

NIMH 14th July POP 2024

Planetary rhythms in the plant kingdom

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Subtle bodies

- Ego-consciousness, Self: Spirit-Soul-Personality
- Spiritual Body
- Mental Body
- Astral Body
- Etheric Body
- Physical Body
- (sub-physical bodies (realm of elementals))

The etheric body regenerates the physical body overnight during sleep, and is closely bound to the physical body. There is an anabolic metabolism activity peaking in the liver around 1-3am.

The astral body and Ego provide the uniqueness of each individual.

The Complete Herbal, Nicholas Culpeper: sample herb rulerships

Saturn	Jupiter	Mars	Sun	Venus	Mercury	Moon
Barley. Poaceae	Agrimony. Rosaceae	Barberry. Berberidaceae	Angelica. Apiaceae	Bedstraw. Rubiaceae	Caraway. Apiaceae	Cabbage. Brassicaceae
Comfrey. Boraginaceae	Asparagus, Asparagaceae	Bryony. Cucurbitaceae	Borage. Boraginaceae	Foxglove. Scrophulaceae	Carrot. Apiaceae	Cardamum. Zingiberaceae
Hellebore. Ranunculaceae	Hyssop. Lamiaceae.	Garlic. Liliaceae	Celandine. Papaveraceae	Goldenrod. Asteraceae	Elecampane. Asteraceae	Chickweed. Caryophyllaceae
Henbane, Solanaceae	Oak. Fagaceae	Horseradish. Brassicaceae	Chamomile. Asteraceae	Marshmallow. Malvaceae	Fennel. Apiaceae	Cleavers. Rubiaceae
Horsetail. Equisetaceae	Dock. Polygoniaceae	Nettles. Urticaceae	Lovage. Apiaceae	Motherwort. Lamiaceae	Lavender. Lamiaceae	Iris. Liliaceae
Ivy. Lamiaceae	Rose. Rosaceae	Oak. Fagaceae	Marigold. Asteraceae	Mugwort. Asteraceae	Licorice. Fabaceae	Lettuce. Asteraceae
Mullein. Scrophulariaceae	Sage, Lamiaceae	Onion. Liliaceae	Mistletoe. Loranthaceae	Plantain. Plantaginaceae	Lily of the Valley. Liliaceae	Poppy. Papaveraceae
Nightshade. Solanaceae	Lungwort	Rhubarb. Polygonaceae	Rosemary. Lamiaceae	Rose, Rosaceae	Male fern.	Water lily. Nymphaeaceae
Oats. Poaceae	Dandelion. Asteraceae	Tobacco. Solanaceae	Sundew. Droseraceae	Wheat. Poaceae	Southernwood. Asteraceae	Willow. Saliceae

Largely a therapeutic classification

Sun herbs

- ☐ Golden yellow herbs that are solar in appearance: Camomile, Celandine, St. John's Wort.
- ☐ Cardiotonics or cordials that strengthen the heart: Angelica, Mistletoe, Saffron, Lovage.
- ☐ Heating herbs that restore the vital forces and resist poison: Angelica, Juniper, Rue.
- ☐ Evergreen herbs, whose expression of the Life Force is steady and constant, like the Sun: Bay Laurel, Juniper, Mistletoe, Pine, Rosemary.
- ☐ Herbs that clear the vision and improve the eyesight, since the Sun is the giver of light, by which things are seen: Eyebright.
- ☐ Restoring the energy, vitality and immunity of the organism: stimulant tonics and adaptogens.
- ☐ Anodynes that relieve pain by their relaxing warmth.



