "humanitarian" could reasonably object, of course, that attempts at such massive interventions in nature would be foolishly counterproductive. But Sagoff's claim does point to a potential tension between these two movements.

What are we to make of these disputes? The first thing to be said is that, whether or not one takes suffering or exploitation to be the sole or most critical point, factory farming stands condemned. It is a mere fantasy to suppose that our present dietary habits could be satisfied by a practice that did not cause systematic suffering. Nonetheless, this fantasy can be used to deepen our understanding of the values at stake.

The notion of exploitation needs fuller examination. Presumably it means something different from having a symbiotic relationship with animals. But what animals can be exploited in this morally problematic sense? Can you exploit a clam? As Mary Midgley writes, "Animals too, are not just 'animals'. They are elephants or amoeba, locusts or

fish or deer."¹⁴ Midgley points to the relevance of "the social and emotional complexity of the kind which is expressed by the formation of deep, subtle and lasting relationships"¹⁵, the kind of complexity we find, at least, in dolphins and rats, and the animals subjected to factory farming. When this obtains, it might seem, there is a basis for speaking of an animal having a life of its own to live, in a sense in which not every living thing has a life of its own. And where we have this, we have the basis for speaking of exploitation and for setting the question of suffering in a fuller context. Suppose we had a high-tech "laser rifle" with which we could instantly and painlessly kill a deer in the prime of its life. There seems to remain something morally problematic here which, again, I am inclined to put by saying that the creature has a life of its own.

However, the relevance of social relationships remains to be spelled out. We should not wish to exclude the more solitary creatures, the male mountain goat or orangutan, for example. On the other hand, ants are in one sense the social of creatures. Yet there seems to be an important difference in the moral status of an insect and a bear. If this distinction is sound, perhaps we shall have to revert to the capacity for suffering after all. Or perhaps we think that ants are not social in the sense of having a capacity for attachments to other individuals.

I suspect that, in the end, the notion of intelligence must come into play here. To encounter a rat or a deer is to encounter an independent form of intelligence -- not of the kind, as Midgley again puts it, valued at the Massachusetts Institute of Technology, nor of the kind Kant had in mind when he spoke of rationality. These are conscious beings with knowledge (though no doubt not scientific knowledge) of their worlds, and with the acuity to solve problems presented by those worlds.¹⁶

These points are relevant to the alleged conflict between animal liberation and environmentalism. While I would not agree with Sagoff that our only concern should be to avoid causing suffering, rather than to prevent it (wouldn't it show a moral fault to ignore the plight of an animal painfully trapped in a crevasse, when one could easily help; and why should we be "outraged" by human responsibility for this plight, unless it had some independent claim on us?), I do agree that "suffering per se" is not reasonably to be regretted. For other animals, as for human beings, suffering is an integral part of natural activity. But "suffering per se" is not the only basis for a concern for individual animals. Animals of the sort we are concerned with here have lives of their own to lead, defined by their own natures, and they cannot do that if they are managed by human beings. That is not to say that

concern for individual animals and concern for their species cannot conflict; nor is it to say that we can never justify preventing an animal from living its natural life. It is to say that there is more at stake here than suffering.

These faltering reflections are grist for the mills of those who would dismiss the claims of other animals altogether. Fine distinctions among different species, they will say, are simply arbitrary or sentimental. But there is nothing else to do at this stage but to delineate the differences that seem important in light of our present understanding. To take the rudimentary character of these attempts as a reason to persist in the traditional attitudes toward the non-human world is suspiciously self-serving. I believe that we have scarcely begun to articulate the values at issue in our relation to the non-human world. The difficulty is to think without the distortions produced by our likes and fears, by the desire to dominate, and by the vested interests in current practices.

NOTES

1. In this and ensuing paragraphs, I draw primarily from Singer (1975), Mason, Harrison, and Godlovitch, et. al.
2. Mason.
3. Singer (1975), p. 109.
4. Mason (op. Cit.), p. 93.
5. Michael W. Fox, p. 94.
6. Quoted in Singer (1975), p.135.
7. Singer (1975), p. 332.
8. See Kant (1785).
9. Midgley (1985), pp. 57-8.
10. The term was introduced by Ryder.
11. See especially Bentham and Mill. Schopenhauer also reacted strongly against Kantian ethics, offering instead a philosophy of compassion. It is not clear whether he was strictly speaking a utilitarian.
12. See Regan.
13. Sagoff, p. 6.
14. Midgley (1983), p. 19.
15. Midgley (1985), p. 60.
16. For emphasizing this point to me, I am indebted to Sara Lundquist.

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EMPATHY, HUMANENESS AND ANIMAL WELFARE

by Michael W. Fox *

Empathy is defined variously as: the intellectual identification with or vicarious experiencing of the feelings, thoughts, or attitudes of another (**Random House Dictionary**); the power of projecting one's personality into and so fully understanding the object of contemplation (**Oxford Dictionary**); and the imaginative projection of one's own consciousness into another being (**Webster's Dictionary**).

Sympathy and empathy are distinctly different phenomena. Sympathy is the sharing of another's emotions, especially grief and anguish, involving pity and compassion. Empathy (from the Greek term meaning affection, and a more recent German term **einfuhlung**, which means "a feeling in"), entails the power of **understanding** and imaginatively entering into another's feelings. While the two are not mutually exclusive, empathy implies some level of objective knowledge and therefore a greater accuracy of perception and affect than are seen in sympathy, which, because it is more subjective, may be a less accurate and more intuitive way of perceiving and responding to another's emotions. In our relations with animals (as with each other), sympathetic concern may or may not be misplaced, while empathetic concern, since it includes both objective understanding (of both the animal's nature and our ethical responsibilities) and emotional involvement, is likely to be more accurate and, therefore, less often confounded by anthropomorphic projections.

Empathy is motivated by **concern**, the accuracy of that concern (a desert animal doesn't need water even if one is thirsty observing it in the Sahara) being a condition of **understanding**: of rational

objective ("scientific") knowledge. From right understanding, right action, a compassion (and responsible stewardship) arises. The sympathetic experiences, feelings, and imaginings (of how one might feel in the other's place) that come from empathizing (i.e. the introjections of one's projections) become more accurate with experience and rational understanding. This is the key to good human relations and the humane treatment of animals.

In relation to a person's emotional rapport with and animal, is empathy possible? Sympathetic concern for animals is often judged, sometimes correctly, as being a sentimental, anthropomorphic projection. Sheer subjective sympathy toward an animal, without objective understanding of its behavior and needs, can lead to erroneous assumptions as to its well-being, and to misjudgement of others' treatment of animals as being cruel. Empathy is possible when the "feelings, thoughts, or attitudes of another" can be vicariously experienced: thus when there is objective knowledge about what an animal's overt behavior signifies, and what emotional states, intentions, and expectations such overt behavior reflects, empathy is possible. Without such objective knowledge, we have sympathy and varying degrees of anthropomorphization. Understanding and sympathy combined make empathy possible.

Empathy is a perceptual and cognitive phenomenon, not simply an anthropomorphic "humanizing" projection: it is analogous to what phenomenologist Merleau-Ponty terms lateral coexistential knowledge as distinct from objective, "vertical" (i.e. Cartesian mind over body) knowing and perceiving. Dallery (1978) illustrates this mode of perception as follows:

This is not the place to summarize Merleau-Ponty's magisterial work, *The Phenomenology of Perception* (1946). For our purposes, it is important to note that perception is described as the complex, always open, temporal "access" between world and perceiver. It is neither a causal process nor a process distinct from social relations, speech, or understanding (as it would be if perception were a "thought of seeing"). So in perceiving a snake, for example, I do not simply receive an impression of a sinuous form having a certain mottled pattern; I do not see a cold, indifferent fact, or have a bunch of impressions to which I might or might not endow some value depending on my feelings; I see the **snake**, which is to say that I see its behavior in an environment proper to it and that I "appropriate" the snake's way of being, the snake's perception of certain things around it. But I am free to regard the snake as an object and admire its beauty, or to loathe its slithering.

There is knowledge and feeling inherent in such empathetic perception. Dallery continues:

To see the animal moving in its environment is already to "care" about the animal, since in a way I put myself in its place. I say it is foraging, or mating, or fleeing; I know what it is doing because these are analogues of my behavior...But if beasts have no interior being and are automata, as Descartes held, I cannot "think in their place." In fact, I cannot really perceive them. They become real to me only as I add to certain sensations meanings that come from my sentiment of intellect. In outline, this is the tendency of modern thought. Perception is relegated either to blind mechanisms (as in skeptical empiricism and objective psychology) or to operations of the mind (as in Cartesianism and Kantianism). For Husserl and Merleau-Ponty, this amounts to canceling out perception and losing the world (at least losing it in and by means of philosophy). Merleau-Ponty then is not speaking metaphorically when he charges both camps in the modern tradition with blindness; he does not mean blindness to things in the environment (loss of the ability to see) but blindness to the world as lived, the world as open to environments of other beasts, as providing the ground of our coexistence of being together.

This I call simply a lack of empathy, which makes us dehumanize ourselves by objectifying the world, the causes of which need careful study.

From the existential phenomenologist's perspective, the difference between detached objectivity and rational empathy can be viewed as follows. Dallery (1978) equates the former with "vertical" Cartesian, hierarchical, instrumental, perceptual knowledge and the latter with "lateral" coexistential knowledge and perception. So where does sympathy fit into this paradigm? Dallery does not answer this question. It lies, I believe, in the "lateral" or coexistential dimension as the potential bridge for rational empathy and coexistential knowledge. And it is easily inhibited by the "vertical" dimension of Cartesian thought and perception. Hence Cartesianism, while not inhibiting rational intellectual development, can impair the expression of sympathy which is a prerequisite for the development of rational empathy and moral maturity.

The Cartesian dimension is advantageous to our survival or being, and the coexistential dimension vital for our becoming. In thinking and perceiving in both these objective and trans-subjective dimensions, we literally think and see both ways, a "double-vision" that reconciles the dialectical nature of reality and the duality of self and other, with the paradoxical wisdom of objective

love. Then, and only then, is a mature, rationally responsible and empathetic love and understanding of others possible. Both meaning and fulfillment are then experienced as a kind of resonance between love and understanding: **agape** and **logos**.

There are those who believe that since the subjective world of animals cannot be objectively weighed and measured, it does not exist. Furthermore, empathizing seems pointless since animals do not really have emotions or an inner subjective mental world, except one governed by unconscious instincts. This animal-as-machine attitude, termed Cartesianism after the philosopher Rene Descartes who gave this attitude scientific respectability in the seventeenth century, is not the only factor that impairs our ability to empathize.

The ability to empathize may be inborn as an adaptive component of our sociobiology, and as Alice Miller (1981) has shown, lack of mature parental love and understanding can severely impair a child's empathetic development.

