

Private Notes. H. J. Heywood-Smith, 47 Redcliffe Square, London, S.W. 16.

AGRICULTURAL CONFERENCE. DORNACH

21st--26th January, 1935

General Theme: "THE AGRICULTURAL INDIVIDUALITY"

Monday, 21st January, Dr. Wachsmuth: "THE AGRICULTURAL INDIVIDUALITY IN RELATION TO SURROUNDING WORLD FACTORS."

9 a.m.

Dr. Wachsmuth explained that this was the fourth Agricultural Conference held at the Goetheanum, and that it could not be expected that we should deal with the more elementary questions that had been considered in the earlier years of our work.

Members of the Circle who desired information on such matters should approach individuals who have gathered experience in our methods and gain instruction from them. In the first Annual Conference they had dealt with the Plant World; in the second year with the Animal World; in the third year with the soil; and now we were about to consider the subject of The Agricultural Individuality.

Sir James Jeans writes: "The world now looks more like a thought, than a machine. The matter in a human being is formed by the individual spirit of man." The farmer sees how the forces of nature work,-- the etheric forces. He can become master and moulder of these forces. The youth in the old Guilds had to travel for three years in the country, to become independent of the etheric body of the place in which he had been brought up. The ego had to become more independent; the youth had to travel. Through this the ego felt a resistance; it was strengthened. It is good to travel, for this strengthens the ego. The ego had to deal

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with the etheric conditions of a different place. Dr. Wachsmuth said that when he went to England he had a feeling as if he were touched all over by many hands. Dr. Steiner's explanation of this was, that when one is in England the etheric body draws together a little, it coincides with the physical body. Upon this depends the development of the Consciousness Soul. When Dr. Wachsmuth went to America he felt not only that he was touched on every side but that he perspired. Every day he perspired. In fourteen days system he felt normal again. The glandular system was affected, and this as we know, is connected with the etheric body. He referred to Albert Steffen's story of the lime in the soil. ... Heal thyself! Dr. Wachsmuth recommended the farmers to make a drawing of their the farmer farm, to show the etheric geography. And he should not forget to himself place himself in the centre, with his his own special kind of character,-- choleric, sanguine, melancholic, or phlegmatic. Each year he should ask himself how he had influenced his farm. He should consider the effect of hedges, of the rotation of crops, the Preparations. The manager himself is perhaps the most important preparation" on the farm. We might call him Preparation 1. The farm should everywhere reveal the wonderful effects of "Preparation 1" Dr. Steiner has referred in various lectures to "the inner calendar." Attention should be directed to the "inner calendar,"

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to the personality of the manager, just as much as to the outer calendar. There is rhythm in outer nature,--the phases of the moon, the succession of the seasons, the rise and fall of the barometer, etc. There are also certain rhythms in the individual human being, in his special characteristics. One man will observe that in the morning he is not fully in his sense organs, another is well in at that time. Between 10 a.m. and 12 midday one person can observe something very accurately, another not. He might make a chart showing his tendencies in this regard. Also another of the man who works with him. And so they might work well with one another. This chart would be quite individual.

There are times in the year when a man is very conscious; other times when he is not, when unconscious impulses work more in him. It has been observed, e.g., that in June and July there are more cases of suicide, more crimes. In summer the formative forces are more widespread, in winter they are drawn together more. Man's etheric body is also more outside in summer. If there are decisions to be made, more important decisions concerning the working of the farm, it would be better to wait until the winter months. Thus in the winter months the farmer thinks over his work and decides things,--not so much in the summer.

There is a continuous war between the pole of consciousness in man and the metabolic pole; this battle goes on every night. After four nights the battle is decided. The consciousness wills to preserve the thoughts; the metabolism wills to

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obliterate them and use the formative forces for building up the body. Dr. Steiner has drawn attention to the occult law that rhythm replaces force. Technical science makes use of this law in arranging the work done in factories. The farmer can also use it. He can introduce rhythm into the various activities carried on in the work of the farm. Rhythm must also permeate man, an inner rhythm, not one that coincides with the phases of the moon, etc., but one that he gives himself. On the one hand the farmer is bound by the ground, by the conditions of the soil, the distribution of plant-growth,-bushes, trees, etc., the weather; on the other hand he possesses inner freedom, freedom of soul and the spirit. Those are the two poles; the outer and inner in his life: the outer world and the ego. They interact, the one with the other.

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Dr. Eckstein then spoke on "THE ETHERIC FORMATIVE FORCES IN AGRICULTURE." He quotes what is said by Dr. Steiner in the Agriculture Course. There are given conditions on the farm,-- climate, kind of cattle, characteristics of the soil; but the individual can rise out of this through his powers of knowledge and mould the conditions in the elementary beings and the formative forces. He knows the characteristics of the warmth ether, light ether, chemical ether, and life ether; he knows the activities of the gnomes, undines, sylphs, and salamanders, and how they are ruled by the spirits of the changing seasons etc. Formerly this was known instinctively, now it must be known through Spiritual Science. We must conclude not from details to the whole, but from the great to the small. The Earth must be con

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sidered as a whole. In the polar regions the crystallising forces are strong,--the physical element. In the temperate zone the rhythms rule, the etheric forces are strong. In the polar regions the alternation of day and night ceases; this rhythm ceases. In the tropics rhythm is broken through. Observe the rainfall there, and the storms; these are very strong, animal life is strong, the astral forces are apparent.-- All this is in the North-South direction. North--physical, Temperate zone--etheric, Equator--astral. The etheric, between the physical and the astral, has to gain rhythm.

In the East-West direction things are different. In the East the light-ether rules; in the West the life-ether. On a northern slope the forces of the North are strong; on southern, eastern or western slopes the corresponding forces are strong.

Another standpoint is that of height and depth. Up above there is much light and warmth; down below the life-ether and chemical-ether rule. Sandy ground is receptive to light and warmth; in lime soil the life-ether is active. Humus ground lies between these.

Herr Dreidax observed that when cattle are transported from a distance to another place their physical characteristics change; this is also the case with plants. The soil, the atmosphere, conditions of moisture and warmth bring about changes. Cattle native to lowlands have horns that tend to bend forward and down. When these cattle are transported to the highlands the horns bend upwards--especially in the course of generations.

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Herr Vögele described how, from the point of view of Spiritual Science, the ground of the earth has developed. Earth consists of the deserted bodies of Gods, that have been worked upon by other beings, by conditions of the weather, frost, water, air, warmth etc. This forms the ground for plants, animals and man.

What really forms the individuality of the farm? What makes it into a complete unit? Palpable and also impalpable elements.

Herr Vögele gave an account of his experiences in Silesia. He had made it a rule of life in his young days never to stay in one place more than a year. He wished to gather as much experience as possible, and in as many branches of activity as possible. In Silesia he had the task of managing a farm. His experiences there he found remarkable. He was struck by the number of accidents that occurred,-- accidents in the stable, in the woods and on the farm. He could not account for them: Especially if happened to be away for a day, accidents were almost sure to occur. His cow-keeper would come in and tell him that one of the beasts was pawing the ground in a strange way. He would rush out, but before he could reach it the animal was dead. This occurred several times. The vet was called in but could not account for it. A horse would die suddenly; the vet could give no explanation. He lost ten cows and three horses in quite a short time. There seemed to be no physical reason for it. Then he inquired into the antecedents of the farm. He found that his

predecessor was an immoral man; he had been fraudulent, had led a loose life. Herr Vogele came to the conclusion that the untoward events on the farm were connected with this. That was in the days before he knew anything of Anthroposophy.

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The manager forms a whole with his farm. It reflects his own being. His own individuality is manifested to him in its order or disorder and in what occurs on it. Nature echoes the manager in his property. But it must be considered not only spatially; it must be observed historically, for the individuality of the manager goes on working in time.

Dr. Wachsmuth: Not only do nature-rhythms exist, but also history-rhythms, which affect the farm. The ground upon which a battle has taken place is different from other ground. We must consider the farm not only as an organism in space, but also in time,--like an individual human being. The health of a person at 50 is different it as a child he had parents who had choleric attacks in his childhood. If part of the farm is left untouched, this affects the whole farm. Also if part is wooded, or ploughland.

Herr Pfeiffer: The farm is usually a mirror of what one is oneself. Certain weeds appear on the ground on which a battle has taken place. The battlefields in France are marked simply by their weeds. He recounted his own experiences and said that when his manager does not think of certain fields for a time - perhaps he has had to devote himself intensely to other parts of the farm or other work, -- certain weeds appear and can be noticed on the side of the fields. He actually goes by this and examines his manager accordingly. Disorderly morality brings certain weeds. One does not usually talk about these things but they can be

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noticed by a close observer.

