

LECTURE V.

Delivered 13th June, 1924.

The indications given yesterday as to the treatment of manure by the use of cows' horns were intended, of course, only to show a method of improving manure. Manuring as such remains, and we shall speak today of the way in which manure has to be applied by those who have grasped that all that is living must be kept within the realm of life. **We saw that the etheric life forces should never be allowed to leave that which is within the region or sphere of growth.** That is why we found it to be so important to know that the soil, out of which the plant grows and which surrounds its roots, is itself a kind of continuation of the living plant-like nature, of the earth being. Moreover I pointed out yesterday how we can imagine the transition from the heaped-up mound of earth, inwardly vitalized by the humus in it to the bark which surrounds the tree and encloses it. It is only natural, in modern times, when all understanding has been lost of the great inter-relations in Nature, that in-sight into the fact that the life which embraces soil and plant alike extends into such secretions of the living realm as appear in the form of manure should also have been lost. An understanding of how the forces of this all-embracing life work on in the manure was also bound to go as time went on. As I said in the discussion yesterday, it is no part of the methods of Spiritual Science to attempt by fanatical agitation and turbulence forcibly to interfere with the achievements in all the different spheres of modern life; rather it gives full recognition to the advances which have been made. And only those things should be opposed, if I may use the word, which rest on completely false assumptions and are the outcome of the modern materialistic conception of the world. These achievements, however, must be completed by the results issuing from a living conception of the world in the varied spheres of life. I shall therefore not deal with the different ways of preparing manure - whether from stable manure, from liquid manure or from compost - as much has already been said in this connection. Besides we shall have the opportunity of dealing with this in this afternoon's discussion. I only wish to assume now that we are right in saying that in the practice of agriculture we are bound to exploit the soil, because in distributing the produce of agriculture far and wide we are actually depriving the earth and even the air of forces. These forces have to be replaced, and that is why the manure must be prepared in such a way as to contain the forces which the impoverished soil needs to become vitalised again. Now it is precisely on this point that a number of errors have arisen through a materialistic conception of the world.

In the first place a careful study is made nowadays of bacteria, of micro-organisms. To these is attributed the power of creating the proper proportions of the different substances in the manure. Great stress is laid upon the activity of the bacteria in the manure. Experiments have been made in inoculating the soil with bacteria. Such experiments are clever, even logical - but as a rule have no lasting influence and are of small use. This is because they are based on assumptions somewhat resembling the following: A large number of flies are found in a room and because of this the room is considered dirty. But the truth is that the flies are there because the room is dirty. Nor will the room ever become any cleaner by our devising methods of increasing the number of flies on the supposition that they will eat the dirt, nor by diminishing their number. Far more will be achieved by a direct attack upon the dirt than by any such speculative methods as these. In the same way, when animal excrements are used as manure, **the tiny living beings which appear through the processes at work in the manure substance can only really be regarded as a very valuable symptom of certain conditions which the manure substance is passing through;** and therefore not something which it is important to implant or breed: one might just as well do the reverse and suppress them. Our thoughts on these things should weave within the whole living content of the farm and not be limited to an atomistic view of these micro-organisms. Now obviously one should not make such a statement unless one can show the ways and means of carrying it out. True, what I have said about the bacteria has been emphasised in various quarters; but it is important not only to be able to make a correct statement, for a negative statement has no value in practice. One must be able to make positive suggestions. If one has no positive suggestions to make it is better to refrain from emphasising the merely negative view, as this only causes annoyance.

