

LECTURE VI.

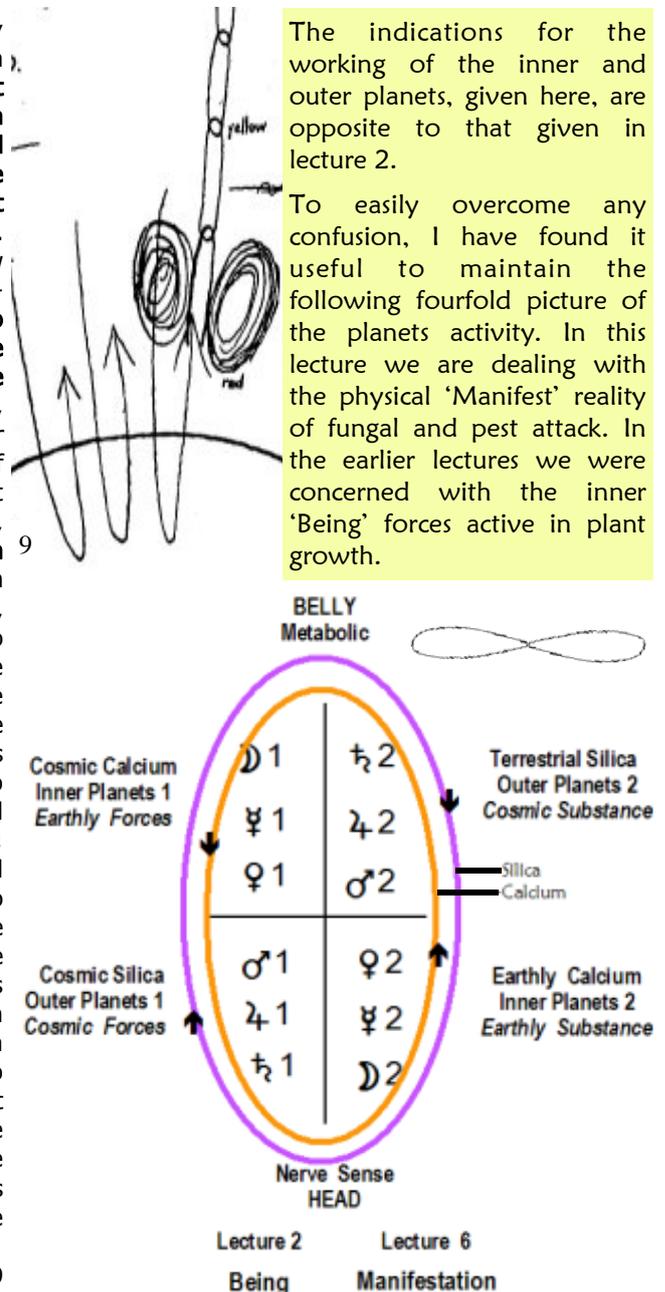
Delivered 14th June, 1924.

In the lectures that are to follow, I shall base myself to a great extent on what you have heard me say concerning plant growth and also animal structures. We, shall have to attempt to put into **aphoristic** form some of the Spiritual Scientific conceptions concerning the enemies of agriculture, animal and vegetable, and which are called the diseases of plants. Now these matters can only be studied in concrete cases; they must be dealt with specifically; there is little that can be said in a general way.

I shall begin with examples, which, if they are **taken as the starting-point of experiments**, may lead on to something further. I shall begin with the subject of weeds or noxious plants. What we have to do is not so much to find a definition for what we mean by weeds, as to discover how to remove from a field such plants as we do not wish to have there. Some of us, perhaps, as a habit from our college days, may be inclined to seek for definitions. I have given way - although without much enthusiasm - to such an inclination and have looked up in various books the definitions given of a weed. I found that most authors say; "A weed is that which grows where it is not wanted ; which does not go very deeply into the essence of the matter. Nor can we very successfully apply such a definition to the essential nature of the weed, for the simple reason that before the tribunal of Nature the weed has just as much right to grow as plants that are useful to us. Clearly, we must approach the matter from a somewhat different angle. We must ask ourselves how in a particular stretch of ground we can get rid of what was not meant by us to grow there, but which nevertheless does so because of the general connections of Nature ruling there.