Herr Schwarz: If certain plants are grown in the West they grow taller. If grown in the East they are broader. They grow differently in the North, differently again in the South; differently on low ground, and again different on high ground. On high ground the colours are more brilliant. When brought down and grown on low ground they grow more fleshy, they become larger and the colours are duller. On high ground the form of the plant shrinks, it becomes more refined and elegant. On low ground they become grosser. At a height the plants come into conditions that approximate to the conditions in the north; on low levels the conditions approximate more to the south.

Herr Pfeiffer. The weather is connected with the position of the place also. Here in Dornach the ground is always the same but the air changes. In summer it comes from the Azores; in winter from the north-east,--from Siberia. The plant feels this. It is bound to the earth, to the place, but it breathes-in that which comes from a distance. The period between Jan. 15 and Feb. 15 brings cosmic forces which are regenerative forces. The plants have a winter-rest,--a healthy rest. *Ex Oriente lux*. There is a bright, light frosty air here at present from the east. Sometimes the plant

makes a mistake, it mistakes the winter-rest. Trees begin to shoot and bud in November. That is because air comes from the North-Atlantic, from Greenland, bringing damp, rain, warmth. There is 501 air here now (frosty clear air). At Loverendale everything is growing fast. We have used 500 to increase root growth and have not at the right moment given 501 to help the

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plant to get the cosmic forces of winter. Herr Pfeiffer quoted from Dr. Steiner: "The antisocial conditions of a distant past determine the weather-conditions of the present."

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5.15 p.m. Monday. Herr Dreidax. We practise what is given by Dr. Steiner in the Agriculture Course. We consider the foods and the course they undergo-to the animals, to manure, to the a complete cycle. land, and to food again, The effects of the preparations are unexpected, surprising. The quality of the products of the biological-dynamic methods, when this practised conscientiously, is far above that of the products of the ordinary methods. It is as if a super-organism arises. Unexpected things come about. Something fertilizes the whole work. In the super-organism which comes about there is a wisdom higher than that of the manager of the farm.

A man should fit himself to be inspired by the super-organism. Hearty work on the lines of Dr. Steiner prepares the way. Full knowledge of Spiritual Science is not necessary before one begins.

The value of the earth-worm was pointed out by Dr. Steiner. Men have forgotten the value of that humble creature long ago.

Nature spirits are driven away by modern methods; they wander around astray. What do they do? Remember the Fairy Tale of the Marvel of the Spring! from Dr. Steiner's Mystery-Drama These beings inspire one in later life. What do those do who are driven away? Preserve the springs! Protect the trees! Approach them reverently! They are a home for the nature-spirits. Goethe had a farm. His manager wanted a fountain built over the spring, but Goethe would not have it. Herr

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Dreidax quoted the Greek legend of the Sculptor who created a beautiful figure and prayed the Gods to give it life. The farmer creates a form in his farm-work; and why should not a spirit come into it from above and bring forth something new! New things appear in our work. The old worship of the house-gods included the gods of the farm--the place. The dead co-operate in all that goes on. One should study the biography of the place--of the farm. Does the individuality of the farm die when the manager dies? It can certainly be driven away! When the manager goes away the nature-spirits begin to play tricks,--like children when the master turns his back. We should observe such things and then in the future one day we may have many facts to relate.

Dr. Eckstein: We shall get nothing more from the nature spirits in future; there is no use in attending to that. Man must be inspired by the beings of the higher hierarchies and not by the nature-spirits.

Herr Vögele: It is not a case of either--or," but "as well as."

Herr Dreidax retorts that those who work all day and have only perhaps five minutes to meditate are perhaps not in as good a position as those who work for five minutes and meditate for the rest of the day! All goes through man; but he works with nature. Dr. Steiner says indeed that one must be inspired, for instance, by Chlorine (lecture 3 in the Agriculture Course).

Herr Eckstein observed that during the war the battlefield was covered with red poppies.

Herr Vögele confirmed this and said that this phenomenon could also

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be observed at Pilgrimsheim, -- which had also been a battlefield. Perhaps this plant, the poppy, is connected with the astrality of the place. It has also been observed that Henbane marks the Gipsy roads. "Deadly Nightshade grows on ground that is poisoned by the dead." (Folk saying.) Thistles grow on ground which, a few inches below the surface, is very firm.

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Tuesday, 22nd January, 1935.

Herr Pfeiffer. What does life consist in? It consists in growth which is based on upbuilding and decay or breaking-down. Plant growth is possible only when the mineral kingdom is there, which breaks down. The growth of a seed takes place when chaos is produced. When the seed decays, the germ can begin to grow. The life-ether touches the mineral which is breaking down; then growth can take place. When the root pushes down, dissolving the mineral, breaking down, then the plant can grow. In man, etheric activity is based on the glandular system.

The whole of the plant world on the earth is one organism; it is one outspread etheric body. A single plant is not an individual in itself but the whole plant world has one etheric body, it belongs to one individuality.

A characteristic of a gland is to separate something, -juices, These change the food; it is dissolved, broken up,-like the weathering of rock. It is killed, but at the same time it is permeated with life. In the bowel something is separated. This may be studied in albuminous substances. Plants produce compost; the human organism produces faeces.

Consider the hypophysis. Its

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situation in the brain. This gland was known in the second century. The pituitary body is a mucus separator. Galen says: "Its task is to keep the throat moist." Moisture - a function of life. The pituitary body consists of three parts. It is a threefold structure. Part of it proceeds from the brain, from above. This is seen in the embryo at four weeks. Then there is a growth upward, from the mouth. There is nerve-substance on the one side; it is rooted in that. On the other hand it is connected with the mouth, - with the forces of the chemical ether. And there is a sac in the middle connecting these two parts.

It is evidently an old organ, for it is strongly developed in the lower animals, in fish etc. It is a vegetative organ. Consider the growing plant and compare it with this gland which has the characteristics of a little plant. The back part is like a root. The front part is like the leaf. There is then a circulation between the two. There are six or eight substances in the front part. All affect the growth of man. The pituitary is a kind of organ of taste for the body. It produces these six or eight substances which circulate in the organism. Increased secretion in the front part produces more growth, - giant growth. Decreased secretion, dwarf growth. (In America there are huge trees - the sequoias; here there are small trees.) The back part of the pituitary body possesses different properties; it regulates the water-content of the body and is connected with colour. When this back part is removed from animals they become silver-grey.

Maize and barley exhaust the soil; legumes build up. Lime

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trees improve the soil in their neighbourhood. The roots of plants work on the soil like the worms. The scent-sphere of the plant extends for one or two kilometers. -Even more than that. Herr Pfeiffer said that when the wind was in the right direction he had smelled at Dornach the magnolias blooming in Italy.

Nasturtium is used against the Blutlaus [green-fly American blight. Woolly aphid ??]. The Nasturtium has a taste like mustard. There is a poison-gas called mustard-gas which is also used against Blutlaus. We use the plant.

In America there is a plant called mancinella [Manchineel]; it is said to produce excema in anyone who sleeps under it and the Indians avoid it. But there is another plant which grows in the same neighbourhood and heals the mancinella-disease. There is a balance here in Nature. These two plants are separate but they belong together; the one poisons, the other heals. Compare the liver in man with the fir-tree in nature.

Herr Lippert spoke of life-consuming plants and life-giving plants--taking and giving. Hedges give and act as regulators of the life-forces moving in the farm. Some plants work merely through their presence. The plants in the preparations: milfoil, nettle, etc. Nettles in the neighbourhood are good for the grain crops. The castor-oil plant against moles. Hemp against white butterflies. A decoction of wormwood tea is good for the corn. Aromatic herbs, for example balm and fennel and caraway, should be sown in the meadows for the pleasure of the cows. These herbs also improve the quality of the milk. Sow Goat-clover for the goats. Potentilla, camomile, elderberry



and wormwood should also be grown for the animals. These curative herbs are not only good for the cattle but they improve the soil and the whole con-

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-dition of the farm. Fennel and peppermint not only improve the milk but they also keep away harmful insects. Hemp and flax drive away wire-worms. These curative herbs heal and harmonize Nature.

Herr Stegemann. Some farmers have great success; others who have worked and thought a great deal seem to call forth spiritual forces against their work: catastrophic effects, poor crops, harmful pests etc. Forces seem to be called forth which otherwise would not be roused.