. A second point is this. Under the influence of the materialistic outlook of modern times, the practice has come into favour of treating manure with all manner of in-organic compounds or elements. Experience has shown, however, that this method produces no lasting results. Nor can it do so, for we must clearly understand that in attempting to improve the manure by adding minerals, we vivify only the watery part of the soil. But to ensure sound growth in a plant, it is not enough to organise and vivify the water for this does not distribute any vitality as it trickles through the soil. **The soil must be vitalised directly.** This cannot be done with mineral substances, but only with organic substances which have been suitably prepared so as **to organise and quicken the solid earth element.** This is the contribution of Spiritual Science to agriculture: to provide knowledge of the way to stimulate life in manure, either solid or liquid - indeed anything that can be used in this way - but what we do must remain within the realm of the living. Spiritual Science always seeks to gain an insight into the larger connections of life and does not pay much regard to the Microscopic view and the conclusions drawn from it, because this view is not of primary importance. The observation of the Macroscopic, of the larger range of Nature's activities - that is the task of Spiritual Science, but we must first know how to penetrate into these activities.

In all agricultural literature you will find the following statement, based no doubt upon the experiences which have been collected. It is said that nitrogen, phosphoric acid, calcium, potash, chlorine, etc. - even iron, all these are of great value to soil which is to be used for plants; but silicic acid, lead, arsenic, mercury, even

soda have only value as so-called stimuli in promoting plant growth. People show by such statements that they are really working in the dark, and it is fortunate that - because of their traditional knowledge - they do not strictly adhere to this principle in their treatment of plants. Indeed, it cannot be adhered to; for what is the truth of the matter ?

The truth is that Mother Nature will abandon us without mercy, if we do not pay proper regard to potash, lime-stone or phosphoric acid. We can, however, with comparative impunity disregard her silicic acid, lead, mercury, arsenic, etc. The heavens give us the silicic acid, lead, mercury and arsenic we need; they give them freely whenever the rain falls. **In order, however, to have the right amount of phosphoric acid, potash and limestone in the soil, it must be worked upon and manured in the right way.** These elements are not supplied freely by the heavens: **Thus by continuous use of the soil it becomes impoverished, and therefore needs to be manured.** This compensation by way of manure may, and in many cases does become too weak in time. When this happens, we rob the earth and leave it permanently impoverished. We must see to it that the true Nature-process can take place to the full. What have been called merely "stimuli" are actually the most important factors. All round the earth are the very substances though in highly diluted form which are generally held to be unnecessary, but which the plants require as urgently as they do those which come to them from the earth. **Mercury, arsenic and silicic acid are sucked in by the plants from the earth after these substances have been radiated into the earth from the universe.** Now we, as human beings, can prevent the soil from thus absorbing from the periphery what the plants need. By continued, unthinking use of manure, **we can quite well prevent the earth from seeking, out and absorbing the silicic acid, lead and mercury which come to it in the finest homeopathic doses from the surrounding universe and which are required by the plant. The plant needs the help of these substances in order to build up its carbon structure.** To ensure, therefore, that the plant gets all it needs from the surrounding universe, we must work on our manure, not only as I explained yesterday, but with other things as well. It is not enough to add to the manure substances which we think it requires; **we must add living forces. For living forces are far more important to the plant than mere material forces and substances.** Be a soil ever so rich in this or that substance, we should still not promote plant growth if we did not give the plant by manuring **the power to absorb into its body the active forces contained in the soil.** Now when it comes to living principles, it is not generally known how very powerfully minute quantities will work. Since Frau Dr. Kolisko's research work on the activity of "smallest entities" so brilliantly established as fact what until then had been more guess-work in homeopathy, we can, I think, regard it as a scientific fact that it is from the small entities (quantities) that the radiating forces necessary for the organic world are released, when these small entities are used in the appropriate way. **And in manuring we shall not find it at all difficult to use the smallest entities.**

We have seen how we can prepare these "smallest entities" quite readily within cows' horns, and how we are able to add to the forces contained in ordinary manure these other forces which are applied in homeopathic doses. But we must try out all ways of properly vitalizing the manure, so that it retains the right amount of nitrogen and other substances and is thus vivified and enabled to convey the necessary vitality to the soil.

Today I should like to give indications for the addition in small doses of certain preparations to the manure (quite apart from what can be done with the contents of the cows' horn) to vivify it to such an extent as will enable it to carry its own vitality into the soil from which the plants

In these passages we are clearly encouraged to continue with refertilisation and remineralisation of the soil, in league with composting, if we wish to maintain a fertile soil over the long term.