Magnificent coronal mass ejection erupts on Sun, 31st Aug 2012. NASA Goddard Space Flight Center. CC BY 2.0. Retrieved from: https://en.wikipedia.org/wiki/File:Magnificent_CME_Erupts_on_the_Sun_-_August_31.jpg

Moon herbs

- ❑ Moistening emollients and demulcents that strengthen the Expulsive Virtue and relieve dryness. Chickweed, Water Lily.
- ❑ Sedating, cooling febrifugal or anti-inflammatory herbs: Clary Sage, Lettuce, Willow.
- ❑ Diuretics that powerfully cleanse the lymphatic system: Cleaver's.
- ❑ Herbs that grow in or around Water, the Moon's element: Water Lily.
- ❑ Herbs that restore or replenish the vital fluids.
- ❑ Nutritive Tonics that restore the Radical Moisture.
- ❑ Nervines and sedatives that strengthen the vegetative functions and parasymphathetic nervous system and promote sound, restful sleep.
- ❑ Galactagogues that improve lactation in nursing mothers.

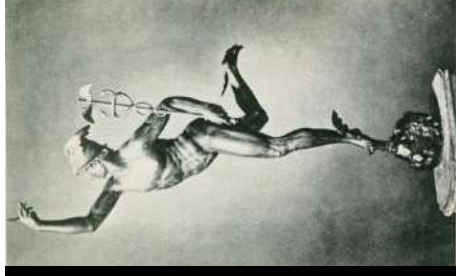
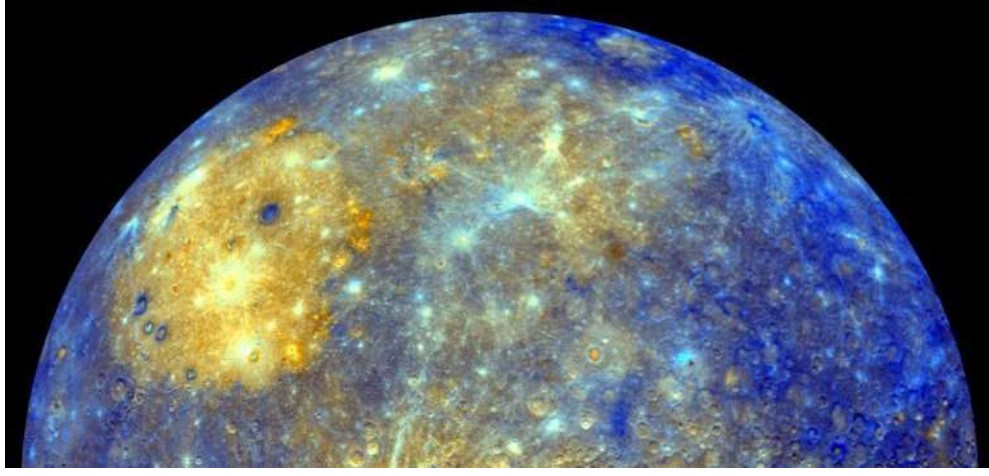


Full moon above Earth's horizon and airglow. Photographed by Expedition 10 Commander Leroy Chiao on International Space Station on (24 February 2005).
https://it.wikipedia.org/wiki/File:Moon_on_earth_horizon.jpg

