



Photo by Roxbury Farm

THE WORKING OF THE FOUR ETHERS AND THE PREPARATIONS IN BIODYNAMIC AGRICULTURE

HARTMUT VON JEETZE

The following lecture is the first of four given by Hartmut von Jeetze at Botton Village in March 2003. The next three lectures will be published in upcoming issues of *Biodynamics*. They will also constitute part of a larger collection of essays by von Jeetze to be published by the Association later this year.

INTRODUCTION

The following four lectures on the practice of biodynamic farming and gardening were originally given on 12–16 March, 2003, in response to a request by members of the Botton Camphill community in North Yorkshire, England. The idea was that the conference, while being presented in the form of lectures, would still allow the listener to participate in the dynamic processes of farming. A living dialogue with nature is the *sine qua non* of responsible farming, gardening, and forestry, and it was hoped that such a dialogue would be maintained throughout the conference.

Time has lapsed since the conference took place. This time was needed for honing some aspects that, at the time of presentation, perhaps came across as rather impromptu treatment of the subject matter. It also allowed for fine-tuning of some essential elements in the material, providing a clearer thread linking the sequence of the lectures. I hope that this will help the reader, as a participant in the experiences of nature, to follow the path that all of us went through during these lectures.

Note should be taken of the fact that the lectures were delivered to representatives from Camphill centers around the world who, while being familiar with the work of Camphill and anthroposophy (especially in the domain of curative education) also included those working on the land itself. Such an international association, as an active, driving force, must stand behind all human life and research, as well as behind the needs of agri-

culture worldwide. I hope that this thrust will come alive throughout the lectures.

Some terminology specifically relating to the domain of curative education should be accepted by the reader as constituting an essential basis for the alchemy of any social dynamic. Details about the faculties needed by those who live and work with the persons afflicted by disabilities stemming from mental retardation are given in Steiner's lectures on curative education (Steiner 1998). Not only are they essential to a fuller understanding of the material presented here, but they are also relevant to the confluence of natural growth and social growth which was the dominant theme of the Botton conference.

Since the allotted time for lecture four was limited, it was impossible for me to include what should have been strongly emphasized throughout all four lectures: the fact that Botton Village, as well as the village impulse itself, is due to the pioneering genius and spiritual foresight of Karl König, his courageous will, and his cardinal role in bringing Camphill into the world. While falling short in this respect, lecture four, as presented here, does attempt to take due note of the historic situation of Camphill as an agriculturally based impulse, embracing the future as a human, social-spirited task. Without this added note, the conference and its presentations would have lacked a large part of what we intended to convey.

The sequential order of topics presented in the lectures has been retained; it is the same sequence that confronts everyone who takes up the practice of agriculture, learning to work within the living dynamics that our human contact with nature implies. The impulse that shone through the conference was able to communicate itself to all of us, human beings and beings of the natural world alike. To all participated—including eurythmists and other artists, hosts, everyone who helped to create the festive days we spent together—we offer our warmest thanks.

THE WORKING OF FOUR ETHERS AND THE PREPARATIONS IN BIODYNAMIC AGRICULTURE

This morning I would like us to gain a relationship to the ethers, to what they are and how they work in everything we do. In order to do so, I will begin by speaking words which Rudolf Steiner gave to us on the ethers. Given as the introduction to his final address on Michaelmas Eve, September 28, 1924, these were the last words he spoke in public.

Offspring of Sun powers
Radiant,
Grace upon worlds bestowing
Spirit powers.
For Michael's garments of rays
You are predestined

By the thinking of Gods.
He, the Christ messenger
Directs in you
Humanity sustaining
Holy will of worlds.
You, the bright ether world beings
Bear the Christ word to human beings.

Thus appears the Christ proclaimer
To the thirsty, waiting souls.
To them rays forth your spirit word.
In the world time of Spirit-man.

You, pupils of Spirit knowledge
Take Michael's wise beckoning,
Take the world will's word of love
Up into the high aims of your souls
Effectively.