There are biodynamic practitioners who 'believe' the biodynamic preparations will provide everything needed in the soil. RS did not suggest this and an objective view of the practice has supported his view.

RS identifies the elements of Potassium, Calcium and Phosphorus as those which need to be bought to the soil, while other elements such as Silica and some heavy metals would come as homeopathic dilution from the cosmos and atmosphere.

We are again given a duality. The Earthly elements need to be bought to the Earth while the Cosmic elements can come from the atmospheric environment.

Frau Kolisko's Research

Frau Lily Kolisko carried out many experiments which were first published in 1945 in her and her husband Eugen Kolisko's "Agriculture of Tomorrow".

In this book there are many graphs of plants grown with homeopathic dilution of many substances including the biodynamic preparations mentioned later in this chapter. Their work shows conclusively that homeopathic dilutions, do indeed influence plant growth.

The Garuda Biodynamic Institute has carried on this work, redoing the Kolisko trials of the biodynamic preparations in 1992, and then exploring how the individual preparations work to influence plant growth.

Several products are available, under the BdMax trade name, based upon this work.

spring.

I shall mention various things, but wish to emphasize that in places where the ingredients are difficult to obtain, substitutes can, if necessary, be found, (There is only one plant for which there is no substitute, because its properties are so unique that they are scarcely to be found in any other species). In the first place it is necessary to ensure that the basic substances in the organic world - carbon, hydrogen, nitrogen and sulphur — are combined in the right way with other substances in the organism, especially with potash salts. We must not have regard merely to the quantity of the potash salts which the plant requires (as is well known, it is the potash salts which give the plant organism its scaffolding what it has of solidity and structure) the main thing is that this potash content shall be so worked up that when it comes within the ambit of what takes place between soil and plant, it acts properly within the organic process towards that which constitutes the actual body of the plant, viz. the albuminous substances. To accomplish this we proceed as follows:-

You take common yarrow (or milfoil) a plant which it is generally quite easy to obtain. In any place where it does not grow, the dried plant can be used. This yarrow is a wonderful work of creation. (The same is true of every plant, but if we compare yarrow with any other flower, we realise how particularly wonderful it is). It contains that substance with which, as I told you, the spirit moistens its fingers when it wishes to send carbon, nitrogen and other substances to their places in the organism where these are needed. Yarrow is like the ideal model which some creator of plants must have had before him when he had the task of bringing sulphur into its true relationship with other vegetable substances. One may say, the spirits of Nature have never brought the distribution of sulphur to such perfection as in yarrow (milfoil). And if we know the effects this plant can produce in the animal or human organism - how with correct biological use, **it can set right all troubles which are caused by any weakness in the astral body**, then we can further trace its particular nature (Dr. Steiner says "its milfoil-ness") throughout the whole process of plant growth in Nature. Its effect is extremely salutary when growing wild at the edge of fields planted with cereals, potatoes or any other cultivated plants. Yarrow should never be exterminated. It should, of course, not be allowed to spread so as to become a nuisance - it can never be harmful - but like some human beings whose mere presence is felt to be beneficent, so yarrow growing freely has an extraordinarily beneficial effect on its surroundings.

This is what can be done with milfoil: take the blossoms, the umbrella-like inflorescence, just as you do when the plant is intended for medicinal use. They should be plucked as fresh as possible and allowed to dry for a short time. If you cannot obtain fresh flowers, then take some that have

We are presented in the following passages with a series of suggestions for herbal preparations for the compost heap and soil.

The basic principle for these preparations is for a herb with certain activity is placed with the organ that it has an affinity with. For example the Yarrow works of Bladder and kidney disorders while Chamomile works on the intestines that it is placed in. This is a way of intensifying the specific activity one is desirous on increasing.

