BIO-DYNAMIC FARMING AND GARDENING IN OUR TIME: AGRICULTURE AS A SOCIAL TASK III

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When future historians look back to the Sixties of this century they may be struck by the fact that two seemingly unrelated problems entered an acute stage at pretty much the same time. These are the unrest of the younger generation, which expresses itself in active or passive disagreement with our society, and the general awareness of the environmental crisis in which we find ourselves. For the ordinary way of thinking there seems to be very little connection between these two issues. Yet that striking simultaneity remains as a fact. Indeed, one need not dig very deep to uncover the relationship. After all it is the same type of technical achievements and economic drive which, on the one hand, have created the environmental problems and, on the other hand, find their expression in the kind of civilization that we have today, which many now turn away from.

Those who react in this way are searching for a reality that speaks humanly to them. Their gardens are not specialized truck gardens in which the latest production scheme is applied. Rather those who turn to growing food, and there are indeed many of them, are searching in whatever way they find themselves able to, for some kind of organic, or for the bio-dynamic approach. The search is not on for just another method of production. Nor is their only objective the elimination of possible health hazards. Rather a great number are looking for a way of life that is different from the one they have been leading hitherto. The quest is on for what gives meaning in one's work, what one can relate to meaningfully.

Questions of this kind have been asked before. Also, there have always been individuals who have found answers during their lives. This happened especially amongst those who did not travel the common road. Those who are familiar with the history of the Bio-Dynamic movement know about such personalities. They did their work out of a genuine interest. Even as everyone else who worked in the same field, they had to face the hard conditions of modern economic life. Yet they knew that a merely economic motivation cannot really carry a farmer's or gardener's life work. There must be more than simply making a living. In recent times, however, this situation is felt by a rapidly increasing number of people. Such problems are also felt much more urgently than ever before.

The alienation that has taken place between man and his daily work is one of the outcomes of the industrial age. This is a many faceted problem one aspect of which can be expressed in the question: How does man in industry relate to the means of production? Machines are man-made systems. While he constructs them he may enjoy the fascination of applying his technical mind. But he really cannot take much personal interest in the finished machine. This is not alive. It consists of distinct parts which function in a perfectly understood way. They function as a mechanical system. Little or no involvement is needed in handling a machine. One can easily forget about it, if it is no longer needed. One replaces it without concern by another one, which, by being based on a different principle, may do the job much better. One is interested in what a machine can do, not in the machine itself. The designs that have been used in the past show this. If one looks at steam engines, looms, sewing machines and a hundred other gadgets from the early days of our technical age, one will find forms, designs, and decorations which were inherited from the preceding non-technical era. Only in the course of time have these elements given way to the sober, uninspiring, strictly functional forms, which machines have nowadays. They reveal by their forms how alien they are to man.

The thinking that has constructed machines also set out to organize the production process. The division of labor proved to be the most efficient tool. By assigning just a tiny fraction of a complicated process to one person, it was possible to organize the working of hundreds of men and women to function like a machine. The person who works on the assembly line can hardly be expected to gain any kind of human interest in what he is doing. This problem has been recognized for a long time. Much has been done to bring about cures. Whether this is enough is quite another matter, which we cannot go into here. One compensates for the feeling of monotony and indifference by paying higher wages and asking fewer working hours. But one also tries to create interest in the work by giving out information about the production process in which the individual is involved. One tries to integrate the individual in the whole of the work, at least by way of understanding. This is not the place to discuss this matter in full detail. Suffice it to say that it would be meaningless to try to turn the wheels back, just as it is meaningless to overdo things in the other direction. Helping the worker to relate his interest and his thinking to the whole of the production process in which he is participating, is just as important as giving him the material benefits of his work. Man wants to be socially integrated.

In gardening and farming, man's relationship to the means of production and the production process is different from what it is in industry. The first thing to ask is: under what conditions will the means of production in agriculture continue to function? Soils, crop plants, grasses, animals, the whole ecological system in which a farm, or garden, is embedded, these comprise the means of production. They are living systems. They react to environmental influences, including those which man imposes upon them, as living systems do. They react in a rather complicated and in many respects, unpredictable way, and there is frequently an unforeseeable time lapse between the impact and the reaction. A machine stops when under too much stress one part breaks. Usually the machine then stops at once. Organisms, however, can ward off stress conditions for a long period of time, before they break. They frequently do not react in a direct way. Poor soil management may result in poor plant growth, poor seed quality, secondary ill effects in animals, weed, pest, or disease calamities, and so on. Then too, one causes trouble in farming if one leaves the means of production temporarily

uncared for, or if one tries to bring neglected soils back into production. It is costly to clear, or bring into good tilth, land that has been left untended for some time. A good breeding herd is the result of many years of incessant work and it requires continued attention. The effects of poor and good organic management as well, do not show up in a year or two. Once they do appear, one observes a lasting carryover effect. Eroded land can only be reclaimed at great cost and expenditure of labor too, if it can be reclaimed at all. In short, to maintain a farm in a productive state requires an approach that is different from what one can use in industry.

In agriculture, one must think in terms of many years, every move that one plans to take has to be carefully checked in regard to its eventual results. The apparent absence of negative side effects after a new measure has been introduced does not exclude the presence of "subclinical" effects. Secondary symptoms can possibly be cured, but the goal should be the cure of basic causes. What has just been said applies not only to the individual crops, or animals, but to the community of organisms as well, which live in a farm, or a garden. Continued care of the means of production is an essential element in the farmer's and gardener's task.