Some plants are disappearing from the earth; perhaps they must. Note what is said in the course and in the book: Knowledge of the Higher Worlds and its Attainment.

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3 o'clock. Dr. Usteri: Sympathies and Antipathies of plants.

If plants grown side by side - one with a weak root and the other with a strong one, the strong root strengthens the weak one. The strong root emanates forces which help the weak one. Experiments have been made in connection with this in natural science.

All this is secondary for the farmer. Technical. That is one way of investigating the sympathies and antipathies of plants. But one can go directly to nature and observe these things. Cabbages and vines are antipathic. So are the oak and the olive. Italian peasants say: "The olive hates the oak." Aconite and rue hate each other; so do Fangkraut [catchherb] and reeds.

Rue and figs love each other; so do the myrtle and the olive, Rosemary and oats. The frost-resisting rosemary.

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These observations come from the fifteenth century. Some can be found in Pliny's works. They are old rules with which we cannot do much.

Now we have Dr. Steiner's suggestions. For example, the influencing of potatoes with horseradish. Dr. Steiner distinguishes two groups of plants: those that love lime and those that love silica.

Sanfoin (*onobrychis sativa*) has a pod fruit and yet it distinguishes itself from the pod fruits. It is very fruitful to think of the plants in families. ... Then come the clovers. Sanfoin conquers the family tradition; it opposes the clovers. Dr. Steiner says: "Sanfoin is a proud plant." Clover is not proud; it is humble. Sanfoin is upright.

Gourds, pumpkins have lime characteristics. It is difficult to obtain seeds from them--cucumbers, for example. The white bryony overcomes the tradition of the cucumber-family. The fruit and seeds grow well. Try growing these two together. The cucumbers may then produce seeds better.

Dr. Usteri approves Herr Lippert's remarks.

Dr. Wachsmuth proposes a Committee to investigate such matters: symbiosis or the sympathies and antipathies of plants.

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Herr Schwarz. How can I make my property into an organism? I have given up trying to arrange it as Dr. Wachsmuth suggested in his opening lecture. I have gone back to that which gives life, which

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vivifies, namely, the compost; and then that gives the proper form. We cannot bring the form in from outside. Look to the manure! "Wenn man der Pflanze fein kommt, kommt die Pflanze fein entgegen." Look to the vitalising quality, not so much to the gross material, or the amount of material. Observe the effect of vivifying water on sand, sand and compost. Clay harmonizes sand and humus, - clay that has not lain under water. A small quantity of such material produces wonderful results. Look to the development of the roots of the plant; then they resist drought. We have had severe a drought this last year. We have sandy ground, and yet we had no need to water. We gave 500 on Monday, Tuesday, and Wednesday. Then rolled the ground. After five days it had become hard below, but not on the surface. With our preparations we can bring about a proper regulation of the moisture required by the plants. It is not a question of the gross material but of subtle elements and forces; we have to deal with these.

We have been working now for ten years but have no Demeter seed yet! We have to add what force we can to the seed we possess. We give the seeds a seed-bath of 502--507. They grow well. They are placed for one hour in the bath. Then they are taken out and carefully dried. Then a specially fine compost made of the young green parts of plants is placed in the rills and the seeds on this.

Herr Schwarz then spoke strongly against the practice of cultivating seeds in turf and sand.

The roots of such plants are brittle, only like tubes for water. They do not contain the earth-force, or the force that is vivified by the earth. Such plants are only water-cultures and have a bad start in life; they lack the vitality of the earth, and have no quality in them.

Plants grown in between the usual crops. Our strawberries,

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five years old, bear more than ever. Strawberries are usually thrown away when three years old. We have beans or low peas, kohlrabi, or radishes between. We have had very large crops of strawberries without watering,-- in spite of the drought.

Our land is almost all sand. Lupins were sown first. Seed-bath given. Mown; ploughed in. Next, potatoes were planted: Experiments were made. Four rows of potatoes, two of cabbages, four of beans and peas, and so on. A handful of compost was placed in each hole, under each potato. The sowing went very quickly with three men: one to make the hole, one with the compost, and one with the potatoes. The potatoes next to the cabbages did very well indeed. But not these beans, nor the potatoes next to them. Probably too much nitrogen (lupins one year and then beans or peas) Onions and red beet grow well together. Carrots and peas. Peas and potatoes. Cucumbers and runner beans. Radishes and runner beans not good; radishes do not like the nitrogen from the beans.

Herr Wüstringhausen described experiments with combinations of various plants. Poppy was sown in alternate rows with summer and oats. wheat. Also cornflower in the same way. Then legumes in the same way. Oats and cornflower gave the best results. Oats and legumes second. Oats and poppy (Klatsbhmohn) worst.

Herr Vögele. Poppies make the ground cheese-like. Dr. Steiner says they should be rooted out. A pungent secretion is exuded from the root which is bad for other roots and for the soil. Euphorbia latyrus (not lucida) drives away mice. Same order as Castor-oil plant (against moles). Euphorbia latyrus drives away

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American blight. mice from frames. Juice of nasturtium against Blutlaus. Trees may be painted with it in winter (instead of carbolineum) etc.).

Rape oil can be used pure against Blutlaus Look for the nests at the foot of the trees. This pest is connected with bad mistakes in culture. It comes through bad manuring or over-manuring, or badly placed trees. Remove the cause!

Herr Schwarz replies to a question regarding the treatment of old meadows and pasture-land. Give compost each year. When? after first mowing. How? Use one-third the quantity that would be used if the compost were spread once in three years. Spray with 500; then 501 when it is well-leafed again. Jauche (liquid manure containing human excrement) is bad for meadows. It brings buttercups, moss, sorrel. Examine the water-conditions.

Consider the relation of animals to grass, bushes, trees. These are necessary for the health of the animals. Birds cannot be attracted unless certain plants are there; and these birds are necessary for dealing with the pests, insects etc. in farm and garden. Plant Golden Rod and lilac to attract the useful butterflies. Proper food for the bees all year round must be thought of and planted. Not in a one-sided way. A list of suitable plants is issued by the Deutsche Imkerbund (Address from Demeter). The seed for new meadows should be very carefully chosen.

Oil-seeds are very important now in Germany. Sow rape-seed and linseed (the latter grows very well with our preparations), hemp, legumes. Increase the contents of the rotation. Hemp

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keeps away insects. Grow suitable useful plants on the edges of the fields. Horseradish for potatoes. Potatoes are useful for improving new land. Manure in the new moon (peasant rule). Manure in the late year--from Michaelmas to the present time (Jan). Observe what planet stands in the heavens. Manure every three years. The finer the fruit, the finer should be the compost given to it.

Herr. Pfeiffer. In sunny parts the ground loses humus. As much as 6lbs to the meter disappears. The sun oxydises the compost or manure. In California there are periods of great drought. Vast tracts of desert, with fertile green patches between. When water is brought to this sand, life springs up abundantly. Excellent result of Lucerne being sown, and often cut. Lespidisia (clover) regulates the water-content of the soil. That is the treatment for such a soil.

Herr Lippert speaks of medicinal herbs. Sow caraway with rape in spring. The Swallow-tail butterfly loves fennel. That is also good for children. For the bees in early spring provide a few crocuses, tulips, hepaticas, arabis (wall-cress), and wallflowers near the hives. Hazel-nut also, and for the late autumn sedum album, sedum acratum, autumn asters. Sanfoin and oats are friends. Sunflowers for the bees in autumn.

Herr Schwarz. Prepared compost is better than prepared manure. A lawn requires more careful handling than a garden. Plants suitable for weaving should now be taken into the rotation in Germany. Tobacco also to be included. Our better quality can be proved in this more quickly than in grain.

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8,15 p.m. Dr. Popplebaum: "Staatenbildung im Tierreich." Nature knowledge leads to self-knowledge. One should not draw conclusions from the contemplation of the beehive or the ant-heap for human society. They are entirely different. The bees, for instance, have never separated from one another. The bees in a hive all belong to the same generation. They are all sisters. The queens alone live for several years. The old queen goes out of the hive with a swarm and leaves the young queens in the hive. In the course of its life a bee performs various tasks. For a long time it was thought that these different tasks were performed by different bees; but careful observation has revealed that the same bee undertakes all these different tasks in the course of its short life.

For the first three days after birth they crawl over the cells, clean them and feed the workers. When six days old they feed the larvae. At ten days they receive food from the incoming workers and store it in the hive. They then begin to stamp pollen into the cells, clean the hive, and apply wax to the cells.