Mercury herbs

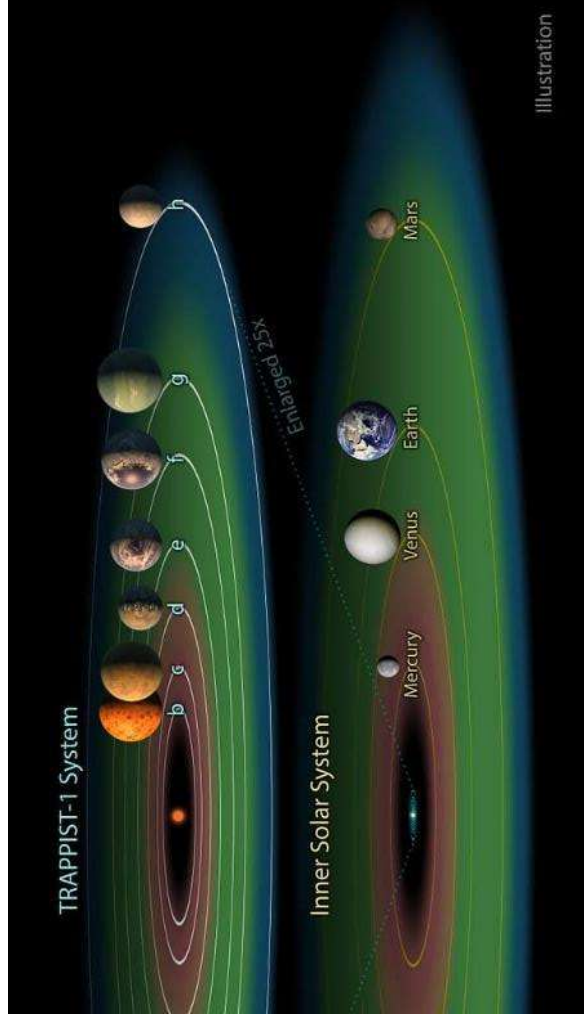
- ❑ Carminative herbs that work through Mercury's Virgo aspect to smooth the flow through the digestive tract and reduce gas, distension, colic or bloating: Caraway, Dill, Fennel, Marjoram etc
- ❑ Nervous restoratives, herbs to balance and calm the nervous system (Gemini): Lavender, Valerian.
- ❑ Pectorals and antitussives, herbs to balance and smooth the flow of the Vital Force through the lungs, chest and respiratory tract, relieving hoarseness and spasmodic coughing: Elecampane, Horehound, Licorice.
- ❑ Herbs to balance out kidney function and the adrenal glands: Germanander, Lily of the Valley, Parsley.
- ❑ Many Mercurial herbs are fine, delicate, e.g. Umbelliferous plants that express through their appearance the light, subtle nature of Mercury.
- ❑ Works through balance and homeostasis. Smooths and balances the flow of the vital energies: the Psychic Force, Natural Force.
- ❑ The therapeutic method of regulating the energy; even though you can't see it, the energy is there, and can be worked with.

Mercury god: <https://www.flickr.com/photos/internetarchivebookimages/14752456972>
NASA's MESSENGER Satellite Captures Spectacular Color Mosaic of Mercury NASA image acquired: Jan 14, 2008.
<https://www.flickr.com/photos/gsfcr/5574949104>



Venus herbs

- ❑ Many Venusian herbs are aromatic, and have a sweet fragrance, like Catnip, Coltsfoot, Cowslip, Feverfew, Groundsel, Mints, Pennyroyal, Meadowsweet, Roses, Thyme and Yarrow.
- ❑ Many are also spices used in cooking, to make food taste more pleasant.
- ❑ Tonics and restorative for the female reproductive system, relieving menstrual cramps, dysmenorrhea, e.g. Ladies' Mantle, Motherwort, Mugwort etc
- ❑ Kidney herbals, e.g. Burdock, Figwort, Goldenrod, Groundsel and Yarrow, various urinary conditions.
- ❑ Balancing, mediating, harmonizing, soothing, pacifying, smoothing actions.
- ❑ Antispasmodics & anticonvulsants, relieve spasms, tension in nervous and muscular systems, as antidote to Mars.
- ❑ Aromatic stomachics, antiinflammatories, anticatarrhals, anticongestives to the respiratory, digestive and genitourinary mucosa.
- ❑ Condiments - sweet /aromatic herbs to improve bitter or disagreeable taste of other herbs.