The experience of parents' empathetic understanding (expressed as the ability to deal supportively with the child's suffering, anxieties, and growing independence) has a significant influence upon a child's ability to love and empathize. Males, in our patriarchal society, may well show more cruelty toward animals, or justify the same, because they close off empathy more than females when faced with others' helplessness and suffering. The more intense, existential anxiety and reduced ability to empathize, plus a greater need to assume dominion over others (as power and control) in the male of our species may be rooted in the male child's greater sense of insecurity and separateness from the mother in early life. This is less intense in little girls because they have the security and connectedness of maternal gender identity. Hence women may be better able to empathize and cope with others' suffering, this sex difference being exemplified by the greater nurturing ability of females that may be more than a culturally determined sex-stereotype. The greater the sense of personal security, the less need for such distancing defense mechanisms to cope with anxiety as rationalization, denial, sublimation, objectification and reaction formation.

Those adult males who are less "feminine," empathetic and nurturing, are not necessarily less sensitive than women. Their apparent insensitivity may be attributed to an emotional closing down to varying degrees when faced with others' helplessness and suffering. This awakens their own unbearable feelings of vulnerability, fear of being hurt and of losing control or of being controlled. Fear and empathy are thus linked, when empathizing evokes the awareness and terror of one's own ultimate non-being. The fears of empathy's burdens and of losing power and control are the greatest

obstacles to man's being and becoming humane. To judge such people as being deliberately cruel or intrinsically insensitive is surely unjust, yet this is a common reaction in the humane, animal welfare and rights movement.

Such defensive ideologies as patriarchal dominionism and Cartesianism, like machismo, are perhaps reaction formations in the service of the ego, especially of the insecure male ego, in this culture, which need to be recognized as pathologically maladaptive reaction formations.

The ability to empathize is also affected by cultural attitudes and values: emotions are put down by instrumental rationalists as being irrational and subjective. Self-serving religious and political ideologies also impair the ability to empathize, notably such ideologies as: man's God-given dominion (over women, animals and nature); of God being only transcendent and not also omnipresent, inhering in all living things. Beliefs that animals have an intrinsic right to exist, or are ensouled, or possess a spark of inherent divinity, have been dismissed as "eastern" philosophy and pagan pantheism. Yet respect and compassion toward all of God's creations is an integral part of Christianity (especially of Paulist, Gnostic and Essene doctrines).

The moral foundation of our industrial civilization's relationship with animals and nature is clearly flawed by its lack of reverence for all life. In order to further the exploitation of animals by the biomedical, farming and wildlife "resource" industries, such beliefs in man's dominion and in animals having no inherent rights, divinity or capacity to suffer emotionally, become essential defenses to rationalize away and deny empathetic feelings of compassion, guilt and responsibility.

There are a number of other reasons why empathy toward animals is impaired, leading to their being treated inhumanely or with indifference. First, we lack objective, scientific knowledge, (rather than applied production-related information) about the behavioral requirements and emotional, subjective world of animals. Farmers, animal scientists and others involved in livestock production also have little or no formal training in ethology. A stockman who knows his animals, who can "think like a pig," for example, usually does a better job than one that lacks this basic and essential knowledge.

Second, desensitization, a blunting of sensitivity, occurs naturally as a defense mechanism, when one has to perform various painful procedures upon animals and must ultimately kill them or send them to slaughter. Empathy is thus withdrawn, because the burden of responsible compassion that comes with empathizing with another's suffering and helplessness awakens one's own sense of vulnerability and death awareness, which can be unbearable. Many people seem to

confuse empathy with being anthropomorphic probably because they are repressing their own true feelings behind a defensive screen of intellectual rationalizations used to justify and protect vested interests in animal exploitation and to alleviate feelings of guilt. Closing off empathy, especially in laboratory animal research (with its scientific "objectivity") and factory farming and wildlife exploitation (with their objectification of animals as "stock," "food converters," "resources," and "trophies,") ultimately distorts perceptions and objectivity, and becomes a primary source of needless animal abuse and suffering.

Third, the empathetic burden of responsibility is lightened further by making economic and other rationalizations to justify certain procedures: i.e., that suffering is necessary, unavoidable, and justifiable if any societal benefits are accrued.

What may be termed "protective objectification" -- the denial of others' subjectivity -- in order to avoid closeness, responsibility, and the burdens of empathy, is another obstacle, exemplified by women being treated as "sex objects," medical patients as "cases," and animals as trophies, pets, research tools, livestock, etc. Many persons in a paradoxical and potentially stressful relationship will often mobilize the above defenses since emotional involvement can lead euphemistically to "burn-out": farmers who nurture animals that will be killed; animal shelter personnel who are concerned about animal welfare but must euthanize them; biomedical researchers and laboratory technicians who care for animals but cause them to suffer and mutilate, kill and dissect them; physicians and nurses attending the terminally ill, knowing they will soon die. While such persons must be "realists" in dealing with the paradoxes of life, the difference between a nurturing and supportive person and one who is empathetically disconnected is the difference between humaneness and indifference, between compassion and inhumanity. The difference is not between intrinsically kind and cruel persons, but between those who can bear the burden of empathy and those who fear it. The difference between a humane farm and a large "factory" farm, and regular human hospital and a hospice for the dying is surely based upon the individual's capacity to empathize and to not protectively shut out the realities of life's suffering and the finality of one's own non-being.

Protective objectification is analogous to Judaic philosopher Martin Buber's "I-It" relationship. From Buber's perspective (1970), empathy enables us to break out of the objective, detached "I-It" mind-set into the trans-subjectively objective realm of "I-Thou." The objective and subjective realms of each "It" and "Thou" are mutually inclusive: every entity is a dualistic monad. The subjective, intrinsic value or

worth of one entity is part of the objective, instrumental realm of other interdependent monads (be they atoms or living beings), that are bound in relationship (which may be purely physical, ecological, social or emotional). In Buber's terms, the subjective "I" of one monadic entity is the objective "It" of another. But when there is respect for the "I-ness" or subjective realm of another's being, and empathetic love and compassionate understanding, the objective "It" becomes another subjectively resonant, spiritual "Thou." A monadic relationship is then made, through respect and love, which is, for Man, the emotional, spiritual and ethical manifestation and experience of a unified field of being. This state of relatedness does not, I believe, as Buber suggests, exclude or transcend the "I-It" objective duality, but rather enfolds it in love, such that the objective instrumental realm is still an intrinsic part of the relationship but does not govern it.

Buber's concept of "I-Thou" embodies the spiritual and political principles of reverence for all life, humane stewardship, respect, nurturance, "reciprocal maintenance," co-evolution and agape (as self-giving love). Objective instrumental rationalism and love are not mutually exclusive, but rather they reconcile, at the conscious, ethical level of reality, the dialectical, paradoxical antinomies of life. The exclusion of love from objectivity brings evil and suffering into the world, which cause increasing anxiety, which in turn leads to more power and control over others or emotional withdrawal, and to more evil and suffering.

The "otherness" of an animal Buber (1970) describes eloquently when he strokes a horse at his grandparents' estate:

I must say that what I experienced in touch with the animal was the Other, the immense otherness of the Other, which, however, did not remain strange like the otherness of the ox and the ram, but rather let me draw near and touch it. . . and yet it let me approach, confided itself to me, placed itself elementally in the relation of Thou and Thou with me.

Buber emphasizes that an "I-Thou" rather than an "I-It" relationship is therefore possible in the absence of a reciprocal observing ego, as when one contemplates a rock, or nature, or interacts with an animal. It is possible in such moments of openness with the nonhuman world to actualize and encounter the spiritual essence of Being that inheres in all animate and inanimate forms and for Man, therefore, to discover, if not actually bestow meaning and significance, not as objective knowledge or some projected ideology of animism or

panpsychism but as a panentheistic gnosis of the divinity or spiritual quality within all: an expanding state of pan-relation with the *anima mundi*, soul of the Earth, or God within.

Buber writes that the unity and living wholeness of a tree is manifest to those who say "Thou" and is present when they are present. It is they who grant the tree the opportunity to manifest its being, but most often our habitual attitudes, ways of thinking, perceiving and relating, deny us such a relationship. In Buber's words:

Spirit become word, spirit become form-- whoever has been touched by spirit and did not close himself off knows to some extent of the fundamental fact: neither germinates and grows in the human world without having been sown; both issue from encounters with the other.

That most animals are capable of experiencing and expressing affection and of enjoying life in their way, as we do in ours, and like us have interests, means that they are emotionally and cognitively, and some would say spiritually, little different from us. That we are different in terms of our power of dominion over them does not mean that we can ignore the ethical relevance of these similarities. We differ in degree and not in kind: we are not superior, but our objectifying of the world leads us to believe so as we no longer perceive the unified field of all Being.

Comparative sciences such as zoology, ethology, physiology, and psychology, reveal how sapience and sentience-- intelligence and conscious sensitivity-- evolve. The only differences between humans and other animals, which create no discontinuity but build upon the phylogenetic and ontogenetic sequence, are our powers for self-contemplation, creative imagination and verbal conceptualization and communication. The two axes of sapience and sentience reach their highest expression phylogenetically and ontogenetically in humans, as understanding and compassion, as the will is consciously motivated by the subjective force of love and directed by the objective power of knowledge. Knowledge applied without love is as self-serving, self-limiting, and destructive as the love of narcissism's ignorance. Empathy, the synthesis of concern and sympathetic understanding of others, a quality not lacking in animals, is the very essence of humane being.



Conclusion: Humaneness as Love

Neither legislation nor moral codes can make people empathize with animals. Being humane is an attitude of heart and mind, of empathy and understanding, not simply a legal or moral injunction. At best, laws and codes guide and constrain human actions, but they do not inspire the ability to "love thy neighbor (and fellow creatures) as thyself." The one strong point of animal rights philosophy is that it draws our attention to the animals' own wants, intrinsic worth and interests. This implies that we and they have something in common: a will, a life of one's own, perhaps a soul. This is speaking closer to the heart. Recognition of these qualities in other beings awakens the heart of humility and compassion, fundamental tenets of all religious teachings. Being humane thus entails the spiritual recognition and affirmation, through empathy, humility, and compassion, of the divinity and sanctity of Self within all beings, within one's own self as well as within others.

The Buddha proclaimed: "One thing only do I teach: suffering and cease of suffering. Kindness to all living creatures is the true religion."

Likewise Pantanjali (circa 240-180 B.C.) gave the first step in yogic (religious) discipline as "the avoidance of injury to all living creatures," because all creatures were regarded as being part of God's creation and therefore sacred and ensouled with the spark of the Divine.

Humaneness is an expression of mature love that resacralizes nature, and all living things, not animistically but panentheistically in accord with the Christian (Paulist, Gnostic and Essene) doctrines of a divine omnipresent (as well as transcendent) Creator within all of creation, which is the basis of Schweitzer's theosophy of reverence for all life.