This wax is produced on their bodies; it is a sort of exudation. Then, at about eighteen days, they clear bits out of the hive, flying out with them and looking around. At eighteen to twenty days they guard the hive; wasps and other robbers are seized and killed. Only when twenty days old do they begin to collect honey. Their life-forces are then already declining. They die when about four weeks, not more than five weeks old. They learn nothing. All these activities develop out of them day by day. The wax is not taken from the outer world; the bee builds with substance taken from its own body.

The wasp takes its building material from the outer world and mingles it with the substance from its own body. It builds its nest with digested wood pulp etc.

The ant builds below the surface of the ground, with bits taken entirely from the outer world, undigested.

It is a very remarkable fact that an even temperature is maintained in the hive, 35 degrees Centigrade (about blood-heat). In cold weather some of the bees sit on the larvae to keep them warm. In hot weather they fan the larvae.

The ants behave differently. The temperature in the ant-heap varies according to the weather. But the ants carry the eggs, as they are called, up and down in the heap (nearer the surface or deeper down in the ground) according to the heat or cold. They keep the larvae vertical to sun, moving them therefore at different times of the day.

The task of the queen bee is to provide for the continuance of the species, producing workers (females) and drones (males). Once fertilization has taken place the queen continues to produce for five years. The drones are weakly; food is denied them; they are driven out and die outside the hive. Should occasion demand it, queens can be made. One of the bees is chosen by the bees and given extra food--the result of organic processes.

Ants are different. Certain ants perform a definite task

all their life. Some are warriors, some are slaves. These slaves are not ants that have been captured and forced to perform this labour. The parent ants are all killed; but the larvae are captured and carried away. They are slaves from the moment they are born. Without the slaves the aristocracy would die. The slaves even chew their food for them and put it into their mouths. Ants are careful husbandmen: they even cultivate mushrooms carefully, biting off protruding bits and feeding on the fluid they exude. Guests are cultivated and flattered for the sweet fluid they provide. But when the ants yield to this form of alcoholism their eggs degenerate and become unproductive.

The termites are another stage lower down in the scale. They build structures that are house-high. These are made of curious material - stonelike. Must be blown-up with explosives; they are so hard. The entrance is below the ground, far below, may be eight feet down--very difficult to find. These insects, although they are known as white ants, are not really ants at all; they are related to the book-lice. They are exceedingly destructive, eat every living thing in the neighbourhood. No trees--except those that may happen to grow on their dwelling-place--are allowed to grow anywhere near. They eat everything. In a few hours the beams of a house can be eaten up. But all this destruction goes on without being seen--under the surface, underground. Chairs will be eaten hollow from the inside and only the lacquer left. Same with everything they attack; all is eaten hollow from the inside and then it crumbles and totters to the ground. Ploughs left on the field may be demolished

in two days--with the exception of the iron parts. They are very uncanny creatures. Their roads are covered. They do not like the light. If when engaged in demolishing a house, they come to a crack in the masonry, they cover themselves in across it with their building material. Men are helpless against them. Their building material is horrible substance; it is formed out of their own dung, which is ingested again and again. They eat wood-- everything. They develop germs in their stomach, germs that are related to sleeping sickness and syphilis. All that passes through them is permeated through and through with these germs. Truly horrible creatures; when they are hungry they push against one another when they meet on their subterranean roads and eat the dung which is extruded. Their buildings are grotesque and horrible. It is like a monster town. Air-pipes lead into it. There are back retreats. All covered over. All in deep darkness. And these creatures are blind. Their building material is quite unlike the sweet-smelling bee-hive, or the healthy ant-heap. It is made of cement-like, bacteria-impregnated dung. A silica-like acid fluid exudes from their bodies. After sliding down a smooth plate of glass a few times they overcome the difficulty by eating away the surface of the glass with this corrosive fluid. The business of reproduction is most uncanny. One chamber in the heap is over-heated. Soldier termites with huge jaws wide to open make a circle, that nothing may approach the queen termite, as she may perhaps be called. She is a dreadful creature; she lies there motionless, swollen to about twenty thousand times the size of the ordinary termite. Looks like a sac, about the length of a finger, with a little appendage at one end. She is fed continuously

at one end, and at the other brings forth eggs continuously-- sixty thousand in twenty-four hours. Thirty millions in the year. And this goes on for four or five years. The kings are queens see, they make their way out, are captured by the others and eaten. The dung is eaten again and again, then used to build into the house. Spare kings and queens are kept. Spare larvae also are kept for food.

Their legs are bitten off and they are then packed and stored. Even the dead ones are stored for food. Consider the substance of which their building is made--a distinct substance in nature.

The question arises: Is nature blameless. The termite is not an individual but an example of the whole - a picture. The animal kingdom is a picture of the animal nature in man. One wonders what that is in man which is pictured forth in the life and work of these creatures - the bees, wasps, ants, and - termites!

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Wednesday, 23rd January, 1935. Herr Vögele: The animal kingdom can be looked upon as a divided human being. Man may be divided into three parts: Head, breast, and limbs. The animal kingdom can also be divided into three representative types: the eagle, the lion, the bull. These represent the nerve-sense system, the rhythmic, and the metabolic system respectively. The eagles may be called nerve and senses

animals, the cattle metabolic animals, and the cat tribe rhythm animals. If we try to apply this in agriculture, we have to consider the following. The birds are represented in the farm, so are the cats, and the hoofed animals. The farmer is not like Noah,

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taking two of every kind to stock his farm; but he limits himself!

The fowls in the poultry-run no longer possess much likeness to the eagles. The cats represent the carnivores. Then we have the hoofed animals: cows, horses, goats, pigs, sheep. The head of man is the seat of his nerve and senses system; but this again is threefold in its construction. The skull represents the nerve and-senses system; the nose the rhythmic, the chin the metabolic system. Among the animals, too, there are three kinds: the horse represents the nerves-and-sense system. Man demands work from him. The horse is to work, to move things; it is connected with the outer world. Pigs are not used for work but for the production of meat and fat. Cows stand more towards the middle; they provide milk and its products - milk is connected with the rhythmic system. Subdivisions: Working animals, some for milk, others for meat. But the animals give more than work - they give dung. This is essential in nature. Herr Vögele quotes from Dr. Steiner: "In a farm those animals must be present, and in such number, as provide sufficient manure for this land." They give increased fruitfulness. How many are required? Für sieben Morgen, ein Stack Grossvieh<sup>1</sup>. This yields 220-250 cwt of stable manure in one year. In three years the ground is manured once. This animal requires food. One large beast requires about three Morgen<sup>2</sup> land. If one finds the right food for the animal a healthy influence is exercised on the land.

If we consider the relationships between ground, plants and animals, we come in this way to right relations between plough-land, Woods etc. In mountainous districts there are many slopes and but little plough land. It

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is difficult to find the right relations. We may have to give up plough land: then we have a different farm individuality. In case of need, bushes must be planted in the meadows. In sandy districts it is difficult to find sufficient food for the cattle.

The form of the animal is a product of the local conditions, of the land, conditions of moisture etc. Low lands produce different forms from high land. If we move cows from low to high ground their form gradually changes, especially in the course of generations. Even in the first generation there is a change; the horns, from being bent forward and down, move to pointing upward. Experiments have been made with animals in this direction. Imported beasts always tend to approximate to the form and characteristics of the beasts indigenous to the district. How can man direct the forces that are operative in the district? Herr Vögele referred to the English breeding of

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<sup>1</sup> For seven acres, a stack of cattle

<sup>2</sup> A **morgen** was a unit of [measurement](#) of land area in [Germany](#), the [Netherlands](#), [Poland](#) and the Dutch colonies, including [South Africa](#) and [Taiwan](#). The size of a morgen varies from  $\frac{1}{2}$  to  $2\frac{1}{2}$  acres (2,000 to 10,100 m<sup>2</sup>)

horses. Seventy-five per cent are descended from arab horses and berbers. These come from high, granite plateaus. They are adapted to English conditions by keeping them on high ground in Ireland for a time.

Chalky ground produces different plants from silicious ground, because there are different formative forces present. The formative forces of the soil and the formative forces manipulated by man produce the form of the animal.

Herr Dreidax spoke of various creatures belonging to the farm. The cricket on the hearth. He thinks they are delightful creatures, with their cheerful music. The toads and frogs: how they help the farmer. The ringed snake. The house snake, which lives in a heap of straw that is never touched. No one would harm it; it belongs to the house. It crawls about in the stable

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in friendly fashion among the cattle, and is frequently seen with the ducks, even climbing on their backs, to warm itself or rest. *In Russia they take great care not to kill one when it appears on the farm.* The Swallows: friendly creatures. They attach themselves to man, not from the same motives as the sparrows. The swallow may even fly in through the window and build her nest in a room of the house.