The answer to this question can only be found by taking account of those things which we have been discussing during the last few days. **It was pointed out that we must learn to distinguish those forces which arise in the cosmos but are absorbed by the earth and work upon plant-growth from within the earth.** These forces come from Mercury, Venus and Moon and act not directly, but through the mediation of the earth. They must be taken into account if we wish to follow up how the mother-plant gives rise to a daughter-plant, and so on. On the other hand, **we have to consider the forces taken by the plant from the outer-earthly, and brought to it by way of the atmosphere from the outer planets.** Broadly speaking, we may say that the forces coming from the nearer planets are very much influenced by the workings of lime in the soil, while those coming from the distant planets fall under the influence of silicon. And, in fact, **workings of silicon, even though they proceed from the earth,** act as mediators of the forces coming from Jupiter, Mars and Saturn, but not for those of Moon, Mercury and Venus. People are quite unaccustomed to take these things into account. Ignorance of the cosmic influences, whether they come through the atmosphere around the earth, or whether they come from below through the medium of the earth, has caused great harm. Let us take a special case to illustrate this. The old instinctive knowledge had disappeared from large areas of the civilised world; the soil was exhausted, and such parts of the old traditions as the peasants had preserved was also worn out. And so the vineyards far and wide were decimated by Phylloxera (or grape-louse). Men were powerless to cope with the Phylloxera that was destroying the vineyards. I could tell you of an agricultural paper that used to be published in Vienna in the eighties. Appeals from all sides were made to the editor to supply some remedy for Phylloxera, but to his despair he knew of none and that at a time when the pestilence was most acute. For the science of today is not able to deal effectively with such evils as these; what is needed is an insight into the connections I have been expounding to you here.

Now I want you to imagine that Diagram No. 9 represents the earth level, where the influences of



achieve reproduction proper, it needs the cosmic forces of the Moon which shine into the Earth sphere and in the case of some plants, also those which come from Mercury and Venus.

As I said before, people look upon the Moon as simply reflecting the rays of the Sun, as transmitting solar light. But that is not the only thing which reaches the Earth. Together with the Moon's rays, the entire cosmos is reflected upon the Earth. (Everything that affects the Moon is reflected. And though this cannot be proved by the usual methods of physics, the whole of the starry heavens is in a sense reflected on to the Earth from the Moon.) It is a powerful and strongly organising cosmic force which is poured down from the Moon into the plant and enables it to produce seed, thus enhancing its power to grow to the power to reproduce. **But all this can only come about at any particular spot when the Moon is full.** When the Moon is new, the area will not enjoy the benefits of lunar Influence. During the new Moon, plants can do no more than retain what they took in at the time when the Moon was full. We should reach important enough results if we pursued the custom (known in ancient India and still maintained up to the nineteenth century) of observing the phases of the moon at seed-time and of making use of its effects upon the very earliest stages of germination. But Nature is not so cruel as to punish man for his inattention and discourtesy to the Moon at times of sowing and harvesting. We have a full Moon twelve times a year. This ensures that the influences of the full Moon, i.e., those which promote the formation of fruit, are there in sufficient strength. If something to be grown is placed in the soil at new Moon instead of at full Moon, it will wait until the Moon is again at the full, and, regardless of human error, work in accord with Nature. Thus men make use of the moon without having the least idea that they are doing so.

But this alone does not help us any further. For, as things are, weeds claim the same rights as useful plants, and we get them all mixed up together because we do not understand the forces that regulate growth. We must try and enter into these forces. **We shall then see that the fully developed strength of the Moon promotes the reproductive forces of all living plants, that it creates the force which pushes upwards through the plant from the root right on into the seed as it is being formed in the fruit.** Now we shall get the best possible weeds if we allow the Moon to shed its full beneficence upon them, and do nothing to stop its influence. Furthermore in wet years when the lunar forces are more active than in dry weather, the weeds will increase and multiply. If, however, we take these cosmic forces into our calculations we shall reason as follows: **If we can cut off (apply a tourniquet, as it were) the full influence of the Moon from the weeds, allowing only those influences to reach them which work directly from outside** (i.e., non-lunar influences) we shall be able to set a limit to their propagation. For they will then not be able to reproduce themselves. Since, however, we cannot screen off the Moon, we shall have to treat the soil in such a way **that it will be disinclined to absorb lunar influences.** Moreover the plants, these weeds, will then develop a certain reluctance to grow in soil that has been treated in this way. This will give us what we want.