Empathy is the bridge for unconditional love, a love synonymous with experiencing the world without the domination of personal interests and preconceptions. Such a mature love is therefore revelatory, since it is the perception of the miraculous, of the numinously radiant divinity in all. This is the subjective recognition of Self in other, and thus of self-realization.

Through empathy, mature love is possible: such love is nondialectical in its arbitrary, unconditional non-duality of the observer (the lover) and the object of one's contemplation (as I-Thou). And love is paradoxical, for instead of losing one's sense of individuality, the sense and meaning of self is enhanced. Love transcends the paradoxical dualities of the subject-object manifolds of our every day enculturated reality, consciousness, and unconscious ego defenses. Love is revolutionary, because through the bridge of empathy, understanding as coexistential knowledge,

is possible. This is the beginning of self-realization; of personal and interpersonal development and human evolution.

Gilligan (1983) links empathy with moral maturity. When both intellect and empathy are integrated in our thinking, "it joins the heart and the eye in an ethic that ties the activity of thought to the activity of care." Without such an integration, purely intellectual, rational thinking is objectifying and potentially alienating, since it limits empathetic understanding. A purely sympathetic response is a subjective projection and potentially inappropriate, and no less damaging, than a purely objective response. Informed sympathy is empathy, expressed as compassionate understanding. Rational empathy is the only basis of ethically responsible behavior.

Insofar as the humane movement is concerned, and humane education in particular, to evoke sympathy for mistreated animals (for fund-raising purposes or to stimulate students' and supporters' moral indignation) is unethical if it is based only upon the sentiment of abolishing all suffering and not also upon respect for the animals' intrinsic worth and recognition of the importance of humane ethics and reverence for all life to our moral development and social change.

We live in two worlds: the objective and the subjective. When we make the two worlds one, and put the inside on the outside, as Jesus once said, we will discover the Kingdom of Heaven, or in modern parlance, reality as a unified field of being. As animals, we live in our subjectivity, and as rational beings we stand apart from the world in our power: but together we have the possibility of mature, responsible relationship and planetary stewardship. Apart, we have delusion, oppression, and destruction, creating the imbalances that we perceive as evil, and experience as suffering. By introducing empathy and using power and control over life in order to avoid the feelings of vulnerability and helplessness in the face of life's burdens of suffering and death, we cause even more suffering. The barrier between these two worlds, which Buber termed "I-It" and "I-Thou", is not our objectivity, or our subjectivity. Both are essential attributes of our being and becoming. But they must become integrated with the unified field of our own being that embraces animals and nature, for we are both. To perceive and think otherwise is to remain unintegrated, which is the ultimate barrier to our self-realization and moral maturity. We, animals and Nature are one. In order to change the world, we must first become as one with the world (in peace and harmony). And since peace comes from within, we must first see ourselves before we can change the world. Then the way of empathy is clear.

Postscript

Why Do Animal Shelters Kill So Many Pets?

Psychiatrist M. Scott Peck in **A Road Less Travelled** draws a very pertinent, which some would see as impertinent, correlation between the love people have for their pets and the high rate of divorce among G.I.'s who lost affection for their Vietnam and Korean wives as they began to learn English, and assert their no longer dependent and subordinate individuality. Puppies and kittens likewise lose their appeal to many as they mature, assert their independence and individuality. And so like G.I. brides, they are abandoned because, beneath the complaints that they are disobedient, too much trouble, or have annoying habits and behavioral problems, they are no longer loved.

The mass destruction of some 13 million unwanted, abandoned, and neglected cats and dogs each year in the US must assuredly reflect the limitations of an immature, narcissistic love relationship, an aspect of the human-companion animal bond which has been grossly neglected by researchers and is not simply a consequence of "unthinking and uneducated" owners. Peck defines mature love as "the will to extend one's self for the purpose of nurturing one's own and another's spiritual growth." In our relationships with captive and domesticated animals, this is surely the essence of humane husbandry. It is the absence of empathy, compassion and understanding, which undergirds all inhumane and unethical relations between people and between us and the animals, as they continue to be exploited for selfish, emotional, financial, and other reasons.

Farmers and biomedical researchers can put their empathy, compassion, and understanding of animals on one side for reasons of profit and instrumental utility, arguing that the extreme privations of factory farming and mental and physical suffering of laboratory cats, dogs, primates, and other animals, is for the "benefit of society." A society that can find anything of greater value than empathy, compassion, and wisdom is perhaps suffering from the pathology of materialism and objectivity. The divorced G. I.'s bride was simply the material of his narcissistic yearnings; a sexual object. Likewise cats and dogs can be status or play objects, or things to fondle or control; and farm animals simply biological machines in the computerized technology of agribusiness; and laboratory animals mere components of experimental design and ultimate execution.

Fortunately not all husbands (G.I.'s) and husbanders (pet owners, farmers, and biomedical researchers) relate to other living beings in this way. But unfortunately, we must surmise that they are a minority, for to date they have been

relatively silent on matters concerning human and animal rights. Or are they the silent majority? It is surely time to break the silence, after reflecting upon the monetary value of animals, for as Jesus said: "Do not two sparrows sell for a coin of small value? Yet not one of them will fall to the ground without your Father's knowledge; not one of them goes forgotten before God." (Matthew 10:29; Luke 12:6).

It is too simplistic to say that people love their pets because pets are "nonthreatening others." Perhaps by understanding why so many people find it easy to love animals, we may discover ways to help people love each other, and not be afraid to love, and those who hate, fear, or are indifferent to animals, love them also, as **significant**, rather than as nonthreatening, others.

If love is the union of souls, then the bridge is empathy when such non-sentimental love is based upon compassion, respect, and understanding. Such love entails an openness of feeling, a degree of vulnerability, intolerable in the presence of any human or animal that is perceived, correctly or incorrectly, as being threatening. Fear inhibits the ability to give and receive love. Likewise, others' expectations that we feel we must live up to, set up defenses and roles. But with animals (and little children) when we have no fear toward them, and they have no demanding expectations of us, then we are free to love them.

Mature love is also impaired when the object of one's perception and even claimed affection, is exploited to one's own selfish advantage. Such exploitation, be it of a spouse or an animal companion (as a "pet," or for its pelt, meat, or physiological responses to test drugs), objectifies the potential "Thou" of the others' being into an "it" (a sex object, a child-substitute, a financial or intellectual gain, etc.). These objectifying transformations may seem necessary for our well-being, and to a degree they are. But when we transgress ethical boundaries in relating to others exploitatively rather than with empathetic understanding and respect, we limit our own potential fulfillment from such a relationship. This fulfillment is to become human, or even, as Plato and Aristotle envisioned, to "become like divinity as much as that is within our power."

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* This article is reprinted from the anthology *Advances in Animal Welfare Science 1984/85*, edited by M. W. Fox and L. D. Mickely, published by the Humane Society of the United States, 1985. (See the review of this collection in the Book section of this issue of *The Trumpeter*.) Reprinted here with permission. Michael Fox is Director of the Institute for the Study of Animal Problems, and Scientific Director of the Humane Society. He has written extensively on animal husbandry and related topics. (See reviews of some of his books in the Booknotes.) He has a book forthcoming titled *Agricide*, from Schocken Books, N. Y. He would like to hear from farmers working for humane husbandry. His address: Humane Society of the U. S., 2100 L Street N. W., Washington, D. C. 20037.



ORGANIC GARDENING by Stuart Hill *

"You're not one of those organic nuts are you -- you know, the sort of idiot who believes that organically produced food is superior, and that we shouldn't use fertilizers and pesticides?"

"If by 'superior' you mean generally better for mankind and by fertilizers and pesticides you mean those which have been synthesized by man -- well yes, I guess I am an organic nut, but I think I can defend these views."

This article is by way of a reply to the "non-organic nuts" who frequently ask the above sort of question. My qualifications for attempting this are firstly that I have kept a successful garden for a number of years without using "fertilizers" and "pesticides", and secondly that my training is as an ecologist, i.e. a scientist concerned with the factors that determine how and why different animals and plants, including crops and their pests, survive and multiply in particular environments. At the present time my major interests are with soil animals, their influence on soil fertility and man's influence on them, and with insect pests, the causes of outbreaks and methods of controls. I should point out that I have no experience as an organic farmer, and am not attempting to present a case for organic farming. Rather I will try to explain why I have chosen to garden organically. Some of the reasons are

selfish, some relate to the needs of my family and some to the needs of mankind. They include a desire to save money, to be able to eat fresh, tasty vegetables when we want to, to provide an interesting pastime that the whole family can participate in and to enable me to commune with nature. In addition to satisfying the above criteria I want to be sure that my gardening activities will not degrade the environment. Let's deal with these criteria in turn.

To save money and provide us with fresh, tasty vegetables

On an area of garden, 50 ft. x 50 ft., I am able to grow enough to provide our family of four with vegetables for about half a year -- and we give away quite a lot to friends. This probably saves us between \$200 and \$300 per year. With no fertilizer or pesticide to buy, our only annual costs are for seeds and plants (\$10 to \$20).

I plant early, mid-season, and late varieties of as many crops as I can, and we harvest and eat them daily, when they are ready and in peak condition. The excess is stored. Most of the vegetables are eaten raw so that we derive the maximum food value from them.

As a pastime and an opportunity to commune with nature

With regard to exercise, there is a period of fairly intensive activity in spring when the ground must be prepared and planted, but after that little physical labour is required until autumn. I keep an eye on the crops almost daily by walking through the garden on my way to and from work, and we may do some cabbage worm picking or slug catching if this seems necessary. I only water four or five times during the season and weed two or three times. The other period of fairly intensive activity is in autumn when the compost heap must be made and the remaining crops harvested and stored. Planning the garden for the following year is an enjoyable but quite demanding exercise. Decisions as to which varieties to plant and where and when to plant them are much more critical when not using pesticides. I find that the books and magazines on organic gardening are packed with interesting ideas which may be tried out. For example, a few years ago I read a letter from an old lady who got rid of her newspapers by laying them between the rows of plants as a paper mulch. I had been saving my old newspapers thinking that the Boy Scouts or some other socially responsible group might like to collect them for recycling, but I could not interest anybody in them. So I did as the old lady had done. I found that as the newspapers prevented evaporation from the soil surface I hardly had to water the plants. They also kept the soil warm and prevented both the weeds from growing and the soil from eroding. I was able to walk between the rows without getting covered in mud and without compressing the soil, and, if I needed giant

earthworms for fishing, I only had to lift up one of the newspapers and there they were actively cultivating the soil for me. I can also feed them to my goldfish without fear of them being contaminated with pesticides, or watch the birds feed on them without worrying that they may be poisoned.