The housewife may put up a little shelf under the nest, so that the little dirt they is not too troublesome! In Austria, and some other countries, the Swallow is looked upon as sacred. Where does this idea come from? Is it superstition? Some men have a kind Nature-initiation. The shepherd, for instance, comes in touch with the salamanders and in consequence becomes possessed of a knowledge of the curative properties of herbs; he becomes a natural physician. In the flight of gulls, measured, unhurried, flowing, easy, one can well imagine the joyous motion of the sylphs, accompanying their flight. The flight of swallows is beautiful. Harmonious sylphs must surely love to be near them and accompany them. The flight of the starlings is quite different: a hurried beating of the air, then floating - a dragon-flight. The swallow never strikes the air. It is upborne by the air, it floats. There must be a special relation of the sylph to this bird. When considering these things the thought arises: Whence come the fruitful thoughts of man which enable him to work in nature? From the swallows? Whence? We need not go back to the old peasant superstitions but work now from the new Spiritual Science. We should look on birds not only from the point of view of their usefulness in killing insects, but reverently in another way. Herr Dreidax quoted the old peasant rule: A load of manure should

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not be left in the yard over the week-end;

the yard over the week-end; if this is done, accidents may occur. Heaps of twigs and sticks are left in the woods at certain times, in the districts near Berlepsch, -- for the



protection of wild creatures. Leave the hedgehogs alone said Herr Dreidax, they have their place on the farm. He likes to see those little chapels by the wayside, with perhaps a lime-tree over them--a taken of culture. Or a bush planted by the sign-post. These customs, although preserved in Catholic countries, originate in older Pagan times and customs. Men then lived more with nature. There are not only great gods but also smaller gods and beings friendly to man. ]

Dr. \_\_\_\_\_? Reindeer prefer to remain in the Arctic, rather than migrate to the South where the food would be better. Horses belong to grassy regions. Goats where there are bushes. Rhinoceros keep to the marshes; sheep to dry regions. Horses, berbers, persians, arabians, are partial to leguminosae, lucerne. Cattle like clover, bushes. Pigs - potatoes, mangolds. Goats like bushes; blackberries are good for them. Sheep - straw from peas, dry. Fowls, geese, ducks in watery places; they keep down the slugs etc. Some animals like poisonous plants; for example, goats eat hemlock and colchicum. Thrushes eat hyoscyamus seeds with impunity,-- deadly poison to man.

Herr Wüstringhausen. (Comes from a large farm in East Prussia.) It is necessary to provide food for the cattle for the whole year. Give green food as early in the year as possible. In late autumn, too; and in winter, roots. Rape-fodder, cabbages, peas, vetches, clovers. Sometimes it is difficult to find food in winter. They feed to their cattle the leavings after the distillation of

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potato spirit. There is a distillery in the neighbourhood. potatoes are first steamed and made into a soft mush. A yeast is added; this converts the starch into sugar. Germinating barley is added. The whole is fermented for several days and the spirit is then distilled. Fusel oil is added. The problem is: How to use the remains as food for the cattle, without injuring the animals; for when they eat these substances for some length of time, the organism of the animal is affected. Disease appears. They suffer from abortion. 11-12 gallons may be given, but not more, -until the fifth Month. Then give roots, hay and straw. There is too much carbonic acid in the mush for the cattle. This makes one consider the influence of alcohol on childbirth. They mix about one pound of salt to every half ton of silo (Sauerfutter) in the making of it.

Herr Pfeiffer: spoke of costs incurred in changing over from the old methods to the new. We paid 440 Gulden to the vet in the first year; 250 Gulden in the second year; 150 in the third year, and 50 Gulden in the fourth.

Herr Halm had excellent results from following our methods. Had one case only for the vet: a sow failed to throw its litter properly. He himself was away at the time. One accident to a cow. The bull was too heavy for his cows. Then he got young bulls or not too heavy. His horses can do on hay. Pigs: One litter (on New Year's Eve) was bad. He fed the animal on beets and white clover, with half a pound of grain. The sow is now doing extremely well: has thirteen little ones. He feeds the sow if she seems hungry, and not according to her weight.

It has been noticed that under biological-dynamic conditions

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the cows carry longer; before. Nine months, twenty days; now ten months. No inoculation now against erysipelas. The cows bring forth without any help.

Herr Vogele says he has had the same experience. The cows carry ten days longer. He has sixty cows, sixty pigs, seventy sheep, twenty horses. In seven years he has had the vet in three times, and in none of these cases could he do anything. 1.... 2. Entanglement of the bowels. 3. A Sow could not throw her young.

Herr Pfeiffer observes that one of the vets present is making a wry face. On his own farms he has had no case of abortion for the last eight years - and no calf diseases.

Herr Wüstringhausen says that he does not consider that the vet is there to heal the animals but to keep the herd healthy. Dr. Werr comes to visit the farm, observes the beasts, gives advice, works prophylactically.

Pfeiffer confirms this. Thinks this an excellent method. We need not indeed go so far as the Caesars did with their doctors. These were paid to keep Caesar well; and if Caesar fell ill they family forfeited their heads! He remembers the time when the old family doctor came every four weeks. It was interesting to him to see his patients well. Dr. Werr consults for the breeding animals etc.-- a good custom. The bull for the cows treated according to the biological-dynamic methods should live on another farm. Several bio.-dyn. farmers can exchange breeding animals (not take them from their own herd). The farmer should consider his herd very carefully and ask himself what kind of a herd it is. If he

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builds on a good herd - a good bull, good cows - the result is, that he gets good cows but they are not capable of development. The cows should be useful to him for various purposes, the bulls not too fine. This herd will be hardy and capable of development, which is what we require. The anthroposophical farmers must spread out to form a larger whole, and exchange beasts.

A Farmer wishes to know if other vets are interested besides Dr Werr

Stegemann: "On the whole, No!" It is very remarkable. Take our remedy for tuberculosis, for instance. It works in 100% of the cases; yet the vets do not take it up. Why? The reason may not be far to seek! Our bread tastes excellent - yet it is not taken up by the bakers. We must go to the farmers themselves, not to the vets; and to the consumers themselves - not to the bakers.

Pfeiffer buys no beast more than eight months old. His bulls are invariably good-tempered. Those cows and bulls are the best which are born in the later part of the year. The parent animals have had fresher and more nourishing food from the outset.

Herr Dreidax. Starlings and cattle go together. Children have good relations to the swallows, toads, etc. Through the toads in the garden, slugs almost disappear. If the starlings fly up on to the roof of the stable in the early morning, the weather will be fine. If they make off at once without doing this, the weather will be wet or changeable. Swallows go with cattle, and especially with sheep. A farmer who does not possess a good knowledge of the toads is neglecting his business. A good

farmer also sees that the bees on his farm are properly attended to. The twittering of the starlings says

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something to the farmer. When the toads come out, when the stable-beetles fly, etc,- this tells him something about the weather. He is a keen observer of the demeanour of the birds and the various animals, for this gives him indications of the weather, which plays such an important part in his work.

Another farmer spoke of various rhythms. When these qualities disappear, certain qualities disappear. He had had rather remarkable experiences, with his grumblers - there is usually one grumbler, perhaps more, on each farm. He had introduced hand threshing again. Several men with flails, rhythmically threshing the corn. He noticed that his grumbler found less to grumble at each day; he even forgot himself so far as to tell amusing stories after the threshing. Now he grumbles no more. The speaker now keeps on the hand threshing for "pedagogic" purposes. It is a beneficial and healing activity on the farm.

Herr Pfeiffer: Thrushes and crows are good weather prophets. If they have drooping head and wings, there will be frost within two days. If the yellow-hammer sings in wintry weather, there will be a thaw within twenty-four hours. If you hear a bird that sings - pip, pip. Pip - rain is coming. It is a beautiful experience to walk quietly at night along a hedge where you know the birds are asleep. Listen to them! If they twitter softly in their sleep the weather will remain as it is. If they are quite quiet and then give a sudden cry in their sleep, a storm is on the way.

A Swiss Farmer inquires how one may attract the swallows Herr Dreidax replies: Keep quiet behaviour. Leave a window open somewhere. See that there is water near. He might even

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buy a few, keep them for a few days in a suitable place, and then let them go free. Some of them will probably stay - if they consider his company worthy! In one case of which he knew, a large number of swallows were caught and taken to another place; ten per cent remained.

