

## *Correspondences Between Planets and Plants*

All life is rhythm (energy) and matter is temporarily frozen energy.\* The archetypal patterns of organisms indicate rhythmic movements that have temporarily taken on physical form and substance. Formative forces are indicated by crystal formations in frost flowers, snow flakes, tension lines in cooling liquids, hexagonal honeycombs, and others which Steiner indicated as vector lines originating in the region of the earth-distant planets. Hard as it may be to prove by conventional means, it is certainly a probability that can be visualized by means of projective geometry. These hard-lined forces, originating in outer space and working through the earth into crystal formation, are akin to the “earth” etheric forces. The formative forces of “water” and “air” express themselves in flow patterns, spirals and vortices. They are seen in whirling galaxies, cloud formations as photographed from space satellites, wind and ocean currents, whirlpools, the shells of snails, the hair whorl on the back of the head (cowlick), the calyx of flowers such as the morning glory, the spiral placement of leaf and bud around the stem, seed placement as in sunflowers, all the way to the double-helix spiral of the minute DNA molecule.

Water and air etheric forces reveal themselves in concentric rings found from the rings of Saturn, to tree rings, to water disturbed by a thrown pebble, and equally archetypal are reflections and bi-polarities found in higher organisms and in magnetic

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*Spiral Galaxy in Ursa Major*

*The spiral is the most common growth pattern in the plant kingdom and is directly related to cosmic etheric forces.*

fields. Another form of primal energy is seen in such raying, outpouring energy as that of the raying sun, the primitive radiolaria and other planktons, the radial symmetry of horsetails and other primitive plants. Such archetypal forms and patterns are found in the whole range of nature, from the telescopic to the microscopic universes.

Leaf arrangements (phyllotaxy) occur in opposites (one-half around the stem to the next leaf), in thirds (one third around the stem to the next leaf), or in spirals of  $2/5$ , as in blackberries where one has to go twice around the stem to arrive at the fifth leaf, which is directly above the original one. Others have the ratio of  $3/8$ ,  $5/13$ ,  $8/21$ ,  $13/34$  and so on.

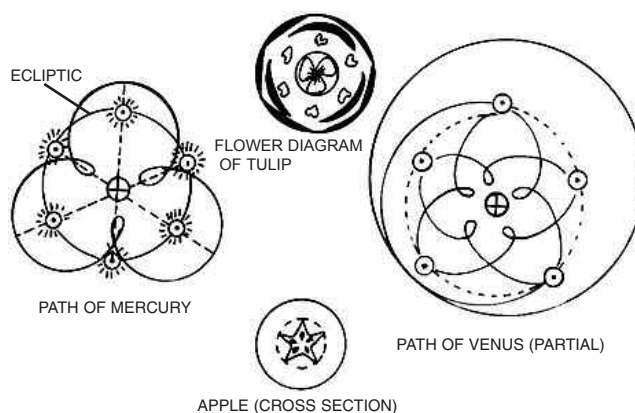
Similarly, the flower petal arrangement and seed placement patterns of such plants as the composites reveal spirals that intersect clockwise and counterclockwise, according to the above-mentioned ratios. These ratios are not random, but form a mathematical progression that was discovered by the Renaissance mathematician Leonardo da Pisa, also known as Fibonacci, after whom this Fibonacci sequence is named. (The Fibonacci sequence is seen in the chambered nautilus, the curvature of mountain sheep horns, elephant tusks, winter rosettes of plants and other organic phenomena.)

A further point of interest is that the ratio between any two numbers in the series (after the third) approaches that of the Golden Ratio, or Golden Section (1:1.618). (The Golden Ratio, a key to the universe since Pythagoras, is found in the intervals of music (monochord), mollusk shells, the genealogy of drone bees, as well as in works of art such as the proportions of the sculptures of Phidias, the ratios of the pyramid of Cheops, and others.)