The opportunity to commune with nature is one of the main reasons why I keep an organic garden. I just love getting my hands into the soil, caring for it and watching it become more fertile and productive. I enjoy carrying out little experiments and following the growth of plants through the growing season. I even enjoy watching the pests turn up and then watching their predators and parasites keeping them in check. I marvel every year at the conversion of leaves and vegetable wastes in my compost heap into sweet smelling, fertile humus. It has become very important to me to be close to nature.

What I have said up to now represents my subjective, yet real and honest, reasons for gardening organically. However, I have deeper, more fundamental, reasons that relate to the laws of nature and the future survival of man in a high quality environment...

I am not saying that we cannot produce as nutritious food using fertilizers and pesticides, but rather that we are not producing as nutritious food largely due to the things that are done to the food between harvesting it and eating it. My argument against the use of fertilizers and pesticides is not based on nutrition, as insufficient research has been carried out to demonstrate that either is clearly superior, although I must admit that working from basic principles I would predict that organic foods will eventually be shown to be superior, weight for weight. (Research done since this paper was written supports Stuart's prediction. Ed.)

I object to fertilizers for four main reasons:

1. We are using up our fast disappearing fossil fuel reserves to make fertilizers. For example, it takes the amount of energy released from five tons of coal to make one ton of nitrogen fertilizer. We have to establish priorities for the use of fossil fuels and I just do not regard fertilizers as a priority item, especially if it is to be used in the back garden.
2. Usually more fertilizer is applied to the soil than it is able to hold. Some of the excess fertilizer is carried, through run-off, into our waterways where eutrophication can result, and some may get into our drinking water and cause methemoglobinemia in babies.
3. Adding materials such as inorganic nitrogen fertilizers to soil tends to increase the rate of breakdown of organic matter. As the soil is partly held together by this organic matter, a reduction in the amount present may lead to collapse of the

soil and to an increased rate of erosion.

4. In natural systems plant nutrients are derived from the recycling and breakdown of organic matter. By adding inorganic fertilizers it makes it appear no longer necessary to return organic waste to productive land. Instead we get rid of most of this waste by dumping it on non-productive land, or in the river (causing water pollution) or by burning it (causing air pollution). In contrast to this we should try to fertilize the soil in such a way that we:

- a) use the minimal amount of fossil fuel energy;
- b) return our organic wastes to productive land;
- c) do not contribute to pollution;
- d) release nutrients to plants as they are needed;
- e) enable the soil to maintain a stable structure.

These criteria can only be satisfied by returning our organic wastes to productive land. For the home gardener this can be done by digging raw organic wastes into the soil or by adding them after composting.

My case against pesticides

I object to pesticides for four main reasons:

1. What we call "pests" are biological entities. This means that there is nothing about a pest that will make it more likely to be killed or damaged by a poison than a beneficial organism (including ourselves and our children). Thus whatever poisons we use to kill pests will always kill or damage some other organisms. As it happens this situation is made worse by the fact that most pests feed on plants and are less sensitive to pesticides than most of their predators. Thus we often find that when pesticides are applied the natural predators of the pests, which may have previously played a vital role in keeping the pests in check, are killed. The predators may have also been keeping other minor pests in check which in their absence are able to become major pests.
2. All pests are likely to eventually become resistant to pesticides because by applying them regularly we are continually selecting for the individuals that are least affected.
3. We have very little control over the fate of the pesticides we apply. In fact a maximum of 40 per cent reaches the target, 60 percent to 99 per cent being dispersed into the rest of the environment, some poisoning beneficial plants and animals, some getting into our waterways, some into our drinking water and food and some getting on the person applying them. Thus the argument that the real problem is misuse is a poor one, for even with correct use we still have little control over the distribution of pesticides.
4. Most pesticides are organic chemical compounds that man has synthesized and that have no counterpart in nature. If they were like naturally occurring materials, it is likely that many micro-organisms would have evolved that could break them down. But this is not the case. This is why many of

them are so persistent and accumulate in the environment. In fact by producing and releasing them we are bound to gradually increase the amount of these poisons in the environment. I think that we have got into this mess of depending on fertilizers and pesticides by relying too heavily on the idea that there is a simple solution for everything, e.g. fertilizers for fertility, pesticides for pests. In reality lack of fertility and the presence of pests are complex phenomena which in most cases require complex remedies. Only by modifying our methods of managing "agricultural" systems will we satisfactorily solve these problems and insure our survival in a high quality environment. While it is difficult to bring about rapid changes in agricultural management, there is nothing to stop us managing our gardens with nature and not against it.

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Canada: Land Fellowship, Smithville, Ontario, (Spencer Cheshire)

* This article originally appeared in the **MacDonald Journal** (McGill), Dec. 1973, pp. 7-10. Reprinted with the permission of the author. Stuart Hill is with the Ecological Agricultural Projects at McDonald Campus of McGill University. He is a leading author in this field.



Agriculture and the Staff of Life:

Some Final Reflections

by Alan R. Drengson

In the Spring issue of *The Trumpeter* I attempted to summarize and draw together the various strands of philosophy that form the basis of ecoagriculture. We saw through Wendell Berry's essay how culture and agriculture are inseparable. We spoke in general terms about the type of mixed farm that imitates nature the closest. A mixed farm raises not only mixed plant crops but also mixed species of animals. We cited an example of a farm in Java that integrates fish, ruminants, fowls, pigs, cereal grains, vegetables, and tree crops. The farm cycles and recycles all wastes and uses irrigation water to move waste materials to various parts of the farm where they act as fertilizers and humus builders. The fish pond at the bottom of the slope is eventually drained, the fish are harvested and the algae that has grown in the nutrient rich water is removed and placed on the rice fields up the slope. When water finally leaves the fish pond, which doubles as a settling basin, it is relatively clean. The main inputs to this farm are solar energy and water, the rest of the system is almost closed. Under such conditions this farm has been in operation for generations and yet grows in fertility. It is an example of native permaculture. Are there examples of such agriculture in the west? And would it be possible from an ecological standpoint to practice this kind of cultivation and husbandry in North America?

The answer to both of these questions is yes. As we have seen, there is a growing body of practical knowledge being used by an increasing number of farmers and gardeners practicing ecoagriculture. Their efforts and results clearly show that there is an alternative to the degenerative agriculture now being used.

Many years ago my brother and I had a small farm, on which horses were grazed. We also raised food for our own consumption. We did not want to use either chemical salts or biocides on the land. We studied alternatives and talked to various garden and feed store people. Most told us that "You can't have good crops without fertilizers and sprays". "Organic gardening" was regarded by the majority as nutty, or fringe. We persisted for we knew that our grandfather had farmed the original prairie soils without modern chemicals.

We found that there was then (about 15 years ago) a large literature on organic gardening and humane husbandry. There is now much research that shows how human health is directly linked to the health of the plants and animals we consume. Further, this research supports the contention that deficiencies in the soil show up as abnormalities in plants and animals which then open them to disease, parasites and predation. Monoculture and

reduction of species diversity lays agriculture open to epidemic problems. Further evidence indicates that you cannot solve these problems simply by adding a salt containing a given chemical (calcium say) that might be one of those in short supply. Experimental work has shown that plants can only take up soil minerals in certain forms, and that plants condition these minerals subsequent usefulness by altering their chemical forms. Animals can only fully utilize these necessary elements, when they are in the organic forms that the plants provide. Of course! We evolved as predators and omnivores and all animals live from plants or from animals that eat plants.

When we try to "cure" diseases in plants and animals by the application of biocides, chemical salts, hormones and synthetic fertilizers, we often compound problems whose source lies under our feet in the humble soil and in its lack of **balanced** fertility. Such fertility imbalance can be a natural condition in relation to agriculture (as it is in the case of many tropical soils), or its imbalances can be the result of bad agricultural practices. Plants and animals raised on such soils (as Albrecht and others have shown) often suffer deficiencies in proteins and the components necessary to synthesize them, and shortages of minerals which are necessary for the synthesis of the hormonal and other processes required for balanced growth, disease resistance and reproduction. Their immune systems are often not able to withstand bacteria and viruses that are always present in the environment. Chemical fertilizers and biocides do nothing to improve the **quality** of the soil, and in fact work against it. The increased use of chemical fertilizers has been associated with a host of problems, but most importantly it has led to the production of many crops and forage feeds that are highly carbonaceous and low in protein. They may look dark green and lush to us, but will be avoided by cows, if they can select feed that is raised on balanced soils. Forages so raised have a much higher protein content and a balance of minerals in the right forms. They contain less total bulk in relation to food value.

Reflecting on these matters one can see that the key to a sustainable agriculture is soil management, and a balanced, fertile, living soil can only be attained by encouraging the regenerative biological processes that are naturally in it. This means feeding the soil communities in order to build an abundance of life in it. This is the very opposite of the direction current chemical agriculture is taking us. In ecoagriculture the build up of humus and mineral balance of the soil leads to the growth of healthy plants that provide optimum nutrition to the animals living from them. The animals in turn process plant material and return it to the soil, just as predators speed, through their digestion,

the decomposition and return of herbivores to the soil. Insects, earthworms, bacteria, fungi, and all of the various species populations each play some small role in this incredibly complex process which is in principle never ending.

The implications of all of this for the human realm are clear. When we are poorly nourished as a result of eating foods produced on poor soils, we become vulnerable to disease. If we lack calcium, e.g., we are not going to fill this deficiency by ingesting just any form of calcium. Evidence indicates that calcium and other minerals play a number of different roles in the body and recognized deficiency diseases are only a minor part of the effects of poor nutrition that is the end result of poor soil conditions. In addition, modern industrial processes add to the impoverished food a whole range of chemicals such as pesticides, herbicides, food additives, hormones, antibiotics and the like. These contaminants found in under-nourishing foods add to the body's burdens in a high stress urban society.

The philosophy of the industrial model has been to try to substitute industrial, technological processes for natural ones. When cancer rates climb this is not associated with soil mismanagement. Instead, the chosen approach is to use chemical warfare and surgery on the tumor (cf to chemical farming) and to attempt to find a "cure," such as a group of antigens, interferons, or whatever will kill the patient's tumors. Increases in cancer rates are shrugged off as simply the result of more people living longer, and "You have to die from something. . ." Yet evidence is mounting that shows this whole approach to be backward, but understandable, under the circumstances, since the patient's disease cannot be cured by correcting the original problems in the food system. (And I do not mean to suggest that changed nutrition might not alter the course of many diseases.)