/Barley straw, maize, give soft butter. Best on potatoes and turnips. Potatoes with the barley give good butter.

/ A farmer complains of the damage done to the young roots of trees by mice. What can be done for this? Keep cats! Don't pamper them. What could be done against rats? He had kept cats but they had not kept away the rats!

Stegemann replies: A cat that will not attack a rat must go,-- immediately! You may trap as many rats as you like - twenty or thirty - the rats will not leave you. But if you have a cat which kills but three or four - when the rats know that a killer cat is there, they will leave at once, and you will have no more trouble on that score.

Depredations of pigeons in the cornfields. Story concerning this. "Ich su Weizen in dieses Land; ich süe Weizen und keinen Brand."

Thursday, 24th Jan. 1935.

Dr. Bartschi said that formerly communal life was based on the peasant and his activities. Arabism was in the towns. The peasant recognised spirits everywhere; in spring in the trees, in the air, etc. The life of the peasant was a life of sacrifice. Then technical science came up, the age of machinery, and made the peasant uncertain. He lost connection with the nature spirits. Life became a question of economics, a business.

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What religious enthusiasts and wars could not do, was accomplished in a few decades of materialistic culture, namely, the destruction of the peasantry and their connection with nature. The anthroposophical impulse strikes into this situation with the biological dynamic method, and calls the peasantry to rebirth. It introduces a spiritual element into the work of the peasant. The traditions of the peasants had been quickly destroyed; they are only met with now in the mountainous and outlying districts. We cannot in future build on those old traditions. We need a new connection between the heavens and the earth. It must be worked for, --with head, heart and hand. The peasant now is part of the creative powers and works with them, manipulates them. Sacrifice and a reverential attitude cannot grow out of a materialistic view but only from a spiritual one. We come across a bearer of German time idealism--Goethe. A short time ago Goethe was looked upon as having been superseded. He spoke of reverence - the three reverences<sup>3</sup>. Had tremendous battles with himself. He had his visions-- Schauungen. Dr. Steiner developed Goethe's views tremendously and made them accessible to men. This has led to a healthy life and a spiritual renewal of man.

We must see the farm not only as an organism in space but also as one in time. We should experience the daily work in connection with past and future. This is one of the "Twelve Moods:" "Das Künftige ruht auf Vergangenes. etc."

Herr Vögele refers to Christian Morgenstern's poem on the Washing of the Feet. The higher kingdoms of nature rest on the lower. These lower kingdoms sacrifice themselves to man and

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serve him. This feeling of service fills the peasant. He feels thankfulness towards the kingdoms of nature and reverence for what is above him. He perceives a continual giving and receiving. He feels the rhythms of nature: day and night, the seasons, the weather, the rain and mist, the air, the rhythms in space and in time, the sun and planets. ... How the ground comes into existence; the weathering of rocks, the etheric element working in the plants. The water rises (mist) and falls again, it mediates between the earth and heavens. There are also rhythms in man,

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<sup>3</sup> In his "Wilhelm Meister" Goethe speaks of the three reverences that should be taught to the child: Reverence for the world around him, reverence for himself, and reverence for what is above him.'

corresponding to these great rhythms, but they are drawn together, smaller,--the breathing, the pulse-beat of the heart. There are also rhythms in the animal kingdom. When the rhythm appears in man it is tremendously quickened, and there is also a refining of the substances. Pulverisation on the one hand; making firm on the other. Solid and liquid on the one hand, light and warmth on the other. The farm is set in the midst of these - between earth and heaven. The farmer devotes himself to the plant and animal kingdoms.

Herr Dreidax dealt with practical questions: the working together of those outside and those in the house. He strongly recommended fixed meal times. The housewife must know exactly when the men-folk will be in for meals, so that she can be ready for them and all her arrangements in the house can go on in order. The farmer's hours of work vary very much. In summer he works early and late. And sometimes he is frightfully hungry, and this must be satisfied in ten minutes, he has no more time. It is wonderful to see how much food can disappear in ten minutes!

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It is necessary to explain the spray preparations and their purpose and manner of working to the workers. It is better for a young man to learn the old agriculture first. Importance of choosing one's fellow-workers carefully.

3 o'clock. Herr Schwarz, said that when he was young he loved to draw and paint plants and animals. Later he had a garden, --his father liked that better; he became a gardener. During the war he had opportunity to garden and mould a garden artistically. Before the close of war, as Adjutant (whose duties he did not like), he made a garden on the parade-ground. This ground covered a space of 400 acres; his garden within it, 6 acres. Then came the idea to settle somewhere, to begin afresh somewhere. He heard of Worpswede. Then he obtained Herr Stegemann's address. He looked upon himself at that time as a constructor of gardens. He owed the further course of his life to Stegemann, who introduced him to Dr. Steiner and his methods of Agriculture. When he saw Worpswede, with all its sandy soil, he said: "Here I will remain!" The landscape decided him. He set to work with a workman and worked hard for two years. With the help of the Agriculture Course he could understand the plants and the land. His land was surrounded by trees. Rhythm was brought into it. He paid attention to hoeing. But he bestowed the greatest care to the manure. "Even the manuring is an artistic activity." The experiences of the gardener prepare the way for the farmer. Der Gartner wird der Pfleger des Belebten." The gardener is the nurse of that which lives. A training-school for gardeners was often asked for and was started

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in Worpswede four and a half years ago, in the garden of Vogel. the painter. Formerly it was a clay-trench. There were dry parts, and wet parts. A third farm was added for the experiments. Who is trained there?--Farmers, settlers on the land, gardeners, from outside. The youth who wishes to undergo training with us must know the old Agriculture from the beginning. It is advisable for him to obtain his degree and then work for about two years in the old methods before coming and

training in the biological-dynamic method. We send out no prospectuses and give information only to those who ask; but many come. The training itself is given at Birkenhof. All the work is done by the students. The theoretical part is secondary. Our students not only know how to till the soil, take care of the plants and animals; at the close of the course they go into the kitchen and learn to cook properly. For frequently, no matter how good the quality of the fruit and vegetables, these are spoiled through bad cooking. He learns how to keep the flavour, preserve the good colour, make them look appetising as well as be nourishing. The students do all connected with the settlement. Then in the evening they have common talks. They must afterwards be able to undertake responsibility, and not only do what they are told by another. When, after the first breaking of the ground, the work becomes easier, the student can mould his garden artistically.

Herr Lippert inquires if White Bryony and Cucumbers are sympathetic or antipathetic to one another. Not yet known; experiments are to be made. ... Cabbages planted between rows of Peppermint improve the quality of the peppermint. Herr Schwarz plant's his cabbages and peppermint thus:

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rows of peppermint about ten to twelve yards apart. White butterflies are attracted by Hyssop, away from the cabbages. Onions should be sown here and there among the asters and other things, to keep away noxious insects. Onions against black Legged cabbage. Mustard against wire-worm.

Herr Dreidax inquires how far man is influenced by the animals? It has been noticed that milkers are usually difficult people. Does this come from their intimate relation to the cows?

8.15 p.m. Dr. Wechsmuth. The whole earth is an organism, like the human body. Africa, for instance, may be studied as an organ of the earth; so may America. One cannot say: I live in the stomach, the liver has nothing to do with me. The whole world is one great organism. The continents and the men who dwell upon them: there are different conditions of air, water, composition of soil. etc. In these parts of the world, here in Switzerland, we now have cold clear air; this comes from Siberia. Men, plants, etc., breathe this air. We are, therefore, woven into this organism, Earth. Again, the Gulf Stream is perceived as something real. It may be cold in the Channel, then warm when we get into the Gulf Stream. If the Americans had diverted the Gulfstream, Europe would become quite different. We should then see that the earth is an organism.

When we deal with another part of the organism of the earth we must clear our minds of many popular ideas; throw them on the refuse heap. We may consider America from the point of view of an organism in time: just as we may consider a human being from this and point. We can perceive two important periods in it, the Lod of dynamic history and that of static history. Dr. Steiner

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showed how how certain impulses require thirty-three years to ripen and come into the consciousness of man. At the end of the last century the expanding experience in America came to an end. In former centuries a number of people went over from Europe to America: one the greatest migrations in history. At the end of last century they came to where they said: "Formerly we could have as much land we wanted; now we can no longer do so. We had a feeling of freedom to do what we liked. The Alleganny Mountains formed no boundary when the Eastern States no longer sufficed. There were unlimited lands near Old Man River--the Mississippi and Missouri." Then the settler type developed, the man who could have as much fertile land as he wanted or could work. Food for himself was his first care. The Social Question did not trouble him; he only cared to his family. The Social Question only came later. One can still observe heaps of stones here and there; these were gathered together from the fields when they were first brought under cultivation. Then the settler went further to the West to find new soil; and again further. Finally he reached the Pacific, could go no further; there was no more land. Through the limitation of the land the social question arose. Woods were cut down. The conditions were the same in Canada. Then it would happen suddenly that nothing grew any more, the cattle died. The reason was, that distant forests had been cut down, the prevailing direction of the wind changed, the water conditions changed very quickly. Fruitful parts became desert.