We must boldly take the matter in hand. We must not be afraid, and this is how we must proceed. We collect a number of seeds of the particular weed in question, i.e., those parts which contain within themselves the final workings of the force of which I have been speaking. We light a flame - that of a simple wood fire is best - and burn the seeds, carefully collecting the ash, of which we accumulate a relatively small quantity in this way. **But in the ashes of these seeds we have literally in concentrated form, the force that is the opposite of the force which was developed under the influence of the Moon.** We then sprinkle the pepper-like preparations on our fields - we need not go very carefully to work for the influence spreads over a large area - and we shall see in the second year that there are far fewer of the weeds in question. After four years of this treatment, the weed will have completely disappeared from our field. In this way the "Effects of smallest Entities", which has been proved scientifically by the Biological Institute (at Stuttgart), is literally put to fruitful use.

A great many results are to be obtained in this way, as you will find out if you really take account of these influences, which are totally disregarded nowadays. For instance, in order to use the dandelion in the manner I outlined to you yesterday, you can plant a number of them anywhere. But you can at the same time make use of the dandelion seed for the production of this burnt pepper to be scattered on your fields. In this way, you will be able to plant dandelions wherever you like, but you will also ensure that the field that has been treated in this way with dandelion ash will be free of dandelions. All these things were contained in the old instinctive husbandry. In those days, one could put what plants one chose to grow together, because one went about it with a sort of instinctive wisdom. From what I have said, you can see that these things are the starting point of a really practical method. And since today the view - I will not call it the prejudice - obtains that everything must be verified, I urge you to put these things to the test. If you carry through the experiments properly, they will verify what I have said. If however, I myself were working on a farm, I should not wait for proofs but go straight ahead, for I am sure that these things are practicable. I look at it in this way: the truths of Spiritual Science are true in themselves and require no verification from outside or by external methods. (The mistake of all our Anthroposophical scientists has been that they adopted external methods of verification. They have done so even within the Anthroposophical Society, where they certainly ought to have known that things can be true in and through themselves. But if one wants to establish any results in public nowadays, one needs external verification: there the compromise is necessary. In actual fact it is not necessary). For we know things inwardly, i.e., that they are true through their inner nature. For example: Suppose I put fifty persons to work in manufacturing a certain material. Now, if I want three times as much of the material made, I know quite well that I should need a hundred and fifty persons to get the job done. But a subtle person may come along and say: no I do not agree. You will have to put it to the test. You will have to try it out on a given piece of work, putting first one, then two, then three persons on it and establish how much they do". Now if all three spend all

their time chattering, they will do less work than one person. The assumption can turn out to be false, for scientific experiment has shown results that are opposed to the assumption. But the idea is not refuted although the experiment has "proved" the contrary. To be really exact, the falsifying factors would have to be examined. Then what is inwardly true will also become outwardly established.

We are able to proceed in a fairly general way as regards the noxious plants in our fields. But we cannot speak so generally when it comes to **methods of controlling the noxious animals**. I shall take an example which will be particularly characteristic and will enable you to make experiments and see how these things work out. Let us take an old friend of the farmer - **the field-mouse**. What efforts have not been made to combat this little creature? You can read in agricultural works of the use of preparations made of phosphorus or strychnine and saccharine. Even the drastic remedy of infecting the field-mouse with typhus has been suggested, to be applied by mixing with mashed potatoes certain bacilli harmful only to rodents, the mixture being distributed as required. These things have been done, or at any rate they have been recommended. In any case, all sorts of rather inhuman methods have been tried in order to get rid of these quite pretty-looking little animals. Even the government has taken a hand in the struggle, because it is not of much use to fight the field-mouse on your own land if your neighbour is not going to follow suit. Otherwise the mice simply come across from the adjacent fields. The government had therefore to be called in, in order to compel everyone to get rid of their field mice by the same method. Governments do not like exceptions. When a government selects a method which it thinks the right one (regardless of whether it is or not) it issues its instructions, and these have to be followed by every farmer. All this is simply proceeding by trial and error and laying down the law from outside. And one always experiences that those who proceed in such a manner are never quite happy about the results, for the mice invariably reappear. It is quite true that no method can be entirely effective on one estate only; It can however be shown to be partially effective on a single estate and then one must rely on human intelligence in inducing one's neighbours to follow the same method. For in the future, men will need to rely to a far greater extent upon reason and common sense than on police or government regulations. That will be a first real step forward in our social life.

