

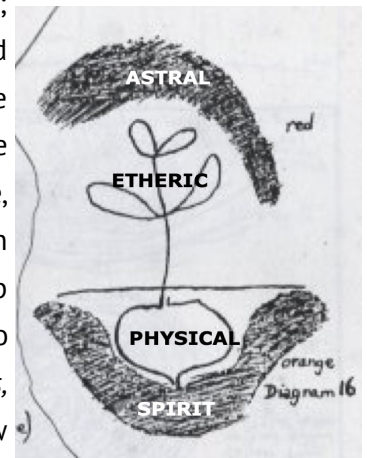
The Planets and the Physical Formative Forces

Dr Steiner quotes from lectures 2, 6 & 8 - GA 327

edits Glen Atkinson PhD

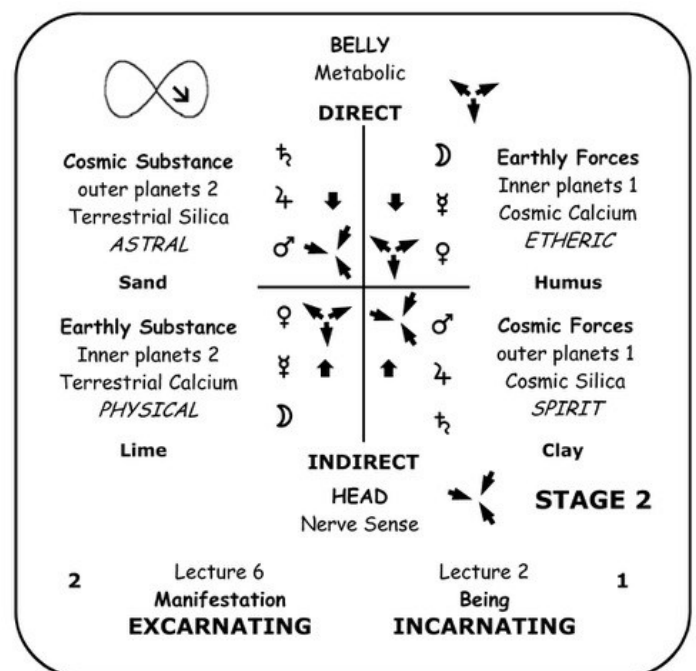
Why do I say that the agricultural individuality is standing on its head? For the following reason. Take everything there is in the immediate neighbourhood of the Earth by way of air and water vapours and even warmth. Consider, once more, all that element in the neighbourhood of the Earth in which we ourselves are living and breathing and from which the plants, along with us, receive their outer warmth and air, and even water. All this actually corresponds to that which would represent, in man, the abdominal organs. On the other hand, that which takes place in the interior of the Earth beneath the Earth's surface – works upon plant-growth in the same way in which our head works upon the rest of our organism, notably in childhood, but also throughout our life. There is a constant and living mutual interplay of the above-the-Earth and the below-the-Earth.

Let us draw the plant in its entirety (Diagram 16). Down here you have the root; up there the unfolding leaves and blossoms. And as above, in the leaves and blossoms, the astral element (red) is acquired from contact with the air, so the ego-potentiality (orange) develops below in the root through contact with the manure. The farm is truly an organism. The astral element is developed above, and the presence of orchard and forest assists in collecting it. If animals feed in the right way on the things that grow above the earth, then they will develop the right *internal Spirit* / ego-potentiality in the manure. If they produce, this ego-potentiality, it will connect with the plants ego potential and Cosmic Forces, already within the Earth, and work on the plant from the root, causing it to grow upwards from the root in the right way according to the forces or gravity. It is a wonderful interplay.



Physical Formative Forces

And now, to localise these influences, *into the Physical Formative Forces*, I beg you to observe the following. The *Force* activities above the Earth are immediately dependent on Moon, Mercury and Venus supplementing and modifying the influences of the Sun. The so-called “planets near the Earth” extend their influences to all that is above the Earth's surface. On the other hand, the distant planets – those that revolve outside the circuit of the Sun – work upon *the Force activities* that are beneath the Earth's surface, assisting those influences which the Sun exercises from

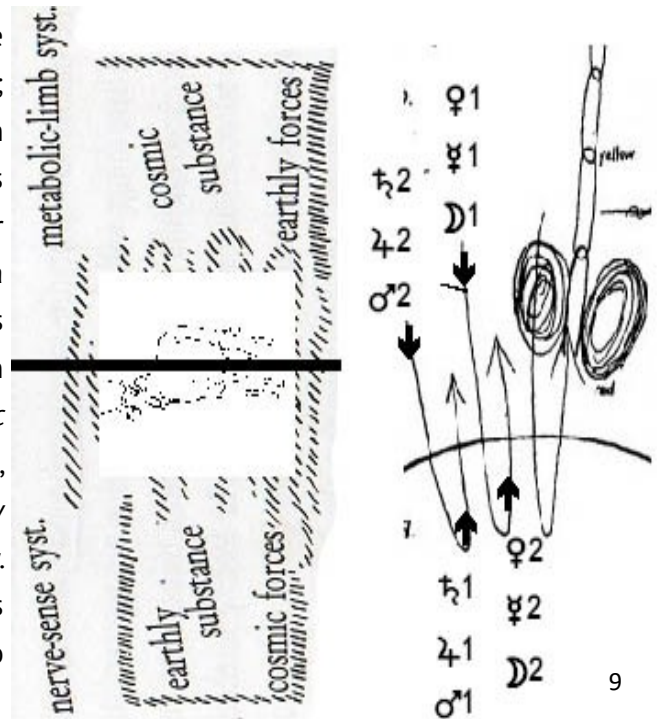


below the Earth. Thus, so far as *the Force aspects of plant-growth* is concerned, we must look for the influences of the distant Heavens beneath, and of the Earth's immediate cosmic environment above the Earth's surface.