It has become a habit over the intervening years for biodynamic writers and teachers to simplify the understanding and action of these preparations into mere activators of chemical processes. So that from this passage about Yarrow the elements of Potassium and Sulphur are emphasised, rather than the spiritual activity that RS outlines. With the Yarrow preparation RS says that the Yarrow preparation "sets to right all troubles caused by the weakness in the astral body". This comment needs to be seen in the context he spoke of at the beginning and end of this passage, which is that this preparation helps the plant become sensitive to the environment and retains an ability to draw to it the cosmic elements it can gain from the environment, namely the Silicic acid and some heavy metals.

Dr Bernard Lievegeod, a medical doctor, wrote a very good investigation into the preparations, in a work called "The Working of the Planets and the Life Processes in Man and Earth" . This book is available on the internet at <http://www.oregonbd.org/planets.htm>

Lievegeod offered several important indications. One is their relationship to the planets and the other is the spiritual activity of the preparations.

Regarding Yarrow he says "it opens Etheric Formative Forces into a cup or chalice and nourishes what Mars thrusts into space".

So we have two indications, one of overcoming the weakness of the astrality and the other of the opening up of the etheric to the activity of the Astrality.

RS has characterised Sulphur as the harmonising element between all the other elements of protein. It acts as if it was an oil in a motor. It lubricates the elements to work together.

In the course we are told of how the antlers of the stag , provides a form of sensitivity to the stag which relates to a strong working of the astrality into the body of the stag. The Kidney / bladder system is also outlined as the organs that anchor the astrality into the physical bodies of living entities. The kidneys are accepted as being linked to the Venus stream of activity. This is an inner planets which associates it to the etheric bodies activity with the Astrality

Hence by placing Yarrow in a stag bladder the we are provided with the picture through an opening up of the etheric body the astral body is able to gain access to the physical body more successfully.

This is one way of overcoming a weakness of the astrality. We will see later that the Stinging Nettle preparation also works with the astrality, however more through reducing an overly active astrality.

been dried and sprinkle them with some of the liquor strained off from dried leaves which have been boiled in water. **Then take one or two handfuls of the yarrow blossoms well pressed together (mark that we remain always within the region of the living) and place them in a deer's bladder. Tie the bladder up and hang it in a sunny place, leaving it there throughout the summer. When autumn comes, take down the bladder and bury it in the soil but not too deeply, leaving it there throughout the winter.** Thus during a whole year, the yarrow flowers (there is no harm in using flowers in which the fruit has begun to set) in the deer's bladder have been exposed, partly above and partly below the earth's surface, to the right influences. You will find that during the winter, they have assumed a very peculiar consistency and in this condition they will keep for as long as you like. You can add some of this substance from the deer's bladder to a manure heap as big as a house by a simple distribution (very little work is required) and the radiation works. However much the substance is scattered through the heap the radiation is so powerful (and the materialist who talks about radium will believe in radiation) that it will work on any sort of manure, whether liquid, solid or compost. The substance obtained from the yarrow has such a quickening and refreshing effect upon the manure, that when it is used in the usual way it does much to restore that of which we have robbed the soil. The manure is again given the possibility of so vivifying the soil **that it can once more absorb the other cosmic substances**, the silicon, lead, etc., which come to the earth in the finest homeopathic doses. The Members of the Agricultural Circle should test this out by experiment. You will see how well it will succeed.

Now let us put the following question, for we should always act out of insight and not without it. We have learned the virtues of the common yarrow. Its content of sulphur in highly homeopathic distribution, standing in an ideal combination with potash, works so splendidly from the plant alone that it is able to radiate its activities over a large area. Then why is there need for a bladder- and that of a deer?