Not let us imagine the following. **We catch a fairly young field-mouse and skin it. The main thing is to get this skin when Venus is in the sign (constellation) of Scorpio.** Those old fellows of the Middle Ages with their instinctive wisdom were not fools after all. They pretended that in passing from the plant to the animal kingdom, we come upon what they called the zodiac, which means "animal circle". Indeed if one wants to exercise an influence in the plant kingdom, one can content oneself with the use of planetary forces. But with animals this is not enough. Here the fixed stars have to be taken into account, especially those fixed stars which belong to the signs of the Zodiac. In the plant kingdom the influence of the Moon is practically sufficient to call forth the powers of reproduction. In the animal kingdom the Moon's influence must be strengthened by that of Venus. Indeed in this case the influence of the Moon need not be specially taken into account because the animal kingdom has retained within itself Moon forces (from past epochs, Ed.) and has thus emancipated itself from the actual Moon. **In the animal kingdom lunar forces are at work even when the Moon is not at the full. The animal bears the full Moon within itself and is therefore emancipated from time conditions.** There is, however, a dependence as regards the other planetary influences. We have to undertake something quite definite with the skins of the mice in connection with these. The skin must be secured at the time when Venus stands in the sign of Scorpio, then burned and the ash and any residue carefully collected (several skins must be burnt to procure a sufficient quantity of ash). Now because the skins have been burnt when Venus stood in Scorpio, **that which is contained in these ashes is the negative power to the power of reproduction in the field-mouse.** If, in certain districts, difficulties present themselves, a more homoeopathic method can be adopted to procure this pepper-like substance. If, however, it has been obtained during the high conjunction of Venus and Scorpio it will, when sprinkled on your fields, prove to be a means of keeping field-mice away. No doubt they are cheeky little creatures and are apt to come back again if "pepperless" areas still remain in the neighbourhood. In such areas the mice will again settle down. But if the method is applied throughout the neighbourhood, it certainly brings about a radical result.

I believe a certain pleasure could be derived from putting such

The reason one uses planets for plants and constellations for animals, resides in the differing spiritual make up of the kingdoms of nature. Lower bodies are controlled by higher bodies. In the case of plants the Astral body - which lives in the planetary sphere - is the overriding and surrounding body of plants. The spirit - which lives in the galactic sphere - is more removed and we are told actually works from within the Earth, for plants. For animals the Astral body is incarnated, hence their protein and organ formation, while the Spirit still lives outside and around them, in the galactic sphere, thus acting as an external 'higher' organisational principle. So the 'spirit' constellations play a larger part in the controlling of the 'astral' animals.

Why the skin? Lievegoed outlines how the moon process firstly works with the reproductive organs and then as a secondary process finds its end in the formation of the skin. Thus the skin can be used as a carrier of the secondary reproductive process. It is interesting to observe the skin of a woman during pregnancy and after. As pregnancy develops, so the skin 'glows'. Especially after breast feeding ends this glow again subsides.

To these instruction can be added one further activity. Peter Bacchus has long advised that it is the **Carbon ash** rather than the salt ash that one wants for peppering. So once the ash is collected it is placed in some water and stirred for a few seconds, to dissolve the salt ash. This mixture is then strained through filter paper, and the water discarded. The filter paper is then dried and the ash recollected. This ash is then used for further potentising or spread as suggested here.

methods into practice. I believe that agriculture would acquire a sort of savour as of a well-seasoned dish. Moreover we take into account here the workings of the stars without the least concession to superstition. Superstition arises only when an earlier knowledge is no longer understood. We do not revive superstitious beliefs. We must start from insight, but an insight which has been won in a spiritual way and not by physical methods.

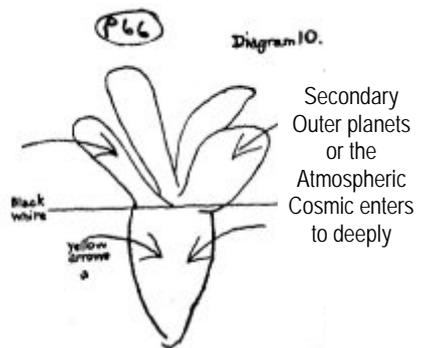
This then, is the way to deal with field-mice and any other pests from among the higher animals. Mice, being rodents, belong to the higher animals. But this method will be of no use in attacking insects, for these come under completely different cosmic influences, as do all the lower animals as compared with the higher.