Then came the period of the development of the State. Development changed its direction, from breadth to height: skyscrapers. (Dr. Wachsmuth had been con

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acted through Ford's Motor Works in Detroit. There was a department for soya-bean investigation. These substances are used in the production of butter, oil, and --parts of motor-cars....) Monoculture set in. This did not last long. Now they are beginning to plant forests again. Our (biological-dynamic) task is to bring the dynamic into the static. The old "practical ideas no longer hold good. "Without an ideal men go to pieces." "It is impractical to be only practical." Herr Pfeiffer went about in America by aeroplane giving lectures on our biological-dynamic methods. One can understand the American Continent in the following way. The nerves-and-senses pole is in the East; the metabolic pole in the West; the rhythmic in the middle. Warmth ether in the Pacific, extending to the west coast; light ether from the east coast as far as to Europe; chemical ether in America towards the east coast; and life ether towards the west coast. The Rocky Mountains are at the boundary between the life ether and the warmth ether. There we find the salt-building force - in the region of the Salt Lake. That is the formative-force structure of the earth. Dr. Wachsmuth had seen a tree 364 feet high and 99 feet round in circumference.

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Friday, 25th January, 1935. Herr Dreidax.

People recognize that their health is not always the same; it changes with the course of the year. One feels fresh in summer but down in winter. In spring a man has to

fight for his health - he goes through crises. This holds good also for communities. The spring crisis can be noticed by the numbers in doctors' consulting rooms. Describe the health circle of the the doctor

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In winter it is difficult to go out much. One lives in closed rooms. One goes indoors earlier in the evening. There is more darkness. We do not have sufficient amount of green food. The food loses its strength; does not nourish in the same way. Man feels unwell in spring. He moves out more, takes walks in the open air, sees and feels the sun, takes fresh green food. In summer he enjoys the sun, takes holidays in the open air. In the autumn he feels that he is using up his stores of health. In summer he takes in stores--air, light, warmth. The spring crisis is interesting. The life-stream forces itself through a narrow space, as it were. There is a feeling of spring illness, spring tiredness. Folk customs exist to overcome this slackness. In Bavaria, for instance, it is the custom on Holy Thursday to eat certain soups made of young green herbs gathered from the fields and hedges. In all parts of Germany they eat green soups about Easter time, soups made of shoots of yarrow, plantain, nettles, rosettes of dandelion, parsley, sorrel (and another, the name of which I did not catch) - seven herbs. In certain districts they have spring cures of dandelion, nettle tops, radish, cresses, etc. These are natural customs, observed to overcome the spring illnesses. The illnesses we combatted with the herbs. All this applies also to the animals. Famers report various difficulties to be overcome at this time. Illnesses, for instance, spring horse-illness, weakness, various spring illnesses, due not only to shortage of food. Births are

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difficult at this time. The cows have to do their spring work in various districts and it is more difficult for them at this time. If these illnesses are to be cured without great cost we must do it through the food. The quality of the food plays a great rôle in this. The calf after birth requires much milk from the mother.

Take care that there of light in the stable. In modern buildings special kinds of glass are recommended; it is recognized that the ordinary glass does not allow sufficient light to pass through. People are sent up to heights where the violet rays are not absorbed by the lower atmosphere. Herr Dreidax quoted the results of American researches into sun-filled air and ultra-violet rays from artificial light. It is important for the cows to go out of the stable at least 10 or 15 minutes each day during the winter. This may give extra work, but it pays in the long run. They are happier when they are driven out to drink once a day. Some farmers who have arranged a little drinking-place by the cow in the stable have now given this up. It is good for the cows to stretch their legs and take a little exercise. The young cows which have been brought up in the open bring a store of health with them into the stable. The cows depend on man to give them air and light,--and this again depends on his understanding for them. Take care that darkness-effects do not work too strongly in them. Sun-effects



should be in the animals if they are to be healthy and provide healthy, fou nourishing food. What are the effects of shadow activities? Tuberculosis of the lungs! These bacilli do not like light. The animal really dies for want of light-activities in her. Health should be built up and maintained with plenty of light and air. It makes a difference whether one gives food cultivated by oneself on the farm or from outside. In certain districts special grass is carefully prepared for the calves--low grass, difficult to cut; it is even swept up with a brush and carried home in a cloth. In some parts grass which has been specially cultivated is given at Christmas as a medicine for the cows. "Food grown on a southern slope is quite different from that grown on a northern slope." It is difficult to make cows feed on a northern slope. They eat the short grass on a southern slope and even pull out the roots rather than eat the long grass on the northern slope. That which grows in the shade of trees is shadow-food. Foresters have to think of the food of the wild animals. The wild animals seek the sunny food--not merely food. The way the horns are developed, depends on the sun. Sunny years develop strong! horns; and dark, wet years, weak ones. wild animals like natural manure food and avoid food grown on artificials. The influence of the manure affects the food--and the food the manure. This is important in the preparation of 500. The best manure for 500 is what the peasant's wife collects on the open field when the cow follows its own inclination in food. The effect of the large quantities of manure produced by cows kept in the stable

all the year round is only equal to that produced in the winter by animals which have been out for the summer. The half quantity produces the same effect as the whole of the others. A large amount of life-force is still in the manure. Recognize the difference in the quality of the manure; reckon with the content of life-force in it.

Some plants have a superabundance of life force and can impart it to other substances,--those plants, for instance, which are used in making the preparations.

The farmer can intervene in a good or a bad way in the circle of forces at work on his farm.

Exercise the greatest care in collecting the herbs and making the preparations. The manure collected on the open field is permeated with the forces of the animal: the digestive juices of the animal, the saliva, the stomach juices, gall etc. It is not merely exhausted food. 500 can be used to activate the forces in the ground--not merely to increase the quantity of humus. Ground with increased force produces special food.

In the cultivation of vines much light is wanted--light and warmth. It is useful to arrange to have a surface of water to the south of the vineyard, so that extra light may be reflected to the vines. The vines may also be grown against walls--these give more warmth. Walls in the vineyard also reflect the warmth and light to the vines.

The question has often been raised, whether a lime soil or a silica soil is better for vines, Schwarz has told us something about the folk-knowledge of the significance of Silica. When preparing the ground for a vineyard the peasant takes out all the lime stones and leaves the silica stones. This results in a better growth of wood, better colour of the leaves--consequently yielding a better quality of wine.

Sunlight is the bearer of other kinds of rays. Silica as a bearer of light forces--also in minute quantities. 501 brings light and cosmic influences.... Influences of the moon and stars. These influences change from new moon to full moon. Time is important. There are difficult periods in plant growth: germination, transplanting, fruiting. These can be assisted. There is a circle of life in the farm life (see diagram on previous page, also this one). Observe all sides of this, and not only one side. There should be not be only a circling round, but an overplus--the milk. The milk comes from the whole organism of the cow; it is a biological photograph of the whole cow, with its weaknesses, health, etc. It is also complete picture of the whole farm, with the way it is worked. The vegetable grown on it is also a picture of the whole working of the farm.

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11.10a.m. Herr Stegemann.

### **Twelve years' work in the biological dynamic methods.**

seven years ago we had the first Agricultural Conference here in the Goetheanum--under primitive conditions. Autumn, 1921, meeting of the Kommende Tag. My first memorable conversation with Dr. Steiner. I began work on the farm. My first shock: "No need to use artificials." Dr. Steiner gave suggestions. My conversations with Dr. Steiner in October and November, 1921. I came to Dornach, waited for a time in the Schreinerei. Dr. S. came out, beckoned, said I could meet him at half past six. As a farmer accustomed to rising early, I said: "In the morning, Herr Doctor?" He replied: "Oh no, in the evening!"...I inquired: "If a man eats and gains health from plants he must understand them. How can one work without nitrates, potash and magnesia, without artificials, Herr Doctor?" He told me how to set about it. We began to work. Then I had a sharp attack of inflammation of the lungs,-- just got through, with the help of Rudolf Steiner. Enemies arose, scoffed at us and our work, etc. The State owned my property; it therefore had a voice in the matter. When the time came for the renewal of my lease, my manager, (who wished to have the farm for himself) went to the authorities and complained: "This man is spoiling your land!" They sent/official to make enquiries. "I work without artificials!" In twenty minutes we were in a deep, philosophical discussion. That was in 1927. A few days afterwards I received a document authorising a further lease of eighteen years, signed by a high official,- and underneath his signature, the words, "Ich gratuliere herzlichst." (I congratulate you most heartily.) The anger against us will continue, and the more successful we are the greater it will be.

our accounts, with their balances, will, however, play a role. The change in the ground is the final proof of the value of the methods. The ground is tested every two years. When we first started, the ground was very poor, very impoverished. Sugar content in the beets grown the first year only 8%. Through our biological-dynamic methods this has risen to 16% on an average. Last year it was over 18%, 18.2%.