The existence of the Fibonacci sequence in the arrangement of leaf and flower spirals indicates well enough how "God ever geometrizes" (Plato), but the astronomer Joachim Schulz has pointed out that this sequence is also found in the movement patterns of the visible planets as perceived geocentrically.

The force of the sun pulls the vegetation upward (heliotropism), giving it the vertical tendency. Just as the planets move in and out of conjunction with the sun and cross the ecliptic above and below, so do the buds, leaves and flowers move about the vertical stem of the plant, mirroring the mathematical relationships that hold sway in planetary movement. Schulz tries to show how the opposition and two-fold symmetry in plants relates to the moon, which alternates from full moon to new moon. The path of Mercury reveals three loops (retrogressions) and six yearly conjunctions with the sun, three above and three below the ecliptic. Moon and Mercury symmetries are found permeating the world of the monocots, the lilies and grasses.

Venus forms five loops (retrogressions) below the ecliptic in eight years, dividing its path into five parts; much like the bud and leaf placement of the five-sided blackberry stem, going around twice to get to the same place, creating the next ratio of the Fibonacci series, 2:5. A picture of the geocentric perspective of Venus' path looks like the core of an apple and characterizes the geometry of such plants as the Rosaceae. The spiral configuration of Mars approaches a 3:8 ratio, as found in the leaf placement of the *Cruciferae* [broccoli, cauliflower]. Most dicots prefer either the Venus ratio of 2:5 or the Mars ratio of 3:8 for their leaf or flower placement. The Jupiter ratio of 5:13 is found in many composites and in the figworts (*Scrophulariaceae*). The Saturn ratio of 13:34 is



*Suggestive schematic correlations between planetary cycles, including their retrograde motions, and plant anatomies, seen geocentrically (⊕= plant center). Planetary (♃, ♀) and solar (☉) paths define shape and number of many plant structures.*

approached by some conifers and can be counted in the placement of scales in the pine cones (e.g. *Pinus pumilion* and *P. montana*). The even higher ratios in the sequence are extremely rare, found only in fossil plants, or in primitive plants such as mosses and club mosses. For the higher planets, the ratios only approximate those of the plant geometry because these patterns are never closed patterns, but show slight progressions (*Spirodistichia*).

A methodologically more sophisticated study, building upon Schulz, is that of E.M. Kranich who analyzes a number of plants in morphological detail and relates their growth processes to similar structural relationships found among the planets. He relates the rooting process to the moon and the vertical growth to the sun. The leaves and flower petals, as they diverge from the vertical stem tendency, are an image of the movement of Mercury and Venus bilaterally to the sun, as experienced from a geocentric position. Anther and pollen formation relate to Mars, fruit formation to Jupiter, and seed formation to Saturn. (These observations also coincide with older color schemes which attribute the colors of the rainbow to the superior planets. The colors range from the red of Mars, through the yellow of Jupiter, to the blue of Saturn. Green, the color of the vegetative plant, is the color of Venus in connection with the sun. Mercury is said not to have a color as such, but consists of a sheen. The moon is identified with the subterranean color of silver, and the sun with gold, both

beyond the range of the rainbow.)

It is not possible to go further into correlations between morphology, phyllotaxy, and geometry of plants and the geometric movements of planets within the limits of this exposition. These studies do establish the possibility of connections and partially vindicate some of the older planetary designations of plants, such as those of [seventeenth century British physician and herbologist Nicholas] Culpeper.