This is the task required of us as farmers and gardeners—and I include foresters—in everything we do and wherever we are, from tending the smallest flowerbed in our gardens to caring for the largest stretches of land.

We have come together here representing Camphill from all over the world, and this poses a challenge. How will we take up these aims again in the local places from which each of us comes and goes back to, in which we live and work? When we return from such conferences, at which we associate with each other in ever new constellations, how might we be able to share and nurture during the following year what is no more than a tiny seed impulse? Listening to each other a year later, how do we absorb what has occurred on someone else's farm or garden, in a different region or country? With the help of the words quoted above—Rudolf Steiner's heritage to us—we should take these things actively into our hearts, our minds, our deeds. That is the purpose of agriculture—to change the world through our willed activity.

This purpose forms the base of our activities. Say that you have a field which was hay or grass at first, then pasture for another four or five years, and is now not growing too well. As

you stand looking at the field, even before bringing a team of horses or tractor there, you have to make a decision. Should you plow it under or keep it for a further year? This requires an actual will decision in your farming practice. I expect most of you have been through this experience and can identify with the situation. The moment we stand out in the field, there is only one thing to do: go forward! With the first furrow you plow, you put your foot forward and you know there is no going back.

But first you have to learn the discipline of how to hold the plow—locating a landmark at the other end of the field that you will aim for and not deviate from, moving forward guided only by your own intention in such a way that both the plow and your feet are a given! You hold a vertical orientation from the earth upward and into the forward direction. Finally, you have to guide your horses so that you can always see the landmark, using the yoke of the lead horse (or whatever else is in front of you) as a sight, so that you know you are still in line with your intended course.

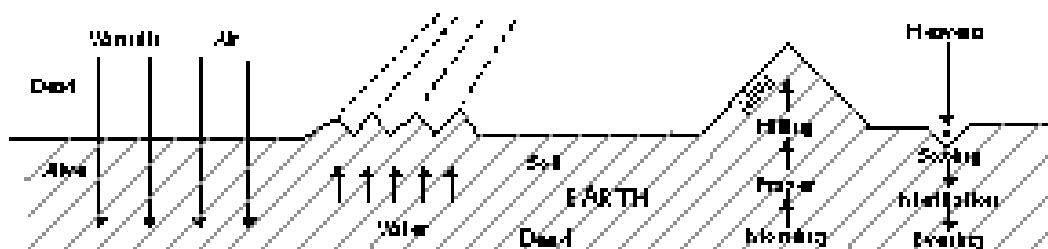
My work as a farmer in Camphill Newton Dee in the early days included teaching young juvenile delinquent offenders how to farm and look after horses. This provided an excellent opportunity for me to objectify the value of the skills mentioned above, and was of general benefit to them. (See von Jeetze, "What You can Learn from Your Horse," 1999.)

When you use a tractor the same discipline applies, of course, only with the help of the base of the tractor seat! You have to know what is happening from the seat right down through the tractor to where the tip of the plow is. You also have to know what kind of engine the tractor requires. For plowing you need an engine with high torque so that it can cope easily with the fluctuating resistance which the plow encounters from the soil it is turning over. In order for the farmer to create a straight and even furrow with absolute certainty, the tractor must be able to compensate for this changing resistance in the ground without the engine stalling.

When you have plowed the first furrow, what have you actually done? It is not just that the soil has been turned over. In one of his lectures on meditative farming, Thomas Weihs said: "When I turn the earth, I not only turn down yesterday's old grass. With these plants that are going to be buried, I also plow down yesterday's thoughts of nature."

As a discipline, plowing is the same in nature as the *Rückschau* is for us. Before going to sleep we turn over in our mind all the sense impressions and thoughts we had during the day just passed, an excellent discipline to strengthen one's memory; in the case of plowing an old grass pasture, it is the memory of three or four years' growth that goes under. Up comes virgin soil, which now lies at the top. At the same time, this deed of soil renewal frees enormous resources for a new rotation of, say, seven years for the field. Dwelling on this thought meditatively, one can gain an enormous insight into the wealth released by this act. This is one description of how the ethers work. Let us look at another example.