3 p.m. Herr Schwarz. In 1924, about Whitsuntide, a number of farmers returned home from Koberwitz (near Dresden, where the Agriculture Course was given) with mighty impressions in their souls. We wrestled for clarity. We must realize these indications." Some were enthusiastic; some felt their way cautiously. They We worked quietly; almost apart from one another. Experiences were gathered. We could observe by the condition of the ground that! something was working. The gardeners had the first results. These could be in perceived in the improved quality of the products,-- better taste, better colour, better keeping qualities. Then the quantity increased. The ground became looser, the water conditions better. The worms increased. ... The gardener became more respected. Previously, he had a lower position. He specialised too much--potting gardener, herb gardener, vegetable gardener etc. Then he had to grow in large quantities of one particular vegetable or flower--tulips, onions etc. The gardener had lost himself. Now, through the biological-dynamic methods he has an entirely new basis of action,--to understand the xx soil, the plant, the animal. Formerly he considered the butterflies, worms, moles, etc. were a nuisance. He knew nothing of cows and their manure. All this was changed in a moment. Gardening

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became a concentrated and refined farm. He finds it necessary or at least advantageous to keep a cow and feed it on the right food in order to get the manure for his preparations. Or he will combine with other gardeners to keep at least one cow between them. This is a benefit not only to his garden and its products but also to his family. ... After the 30 years' war the farms in Germany were drawn in and concentrated. A fundamental law was not observed: When there is a more intensive culture in one direction, there must be a more extensive culture in another direction. The gardener requires the farmer and the farmer the gardener. In olden times, in Roman times, there were good farms in Germany, hedged around and including a garden and kitchen garden. This last was cared for by the farmer's wife. It came first, was near the house, and was hedged round. It prepared the way for the farm; experiences were gathered there which were then made further use of on the farm and the more wide-spreading lands. Gradually the home garden has almost been lost; people now go to the large vegetable stores and buy--they know not what. Now, since the Agriculture Course, the farm has given us the garden again. It was in the 8th and 7<sup>th</sup> **centuries that the monks in the monasteries cultivated the gardens.** Plants were introduced from the Mediterranean into Switzerland and the south-west of Germany. Remains of these **plants are still there:--box, standard roses. calendula, aromatic and curative herbs.** We are obliged now to have another kind of garden.

What can the garden be for us? We must acquaint ourselves with the different parts of the garden, the soil, the plants, the animals, the air, humidity, the Earth and the heavens

and the forces which play between the two. We must observe the wild creatures, the toads and frogs, the insects, the butterflies, the bees, the characteristics of the vegetables that provide food for man and beast, wild plants, cultivated plants, annuals, biennials, perennials. Plants have certain definite characteristics; some require more light and more humus; bushes more light, less humus. Trees, less humus, they raise themselves far away from the earth. Annuals require different quantities of humus-- leguminosae. Tomatoes require light and warmth and humus.

All this makes the gardener's work exceedingly interesting. It is important to consider the animal world: worms, toads, slugs, snakes, tortoises, the birds, etc. Cows are of central importance. The gardener must join with other gardeners or peasants and keep cows; these must be healthy, have the right food. The dung must go into another process at once. No gardener, therefore, can carry on without cows or without being connected with a small farmer on whom he can thoroughly rely to provide him with healthy cow manure. It is important to have water in the garden, not tap water but water from the roofs. Collect this in barrels. Provide water for the swallows and other birds. Consider the possibilities of utilizing the dew. Construct hedges first, then the dew falls. This is exceedingly important for the gardener. The soil must also be observed and studied: what exists on the surface and what is underneath. Humus as a bolster for the forces of the earth and the cosmos. Then we have to deal with animal manure, consider its purpose and destination. The gardener has to balance all this, and give to each (soil, plant, animal) what it needs. He must

study the atmosphere. He is very near to the plant and the soil. He handles the soil and the plants more than the farmer. He loves the soil, the plants, the flowers. The farmer stands before the large field, before large quantities of grain, herds and flocks. He loves the animals--strokes them.

New rhythms come into the garden through the way in which the ground, the manure and the plants are handled. Greatest care necessary in the sowing of the seeds. The preparations help us to regulate the processes in the ground. Through them it comes about that we have no loss in the manure or compost; they also increase the activity of the cosmic forces in the plants. Concerning the various sprays we are collecting experiences. The value of 500 can be seen on a small plot of ground, - also that of 501. Good quality medium sized plants better than large and coarse. Mixed cultures. Experiment with them as manuring plants. Mix plants that give, and those that take. Observe a good rotation. Strawberries; other plants in between. The trees around the garden are like a shell,--a living shell,--the hedges, too. This can attract moisture and cosmic forces into the garden, protect the plants from wind, etc.

The result of 10 years' work is that the plants are healthy, the animals feel well, the vegetables and fruit have an extremely good taste. Everything and gross is kept away by the trees. Such a garden should be included in every farm. It can be the germ cell for what has to be brought in by the biological-dynamic methods. One can

gather experiences as to the best way to prepare the dung, the compost, etc.; then transfer one fruit of these experiences to the management of the large farm.

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Another thing is important: we must cultivate new plants from wild plants. The garden is a workshop in the element of life. The gardener also gathers experiences in the cultivation of young fruit trees. Grafting. The cultivation of fruit trees belongs to the small peasant garden. Each village should have its own Tree School. The gardener only opens the door for the forces of nature to work. Cabbage grown near peppermint improves the peppermint. Herbs should be grown not only for soups and for medicinal purposes but also for the health of the garden itself. The garden needs the forces of warmth that are attracted by the ethereal oil bearing herbs. Flowers should also flourish in the garden, one should not gather them all; butterflies and other insects love them. The peasant will not use artificials for his own garden; he may do this with the potatoes he sells, but not for the use of his own family. If he over-manures his garden with human faeces, this is very unhealthy for him and his family. The result is, that they grow dull and stupid.

The garden should be looked upon as a place of refreshment. Plant an apple tree or a pear tree just where you would like to see one; also flowers. Have a seat arranged in a pleasant position. Take five minutes rest occasionally and enjoy the sight of the garden, the perfumes, the air and sun, the warmth, light and colour. The whole organism of the garden becomes artistic. The new peasant culture will grow and flourish on this. It can only come gradually. One thing grows out of another.... Care for the manure and compost first. See that it is fine. It does not cost much. Think about it. Go from one thing to another.

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Form a picture in your mind of the small peasant garden. Out of it must develop what we need for a true agriculture. The gardener is a healer. As a result of his good work health is strengthened in plant and animal and man.

/ Rows of peppermint 10 mat or 12 yards apart; rows of cabbages, perhaps two, next to them, and other plants in the intervening space.

/ The ground in the neighbourhood of Dornach has been spoiled through the use of Jauche (liquid manure containing human faeces). How should it be treated? Spread a thin layer of compost all over it. Use 500 and 501. When to use these? 500 in late summer or autumn, especially about the fruit trees, when the fruit has been gathered, and in the waning moon.

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Saturday. Herr Pfeiffer described the results of experiments on mice. Persulphate of ammonia in flour--causes baker's excema. What does it cause in the human body? Flatulence. Disease of sexual organs. Mortality of the young.

Herr Dreidax. In arranging a farm or a garden observe its position--northern or southern slopes,-- sun and prevailing wind, hedges. The biological-dynamic methods bring about a circulation of forces, and deal with finer connections of nature. The wish is now being expressed more and more, to have goods produced by these methods. ... Think of the preparatory work of Dr. Steiner before he could give his lectures on Agriculture of one hour each! The request originally made to Dr. Steiner had to do rather with production in the mass; he answered by giving means to improve the quality.