Now I am going to tread on very thin ice and take an example very near home. I am going to talk about the **nematode of the beetroot**. The outer signs of this disease are a swelling of root fibers and limpness of the leaves in the morning. Now we must clearly realise the following facts: **The leaves, the middle part of the plant which undergo these changes, absorb cosmic influences that come from the surrounding air, whereas the roots absorb the forces which have entered into the earth and are reflected upwards into the plant.** What, then, takes place when the nematode occurs? It is this: **The process of absorption which should actually reside in the region of the leaves has been pressed downwards and embraces the roots.**

Thus if this (Diagram No. 10) represents the earth level, and this the plant, then in the plant infested with the nematode the forces which should be active above the horizontal line are actually at work below it. What happens is that certain cosmic forces slide down to a deeper level; hence the change in the external appearance of the plant. But this also makes it possible for the parasite to obtain under the soil (which is its proper habitat) those cosmic forces which it must have to sustain It (the nematode is a wire-like worm). Otherwise it would be forced to seek for these forces in the region of the leaves; this, however, it cannot do as the soil is its proper environment. Some, indeed all, living beings can only live within certain limits of existence. Just try to live in an atmosphere 70 degrees above or 70 degrees below zero and you will see what will happen. You are constituted to live in a certain temperature, neither above nor below it. The nematode is in the same position. **It cannot live without earth and without the presence of certain cosmic forces brought down into it. Without these two conditions it would die out.**

Every living being is subject to quite definite conditions. And for the particular beings with which we are dealing, it is important that cosmic forces should enter the earth, forces which would ordinarily display themselves only in the atmosphere around the earth. Actually the workings of these forces have a four-year rhythm. Now in the case of the nematode, we have something very abnormal. If one enquires into these forces, one finds that they are the same as those at work on the cockchafer grubs; and as those, too, which bestow on the earth the faculty of bringing the seed potato to development. **Cockchafer grubs as well as seed potatoes are bred by the same forces, and these forces recur every four years** This four yearly cycle is what must be taken into account not with regard to the nematode but with regard to the steps we take to combat it.

In this case, the procedure is not to take any particular part of the animal as we did with the field-mouse, but the whole animal must be taken. This insect which attacks the roots of the plant is as a whole a product of cosmic influences, needing the soil only as a medium. **Thus the whole insect must be burnt.** That is the best and quickest method. A more thorough way might be to allow it to decay, but then it would be difficult to collect the remains, and practically the same result can be obtained by burning the whole insect. The insect can be collected and kept-alive and then burnt at the proper time. The incineration must take place when the Sun is in the constellation - of the Bull (i.e., the constellation exactly opposite to that which was mentioned in connection with Venus and the burning of the mice skins). For this insect world is closely related to the forces that are developed as the Sun, on its path through the Zodiac, passes from the sign of the . Water-carrier through the Fishes to the Ram and the Twins and on to the Crab. In the sign of the Crab the influence becomes quite weak; it is weak, too, in the sign of the Water-carrier. As the



Nematode of the Beetroot

The process of absorption which should actually reside in the region of the leaves has been pressed downwards and embraces the roots.

The Cosmic forces in the atmosphere - the Cosmic Substance carrying Astrality — works too strongly into the soil. The nematode, an insect, lives and survives in this astrality, as we will see described in the next lecture.

This passage is suggesting a different approach to insect control, than peppering, even though RS goes onto describe the burning of the insects as the solution.

If the cosmic forces 'working too strongly into the soil' can be 'pulled out' or 'pushed out', then the environment that supports the nematode will no longer exist and therefore the nematode will die out. This is ultimately THE biodynamic solution to pests and disease, as it solves the problem, rather than removing the symptom, as peppering does. We are given a hint of this process earlier in lecture 5 when RS talks of using the Oak Bark preparation for fungal disorders.

Research carried out by the Garuda Biodynamic Institute has proven that, by using the Biodynamic preparations as specific homeopathic compounds, this approach to pest control is possible. Trials carried out in conjunction with HortResearch NZ, showed a 50% reduction in high levels of bird damage on grapes. White Cabbage butterfly damaged has ceased due to similar compounds.

Sun goes through these signs it , radiates those forces which are connected with the insect world.