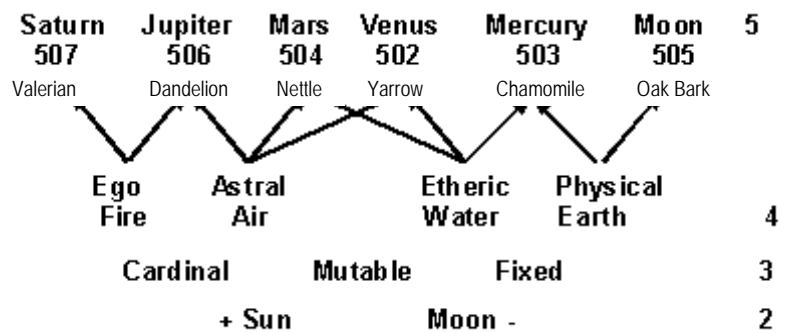
The reason why we use a deer's bladder is found when we gain insight into the whole process which is bound up with it. The deer is an animal which stands in a peculiarly close relation, not so much to the earth as to that which is of a cosmic nature in the periphery of the earth; hence its antlers, whose function I pointed out yesterday. Now the properties of the yarrow are preserved by means 'of that process which takes place between the kidneys and the bladder, and this applies to both human and animal organisms. This process is itself dependent upon the nature of the substance of the bladder. In the bladder of the deer, however tenuous its substantiality may be, there are forces which are connected not, as in the case of cattle, with the animal's Interior, but with cosmic forces; the deer's bladder is almost a reflected image of the cosmos. And in putting the yarrow into the bladder, we greatly increase its capacity to combine its sulphur with the other substances. In the treatment I have given for yarrow, we have therefore something fundamental for the improvement of manure. Moreover we have not gone outside the region of the living, and have certainly not entered the realm of in-organic chemistry. That is the important point.

Let us take another example. If **we wish to enable the manure to absorb so much life that it can transmit it to the soil** on which the plant is to grow, we must also render the manure capable of closely binding together all substances necessary for plant growth: not only potash but also

The Yarrow preparation opens up the soil to receive the cosmic activities from above.

Lievegeod formalised the relationships between the compost preparations and the planets, based upon his medical knowledge. These associations help to understand their relationship to the spiritual bodies. In my 'Biodynamics Decoded' I outlined the Biodynamic Vortex form for organising the biodynamic information and it is through this picture that we can see these relationship very easily. In the Biodynamic Vortex we see the four fold level activity of the 4 elements / spiritual bodies placed below the 7 fold layer of the planets.

The following diagram results. This provides a basis for approaching these relationships.



With Chamomile we are told 'we wish to enable the manure to absorb so much life that it can transmit it to the soil'

The chamomile, however, "works-up" calcium for the purpose of excluding certain tendencies towards fruit formation which are harmful "

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calcium and its compounds. In yarrow potash forces are predominant. If we wish to capture calcium as well, we require a plant which, though it does not arouse one's enthusiasm to the same extent as yarrow, nevertheless contains sulphur in homeopathic distribution. With this sulphur it attracts the other substances and blends them into an organic process. I refer to chamomile or *chamomilla officinalis*. It is not enough to say that chamomile is distinguished by the amount of potash and calcium it possesses. The yarrow plant develops its sulphur forces especially in the potash-formative process, and for this reason it possesses exactly that amount of sulphur required to "work-up" potash. **The chamomile, however, "works-up" calcium for the purpose of excluding certain tendencies towards fruit formation which are harmful,** and in this way keeps the plant healthy. The chamomile plant has some sulphur in it, but in a different proportion, because it is calcium that has to be worked upon. Now, bearing in mind that Spiritual Science always looks at the large, the macrocosmic cycles of events and not so much at that which is microscopic, let us follow the process undergone by chamomile which has been absorbed by a human or animal organism. For all the processes which the chamomile undergoes there, the bladder has hardly any importance, while the substance of the intestinal walls has great importance. If, therefore, we wish to work with chamomile as we did with yarrow the beautiful delicate little yellow-heads of blossom must be plucked and treated in the same way as the umbels of the yarrow, but instead of putting them in a bladder, we must put them in the intestines of horned cattle. This is quite an amusing proceeding. Instead of following the customary usage and making ordinary sausages, we have to make sausages filled with chamomile prepared in the way indicated (for yarrow). Here again, using only ingredients taken from the realm of the living world, we have something which only needs to be exposed to the right natural influences to become of value. In this case we have to allow those living forces to work which have the closest possible kin-ship to the soil. We must therefore place these precious little sausages (for they really are precious) under the ground, not very deeply, in soil which **is as rich as possible in humus**, and leave them all through the winter. For this purpose we should select places where the snow will remain lying a fairly long time, and where the sun will shine upon the snow. This will be the best way of attracting the cosmic-astral influences to the place where these precious little sausages lie buried. In spring they are dug up and put aside as before. Their contents are added to the manure in exactly the same way as was done with the prepared yarrow. **It will be found that manure so treated will have a more stable nitrogen content than other manure, and it will also have the property of so vivifying the soil that this will promote very strongly the growth of plants.** Furthermore, the plants will be more healthy, really healthier, than they would otherwise be.

