



# A Goethean Approach

## The plant as a reflection of the environment

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Each plant lives in a particular environment. In general, we talk about environmental factors that are measured in mm for rainfall, in lux for light intensity, in quantities of chemical elements for the composition of the soil, etc. But in reality, the plant grows in a global environment and it is with the thought that we break it down into a multitude of measurable factors that remain totally external to us. Let's try to find a concrete access, based on our sensory and bodily experiences, to the environment in which the plant grows.

Each plant grows between earth and sky in an environment that can be described qualitatively according to four main polarities:

- Rich or thin soil (organic or mineral).
- A wet or dry environment.
- A hot or cold environment.
- A luminous or shady environment.

Each of these polarities can, of course, include a very large number of possible nuances. Let's try to qualify these tendencies from our own personal experience.

For the richness of the soil, we cannot start from our own direct experience since of course we have no roots in the ground!

On the other hand, the observation of plants of the same species in rich or poor soil shows us that the influence plays essentially on the size, the quantity of material produced by the plant. A "rich" soil allows the plant to acquire a larger size than a poor soil without necessarily changing its shape. Let's simply compare plants growing in our garden in a well-fertilized flowerbed with plants growing where no manure has been applied. We can go further by describing the nature of the bedrock (specify limestone, siliceous or volcanic) and whether the soil is rather mineral or rich in organic matter and by describing what type of organic matter it is (of plant or animal origin).

On the other hand, we daily experience the concrete body experience of the 3 other polarities: dry-wet, hot-cold, bright-shaded.

### **Dry-wet**

What does it mean for us to be in a dry or wet environment? In the dry, we are isolated from our environment; every thing, to be, separated, the limits become clearer. Conversely, when the air is humid, the water that remains on our skin connects us to the environment. In the water, we have the impression of losing our limits, of spreading out in the liquid in which we swim. So, we can say that dry separates and wet connects bodies and physiological processes. The French language uses many expressions evoking these qualities on the psychic level: we speak of a «ton sec» (dry tone - we don't want to bond), we hold out a «main moite» (moist hand - we want to bond).

In the plant, wetness favours large oval or even round horizontal leaves like water lilies on the water or petasites leaves, etc. and long stems of the liana type, vegetation that intermingles as in swamps or tropical rainforest. The plants spread out, spreading out towards the periphery, connecting, blending into each other ...

On the other hand, in a dry environment, we find plants isolated from each other, without any link as in the scrubland or, in a more extreme way, the desert. The plants tend to close up on themselves by forming thorns, narrow leaves, tight stems and often even growing in dense tufts or cushions in extreme cases.

In extreme arid conditions there is a very original type of plant, the 'cactiform' type, represented by the Cactaceae family in the Americas, and by the Euphorbiaceae family in Africa. These are plants with a particular physiology, with nocturnal activity; they have almost completely internalized their environment in the form of a succulent stem that remains in an embryonic state. All the outwardly extending organs (leaves...) are totally devitalized, transformed into thorns.

### **Hot-cold**

From the point of view of heat or cold, one will find a polarity that seems close at first glance. Heat dilates, expands, relaxes but can also consume, destroy; conversely, cold tightens, freezes, slows down processes, concentrates. These phenomena take place at the physiological level but even more at the psychic level. For example, it is difficult to concentrate in a too hot atmosphere because we have the impression that our ideas and feelings come and go without really obeying us. A slightly cold atmosphere helps concentration. Of course, beyond a certain stage, the energy that we spend on warming up disturbs us.

There is an important nuance between the dry-wet and hot-cold polarity, because hot acts mainly on the psychic processes in human beings. In a "hot" atmosphere, feelings are more exacerbated.

In the plant, heat stimulates and accelerates the processes promoted by the other elements. For example, in rich soil and a humid environment, heat accelerates growth and promotes the expansion of the leaves. Just think of the enormous leaves of philodendrons or Monstera, plants from humid tropical zones.

On the other hand, in arid environments, the heat will accentuate the aridity and the plants will be even more contracted, dwarfed and dried out, lignified.

The cold inhibits and slows down the vegetative processes as can be observed on mountain plants, with miniaturized vegetative part but with large flowers.

### **Bright- shaded**

Light still has different effects. The effect of light is often confused with that of heat, yet they have very different qualities. Our experience of light is so obvious that we cannot consciously observe it. For us, light means that we see the world around us, its shapes and colours. In fact, light, itself invisible, highlights the qualities of things and beings. Conversely, in the shade and even more so in the darkness, shapes and colours merge and eventually disappear. In short, light refines, chisels shapes, brightens colours and favours the expression of the specific characteristics of the identity of beings. This "instantaneous" influence of light can be "absorbed" by plants over time and this models them... Plants show us this in an astonishing way. Just compare two plants of the same species growing one in the shade and the other in the light.

Thus, light will favour the separation, the cutting of leaves, as well as the flowering, the colour of the flowers and all the elements revealing the identity, the specificity of the plant (aromas, tastes, smells, shapes, colours). Shade, on the other hand, will favour the vegetative development of many large, ample, poorly formed leaves, the formation (the quantity) of plant matter ... The flowers will be less numerous when the light is less strong.

The flower, which is not much subject to the influences of the earth and water unlike the vegetative part, which is very sensitive to these elements, is much more specifically linked to the influence of light and heat. Thus, the increase in solar intensity reinforces the intensity of the colour of the flowers and favours the development of the aromas.

The phenomenon of leaf shearing can be observed by comparing two specimens of the same plant, one having grown in the shade, the other in full light.

Of course, as with other elements of the natural environment (earth, water, heat, etc.), each plant species has its own specific range of light. Thus, there are species of shade, half-shade (edge) and full light. But each one within this particular range of light will react by expressing its specific identity better to light or, conversely, by developing more material in the shade.

As far as light is concerned, there are even more subtle aspects than the simple variation between full light and half-light: this is the question of what could be called the quality of light.

Impressionist painters in particular were particularly sensitive to the different qualities of light they tried to reproduce. We can speak of the fine, crystalline, almost soft light of Corsica totally different from the more powerful light, making the colours of the French Riviera. These are perceptions at the limit of the visible and the felt, but it is very interesting to practice refining our perception of light because we can find relations with certain qualities of odours and colours of the flora of a region...

Most of the "elementary" influences described are essentially exerted on the vegetative, most malleable parts of the plant. On the other hand, flowers and fruits (generative organs) generally vary only slightly.

In the concrete observation of a plant, it is necessary to ask which are the dominant elementary qualities which are generally reflected essentially in the development of the vegetative part.

For example, it is easy to see that the common thyme (*Thymus vulgaris*), a plant growing as a small, very woody, tightly packed shrub with miniature, almost dry, pointed leaves, is mainly subject to the influences of dry, thin soil (limestone rock) and a warm, very sunny climate. In contrast, the ground ivy, (*Glechoma hederacea* L.) a creeping plant with long stems and round horizontal leaves, spreading out in the undergrowth, reveals the influences of cool to moist soil, a cool climate and good shade.