This first activity, plowing, is an expression of a single-line, directional intention. In the world of the ethers this corresponds to the inner quality of the light ether. (For a more detailed description of the elements and their relation to the ethers, see



Marti 1984.) In making a single furrow I invite the light ether into my furrows. At Newton Dee in Scotland, farmers understood intuitively what that meant. They would say that you did not know how to farm until you know how to plow a straight furrow, and that you don't know a field until you have plowed it three times.

In the experience of plowing we begin to understand the light ether. The light ether is single, is directional, and manifests in straight lines. Wherever light moves (its counterpart being air) and meets an object from which it is reflected back, space is created. In creating a boundary between where we are and from where it reflects back, the quality of the light ether gives us a spatial relationship to whatever we look at, even out to the stars (Marti 1984, 17).

So the light ether is the first to be considered. Now the moment we plow a second, third, and fourth furrow and so on, adding furrow after furrow next to each other until a whole bed of furrows covers the entire field, we have created a new situation. The consequence of this is that a new, very different ether comes to our aid, namely the sound ether. One of its characteristics is that it lives in waves. When furrows are plowed next to each other, they are like waves on water. With every turn of the plow we create another wave in the "sea" of furrows. Thus, by adding many rows we invite another ether, the sound ether, into our act of plowing.

In fact, when we plow we also encourage the four elements to become active as well. Water and earth are lifted to the surface from below, and warmth and air are plowed under from above. In his lectures on agriculture, Rudolf Steiner described how when earth and water are lifted up to a higher plane they immediately become alive, while warmth and air, as they descend, also become alive. This means there is a fourfold increase in the life strength of the soil, which is an enormous increase in vitality. If recently plowed soil is dug up, even just a day after plowing, it shows a marked increase in the activity of its micro-organisms. This change begins immediately after plowing. The changes wrought in the landscape by the activity of farming are incalculable.

All seeds depend on a specific seedbed for their growth and development. Potatoes and tomatoes, for example, need their own particular environment, but they are pretty rough, crude seeds. They belong to the Nightshade family (*Solanaceae*) and help to clean the field of weeds. But if we want to grow oats in the following season, we have to be very attentive in how we cultivate the field because oats are sensitive; they require a very well-prepared seedbed. When sowing oats, we need to cover them with not more than a half to three-quarters of an inch of soil. The rule used to be that when you sow oats you should still be able to

see a few seeds on the surface after you have finished; if not, they have been sown too deeply. Oat seeds do not have the strength to grow through more than a light covering of soil. Additionally, the temperature should be a little warmer than nine degrees Celsius.

After we sow, the ethers work in the seeds, the light ether along the single furrows, the sound ether across the many furrows. Below the surface layer, the varying levels of harrowing before seeding creates a tilth that becomes a harmonious bed. We could say the seedbed we have cultivated is like a clean sheet on which the seeds can rest. If one year you don't prepare the seedbed properly before sowing and you happen to be a master farmer, you can still see the mistakes you made on the farm two or even three years later. This is because when the soil has settled down the old furrows show, or the old "hare's nests" are visible where you missed something, or where your plow tripped. These are where the weeds will come up. Or if you plowed a wet patch, trying to cure the situation, thistles start to appear because thistles always grow where you have compacted the soil too much. They will come through to clear it up, trying to cure the effect of the tractor's compression tracks. Thistles have tap-roots to pierce through the hard compression pan in order to loosen the soil up again, but it will take a few years. They will always be in your area, because they seed themselves widely.

So the seedbed is ready for sowing. Now, let's say it's to be a crop of oats. You have planted oats because they grow very well in the maritime climate of England. (And oats can be an accurate yardstick of how good a farmer you are!) When you have finished sowing the field you have these rows, criss-cross, and so on. The distance between each seed has to be maybe two to three inches and, say, seven inches between rows. Well, if you do it the old-fashioned way this will depend on how the seed drill is set. The distance between the plants and between the rows is of importance when drilling because in this pattern the next phase in the manifestation of the ethers comes to expression.