Starting with proper soil care and other measures, a preventive approach suggests dietary changes that would have us reduce the amount of fat and increase the amount of fiber in our diet. A correlation has been found between fat intake and disease, but little is said about the chemical pollutants contained in the fats, which got there through the agrichemical approach to farming and food processing. As of now, the livestock industry is still feeding for fat and water content, for what counts economically (unless consumers demand otherwise) is bulk, weight gain, "productivity," the same values emphasized in production of plant crops. A whole host of philosophical, ethical, ecological, social and other problems are associated with the factory agribusiness "husbandry". A large body of knowledge from older traditional agriculture is being lost as a result

of government policies and tax laws which enable an ecologically unsound, inhumane, medically bad, and inefficient husbandry to exist. Even if intended, these policies and practices could not have been better designed to assure the eventual collapse of agricultural land, culture and the health of nations. This is not limited to North America. As we have seen, the ecological problems of agriculture are world wide. Erosion alone is taking an enormous toll. Airborn soils from Africa are now being deposited on cars in Miami. (As we know, parts of Africa are now in the grip of severe drought and famine. Africa, as late as 1970, was self sufficient in food production, but now has a rapidly deteriorating agriculture which is only in small part explained by natural weather cycles, for government policies and population pressures in many countries have put undue strain on ecosystems.) The erosion rates, even in Canada and the US which farm primarily temperate, relatively flat land, far exceeds the replacement rate for top soil formation.

A curious thing in all of this is that the main drive in research funding is toward the production of more chemical specialties and further species reduction. Whereas what we need is to draw together what is now known about agroecology, nutrition, and other aspects of the total food and waste cycle. Yet large sums of money are going into biogenetic engineering research to try to produce, e.g., various synthetic bacteria and organisms to protect hybrid plants grown in poor soils from diseases to which our agriculture and husbandry have made them prone. Thus we can foresee an ever increasing application of treatments to cope with symptoms produced by other treatments of other symptoms, none of which go to the root causes of our increasingly difficult problems. The analogue to this in medicine would be iatrogenic disease. Suppose the doctor gives you a substance that makes you ill. He does not withdraw it, but continues its use (and we will assume it was unnecessary in the first place). Now he has to treat the symptoms produced by the "medicine". These produce other problems which require still further treatments. This is the way our approach to conventional petrochemical agriculture shapes up.

Furthermore, consider that this genetic research is going on with the very stuff of our being as biological organisms. It is not only plants and animals that researchers are striving to manipulate from the gene out, but also the human organism. With conventional selective breeding and artificial insemination alone, the diversity of farm animals has been reduced enormously. The farm community has also declined until only a small remnant remains, and what does remain is largely specialized. Always driven by the aim to produce more per unit, more per man hour, actual costs are

hidden by subsidies and tax write-offs. Other values that are lost are hidden by an urban movie and ad mythology about the countryside. The consumer thinks that he or she stands at the end of a long line of productivity which provides a nutritious, sanitary, safe and abundant food supply that is the lowest cost in the world. But this is a food system which produces a vast surplus of some commodities. It also produces vast debt for the farmer (over \$200 billion in the US alone), and malnourishment in the form of too much fat, reduced quality in terms of loss of minerals, vitamins, proteins, taste and texture. (What happened to sweet, tender tomatoes?) The products and side effects of this system include many chemicals that are harmful to the consumer, and which also pollute water and soils. Our food, and its manner of production and processing, costs us far more than we realize, and these costs, even if practices were rapidly changed, will be with us for a long while.

Our actions as consumers and citizens reinforce and support the system we have been describing. Most of us are not aware of the interconnections of the practices and policies that prevent progress on regeneration of the farm culture and the land. Most are not aware of the inhumane conditions under which factory farmed animals are kept. They do not know how eggs are produced, nor how veal is grown; nor do they have any inkling of the conditions in the factory hog farm. When one learns about the details of the factory farming of animals one is apt to be utterly appalled. One knows intuitively that consuming the products of animals raised under such conditions cannot possibly be an ethical and healthy way to eat. One might then consider vegetarianism for both medical and ethical reasons. Some might even consider veganism (the eschewing of all animal products in the diet), and here one can cite people like Helen and Scott Nearing, who considered even pets and keeping range chickens for eggs unacceptable forms of exploitation.

My brother and I found that it was not only possible to garden and tend our farm without chemicals, but that our produce was tastier, and less expensive in its production costs. Moreover, we found the over-all practice easier, if we worked to improve the soil and studied what we were going to do. Modern soil analysis techniques can be of great aid in this process, although many traditional agriculturalists worked these things out through trial and error and by learning from watching their animals and nature.

A central aim of ecoagricultural philosophy is to understand the overall role of animals in agriculture. We have before us now a fair account of its main aspects. If one is not a vegan like the Nearings, one might be a vegetarian and wish to keep chickens for eggs, or cows for milk, horses for work, dogs for pets and as work animals, cats for rodent control and for fun, perhaps all of them

as companions. Or one might be a meat consumer committed to the practice humane husbandry. In all of these cases one could practice or support ecoagriculture. In fact, one cannot practice ecoagriculture without humane husbandry, if one keeps animals. The evidence is overwhelming that confinement factory farming produces stresses and disease conditions that require the use of large quantities of antibiotics (\$2 billion dollars worth last year) which in turn increases the risks of breeding resistant strains of bacteria. This is bad husbandry. "Bad husbandry" includes as part of its definition the maltreatment and unnecessary suffering of farm animals.

In *The Trumpeter* our aim is to introduce ecophilosophical modes of reflection and analysis to environmental problems and issues. This in turn involves introducing ecological models and concepts in order to open more holistic perceptions and understandings of current problems. There are both practical and creative aspects to this undertaking. Ecophilosophy is applied and creative philosophy. It has metatheoretical aspects, but without an applied connection these become arid. So what are the implications in applied philosophy from what we have learned about agriculture? That is, how might we apply the knowledge and insights gained to our own personal contexts in order to live in more ecosophic ways?

If we are gardeners, or have a yard that we care for, we can swear off synthetic fertilizers and biocides. Garden organically and care for ornamentals and grass with natural organic fertilizers and controls. If you plant low growing clovers with a mixture of grasses you can have healthier ground cover. As a consumer one can buy from organic producers and also from organic retailers, not only to support them, but also to improve one's own health and lessen one's risks of illnesses related to the effects of chemical residues. One can change one's diet to include fewer processed foods, sugars and fats. If one decides to consume animal products, one can attempt to secure those produced by humane methods, and in ecologically sound ways. One can eat eggs from range chickens, milk from cows that are truly "contented." As a saver and investor one can be certain that one's savings are not invested in agribusiness, or in other companies whose products are incompatible with humane husbandry and ecoagriculture. Further, one can take political action in writing letters, voting, etc. and by supporting groups working to further ecoagriculture and humane husbandry. One should avoid as much as possible being a part of the debtor economy. These are some of the practical options that are open to one, if one believes in ecoagriculture and humane husbandry. *The Trumpeter* has provided a sampling of the literature, organizations and contacts relevant

to a lifestyle supportive of ecoagriculture. The elements of a whole philosophy are there for each person's synthesis into a personal vision and commitment.

All urban civilizations rest upon an agricultural base. Very few civilizations have grown out of pastore traditions and those that did were eventually undermined by the tillage of open grass lands, and the adoption of sedentary ways. The staff of our culture is agriculture. It is not only the largest single segment of our economy, its practice is the foundation for our society. The future of a nation can be told from the way it farms. The true wealth of a nation depends upon the abundance of its agriculture, but "abundance" cannot be adequately defined by quantity alone, it also requires the dimensions of quality. If a nation's agriculture is destroying the soil, producing plants of inferior quality, if it treats its animals inhumanely and they are prone to disease, and if that agricultural practice is liquidating the more ecologically sound and efficient forms of agriculture, can the civilization it supports long endure?

There are many other important aspects to agriculture as the staff of culture that we have not so far discussed. We mentioned above that we could learn a great deal by watching farm animals about their needs and about the fertility of the land. Old timers who grew up in the older traditional patterns knew that you could tell what kind of soil you had from the presence of various weeds, and you could get some idea about forage deficiencies by observing one's animals. Nature doctors herself, and the cow, Albrecht remarked, is her own physician. Watch your cattle, if they are free to roam, to see what they are seeking out and what they avoid, and from them one can get many clues about the soil.

In the older agriculture there was also the large presence of the horse, both as a draft animal and for riding. The horse has somewhat different requirements from the cow, and long association with the horse in work and in play led many to a deeper understanding of and empathy with him. The traditions of horsemanship go back to the very earliest times, back to the domestication of the horse. The horse was a key link in the transmission of a rich culture and an understanding of animals that emerged through working with them using very few aids, other than accumulated experience and one's ability to pay close attention to the animal. To get him to cooperate and to work one had to understand the horse. Training a horse, according to the best horse trainers of the 19th century, was not a matter of "breaking its spirit" but of understanding the animal's needs. Above all, they urged, one had to be gentle with the horse and reassure him that you meant him no harm. You gentled the horse to harness, bridle and saddle. On

my grandfather's farm, my father once told me, horses were like persons. Many farmers would grieve the loss of an old heavy horse that had been with them for many years. They did not show a similar love for tractors. The keeping of farm animals in the older traditions was not perfect, nor was every farmer a wise husbandman and an insightful horseman. From the best of the older traditions, however, it is quite clear that farm animals led, on the whole, far more humane, well nourished lives than the conditions under which they suffer on the factory farms of today.

What then should be our relationship to animals on the farm? Where do they fit into the ecology of agriculture, and how do they fit into the culture of our lives? What can we learn from them through an appreciative and humane treatment that will enable us to create a more humane society for humans as well as for other creatures? What is the heritage animals bequeath to us from the older traditions? (See the books G. E. Evans discussed in the Booknotes for some idea of the heritage of the older horse husbandry.)

I was reminded of this heritage that our traditional agriculture bequeathed to us, a heritage now obscured by the decline of mixed farms and the emergence of the factory farm. When I recently visited relatives who farm in North Dakota, I noticed that the silos that used to dot the plains not many years ago are mostly gone, as are the fences built to contain farm animals. In their place has come large areas of grain, potato and sugar beet monocultures and silos of another kind. As the train travelled through North Dakota the conductor announced that that state has more nuclear destructive power based in it than all other nations on earth except the Soviet Union and the rest of the US. As we drove the rural roads looking for the farms of relatives, we saw minuteman silos in the fields. A short distance from the farm my grandfather plowed from the original prairie is a missile silo. While I spoke with relatives about family heritage, about the past, about traditions, and the importance of keeping them, the importance of heritage, behind us loomed the presence of missiles MIRVed with nuclear bombs. Prime targets for an attack, instruments of death unlike the silos of rich feed of an earlier era. The warfare economy is producing a heritage of violence and great debt, far different from the heritage of the rural culture of earlier times, and the agriculture that is replacing it is producing a heritage of spoiled land, disease, pollution, and debt. Living at peace with our neighbors and with other nations is not a technical or technological problem. The problem is in part a result of a domination attitude that seeks to control things and to reduce them to specialized simplicities that can be centralized and monetarized. It is also a failure of character and culture.