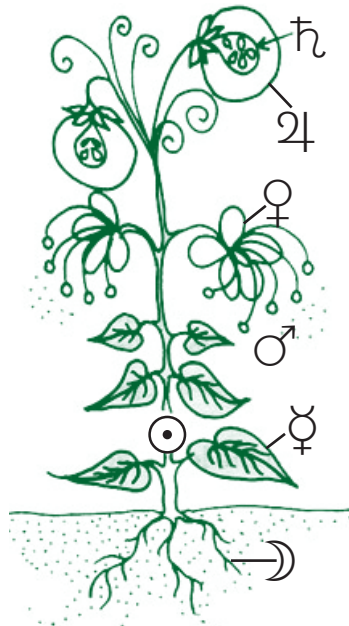
All plant species, from primitive radially-symmetric mushrooms to complex fruit trees, have characteristic patterns. A whole gestalt dominates each species, giving it its overall characteristic form. When, for example, leader branches are removed on trees, another branch takes over to keep the characteristic gestalt. Scientists have succeeded in culturing the entire plant out of one cell, regardless of whether that cell has been taken from the root or from the leaves. This indicates that there is a “blueprint.” It is hypothesized that this blueprint is found in the cell as the DNA code of the chromosomes. We advance the contention that the DNA provides the physical substrata upon which the formative forces, deriving from etheric space, from the periphery of the earth, can find expression; or as [Hermann] Poppelbaum expresses it:

The “blueprint” of an organism does not result from the chemistry of the various components of protein, etc.; it images an extra-spatial order that gives form and position to the organs and also determines the earthly-cosmic layout of the organism as a whole. The enzymes, hormones, etc. that move about in the organisms are not shaping causes; rather, they are mere indicators of the relationships in the form-field at a particular spot. The total structure of the living being proceeds from the super-spatial form that is developed in etheric space.

Loss of the geometry-creating, rhythmic impulses of the formative forces leads to death. Interference with the flow of these forces produces a loss in

geometry, or harmony, as in the so-called callus growths, plant tumors, and destruction by means of insects and disease.

George Adams, in an exposition of projective geometry, *Physical and Etheric Spaces*, talks about manifold streams and influences flowing together from the cosmos. “At the place where they interpenetrate, there arises by their interplay (it is a qualitative interplay, but its effect is at the same time spatial) the etheric organ as a whole. These currents from the universe are the cosmic parts, the etheric member of the organ. The organ as a whole is therefore smaller than its parts. This is an absolutely real process, perceptible to supersensible consciousness...” We can clarify this by looking at a seed. The forces working on the seed from the cosmic periphery are as much a part of the plant as the visible members of the plant. In its manifestation within space and time, the plant is diminutive, whereas etherically the plant is greatly, though not visibly,



*Each plant structure is correlated with the planet that best promotes its growth and development.*

expanded.

The illustration suggests that the plant is a projection of cosmic forces focused by the seed point, in analogy to the sunlit space that is focused by the lens of the eye to provide a retinal image as a projection. Steiner, and later Grohmann, conceive of plants as the eyes of the earth organism, open in the summer and shut in the winter.

Having attempted to establish the possibility of cosmic influences upon plant life, it now becomes a question of practical concern about how to use these forces. If they are always present, how can one do anything about them?...It is done primarily by sowing one’s seeds, working the soil, and planting the seedlings at the right times. We do this automatically with the solar cycle, which is the most obvious. The lunar cycles are less obvious, but just as important.

In order to plant by cosmic rhythms correctly, one must learn to identify the astral phenomena, such as the sign in which the sun, moon and the