Once the seed is in the ground, the seven stages of the laws of plant growth begin. As an aside, there is a parallel, an interdependence, between the laws of plant growth and those of social growth. This will be the subject for my talk tonight [the second lecture, to be published in the Spring issue]; here I will give just a small indication of what such a parallel consists.

The seeds, once they have been laid in the earth, have to die before they can live and grow again. Each seed must do so before it can gain the strength to germinate and grow into a new plant. To a small extent we do this too, when we do our inner, meditative work. We yield our ordinary consciousness to higher beings so that they can give us the help and strength we need for

our work.

Now the question arises: is any additional care needed, any aftercare for the crop, even on the day after the field was sown? The answer is “yes,” although the question actually requires two answers. One relates to the constellations of the stars.

The other answer concerns the physical care of the seed and developing plant. I mentioned that oats are very sensitive plants in this respect. If the weather allows, the well-being of the oat crop requires that we roll the field after having sown it. If it were a nice, warm sunny morning, the air a bit like it is today, you would do well to take a flat roller, or a Cambridge roller, and roll the field you sowed yesterday. I learned from Thomas Weihs—and I believe he had it from the Scottish farmers along Deeside—that when you roll a field, you give it an imprint of that climatic situation, and the quality of the day on which you roll it stays with the field for the rest of the growing season. If you roll it on cold day, it will be a “cold” field; if you roll it on a warm day, it will be “warm” and will support your crop.

Every seed carries a memory of the previous year within the plasma that surrounds the germ and is its food reserve. Seeds become dormant when you store them, so before planting your oats you should lift them at least four feet above the surface on which you stored them or they will remain dormant. They need a shock, so you lift them and turn them over on the granary floor. Ideally, whenever you are ready to sow, you should take a bucket of lukewarm rainwater and stir into it some biodynamic preparation 500, sometimes adding a little valerian juice. Then get someone to help you spray this on the pile as you shovel it over, before putting the seeds into bags ready for sowing.

When we have finished sowing, the entire field has been made into a single unit, into a whole: all the seeds have become one crop. This is because we have invited a third ether, the life ether, to come to our aid. The life ether is powerful. Ernst Marti describes it as the “bodying” ether, since it unifies things into a single whole. It is the companion to the earth element. How should we understand this? One way is to consider how, when you have plowed the final row of a field, you can sense in that moment that it is now one field. Alternatively, if you do not manage to finish sowing the whole field on a single day, you will invariably see that the crop you plant the next day is noticeably different. Many more examples could be cited but it would take us too far from our topic at this point.

Now, when the seeds germinate, what do they do? The first thing you see is that the seed puts a root downward and sends a shoot upward, almost simultaneously. What causes this vertical movement, this vertical orientation? It is the light ether that stimulates the plant to root itself into the ground and the stem to reach for the sky.

If the weather turns cold after the seeds sprout, it is good to have a whole array of biodynamic compost preparations available on your farm. It is also good to have prepared a barrel with liquid manure and compost preparations in it, with some manure sludge too. You might also want to have another barrel with the horsetail plant (*Equisetum arvense*) in it, ready for spraying on your fields.

Why am I bringing this up here? Well, because I remem-

ber vividly an occasion on Newton Dee farm when it got so cold after the oats started sprouting that those that had come up began to turn yellow. When that happens, you have only a brief window of about five or six days, or elasticity, in the ether’s working in which to help the crop. I remember stirring some preparation 500 with a little valerian, and adding some stinging nettle to the barrel in the last fifteen minutes of stirring; this was then sprayed onto that field. A little over a week later the oats had turned green again, and within a month or so, when the crop had fully grown, it became almost bluish green, even though I had not used any chemical fertilizer! I had never seen this before.