The TRAPPIST-1 Habitable Zone. <https://picryl.com/media/pia21424-the-trappist-1-habitable-zone-50d59e>

Mars herbs

- ❑ Many herbs ruled by Mars are armed with sharp barbs and thorns; e.g. berberis, Stinging Nettles, thistles
- ❑ Strong stimulants, intensely hot and Choleric in temperament: Garlic, Onions, Horseradish, Mustard.
- ❑ Bitter tonics, aperitifs, cholagogues, improve the flow of bile: Barberry, Thistle, Gentian, Hops and Wormwood.
- ❑ Many bitter tonics also have blood cleansing, sedative and febrifugal effects; they work contrary to the stimulants, in that instead of provoking heat and cholera, they sedate or relieve it.
- ❑ All red coloured plants, e.g. sanguinaria, have an affinity for Mars, and for the blood.
- ❑ Rubefacients, vesicants and counterirritants, which produce blisters and pustules to draw out pus and hot, Choleric toxins through the skin.
- ❑ Vulneraries that speed up the healing of wounds, e.g. plantain, yarrow, hypericum
- ❑ Bitter tonics, or, many of which are also cholagogues, antiinflammatories, alteratives or blood cleansers.
- ❑ Blood tonics, especially those rich in iron.
- ❑ Blood thinners and blood activators, which disperse congealed, clotted or extravasation.



Artist's concept of NASA's Curiosity rover approaching Mars. (NASA/JPL-Caltech)
<https://www.flickr.com/photos/usembassyjakarta/7730638438>

Jupiter herbs

- ❑ Many Jupiter herbs are hepatics, or liver tonics that improve liver metabolism in its generation of the blood and other humors: Agrimony, Chicory and Dandelion.
- ❑ Others, in keeping with the Sanguine nature of Jupiter, are nutritive tonics that improve the nutritional status and constitutional strength: Bilberry, Borage, Chicory, Couchgrass, Dandelion root and Figs.
- ❑ Jupiter is somewhat warming, herbs that gently stimulate and warm the digestive organs while dispersing and drying up cold, damp, turbid Phlegmatic humors, e.g. Hyssop, Lemon Balm and Sage, cardamon.
- ❑ Liver tonics, also called hepatics or hepatoprotectors, which protect and regenerate the liver and improve its metabolism and the generation of blood and the other humors.
- ❑ Analeptics, which improve recovery from emaciating and debilitating disease.