It is claimed that we cannot change a maladaptive economic system and accounting practices and that ecological and ethical considerations have to bow to these, yet it is clear that we have to redesign the system and the practices to conform to what is biologically, ecologically and ethically sound. We cannot be at peace with other nations, if we are at war with nature, inhumane in the treatment of animals and exploitive in the treatment of our own citizens. Urbanization, industrial processes and conventional chemical agriculture are helping to create conditions which will make our society increasingly vulnerable to new plagues, violence and social degeneration. Generating a sound ecoagriculture is one of the necessary steps to the recovery of a humane, just, and sustainable culture. As we farm and eat so we will be.

This issue of *The Trumpeter* has considered some of the many issues and problems connected with husbandry, health and values. Let us hope that our ecological vision can be extended so that we can see, e.g., the connection between tax shelters for large scale hog factories, illness in humans, destruction of family farms and environmental degradation. We should also see how consciously choosing to pursue other values would lead us to a whole range of actions that involve commitments requiring more effort on our part in the matter of diet and saving. Our vision should enable us to see that the trend toward bigger and bigger farms is not inevitable and that a rebirth of the small scale, diverse farm, the permaculture farm, the organic farm, is possible and would also be conducive to the regeneration of our society and economy. Local communities (as Rodale's *Cornucopia* and *Regeneration* projects make clear) have a great deal of opportunity to generate activities that will make them less dependent on centralized, agricultural production, dependent as it is on costly supply lines and large petrochemical inputs, high interest rates, and external inputs of capital.

The benefits of appropriate technology (which will be addressed in future issues of this journal) and of ecoagriculture can be blended to regenerate our deteriorating rural culture and our smaller communities. Surveys show that the most livable cities are those of about 40 to 50,000 people. Vast urban sprawls like Mexico City and Los Angeles (which are in part outgrowths of agribusiness factory farming and the resulting depopulation of the rural communities) have reached population densities and concentrations that are pathological both ecologically and culturally. Traditional agriculture supported a large population in towns and countryside. The great stabilizing force of Chinese history was the diverse, rural, peasant agricultural population which absorbed invaders and preserved the traditions and culture of a very

ancient China. A culture can be too resistant to change and too closed, but it can also be too willing to sell out any tradition, regardless of value, to the highest bidder. We, clearly, fall into the latter category.

The important thing to note is that our condition is not a necessary one and that creative entrepreneurial economics is not inconsistent, but is at home with, a diversified, family scaled agriculture. What is consistent with agribusiness is oligopoly, monopoly, high food costs, a uniform, simplified, chemicalized diet, and environmental degradation. The pendulum has swung far enough in this direction. It is time to make a preserving change. True conservation will preserve the best of the older traditional agriculture and blend it with our newly developed understanding of ecology. With these elements and some imagination we can create a new art of farming and gardening that works with nature, rather than against it. In such a practice lies the wealth of a nation and the staff of its culture. Here lies also the promise for a more abundant, humane and sustainable society.



BOOK NOTES

* George Santayana once observed that those who cannot remember the past are condemned to repeat it. *Soil and Civilization* by Edward Hyams, Harper Colophon, N. Y., 1976, and *Topsoil and Civilization* by Vernon Gill Carter and Tom Dale, University of Oklahoma Press, 1974, are eloquent testimonies to the truth of this observation. Complements to each other, rather than substitutes, the primary theme of both books is that the ultimate cause of the decline and fall of man's various civilizations has been and is the despoilation of "the land that

gave them food and supported them during their growth." (Carter and Dale, p. 16) Hyams adds to this the concept (which he supports rather well) that any given culture is what it is at least in part because of the type or types of soil upon which it lives. Both books survey human history from primitive to modern times examining man's behavior toward the soil and concluding that in no case to date, where a human civilization once flourished, has man "left enough of the basic natural resources to support a [second] progressive and dynamic civilization." (Carter and Dale, p. 9) But these books are much more than just a chronicling of man's mistreatment of the soil. Profoundly holistic and ecological in orientation, they are also an analysis of what needs to be done to rectify our own soil destroying behavior as well as an expression of the nature-respecting philosophy which undergirds much of ecoagriculture and environmentalism today. This is particularly true of Hyams who devotes considerable effort to the elucidation of soil conserving versus soil destroying attitudes and beliefs. Hyams' concept of the soil community (Chapter 3) and man's constructive imitation of the 'artificial soil community' (p. 116) is of particular value vis-a-vis the establishment of an ecologically sound civilization. What was said of **Topsoil and Civilization** should be said of both books---they "should be required reading in schools and desired reading everywhere else. . . . [they] offer wisdom rather than panaceas." (Carter and Dale, jacket cover.) Margaret Merrill

* For those more interested in the science of soil construction and preservation, **The Albrecht Papers**, v. 1-2, by William A. Albrecht, edited by Charles Walters, Jr., Raytown, Mo. ACRES USA, 1975, are a selection of the more than 160 papers published by the late Dr. Albrecht, Chairman, Dept. of soils, Univ. of Missouri. Volume I is primarily concerned with the nature and characteristics of a healthy, fertile, living soil and the beneficial and protective effects such a soil has on the plants growing upon it. These papers contain the results of more than 50 years of solid and meticulous scientific research, but are written so that anyone of reasonable intelligence can understand them. Dr. Albrecht felt strongly that scientists ought to be teachers first and technologists second; that farmers should have the full benefit of all scientific discoveries. As a result he often worked with and wrote directly for farmers. Dr. Albrecht's writings all convey the holistic, learn-from-and-work-with-nature philosophy which motivated his life and informed his research. The focus of volume II is the relationships between the health of the soil and the health of animals, including humans. He was convinced that poor soils means unhealthy plants, animals and men. In experiment after experiment he demonstrated the truth of this

conviction. Dr Albrecht has little sympathy for an economic system which promotes a chemicalized, industrialized agribusiness to the detriment of the family farmer. At one point he commented that a farmer could do no more than he was doing to conserve his soil "with his business in the economic set-up where he must liquidate his fertility capital to earn his food and enjoy the privilege and distinction of being a farmer, under national leadership moving more and more to manage his business for him." (V. II, p. 173) Albrecht himself, using the results of his years of research, developed the basic ecoagricultural technique of soil auditing and mineral balancing which today are used by many, perhaps most, ecofarmers as key tools in the maintenance of soil fertility and the construction of a living soil. M. M.

* **An ACRES USA Primer** by C. J. Fenzau and Charles Walters, Jr., Raytown, Mo. ACRES USA, 1979, and **From the Soil Up** by Donald L. Schriefer, Des Moines, Iowa, Wallace-Homestead Printing Co, 1984, contain a wealth of information for those interested in eco-farming and building a living soil. The **Primer** is, as it says, "a first reader in ecoagriculture" (p.xi); an overview which assumes that anyone with "average intelligence and a fair education" (p. xi) ought to be able to understand the concepts, principles and practices contained in the book. The authors specifically reject the notion that knowledge, especially scientific knowledge, is the private domain of the specialist. As a result, there is hardly any aspect of farming that isn't touched upon, from basic soil science, through pest control and livestock management to suppliers of products and services used by ecofarmers. Despite its amazing quantity of factual information, the **Primer** is more than just a textbook; it is also a practical statement of the philosophy which undergirds ecoagriculture.

From the Soil Up is, like the **Primer**, intended to teach, to educate the farmer -- or anyone else -- on the nature and management of a healthy, living soil which will result in optimum plant growth and health. It is a practical book growing out of the insight and experience of a successful and reflective ecoagricultural consultant. Don Schriefer's own holistic, nature-respecting, and optimistic philosophy comes through his lucid and step by step account of the knowledge and practices needed to build and maintain a living soil. The end result of studying **From the Soil Up**, especially if one is already a farmer, should be at least a rudimentary ability to design a soil and fertility management system specifically suited to the needs of one's own farm or garden. M.M.

* **Tuning Into Nature: Solar Energy, Infrared Radiation and the Insect Communication System**, Devin-Adair, 1975; **The Soul of the Ghost Moth: Paths of a Naturalist**, Devin-Adair, 1981; and

Ancient Mysteries, Modern Visions: The Magnetic Life of Agriculture, Raytown, Mo., Acres USA, 1984, are by Dr. Philip S. Callahan, agricultural entomologist, poet, falconer, mountain climber, mystic and philosopher. **The Soul of the Ghost Moth** is primarily an account of the development of Dr. Callahan's own personal philosophy and is fascinating reading. The other two deal with Dr. Callahan's scientific discoveries, but in such a personal and uncommon fashion that the reader will find it hard to put the books down. Years ahead of his colleagues, Dr. Callahan's "insights" -- as he calls them -- into the nature of insect communication form the basis for an entirely new technology of pest control which is absolutely non-toxic, pest specific, and even consistent with the natural way of doing things. Fascinated with the interrelationships between form and function, he may well have found the key to the direct conversion of solar energy to electrical energy. His understanding of the relationships between magnetism and matter, both living and non-living, has profound implications for the way in which we farm and live. If a human mind is capable of being holistic then Dr. Callahan's is a superior example. His vision of the natural world is breath-taking as he is one of those rare souls who are able to blend poetic truth and scientific truth into an harmonious whole. Dr. Callahan's books are well worth reading, if for no other reasons than their stretching of the reader's mind and the hope they convey for the future. M. M.

* Another worth while book, now out of print, is Dan P. Van Gorder's **Ill Fares the Land: The Famine Planned for America**, Belmont, Mass, Western Islands, 1966. A thorough-going advocate of eco-farming and small, diversified "self-sustenance" (pp. 121-123) farms (especially as a base for a healthy economy and society), Van Gorder traces the history and effects of the "over production" myth of the 1930s which was used to drive small farmers out of business and consolidate the land into ever larger industrialized farms. Convinced that a nation can be healthy only if there is a large and prosperous population of farmers, he presents some rather impressive facts and figures demonstrating the negative effects of becoming a preponderantly urban society. He also provides facts and figures on the economic growth and prosperity of Colquitt, Co., Georgia, as an illustration of the benefits accruing from a deliberate and conscious decision to promote the viability and prosperity of the family farmers in that country.

* Margaret Merrill has a Masters in Library Science with a speciality in Scientific Literature. In addition she holds a Masters in Agricultural Economics and is currently completing a certificate in Environmental Ethics at the University of Georgia. Her address is Box 111, Greenwood, Va., 22943. She published a paper on ecoagriculture in

the last issue of **The Trumpeter** and has published a longer paper on the history and philosophy of ecoagriculture in **Biological Agriculture and Horticulture** 1(3), 1983.

* **The Once and Future King**, by T. H. White has some excellent first chapters on what it is to be in the world as different animals. Suggested by Linda Mickley.

* Michael W. Fox's book **Farm Animals, Husbandry, Behavior and Veterinary Practice**, U. Park Press, Baltimore, 1984, is an excellent treatment of the various issues related to husbandry and humane practices. See also his book **Returning To Eden: Animal Rights and Human Responsibility**, Viking Press, N. Y., 1980, **The Soul of the Wolf** is a very moving and deep book about the relationships of understanding and mystery that can characterize the interaction of wolf and human.