What happened was that, through treatment with the biodynamic spray, the roots of the plants were stimulated to initiate an alchemical process—a reaction that allowed the crop to respond as if it had been dressed with a chemical fertilizer. The alkaline processes of calcium and potassium present in the subsoil, with the acidic forces of nitrogen, had brought about a transformation through what the seeds carried down into the soil as a result of our cultivation, and what we had done with the seed bath. This made it possible for the mineral bases of potassium and calcium, and of nitrogen, which are usually present only in their oxidized state, to become available to the crop in their elemental state. This released their full archetypal power, imbuing the crop with strength for its alchemical processes. Here was confirmation for a remark Rudolf Steiner made in the agricultural course when he said that in agriculture we are not dealing with substances but only with processes in nature (Steiner 1993).

In modern farming this process, referred to as cation exchange, takes place in the buffered conditions of a saturated soil in the first ten days after germination. (See Albrecht 1996, 158–161.) (In German this process is called *Bodengare*.) This is what became apparent in the field I am referring to. Looking at the crop when the oats had reached maturity, the neighboring farmer asked if I had put 10-10-10 fertilizer on it. (For more on the subject of field care, refer to my essay “The Garments of the Farm Individuality” (1999), in which I describe the symbiosis of fields, woods, and so on, and what biodynamic farming does.)

For me, the experience with the oat crop served to confirm the value and validity of biodynamic agriculture. Through biodynamic methods the potential for revival of agriculture in the world is enormous and should never be underestimated. The impact of what is possible through our preparation, our enthusiasm, and our care is really astonishing, even if it may appear small. Through our efforts we can have tremendous impact on the renewal of the life forces that we depend on in our food.

THE BIODYNAMIC PREPARATIONS

We have now come to the subject of the biodynamic preparations. The first is known as preparation 500, which is made with cow manure that is put into a cow horn and buried in the earth over the winter season. When dug up in spring, the cow manure is stirred in lukewarm rainwater. In the process of stirring, we create a vortex. After we stir for a minute or two in one direction, the stirring is reversed and a vortex created in the opposite direction. We do this for a whole hour. In this way we

activate the element of water, which is the carrier of the moon forces. The vortex is in reality the sovereign of all life creativity.

In itself, pure water is invisible. In fact, it actually consists of very thin sheets or planes. In nature we see water only in the still surface of a plane, as on a lake, or in sinuous forms as it flows down a river, or else in a vortex. In the process of stirring the water into a vortex, we create a centrifugal force, which acts on the water in the horizontal plane, inducing a powerful dynamic that is held from escaping by the container. In addition, the vertical dimension of the vortex invites the forces of gravity and levity, the forces of the depths and the heights. Thus the world forces of polarity inherent in the north-south axis of space, and in the east-west axis of time, interact in this process of dynamic movement. Through our effort in stirring the water, we induce these forces to participate for an hour in our activity, and this imprints itself on the water. Additionally, all four elements—earth, water, air, and warmth—participate in the process of stirring. Once again, let us recall Steiner's remark, in the Agriculture Course, that there are no substances, only processes, in nature.

This "imprinted" water containing one of the biodynamic preparations is then sprayed either on the seed or on the whole field, as the case may be, and it enables the seeds we have sown to orientate themselves vertically right down into the depths. When we use them, seed baths with the preparation 500 really help the seed in this way. But we can also spray the fields once we have harvested the crop—after cutting hay, for example.

Even more importantly, it is a good practice to spray the whole farm with preparation 500 every autumn—but just the farmland, not the woods (they don't belong to our fields). Why should we do this? In autumn the earth inhales its growth forces again, after the summer when these have been exhaled far out into the heights of the upper atmosphere where they meet the forces of the cosmos. If we spray the farm with preparation 500 in autumn, the spraying accompanies what happens in every plant when it draws the life forces back into its roots and into the soil. So by spraying preparation 500 we support, and in fact enhance, the inhalation of the life forces of nature and cosmos back into the earth.