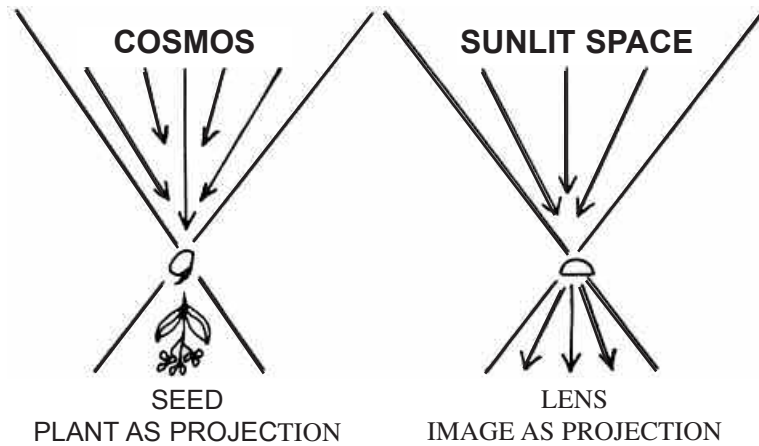


other planets are found, the phases of the moon, the conjunctions and oppositions. A good astronomical calendar that indicates all the necessary data correctly and a good book on the constellations, or a movable star chart, will be of help in learning. Secondly, it is important to keep note of the sun's position, the sign, phase, node, ascension and descension, and the apogee and perigee of the moon in one's garden diary day by day. In this way, a good scientific record can be kept indicating correlations over a number of years between nature, phenomena (the appearance of certain bugs, the first and last frost dates, rain periods, etc.) and celestial phenomena. In the

same entry, the garden work that is done each particular day should be noted. Such a record, if kept up diligently over a few decades, will be a valuable aid in understanding a number of cycles and patterns that have bearing on the farm and garden.

**The solar cycle:** Most of us have an idea when to plant in the spring and when to harvest in the fall, although the author had students from California who wanted to plant watermelon and other warm-weather crops in November. One has to plant early enough in order to get a crop. Cold-weather plants can be planted before the frost-free date, whereas warm-weather loving plants must be planted after the frost-free date. For biennial plants, which include many of our vegetables, such as beets, cabbages, kales, brussels sprouts, carrots, celery, etc., during the first year the vegetative growth takes place, and a cold period (*vernalization*, T.D. Lysenko) must be passed through for the plant to bloom and make seed the following year. This is important for gardeners who want to make their own seed.

**Photoperiodism**, or the ability of plants to perceive and respond to differences in the length of day and night, is related to solar cycles. *Long-day plants*, such as most garden plants (beets, lettuce, poppy, carrots, radishes, spinach, and others) flower when the days get longer and start to exceed 12 hours. These are plants that flower into the summer. This explains why radish and spinach go to seed in the summer. *Short-day plants*, originating



*Etheric vision reveals that "the plant is a projection of cosmic forces focused by the seed point, in analogy to the sunlit space that is focused by the lens of the eye to provide a retinal image as a projection."*

mostly in the more southerly latitudes, need shorter days for flowering and will start to flower in late summer and fall as the sun's arc narrows; they include tobacco, corn, hemp and cosmos. *Day-neutral plants*, such as shepherd's purse, chickweed, tomato and sunflower, do not have any special preferences.

**Lunar cycles:** Lunar cycles are very handy in our attempt to create "relationships and disrelationships" with the Revolutionibus [entire cosmic sphere]. The moon works through the water. Since most organisms consist mainly of water, it is little wonder that there is a noticeable effect. The most important lunar rhythm to work with is that of the moon phases (synodic moon). Anyone who has sprouted alfalfa seeds for salad, or closely watched the garden by comparing a new moon to a full moon, notices accelerated growth during the full-moon period, especially if it has rained. It is best to sow or plant in the second quarter, or a few days before the full moon. Root crops can be planted in the third quarter. The fourth quarter is a rest period in the cycle during which weeding and pruning can be done. The first quarter is characterized by slow but steady growth.

Fifteen years of experiments with wheat, barley, and oats were carried out by L. Kolisko. A large number of seeds were sown during different lunar phases with other variables, such as soil-type, water, and fertilizer, held constant. Exact measurements carried out on weight, length of roots,

leaves, and internodes produced curves that showed maximum growth always occurring in the waxing 2nd quarter moon. Another series of tests showed that sprouting is best 2 days before the full moon. Comparisons made between plants (carrots, tomatoes, peas) planted 2 days before the full moon, with controls planted 2 days before the new moon, showed that full moon sowings had significantly larger harvests and grew better than the controls. Plants sown in the advantageous phase surpassed those plants sown in the new moon, even when the latter were put into the ground 2 weeks earlier. Vegetables sown around the full moon were juicier, whereas those sown at the new moon periods were found to be drier and "woodier." Some plants are exceptions to the rule; potatoes and legumes can be planted during the new moon phase.