I know well enough that these may appear rather crazy notions, but you must remember that many things which have at first seemed to be crazy have been accepted a few years later. You should have read the Swiss papers and seen the offensive objections raised when the idea of constructing mountain railways was first mooted, yet in a very short time the mountain railways were built and nowadays nobody thinks that the man who planned them was a fool. It is all a question of putting aside prejudice.

As I said before if these two plants are difficult to obtain, others can be used in their stead, though not with such good results. The plants can, of course, be used after they have been dried. There is, however, one plant which it is difficult to find a substitute for its good influence upon manure. It is one which is not very popular, for if we like a thing we usually want to stroke it; I refer to the stinging nettle. The stinging nettle is really the greatest of benefactors to plant growth and can scarcely be replaced by any other plant. If unobtainable fresh it must be used dried. It is a regular Jack-of-all-trades. It can do extraordinary things. It too, bears that within it, which introduces the spiritual element everywhere and works with it as I have explained. Again in addition to the potash and calcium which the nettle bears along in its radiating and streaming currents it also possesses a species of radiating iron forces which, as regards the whole course of Nature, are almost as health-promoting as are the iron forces in our blood. The stinging nettle does not really deserve to be despised as it so often is. Indeed, it ought to win everyone's heart, be cherished by everyone, for in its wonderful inner workings it plays a similar part in Nature to that played by the heart in the human organism. The stinging nettle is really a great boon. In order, therefore, to draw iron from the soil, it is necessary to plant stinging nettles in it somewhere where they will do no harm. We should do this because these plants like iron, they attract it to themselves and thus free the top layer of soil from it. If we cannot remove the iron as such, we can at least weaken its effects upon plants in this way. (If Count, Keyserlingk will excuse my making a personal reference, I would say that the planting of nettles on this estate would be of particular benefit). I wish to point out that the mere presence of nettles has a significance for plant growth in the whole district.

Now if you wish still further to improve your manure, take some stinging nettles, allow them to wither a little, press them together slightly and then place them, not in a bladder nor in

intestines, but directly into the soil, surrounded perhaps, by a thin layer of peat dust, so that they will be separated a little from immediate contact with the soil. Make a note of where they are placed, so that when you afterwards dig them out you do not take merely soil. They must be left there all through one winter and a summer; they must lie buried for a whole year, and then their substance will have become enormously powerful. If this is then added to the manure in the manner mentioned before, it will cause it to be inwardly sensitive. The manure will actually become sensitive, as though it really had some nous. It will not allow anything to decay in a wrong way nor give off nitrogen in a wrong way and so on. By adding this substance to the manure in a sense we really give it nous and enable it to make the soil into which it is mixed intelligent too, so that the soil will behave individually towards the different plant species growing in it. This addition of *Urtica dioica* has the effect of impregnating the soil with nous.

Modern methods of improving manure, however surprising they may be in their external effects, are in the last resort, only methods for turning out fine-looking agricultural produce destined merely to fill human stomachs. There will come a time when it will no longer possess any real nutritive value. We must not be deceived by large and blown-out products of the soil. The point is that they should be firm and solid and have real nutritive value. Now it may be that somewhere on our farm, plant diseases occur, I shall speak of these in a general way. People today are fond of specialisation and speak of this or that disease. This is all right from a theoretical - scientific point of view: one must know how the symptoms of one disease differ from those of another. But just as in the case of a doctor for human beings, it is not so useful to describe an illness as it is to cure it.