We do not realise what a very highly specialised being the Sun is. It is by no means the same when, in the course of the year or the day, it shines on to the earth from, say, - the Bull as it is when it shines from e.g. the Crab. In each case it is different: so that it is nonsense strictly speaking (though pardonable nonsense) to speak of the Sun in general. One should really speak of the Ram-sun, the Bull-sun, the Crab-sun, the Lion-sun, etc. The Sun is always a different being according to the combined effect of its daily and yearly course, as determined by its position in relation to the vernal point. If, then, you prepare insect-pepper in the way I have described and scatter it over a field of turnips, the nematodes will gradually become "faint". After the fourth year they will have completely faded away. They cannot live - they shun life if they are to inhabit a soil that has been peppered in this way.

Thus there re-emerges in a remarkable way what used to be called the "Wisdom of the Stars", Modern astronomy only serves as a means of mathematical orientation, and cannot really be put to any other use. But astronomy was not always like this; the stars once served as a guide for the labours and activities of life on earth. This science has now been completely lost. But to the extent to which we can develop a new science, we have the possibility of controlling those animals and insects which become a nuisance. It all depends on our capacity to be, as it were, on such intimate terms with the earth that we come to know her capacity for bringing forth plants, especially through the power of lunar and water influences.

But the forces in every plant and in every other being carry in themselves the germ of their own destruction. Thus, just as on the one hand water is a promoter of fruitfulness, so on the other hand fire is the destroyer of fruitfulness. It consumes it. And if instead of treating plants with water, which is the usual way of making them fruitful, you treat them with fire, applied in an appropriate manner, then you are performing within the economy of Nature an act of annihilation. This is the point to be borne in mind: a seed develops fruitfulness and spreads it abroad through the Moon-saturated water. It also develops destructive forces through the Moon saturated fire, or, strictly speaking, as we saw in our last example, through cosmically-saturated fire. There is nothing very strange about this: we are reckoning here with enormous forces of expansion and have given exact indications of how time co-operates; for the seminal power is notably active in expanding, and so if it is destroyed. It also works very far a field. The force of expansion is peculiar to the seed. And the burnt substance which because of its appearance we called pepper, also possesses the tendency to spread its power abroad.

There remains for us one more subject to consider: the so-called plant diseases. Actually this is not the right word to use. The abnormal processes in plants to which it refers are not "diseases" in the same sense as are those illnesses which afflict animals. When we come later on to discuss the animal kingdom, we shall see this difference more clearly. Above all, there are not processes such as take place in a sick human being. **For actual disease is not possible without the presence of an astral body. In man and animals, the astral body is connected with the physical body through the etheric body and a certain connection is the normal state. Sometimes, however, the connection between the astral body and the physical body (or one of the physical organs) is closer than would normally be the case; so if the etheric body does not form a proper "cushion" between them, the astral intrudes itself too strongly into the physical body. It is from this that most diseases arise.**

(This is a very good image of how the spiritual bodies work together)

Now the plant does not actually possess an astral body of its own. It does not therefore suffer from the specific forms of disease that occur in men and animals. This is the first point. The next point is to ascertain what actually causes the plant to be diseased. Now, from everything I have said on this subject, you will have gathered that the soil

Plant 'disease'.

RS has made a point that is often quoted. That plants do not get disease in the same way as animals and humans. He is emphasising, the primary cause of disease in animals and humans, arises because of an overactive astral activity. This can be due to a weak etheric, allowing the astral to dominate it; a too strong astrality or even a too weak Ego / Spirit function, that does not assert enough force to control the astral. RS's point here is that the astrality of plants 'lives' outside the plant and 'hovers' around the plant. It therefore can not have the same experience of the astrality as animals.

As we have seen with the Beetroot nematode example, if the astrality comes too close or into the plant, we see insect attack, rather than disease, which in this context is taken to mean fungal disease. Plants however, do suffer from bacterial diseases and viruses, which I suspect are associated with a too strong astral and spirit activities, respectively, within the etheric body of the plant. RS does not address these issues or offer any solutions for them in the course. He only addresses the nature of fungal disease, which arise in animals and humans, from a similar cause as they do in plants. An overly strong etheric activity, as we will see, in the following paragraphs.