Once more: all that works inward from the far spaces of the Cosmos, as *Cosmic Forces*, to influence the growth of plants, works not directly – not by direct radiation – but in this way: It is first received by the Earth, and the Earth then rays it upward again. Thus, *the Cosmic Force* influences that rise upward from the earthly soil – beneficial or harmful for the growth of plants – are in reality cosmic influences rayed back again. *The Cosmic Substance* is working directly in the air and water over the Earth. The direct radiation from the Cosmos, *coming via the Cosmic Substance* is stored up beneath the Earth's surface as *Cosmic Forces* and works back from there. Now these relationships determine how the earthly soil, according to its constitution, works upon the growth of plants. (We shall take plant-growth to begin with, and afterwards extend it to the animals).

We must learn to distinguish those *Earthly Forces* which arise in the cosmos but are absorbed by the earth and work upon plant-growth as *Earthly Substance*, 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 *Cosmic Substance* 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, *the Cosmic Force* 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, *which also work in the Earth, as Earthly Substance*.

Now I want you to imagine that Diagram No. 9 represents the earth level, where the influences of Venus, Mercury and Moon; enter as *Earthly Forces* into the earth and stream again from below upwards as *Earthly Substance*. These are the forces which cause the plant to grow during the season, later produce the seed, and by means of this seed a new plant; a second plant, then yet a third and so on. (I indicate this schematically). All this goes into the power of reproduction and streams on into the succeeding generations. The *Cosmic Substance* forces, however, which take the other path, remaining above the earth level, come from the *secondary distant planets*. I can draw this schematically in this way. These forces cause the plant either to spread into its surroundings or to become fat and juicy, to build matter into



itself such as we can use for food because it is produced again and again in a continuous stream.

Take for example the flesh of fruit - an apple or a plum - which we can break off and eat; all this is due to the *secondary* workings from the distant planets.

Consider the earthly soil. To begin with, we have those influences that depend on the farthest distances of the Cosmos – the farthest that come into account for earthly processes. These effects are found in what is commonly called sand and rock and stone. Sand and rock – substances impermeable to water, which, in the common phrase, “contain no foodstuffs” – are in reality no less important than any other factors. They are most important for the unfolding of the growth-processes, and they depend throughout on the influences of the most distant cosmic *substance* forces. And above all – improbable as it appears at first sight – it is through the sand, with its silicious content, that there comes into the Earth what we may call the life-ethereal and the chemically influential elements of the soil. These influences then take effect as they ray upward again from the Earth, *as Cosmic Forces*.

The way the soil itself grows inwardly alive and develops its own chemical processes, depends above all on the composition of the sandy portion of the soil. What the plant-roots experience in the soil depends in no small measure on the extent to which the cosmic life and cosmic chemistry are seized and held by means of the stones and the rock, which may well be at a considerable depth beneath the surface. Therefore, wherever we are studying plant growth, we should be clear in the first place as to the geological foundation out of which it arises. For those plants in which the root-nature as such is important, we should never forget that a silicious ground – even if it be only present in the depths below – is indispensable. I would say, thanks be to God that silica is very widespread on the Earth – in the form of silicic acid, for instance, and in other compounds. It constitutes 47-48% of the surface of the Earth, and for the quantities we need we can reckon practically everywhere on the presence of the silicic activity.

But that is not all. All that is thus connected, by way of silicon, with the root-nature, must also be able to be led upward through the plant. It must flow upward. There must be constant interaction between what is drawn in from the Cosmos by the silicon, *as Cosmic Forces* and what takes place – forgive me! – in the “belly” up above; *as Cosmic Substance* for by the latter process the “head” beneath must be supplied with what it needs. The “head” is supplied *with Cosmic Forces* out of the Cosmos, but it must also be in mutual interaction with what is going on *with the Cosmic Substance* in the “belly,” above the Earth’s surface. In a word, that which pours down from the Cosmos and is caught up beneath the surface, *as Cosmic Forces*, must be able to pour upward again. And for this purpose is the clayey substance in the soil. Everything in the nature of clay is in reality a means of transport, for the influences of cosmic *force* entities within the soil, to carry them upward again from below.

When we pass on to practical matters, this knowledge will give us the necessary indications as to how we must deal with a clayey soil, or with a silicious soil, according as we have to plant it with one form of vegetation or another. First we must know what is really happening. However else clay may be described, however, else we may have to treat it so as to make it fertile – all that, no doubt, is most

important in the second place, but the fast thing is to know that clay is the carrier of the cosmic upward stream.

But this up-streaming of the cosmic influences is not all. There is also the other process which I may call the terrestrial or earthly – that process which is *also* going on in the “belly” and which depends on a kind of external “digestion.” For plant-growth, in effect, all that goes on through summer and winter in the air above the Earth is essentially a kind of digestion. All that is thus taking place through a kind of digestive process, must in its turn be drawn downward into the soil. Thus a true mutual interaction will arise with all the forces and fine homeopathic substances which are engendered by the water and air above the Earth. All this is drawn down into the soil by the greater or lesser limestone content of the soil. The limestone content of the soil itself, and the distribution of limestone substances in homeopathic dilution immediately above the soil – all this is there to carry into the soil the immediate *Earthy Forces* process.

To the outwardly perceptible, visible world of *Substance* there belongs the invisible world of *Force* and these, taken together, form a whole.