* The best current anthology on the issues related to husbandry and our treatment of animals, what we can learn from them, etc. is **Advances in Animal Welfare Science 1984/1985**, edited by M. W. Fox and L. D. Mickley, and published by the Humane Society of the US, 2100 L street N. W., Washington, D. C. 20037. This collection provides historical perspective and a broad interdisciplinary look at animals and our relationships with them, from scientific material on agricultural husbandry, to the more philosophical examination of empathy and its spiritual aspects. The Humane Society sells the book to members for \$10 in paper covers. It can also be obtained in hardcover through Martinus Nijhoff, The Hague. This would be an excellent anthology to use in interdisciplinary inquiries into animal rights, environmental issues, husbandry, and the like. Highly recommended.

* Phillip Kaplau, an American Zen teacher, has written **To Cherish all Life: A Buddhist Case for Becoming a Vegetarian**, published by Harper and Row, NY, 1982. One of the best reasoned books on behalf of vegetarianism I have ever read.

* For a fine statement of a philosophy of self-sufficiency, respect for the land and its creatures, which argues on behalf of being a vegan (avoiding animal exploitation and its products) read Helen and Scott Nearing's book **Leading the Good Life: How to Live Sanely and Simply in a Troubled World**, Schocken, NY, 1954.

* For a comprehensive history of North American Agriculture from early times to today see Walter Ebeling's **The Fruited Plain: The Story of American Agriculture**, U. of Calif. Press, Berkeley, 1979. Ebeling concludes on a hopeful note: "The human race has the knowledge, technology, and resources to develop a sane and humane world in which basic precepts for wholesome and sustainable life systems will not be violated." He suggests that more and more people are becoming concerned with quality rather than quantitative growth and that this is a very good sign.

* Andre Voisin's book **Soil, Grass and Cancer: Health of Animals is Linked to the Mineral Balance of the Soil**, Crosby, Lockwood, London, 1959, is the work of a man who was a farmer and a scientist in the best sense of these words, who let the animals and their health and behavior teach him about the ecological processes of sickness and health, as it grows out of bad soil or the balanced fertility of good soil. Makes many contacts with Albrecht's work.

* **Clinical Ecology**, edited by L. D. Dickey, published by Thomas, Springfield Ill, 1976, contains a large number of papers by different researchers and medical people on the ecological connections and causes of illness. Many feel that clinical ecology will become the cutting edge of a whole new turn in medicine that takes a more holistic approach, and includes in its preventative dimensions an examination of soils, chemicals, and food and environmental practices that are interrelated with the genesis of conditions in the body which adversely affect the immune system's capacity to maintain robust health. An example of a single paper published elsewhere illustrates the turn this type of research is taking, see: L. D. Caren, "Environmental Pollutants: Effects on the Immune System and Resistance to Infectious Disease", **Bioscience** 31: (1981) 582-586.

* For those who want to enhance possibilities for wildlife on their farm or rural property, see: Charles L. Cadieux, **Wildlife Management on Your Land: The Practical Owner's Manual on How, What, and Why**, Stackpole, Harrisburg, 1985.

* **Ethical Investing**, by Amy L. Domini and Peter D. Kinder, Addison-Wesley, Menlo Park, 1984, is a practical introduction to this most important subject, with a fast growing literature and networks of advisers.

* **The Garden Seed Inventory**, edited by Kent Whealy, Seed Saver Publications, Decorah, Iowa, is the most complete list of seeds and sources available. An invaluable contribution to the aim to keep alive the traditions of cultivation that developed a great diversity of food and fiber plants.

* **The Art of Natural Farming and Gardening**, by Ralph and Rita Engelken, Barrington Hall Press, Rt. 1, Greeley, Iowa 52050, is a testament to the rewards of non-violent, organic, ecoagriculture practiced by a family farm raising grains, forages, and beef. The Engelken's success shows that ecoagriculture not only produces superior plants and animals, it regenerates the soil and is also economically superior to the conventional chemical approach. The Engelken's farm 500 acres. They tell about how they have rebuilt its fertility through biological processes, mineral balance, and large scale composting. They give many examples of other farmers who are now successfully using an ecoagricultural approach. Their experience shows that the lessons of the organic gardener can be

applied to large farms, and that such farms can thrive without biocides. Their yields are higher, their products of higher quality, and their plants and animals healthier and more resistant to disease, yet the cost inputs are lower overall.

* **Earthworms for Ecology and Profit**, by R. E. Gaddie and D. E. Douglas, Bookworm publishing, PO Box 3037, Ontario, Ca, 91761, goes into the details of vermiculture and the value of earthworm cultivation for gardening and agriculture. What we learn from such books is that if we feed the soil microbes and organisms organic material, use mulches, balance soil minerals and build up humus, then we can enhance the development of earthworms and other organisms so that our gardens will require little tillage, small amounts of weeding, and no spraying. The food produced is tastier, safe to eat and more nutritious than that produced by the petrochemical approach.

* For those who would like to get a much deeper understanding of the older traditions of horsemanship, horse husbandry and possibilities for relationships with other beings, the books by George Ewart Evans are of great value. Especially worthy of note are **The Horse in the Furrow**, Faber and Faber, London, 1960, and **Horse Power and Magic**, Faber and Faber, London, 1979. Evans has collected the lore and accounts of the practices and knowledge of traditional horse husbandry connected with agriculture and the heavy horse. He feared much of this wisdom would be lost, and so has committed years of his life in a labor of love to collect the lore, stories, insights, history, accounts of techniques and the secrets of the horse cult. Most of these works centre on Suffolk County in England. Highly recommended. These two books are a treasure trove.

* J. Hightower's book **Hard Tomatoes, Hard Times**, 1973, provides a critical look at public agricultural research on the grounds of social equity and environmental concerns.

* M. Bookchin's book **Our Synthetic Environment**, Harper and Row, NY, 1974, is a second edition of a book that was one of the first to show the implications of our increasingly chemicalized, artificial environment. Excellent book.

* Networker Ross H. Hall has published **A New Approach to Pest Control in Canada**, Canadian Environmental Advisory Council, Report #10, July 1981.

* Also from a networker, Louis A. Derno, are several works on farm tourism, such as "Farm Tourism in Europe", **Tourism Management**, Sept. 1983, 155-166. In earlier years many farmers took in overnight travelers (they were called "stoppers") to earn cash. Farm tourism today provides needed income for many farmers in Europe. Their services run from overnight bed and breakfast operations, to demonstration farms that preserve the mixed agriculture of the 19th century. For further

information contact Derno at: Mackenzie Tower, Suite 1205, 9903 104th st., Edmonton, Alberta, T5K 0E4.

* **Protecting Farmlands** by F. R. Steiner and J. E. Theilacker (eds), AVI, Westport, 1984, is a comprehensive look at the problem of loss of farmlands to urbanization and the like, with a good account of the various efforts being made to preserve agricultural land.

* Orville Schell's book **Modern Meat: Antibiotics, Hormones and the Pharmaceutical Farm**, provides a detailed account of what is known about the medical and other implications of the chemicals, used in confinement factory farms.

* **Permaculture One: A perennial Agriculture for Human Settlements**, by Bill Mollinson and David Holmgren, and **Permaculture Two: Practical Design for Town and Country in Permanent Agriculture**, by Bill Mollinson are both available from the Permaculture Institute. (See Organizations below.) These are two excellent books on the design of sustainable agricultural systems, residences and communities. Mollison states the philosophy of permaculture in vol. 2 as follows: "(I)t is a philosophy of working with, rather than against nature; of protracted and thoughtful observation rather than protracted and thoughtless labour; and of looking at plants and animals in all their functions, rather than treating any area as a single-product system." (Highly recommended.)

* **Robert Gear Books** specializes in agricultural literature and can often get books that are out of print. The address: 26 Rice St., Cambridge, Mass., 02140.



FILMS

The Rare Breed is a 1966 film that is shown on TV from time to time. It stars Jimmy Stewart and Maureen O'Hara. The story is set in the 1880s. Maureen O'Hara, as a beautiful and refined woman from England, introduces herefords to the western cattle scene. The range land to which she goes features a ranch run by a Scot settler who has gone wild, along with his herds of longhorn cattle. Jimmy Stewart plays the more gentle, quiet western

man. O'Hara's bull "Vindicator" is brought to the ranch with the idea that he will breed with wild Longhorns, and produce a cross breed which will have the vitality of longhorns but the weight gain and managability of herefords. The argument that insues leads to the challenge to simply let Vindicator fend for himself out on the range with the longhorns. He disappears after a time and eventually Jimmy Stewart finds him dead in the snow. The big question is whether he bred with longhorn cows before turning hooves to the sky. Stewart has faith that he has, his Scotsman friend thinks not. O'Hara seems ready to wed the Scotsman who has cleaned himself up to court her, but at the crucial moment Stewart rides in with a cross breed calf on his horse. (It looks like a pure hereford. For that matter Vindicator does not look or act much like a bull.) This turns the tables in Jimmy's favor and O'Hara marries him. They build their own ranch on stock from Vindicator's descendents, who show no longhorn traits that I could see. This film in a way symbolizes the full domestication of the wild range and wild cattle that took place toward the close of the last century. It was the beginning of the ranch as fenced zoo, which was to lead eventually to the feedlot factory. The hereford cattle were introduced in large numbers because they are more manageable and have faster weight gains on supplemented diets. They take more supervision and care, and are less able to fend for themselves than the longhorns they replaced. It's an interesting film because it does recall the sense of wild excitement of the unmanaged approach to cattle ranching which was more closely related to pastoralism than the cattle farming of today.

Places in the Heart is set in the dirty 30s. Sally Fields plays Edna Spalding who is widowed suddenly by the shooting death of her husband, who is part time farmer and lawman. He is shot by a young black man who is drunk, but who did not intend to shoot him. The blackman is lynched and Mrs Spalding is left with a family and a farm that she does not know how to farm. She does not even know how to write a cheque. The banker and others advise her to get rid of the farm, but she decides that the land is their home and they are going to farm it so that they can meet their payments. She is not certain of how she is going to do this. The unsavory bank manager she has to deal with pressures her to take in a blind brother-in-law Mr. Will (Played by John Malkovich), who sees more with his mind than he lets on. Edna goes to the door one day and a black man named Mose (played by Danny Glover) asks if she can spare a meal and let him do some work to pay for it. Edna feeds him, but wants him to be on his way. Eventually he returns to her house when the police find some of the Spalding's silverwear on him. Edna says he works for her and that he did not steal the silver.