On the surface, it is probably adequate and traditional to interpret what RS describes in these paragraphs, as describing how an overly active etheric activity in the soil, bought about by too much lunar force, due to too much water, causes the normal fungal activity of the soil, to be carried higher up the plant, where these soil organisms can find an environment they can survive in. By reducing the effect of these lunar influences we halt the development of fungal diseases.

influence has the result that there is not sufficient strength for seed formation. The seed receives a certain portion of the decaying life, and this decaying life forms another level above the soil level. This new level is not soil, but the same influences are at work there. The result is that the seed of the plant, the upper part of the plant becomes a kind of soil for other organisms; parasites and fungoid formations appear in it. It is in this way that blights and similar ills make their appearance in the plant. It is through a too strong working of the moon that forces working upward from the earth are prevented from reaching their proper height. The powers of fertilisation and fructification depend entirely upon a normal amount of lunar influence. It is a curious fact that abnormal developments should be caused not by a weakening but by an increase of lunar forces. Speculation might well lead to the opposite conclusion. Looking at it in the right way shows that the matter is as I have presented it. What, then, have we to do? **We have to relieve the earth of the excess of lunar forces in it.** It is possible to relieve the earth in this way. We shall have to discover **something which will rob the water of its power as a mediator** and restore to the earth more of its earthiness, so that it does not take up an excess of lunar forces from the water. This is done by making fairly **concentrated brew (or tea) of equisetum arvense (horse-tail)**, diluting it and using it as a liquid manure on the fields for the purpose of fighting blight and similar plant diseases. Here again only small quantities are required; a homeopathic dose is generally sufficient. As you will have realised, this is precisely where one sees how one department of life affects another. If, without indulging in undue speculation, **we realise the noteworthy effects produced by equisetum arvense upon the human organism by affecting the function of the kidneys**, we shall have, as it were, a standard by which to estimate what this plant can achieve when it has been transformed into liquid manure, and we shall realise how extensive its effects may be when even quite a small quantity is sprinkled about without the help of any special instrument. We shall realise that equisetum is a first-rate remedy. Not literally a remedy, since plants cannot really be ill. **It is not so much a healing process as a process exactly opposite to that described above.**

Saturn 1 is the incarnation of the archetype, while Saturn 2 is concerned with condensing the essence of this present lifetime, into a capsule (seed) to take forward through time. The Jupiter 2 and Mars 2 processes, are the planets concerned with the nutritive formation of proteins and other chemical processes, stimulated by the external warmth and light processes. Bringing the 'cooking' processes 'onto' the plant, as we will see referred to in the next lecture.

In biennial plants there are two clear stages of growth. The first year sees the Silica processes focusing on root development, while the Calcium processes are busy creating the flat rosette of leaves. The Calcium processes creation of mass, provides the Silica process with substance, to make the bulk of the root. The stronger the Calcium processes the bigger the root the Silica can make. We must remember that the atmospheric /metabolic Calcium and Silica processes are also playing in to this image, however at a lesser degree than they will play in , in the second season.

In the second season, the Silica processes change their focus and move towards seeding and thrust forcefully into space, dragging the Calcium processes upwards with it. It is in this second season that we see the most dramatic leaf differentiation, as this lower 'etheric' pole starts to interact with the upper metabolic 'astral' pole. This upper zone of the plant, contains within it the activities of the **inner planets 1**, later called the Earthly Forces, and the **outer planets 2** otherwise called the Cosmic Substance.

The upper and lower poles of the plant have to connect with each other, and interact successfully, for the process of fertilisation and fruit ripening to occur. What is bought up from below, has to be taken up by what is above, and 'finished off'. If for some reason, what is coming from below is out of balance, then the processes from above can not do their job properly, either.

The picture we are presented with in these paragraphs, is that something goes wrong, with the upward moving pole. It arises in such a way that one side of the activity is too strong.

The growth picture we have to form, is that from below, the impulse to incarnate, (Saturn 1) which has been adapted to the needs of the environment, (Mars 1 and Jupiter 1) and connected with a reproductive urge, has reached a stage of formation, so the necessary tissue and processes of growth (Earthly Substance - Moon 2 & Mercury 2) are ready to carry the plant as far as the early stages of flowering (Venus 2). This etherically ripe being, now has to be met by the astralised outer planets 2 and the etheric forces active in the atmosphere, inner planets 1, to facilitate fertilisation, followed by a filling out of the fruit, and its subsequent ripening of flesh and seed. These atmospheric processes work onto plant growth, so that the end fruit's filling out or mass increase, is the product of the activities of the primary inner planets - Earthly Forces - while the ripening of this mass into nutritive food is achieved through the processes of the secondary outer planets, the Cosmic Substance. RS does not clarify this distinction here.