His working with living things rather than with dead ones, also constitutes a relationship between man and his work which is different from that in industry. When man meets, in a proper way, the conditions which make plants and animals thrive, this then reflects back upon him. If one lets go to waste, or no longer uses a dead thing, then, at best, one feels sorry about the work that went into making it. If we put stress on a living being, or hurt it, or act destructively in living nature, then many people, if not almost everyone, feel that we are destroying human values as well. By willfully destroying life we destroy something in ourselves. This is a real feeling, it is not some kind of "false romanticism." It is exactly this genuine feeling which, since time immemorial, has constituted the ethical base of the farmer's work. The responsibility that he feels toward life in nature is similar to the responsibility which the doctor feels for his patients, or the teacher for his students. To carry on farming in a sound way is a way of life, not just another money-making proposition. We remember the farmer, who took us out into a well cared for piece of woodland that belongs to his farm. His voice changed and his eyes shone when he remarked that this is the place where he gains strength again, by spending a little time there every once in a while. The fact that in these days many are searching for meaning in rural work proves that this deep relation of man to living nature must not be neglected.

This time of ours is disruptive in many respects. The speed and stress, and all the disjointed ways of spending one's time in the big cities, reflects itself in worried and nervous people. This way of working also penetrates further and further into the specialized factory type of garden and farm work. However, one ought to realize that by adopting such methods one gives away human values, which in fact are needed to strengthen the physical and mental well-being of man. The commuter, who in the morning hurriedly rushes to the crowded suburban train, changes to a rattling subway and then walks to his job, finds himself caught up in a nerve-racking schedule.

The work of farmers and gardeners also possesses a strong time element. But his time pulsates in the rhythms of the seasons and even of years. Morning after morning he observes the weather and decides about the work of the day. He watches how spring comes, he waits for the soil to get dry enough for cultivation. He remembers that the field, which is not doing well this year, was ill-treated last year, he observes how the windbreak or the trees that he planted develop year by year. Unlike the man on the assembly line farmers and gardeners live in a very direct way with the results of their actions. A good crop this year is likely to be followed by a good yield on the same field the following year and vice versa. When he allows a weed plague to develop, the infested field will be difficult for a number of years to come. Thus the farmer lives on one side with wholeness in his farm, which consists of the community of crop plants, livestock, wildlife, etc. However, he also lives in another wholeness, that of the past and the future. He observes the results in time of what he does. He starts a crop, or an orchard, then lives for the whole season, or for a number of years, with the consequences. In this time relationship there lies a source of strength and quickening forces which can be of much help in a man's life. In this age of tranquilizers and hallucinogenic drugs many make an unsuccessful attempt to overcome their inner emptiness and distraction by the abuse of physical means. Rural life gives a feeling of wholeness and rhythm as a kind of side effect, which has a healing quality. But it has to be diversified farming which is done on a farm that is in itself a whole.

In conclusion, a few remarks should be made about how the work of farmers and gardeners relates to the social fabric. Here is a point which concerns the farmer and the general public as well. It has scarcely been dealt with, even not in a theoretical way, not to speak of actions. In the preceding article in this series we pointed out that farming has functions which extend beyond its primary objective, which is to produce food. There are additional social responsibilities which become ever more important. Farmers and gardeners are entrusted with the most important and indispensable of our natural resources. Unlike the extractive industries, which mine the known supplies of minerals, farmers are dealing with the self-renewable ecological system. General agriculture, in our time, is far from developing this renewing capacity to its optimum. On the contrary, many production schemes result in a mining of the life and strength of soils, plants and animals.

It is perverted policy to hope that decreasing fertility can be compensated for by increasing the amounts of fertilizers. There are even not enough fertilizers to fully develop the potentially arable land. In a recent interview in the *Observer* with G. Bergstrom of Michigan State University and N. Borlaugh, the breeder of the Mexican dwarfed wheat, it was pointed out, that it takes the energy content of five tons of coal to produce one ton of fertilizer nitrogen. There are insurmountable limitations. On a world-wide scale, water is also a limiting factor that stops the full increase in food production in the developing countries. The only meaningful alternative is, indeed, to bring the natural production of soil nitrogen and the utilization by plants of the available water to their maximums. This all depends to a large extent on soil management. In the earlier article we dealt with the influ-

ence of modern farming methods on the quality of our environment. These few instances indicate that farming not only produces food. Much responsibility for conservation rests with the farmer. To a large extent, it depends upon him whether or not the renewing process in the ecosystem can keep this earth growing and productive.

Here then is the salient point. It is the economic pressure, which proceeds from our social-economic system that forces the farmer to pay less and less attention to this renewing potential of the kingdoms of nature, to the ill effects of certain production methods and to the quality of our environment. This pressure comes largely from outside his realm. It is true that the yields nowadays are higher than have ever been before. This holds true, in particular, for some high yielding and highly prized crops. But this does not prove that our general farming system is good. To base one's judgment on a few impressive achievements would create a false picture. What really counts is the total output of all products, the lasting fertility of the soil and the existence of a healthy environment. These three objectives must be balanced against one another. As a matter of fact, this balance is not even approached in general agriculture; the opposite seems to be the general rule.

Here we touch on a complicated problem which has economic, social and biological ramifications. As things are at the present time, only a small majority of organic and bio-dynamic growers contribute in their own way to this balance. By doing so, they are performing a service. They do this out of personal interest in the living organisms that are entrusted to them. But many more are needed who could join in this work. Then too, our society must take the necessary steps to enable the farmer to meet the responsibility that rests with him.