It is possible to describe an illness very accurately, to know exactly what is going on in the organism in terms of modern physiology and physiological chemistry, and yet one may be unable to heal it. Healing is not based on the microscopic changes in tissues and cells, but on a knowledge of the larger connections; this must also be our attitude to the plant nature. And since plant nature is in this respect simpler than that of the animal or man, so its healing is a more general process and when sick it can be healed with a kind of "cure-all" remedy. If this were not so, we should often be in a fix with regard to plants, as we are with animals, though not with human beings. For a man can tell us where he feels pain. Animals and plants cannot; and it is fortunate that here the curative process is almost the same for all plants. A large number of plant diseases (although not all of them) can really be arrested as soon as they are noticed by a rational management of our manuring - namely in the following way:

We must then add calcium to the soil by means of the manure. But it will be of no use if the calcium is not applied in a living condition. If it is to have a healing effect it must remain within the realm of the living. Ordinary lime or the like is of no use here. Now we have a plant which is very rich in calcium - seventy-seven per cent, of its substances is calcium albeit in very fine distribution. This is the oak and more especially its bark. In the bark we have something which is at an intermediate stage between plant and living earth. You will remember what I said to you about the kinship between bark and live earth. For calcium as required in this connection the calcium structure in the bark of the oak is almost ideal. Calcium in a living state (not dead, though even then it has an effect) has the property which I have already described to you: it restores order where the etheric body is working too strongly so that the astral element is prevented from reaching the organic substances. Calcium kills (damps down) the forces of the etheric body and so sets free those of the astral body. This is characteristic of all limestone. But if it is necessary for an over-powerful etheric element to be damped down and contracted in a regular way - not suddenly nor jerkily so that shocks are produced - but in a steady and orderly fashion, we should use calcium in the particular form in which it is to be found in the bark of the oak tree.

For this purpose we collect some oak bark just as it comes to hand. We do not need much. We collect it, chop it up until it has a crumbly consistency and put the crumbs into the hollow part of a skull or cranium of any one of our domestic animals - it is almost immaterial which one we choose. The skull should be closed up again with bony material and put into the ground - not very deeply. Then we cover it with peat moss and direct on to the spot, through a gutter or some such contrivance, a maximum amount of rainwater. Alternatively one might put some rotting plant substance into a wooden tub into which rainwater could flow and drain off again. This would produce a sort of plant slime and in this the bony receptacle with its content of oak-bark crumbs could be buried. It should be left there through the autumn and the winter, snow water being just as effective as rainwater. Prepared thus, this substance contains something which, when it is added to our manure, endows it with the power - the prophylactic property - of fighting and arresting harmful plant disease.

We have now dealt with four substances to be added to manure. All this involves a certain amount of work. But if you think it over, you will see that it involves less work than the complicated trouble taken in agricultural-chemical laboratories, and which moreover, has to be paid for. The methods I have outlined to you today are more profitable from the point of view of general economy.

We still need something, however, which will attract silicic acid from the cosmic environment in the

right way, for we must have silicic acid in the plant, and in the course of time the soil loses the power to absorb this very substance. The loss is very gradual and therefore passes unnoticed. Those who look only at the microcosmic and do not consider the macrocosmic set little store by this loss in silicic acid, because they think it has no importance for plant growth. It is of the utmost importance, however, although to be aware of this one must know the following. Such knowledge is, however, no longer regarded in learned circles as a sign of mental confusion, as was the case heretofore, for these circles are themselves already speaking of the transmutation of elements. Observation of various chemical elements has in this respect brought the materialistic lion to heel. But there are certain things constantly going on around us of which science knows nothing. If people knew something about them it would be easier for them to accept such things as I have been expounding. I know very well that the hard-boiled modern thinker will exclaim: "But you have told us nothing of how the nitrogen content in the manure is increased." As a matter of fact I have spoken of this all the time, in what I said about yarrow, chamomile and nettles. For in organic processes there is a secret alchemy. This hidden alchemy will, for example, transform potash into nitrogen provided only that the potash is working in the right way and will do the same even with lime if the lime is active in the right way.