So the ultimate seed and fruit we eat, is an interplay between

Thus if one gains an inside knowledge of the workings of Nature in her different fields, we can actually gain control over the processes of growth; and we shall see later that this also applies to the forces of growth in animals both in normal and abnormal conditions. Thus we arrive at an actual science. For to experiment and to proceed by trial and error as people do nowadays is not true science; it is merely collecting data and isolated facts. True science does not begin until one has gained control of the forces at work. Now plants and animals and even the parasites in plants cannot be understood by themselves. Remember what I said in the first lecture about the magnetic needle and the folly of regarding the fact of its always pointing to the North as being caused by something in the needle itself. No one believes this. We take the earth as a whole and assign to it a magnetic North pole and a magnetic South pole. **In the same way, when we want to explain the plant we must bring into question not only plant, animal and human life, but the whole universe. For life comes from the whole of the universe, not only from the earth. Nature is a unity and her forces are at work from all sides. He who can keep his mind open to the manifest working of these forces will understand her.** But what does the scientist do today? He takes a little plate, lays a preparation upon it, isolates it very carefully and then watches. Everything that could work upon the substance is shut off. This is called "Microscopic Investigation". It is really the opposite procedure to that which should be adopted in order to gain understanding of the expanses of the world. Not content with shutting himself up in a room, the scientist actually shuts himself up inside these brass tubes and leaves the whole of Nature outside. Nothing, he maintains, must be kept under observation except the one object in question. In this way we have yielded more and more ground to the microscope. When, however, we find a way back to the macrocosm, then we shall begin to understand. Nature and many other things as well.

Libran principle, it will excrete or hold minerals, acidity and fluids as the body needs. It regulates the proper activity of the astrality. In RS words **"It is not so much a healing process as a process exactly opposite to that described above."** we can see that instead of the etheric pushing off the astrality, we have the equisetum strengthening of the astral and spirit processes so that the over active etheric is bought back into balance.

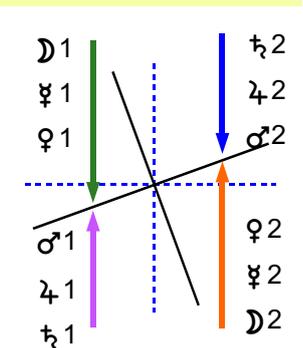
We should also reflect on what was provided in the Fifth lecture with regard the Oak Bark preparation.

"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**

what comes from below, being met by what comes from above. For successful fruit production the upward process, especially the 'train' driving it, the Cosmic Silica / Forces, has to be strong enough to reach the top of the plant. In lecture Two we are told it is through a very active working of clay that this Cosmic Silica stream becomes strong.

Further, regarding the Silica processes, we are told in the second lecture, how the outer planets active in the Earth are attracted, even pushed into the Earth by the sand and silica processes in and around the Earth. These silica forces are condensed through the winter, and then through the activity of the clay they move upwards in the spring, carrying the accompanying calcium processes with them.

What RS is describing in his description of fungal disease is **how the Earthly inner planet 2 activity, (Earthly Substance) carrying the forces for physical reproduction, become so dominate, due to excessive lunar /etheric processes, that it not only pushes off the inward moving Astrality and Silica (2) processes, it also over powers these upward moving Silica (1) processes, which can not then do their job of carrying the plant high enough to be taken hold of by the upper forces.**



A more direct way of saying this, is that the etheric activity of the soil is so great, that it over powers the spirit activity in the soil, and as it rises into space 'alone', it pushes off the astrality, so it too can not bring it into order.

Hence RS suggests we use a Siliceous plant Equisetum, to push 'in' the astrality (Cosmic Substance) and strengthen the working of Spirit / Cosmic Forces from below. One must also ask "Is there a role for extra clay here as well?"

RS makes reference to the role of Equisetum and the kidneys and how their action is opposite to the process of fungal attack he describes.

The kidneys are the organs that facilitate the working of the astrality, within the human body and Equisetum is used to harmonise its workings by offering it some siliceous support. The kidneys work to balance all the bodies chemistry. As the