It turns out that he knows all about growing cotton, from selecting seed, planting, cultivating to harvesting and selling the product to the buyers. So he goes to work for her. The two of them manage to put in a good crop and eventually, with the help of other blacks that Mose rounds up, they harvest the cotton and go off to claim the prize money for getting in the first crop. Various hardships occur along the way. The bank payment is met, the farm saved, but because of prejudice, Mose has to move on. The main elements of conflict come from the financial managers, and struggles against weather and prejudice. The film gives some sense of what it was to live and farm in the 30s. It is well acted and filmed.

River is a film that dramatizes the plight of the family farmer in today's world of high interest, developers, agribusiness, unsympathetic government policy and bureaucrats, and hostile natural elements. The weather and the river play major roles. The film opens with torrential rains flooding the Garvae family farm. Mel Gibson plays Tom and Sissy Spacek plays Mae. Together they and their family struggle against the flooding river. The opening scenes are metaphoric for the struggles against major odds that plague the hard working, honest, and kind hearted Garvae's. Their farm is a mixed farm with lots of animals and different crops. They too are pressured by the financial system and new government agents, who are totally unsympathetic to their problems. Weather and floods have drained their reserves, but the loan officers are not impressed by this, as they look only at bottom lines, and in addition the bank officer is being pressured by the developer.

The Garvae's are forced to cope with all sorts of problems, equipment breakdowns, injuries, the wealthy and powerful developer who wants their land, and is unscrupulous. He tries to come between the Garvae's, who remain true to each other throughout, even when Tom is forced to seek low paying, dirty, scab labor for a company that is being struck by its employees. These out of work people heap their anger on Tom and his coworkers, especially when the strike is settled and the non-union workers have to walk out of the factory between throngs of strikers and their families. The audience is meant to realize, I think, that all of these people suffer from the same underlying financial and economic conditions and should not be fighting one another.

Tom returns home, the crops are brought in, the family reunited, the weather turns beautiful, and the film ends with the Garvae's having won these skirmishes, but the developer lets them know that he is going to keep trying to get their land. He could win out in the long run, but for now the Garvae's are OK. This film has a lot of different cross currents, subplots and messages. The acting

is OK, but the lines and the messages are a bit too obvious at times. There is no deep insight into a way out of the precarious condition of the family farm, other than that the family who stays together can weather any storm, flood or developers.

The main short-coming of all of the recent films on the plight of farmers is that they really do not bring out the exact conditions that have undermined family farming. The alternative agricultural analysis sees it as related to over industrialization, unecological practices, too much borrowing, and tax and government policies that have favored factory farms. Of course, there is also the influence of the whole marketing system, with its various forms of concentration. The films do not expose how consumers unknowingly support the drift toward unecological farming, lowering food quality, and the undermining of the family farm. But, of course, that perhaps would be asking too much of films that are made to profit through entertaining the public, not enlightening them. However, having said that, at least there is an effort here to tell part of the story. **Silver Bear**

ORGANIZATIONS, PERIODICALS AND CONTACTS

* **The New Farm and Organic Gardening** are magazines available from Rodale Press, 33 E. Minor St., Emmaus, Pa. 18049. Both contain valuable information and how-to articles, along with a wealth of ads of businesses and organizations committed to biological agriculture and ecological gardening.

* **ACRES USA** is an ecoagriculture newspaper that comes out monthly and is the best single source of information on ecoagriculture. Write to Acres USA, PO Box 9547, Kansas City, Mo., 64133.

* **ARK-II: Canadian Animal Rights Network**, 542 Mt. Pleasant Rd., E102, Toronto. A network of animal rights activists.

* **Compassion in World Farming**, Lyndum House, High Street, Petersfield, Hampshire, England. Fights factory farming and promotes more rational ways of feeding the world.

* **Agenda**, PO Box 5234, Westport, Ct. 08880. This journal is essential reading for those who want to keep up with news of the animal liberation movement.

* **American Vegan Society**, 501 Old Harding Highway, Malaga, NJ 08328. Promotes a diet without any animal products.

* **Farm Animal Reform Movement**, PO Box 70123, Washington, D. C. 20088. Campaigns against factory farming and other abuses of farm animals.

* **Humane Society of the United States**, 2100 L St. NW, Washington, D. C. works toward humane husbandry and humane treatment of all animals.

* **North American Vegetarian Society**, PO Box 72, Dolgeville, NY 13329. Promotes vegetarianism on a variety of grounds.

* A conference on the future of forestry in Canada: "You Can't See the Forest Without the Trees," will be held Oct., 17, 18, 19, Holiday Inn, Downtown, Toronto, Ont. Write to The Sierra Club of Ontario, 191 College St., Toronto, Ont. M5T 9Z9.

* **Oak Manor Farms** is a leader in organically grown and processed grain products. They have open houses, can supply products for organic gardening, and sponsor conferences on how to farm organically. RR 1, Tavistock, Ont., Canada N0B 2R0.

* **The Permaculture Institute of North America**, 6488 South Maxwellton Rd, Clinton, Washington, 98236, provides consultations with those wanting to develop a permaculture farm. They sponsor conferences and workshops and work also with people going to help with third world agriculture. "Permaculture" is a word coined by Bill Mollison of Australia for the design and creation of productive landscapes for food, shelter, raw materials and wildlife preservation such that, once established the landscape sustains itself like a natural ecology and needs a minimum of human intervention. It is a holistic approach to the design, layout and development of a city lot, farm or even a community. (See Booknotes.)

* A Permaculture contact in Canada is the **Fraser Common Farm Co-op**, 1374 256th St., Aldergrove, B. C., V0X 1A0. They too sponsor conferences and workshops.

* **The Massachusetts Society for the Prevention of Cruelty to Animals** has put together a unique learning center, Macomber Animal Farm, designed to show how farm animals can be raised efficiently in an atmosphere of warmth, serenity, and loving care.

* **Advanced Agriculture, Inc.**, Box 138, Demolte, Indiana, 46310 provides help to farmers who want to switch off of petrochemicals to biological farming.

* **Modern Organics, Inc.**, 101-7 Evergreen Place, Winnipeg, Man, R3L 2T3, provides similar help to Canadian farmers and has a full range of services and organics available for biological farming.

* **Ecological Agriculture Projects**, MacDonald Campus, McGill University, 21,111 Lakeshore Box 191, Ste-Anne-de-Bellevue, Que. H9X 1C0 has an extensive collection of literature on all aspects of the food and ecological systems. Write for publication lists, which include extensive bibliographies, etc.

* **The Brace Institute** at the Faculty of Engineering, MacDonald Campus of McGill University, Box 900, Ste. Anne de Bellevue, Que., Canada H9X 1C0, has extensive information and research papers available on various aspects of community technology, appropriate technology and sustainable agricultural technology for third world countries. Write for a list of their publications.

* **The American Minor Breeds Conservancy** is committed to preserving endangered breeds of livestock that are threatened by extinction. They believe that this is as crucial as the effort to preserve wildlife diversity. AMBC, Box 225, Hardwick, Mass. 01037.

* **Sterling College**, Craftsbury, Vermont, has two year programs "designed to teach how corn grows, not how to grow corn." Programs in agriculture, forestry and wildlife. One learns farming techniques through more holistic approaches and knowledge.

* **HortIdeas**, published monthly by Greg and Pat Williams, Rt. 1, Box 302, Gravel Switch, Ky., 40328, is a valuable source of information on the latest research, methods, tools, plants, books, etc., relevant to gardening. Information is garnered from hundreds of popular and technical sources world wide.

* **The Humane Farming Association** is a newly formed organization. More information about it can be gotten by writing to Buddhists Concerned for Animals, 300 Page Street, San Francisco, Ca. 94102.

* **The Land Stewardship Project** is dedicated to helping to bring to the fore the values of stewardship in agriculture. We seek the renewal of sustainable values toward soil and water by individual farmers and landowners, as well as changes in public policies that will enable and encourage farmers to make the transition to morally and ecologically sound farming methods." Contact: Ron Kroese, Director LSP, 1717 University Ave., St. Paul, Minn. 55104.

* **Trust for Public Land**, 82 Second St., San Francisco, Ca. 94105, provides help to groups that want to form various trusts to protect wilderness, farm land, or what have you. Trusts are being set up to serve a variety of purposes and have a variety of forms. For example, some trusts are given or willed conservation easements to farm land, and this means that the land can not be subdivided, it is taxed then as farm land, not real estate.

* **Turtle Island Land Stewardship Society** is a land trust in B.C. dedicated to over-seeing the care of a farm on Cortez Island. For information on the nature of such trusts in Canada contact Michael Bertrand, £306- 2166 West 8th St., Vancouver, B. C., V6K 2A4.

* **The Northwest Association for Environmental Studies** is holding a conference at Eastern Washington University, on November 7-9, 1985 on "Industry, Agriculture and the Environment." For information contact: Dennis Sterner, Eastern Washington University, 317 Williamson Hall, Cheney, Wa. 99004.

* **Paul Robinson** is conducting a study for Agriculture Canada on sustainable agriculture in Canada. He wants to hear from farmers who are

practicing ecogricultural farming, and also from various groups and researchers who are committed to this form of agriculture. The study has a number of aims such as establishing a network of farmers and others to exchange information, identify research projects, and find ways to help make a transition to this type of agriculture. His address: 250 Oak Street, Winnipeg, Man. R3M 3R4.

* **The Small Towns Institute** is dedicated to preserving and regenerating small towns and communities. They publish an excellent periodical titled **Small Town**, which can be ordered from them at PO Box 517, Ellensburg, Washington 98926. (The rebirth of smaller, more diversified farms would greatly aid the regeneration of the rural culture and community.)

FUTURE ISSUES

The Fall 1985 issue of **The Trumpeter** will not be a focus issue, and will cover a variety of ecophilosophical topics. Please send your contributions to it and to the up-coming issues on wilderness to commence with the Winter 1986 issue. Poetry, illustrations, essays, booknotes, film reviews, notes on organizations, periodicals and conferences are all welcome. The promised details of the ecostory have been postponed until the Fall 1985 issue.

TRUMPETER SUBSCRIPTION INFORMATION

The Trumpeter is published quarterly. Its subscription is included in membership in The Canadian Ecophilosophy Network. Membership for 1985 is \$5.00, and a complete set of vol. I is available for \$5.50 postpaid. Starting in 1986 the cost will go to \$8.00 as postage increases and production costs have exceeded subscription revenues. As of now we have a paid membership of about 100. With a membership of 250 **The Trumpeter** would be self supporting, provided my wife and I continue to prepare the camera ready copy. If you have found **The Trumpeter** a valuable source of information and ideas, please help to build our membership and please resubscribe. Thanks to all of you who have supported this effort.

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Illustration on page 37 by ARD, on page 15 unknown. All other art work by Gay Mitchell of Victoria.



The Trumpeter: Dedicated to explorations of and contributions to a new ecological consciousness, and to the practice of forms of life imputed with ecosophy.