In the plant there are the four elements of which I have spoken. Besides sulphur there is also hydrogen. I have told you of the significance of hydrogen. Now there is a mutual relation between lime and hydrogen, just as there is the well-known relation between oxygen and nitrogen in the air, and even according to the purely external standards of analytical chemistry, this ought to betray the fact that there is a kinship between the way in which oxygen and nitrogen are connected in the air and that in which lime and hydrogen are connected in organic processes. Under the influence of hydrogen, lime and pot-ash are constantly being changed into nitrogenous matter, and finally into actual nitrogen. And the nitrogen which has come into being in this way has a tremendous value for plant growth; but it must be such as has been produced in the way I have described.

Silicic acid, as we know, contains silicon and this in its turn undergoes transmutation in the living organism. It is changed into a substance which is of exceptional importance but which is not reckoned by present-day science to be among the elements. The silicon which we require in order to attract the cosmic element is transmuted. And now there must take place in the plant a real interaction between the silicic acid and the potash - but not the calcium. In order to set up this interaction we must quicken the soil with manure. We must therefore find a plant which, by reason of the particular proportion of potash and silicon in it, is able when added in homeopathic doses, to give the manure the required power. Such a plant exists and, once again, it is a plant which always has a beneficial effect wherever it is found in our fields. It is the dandelion (*Taraxacum*).

The harmless yellow dandelion does untold good in any area in which it grows, for it is the mediator between that silicic acid in minutest distribution in the cosmos and the other silicic acid actually present in the area in question. The dandelion is indeed a kind of messenger from heaven; but if it is to become active in manure, it must be applied in the right way. It must be exposed to the influences of the earth during winter. But in order to capture the forces in the environment of the earth, this plant must be treated in the same way as the other plants with which we have dealt. Collect some yellow dandelion heads, let them wither a little, press them together, sew them into the mesentery of an ox and bury them in the ground for a whole winter. In the spring, take out the balls (they will keep until they are wanted), which will then be permeated with cosmic influences. Here also, as described before, the substance thus obtained can be added to the manure, which will then give the soil the ability to attract to itself out of the atmosphere and the cosmos as much silicic acid as is required for the plants. The plants become sensitive to the influences that surround them and can of themselves attract what they need. For in order to grow, plants must have a kind of sensibility. Just as I, as a man, can pass unnoticed before some dull fellow, so can everything in the soil and above it pass unnoticed before a dull plant. The plant does not sense it and cannot make use of it for its own growth. But let the plant be permeated, however finely, with silicic acid in the way described, and it will become sensitive to its surroundings and able to attract what it needs. It is quite easy, of course, to make the plant attract what it wants from only a small distance around it. But naturally this is not good. If the soil is worked upon in the manner I have described, the plant will be prepared to draw for its needs upon a very wide area. The plant can then make use not only of what is in its own field, but also of that which is in the soil of the neighbouring meadow or wood. It only needs to be made inwardly sensitive in this way. So we can bring about an interplay in Nature, by giving the plants the forces which can be transmitted to them in this way by the dandelion.

It seems to me therefore that it would be worth while trying to prepare some manure to which these five ingredients (or their substitutes) have been added in the manner described. The manure of the future should be treated not with chemical trifles, but with common yarrow, with chamomile, with nettle, with oak bark and with dandelion. Such a manure will have much of what is actually needed.

As a final effort before using the prepared manure, take the blossoms of valerian, *Valeriana officinalis*, squeeze out the juice and dilute it with plenty of warm water (this can be done at any convenient time and the result put on one side). If this highly diluted juice of valerian be added to manure, it can arouse in it a proper behaviour towards phosphorous substances. With these six ingredients, the most excellent manure can be obtained from either stable manure, solid or liquid, or compost.