In spraying the whole field or the whole farm once a year, we do something else which concerns the life ether, the unity-creating, encompassing ether—Ernst Marti's "bodying" ether. It makes a field into one field to benefit the whole farm, and in this it is very, very powerful. Just as a seed has its own body, so a field has its own identity through the name we give it. I hope you have done that here. But the life ether does something far more powerful than breathing identity—it creates a new body and the field becomes one. This is what we sense when we have finished the cultivation—for instance, after plowing the last furrow. I used to enjoy cutting the last furrow around the headlands of a field. It gives one an important experience of having accomplished the whole process of what one was given to do. It is an act that has a sacred nature. When we cultivate, the life ether ensures that what was once just a field now becomes a living entity.

If we really take to heart what I have just said, we can become filled with reverence for what the ethers do, something

we could not understand before we grasped biodynamic principles and learned why certain symptoms appear. When we have farmed for a longer time, we get to know our fields very well. A field is an independent being in which all four ethers are active. The warmth ether is also present, its characteristic being to embrace everything. The warmth does what it likes; it is subject only to the seasons, and to north and south, east and west.

The life ether is the one that is present in the concluding, grace-bestowing moment when we hand back what we have done to the Creator. On the last farm I worked on in Germany, I was asked one day to take over a team of horses from another worker to help with the sowing of a large field. This was a privilege. There were three of us doing it. There is a rule that you don't speak when sowing seed; you don't talk, but you tune into what is a quiet, silent act, where the forces from above and from below meet in that tiny space in which you are permitted to act. Sowing is a sacred act, and when you have finished a field you do not actually like to step on it any more. If you did not prepare it properly beforehand, it's your tough luck now; if you did, you experience the forces of world creation active in your work on that spot.

In order to allow all the elements and the ethers to help you in the act of sowing, you have to follow the exacting sequences in the preparation of the physical equipment. You must prepare the seed drill so that every row will be the right distance from the next, and so on, because the seed is related to the life ether, and as I said, it also carries a memory. Having sown the field you then have to let it go.

Botton has its own life ether, too, of course. The village has its own characteristics, which you who live here may not have noticed because you take them for granted. However, if you come from America, as I just have, you feel you are in someone else's life habits, in the body-creating life forces determined by the place that is Botton.

If you offer a training course in biodynamic agriculture, you should bring the four ether stages into it. But which do you think is the most important? It is the unifying, body-creating life force, the oneness. That is why we often have a fence around a garden or house. When we step from the house into the garden we cross an invisible threshold. And when we work together in the garden, no matter how capable or otherwise we may be as human beings, we are each engaged in doing something in context with others. Through the interaction of our different abilities, the value of what can grow in the larger context of working together lies not only in what we can do individually, but also in what has meaning for community building. The life ether will ensure that all the different variations of life have a place where they can become one, can manifest as a unified whole.

To put this clearly into words, Steiner's motto for the social ethic—which is the leading thought for this conference—is perhaps the best way to express it:

The healing social life is found
When in the mirror of each human soul
The whole community finds its reflection,
And when in the community
The virtue of each one is living.

This is the alchemical magic of interdependency. The life ether surrounds our farms and gardens, and indeed our whole village, and gives a nascent identity to the fields and to the community. From the moment we become farmers, we begin to acquire that same staying power. From the moment I first began to learn how to plow and had resolved to make farming my vocation, I gained my personal relation to the life ether as well.

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Growing up in Silesia, Germany, Hartmut von Jeetze became acquainted with the agricultural teachings of Rudolf Steiner on his family's farm, which had been converted to biodynamic practice after his parents attended Steiner's lectures on agriculture in June 1924. Upon graduating from a four-year agricultural training course, he joined the Camphill schools at Newton Dee, becoming involved with curative education. In 1961, he emigrated to the United States to help establish the first Camphill Village in Copake, New York. Over the past four-and-a-half decades, his interests in biodynamic agriculture and curative education have shaped his life and work in Camphill communities.



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