The lunar phases are not the only consideration for planting by the moon. The zodiac sign in which the moon finds itself (the sidereal moon) is also important....Taking a hint from G. Wachsmuth about the formative forces and their relation to the zodiac, Maria Thun set out to sow equal amounts of radish seed daily into little experimental plots, while noting the sign in which the moon was to be found. After about four years, the typology became clear. Radishes sown in the "earth" signs showed good root development, those sown in the "water" signs showed abundant leaf development, those sown in "air" and "fire" signs tended to bolt and seed well....

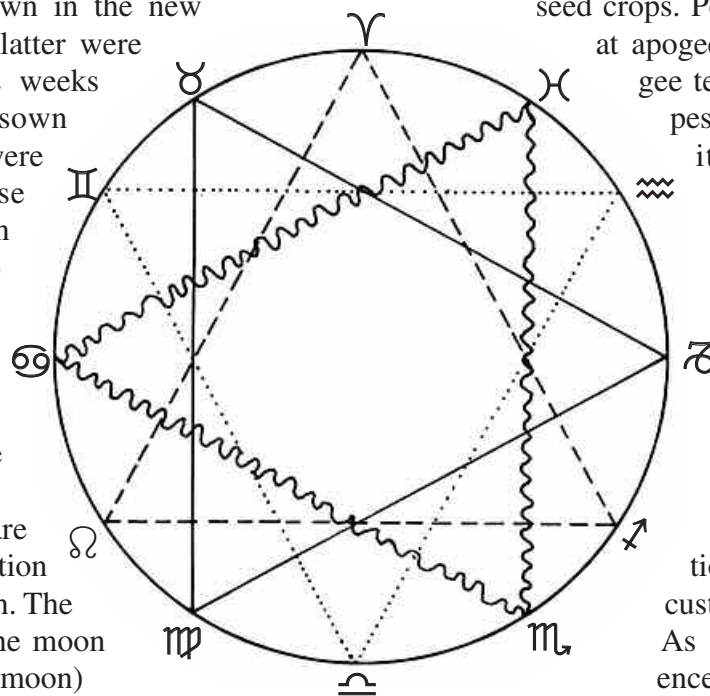
One aids root crops when they are sown in Taurus, Virgo and Capricorn; flowers are best planted in the air signs of Gemini, Libra, and Aquarius; leaf crops are aided by the water signs of Pisces, Scorpio, and Cancer; and fruits do best in the fire signs of Aries, Sagittarius, and Leo.

As to the tropical month, whether the moon is in a high sign (Taurus) or a low sign (Scorpio), tradition has it that there is an increase in vitality when the moon is in ascension, which is good for grafting because the juices flow better in stem and leaves. When the moon is in descension, it is good for the roots, for transplanting and hedge trimming, at least the Swiss peasants swear by this.

Apogee, the distant moon, tends to further bolting in plants sown on these days, which is good for seed crops. Potatoes like to be planted at apogee. Plants planted in perigee tend to be more subject to pests and mildew. In general, it is a good practice not to do major planting or sowings on either Ag or Pg. The same can be said of the lunar nodes, when the moon crosses the ecliptic; that it is best not to do any major gardening work on these days. Maria Thun has found verification for most of these old customs in her research.

As for the planetary influences, there is evidence that insects are affected in their habits by certain conjunctions and planetary positions in the zodiac. There has been little research on this....

In conclusion, it may be said that planting at the right phase and sign can be one of the many factors that lead to successful gardening. The good soil must be there, for it is the soil with its teeming life that is mainly receptive to these influences. If all the other factors are handled well, the crop rotation, companion planting, good soil husbandry, composting, and good watering, then the planting by the signs will be an extra plus. By itself, astronomical gardening does not guarantee a great garden; by the same token, if a good planting day has to be missed because of weather or of other commitments, it will not be, in itself, catastrophic. □



Zodiacal Element—Plant Structure Correlation

- Fire (Fruit) - - - - -
- Air (Flower) ·········
- Water (Leaf) ~~~~~~
- Earth (Root) —————