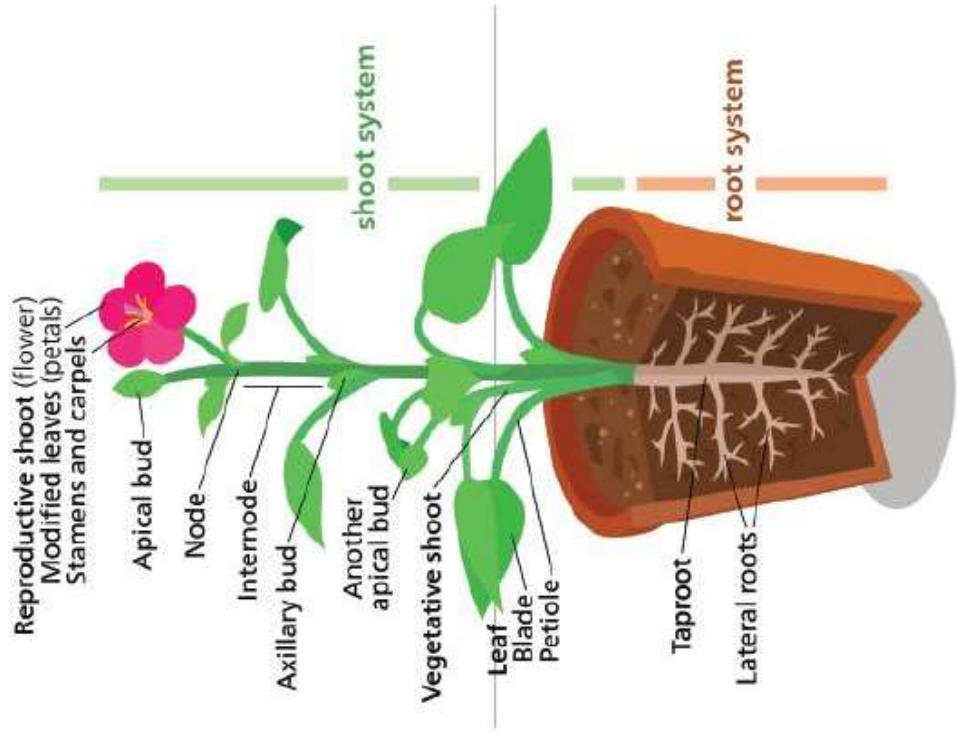
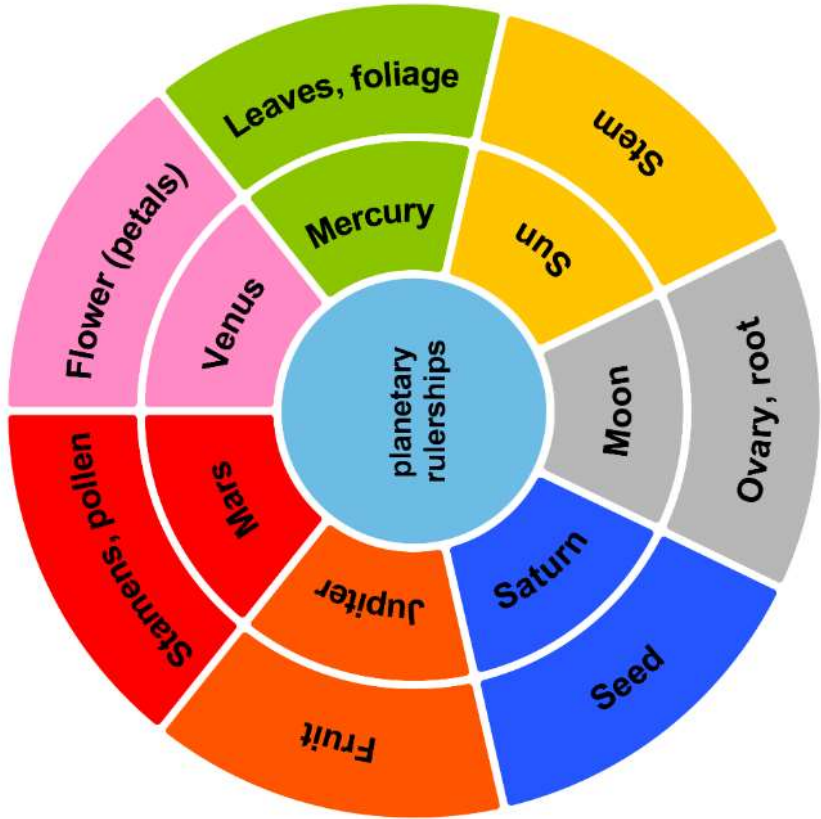
Saturn herbs

- ❑ Comfrey and Horsetail, provide special nutritional support and reinforcement for the bones, joints and connective tissue, which are ruled by Saturn.
- ❑ Astringents to firm, bind and tone the physical structure of the organs and tissues and aid the Retentive Virtue by restraining or checking undue sweating, urination, defecation, bleeding, leucorrhea or other excessive fluxes or discharges. Mullein, Poplar, Shepherd's Purse.
- ❑ Some Saturn herbs are intensely cooling and bitter, e.g. Fumitory (this is also a purgative for excesses of morbid black bile). Bitter purgatives to evacuate morbid black bile.
- ❑ Saturn has a Melancholic nature. Hence herbs that are heavy and sinking in nature, embodying the density and gravity of Earth element, e.g. Comfrey, Solomon's Seal.
- ❑ The deadening of pain or sensation: analgesics, anaesthetics and narcotics; heavier and more extreme in their action than milder nervines and sedatives, they can drain the nervous system and/or create dependency with excessive or prolonged use, e.g. Nightshade, Opium.



Author NASA, ESA, Martin Kornmesser (ESA/Hubble). CC BY SA 4.0
https://commons.wikimedia.org/wiki/File:Artist%27s_impression_of_Saturn%27s_rings.jpg

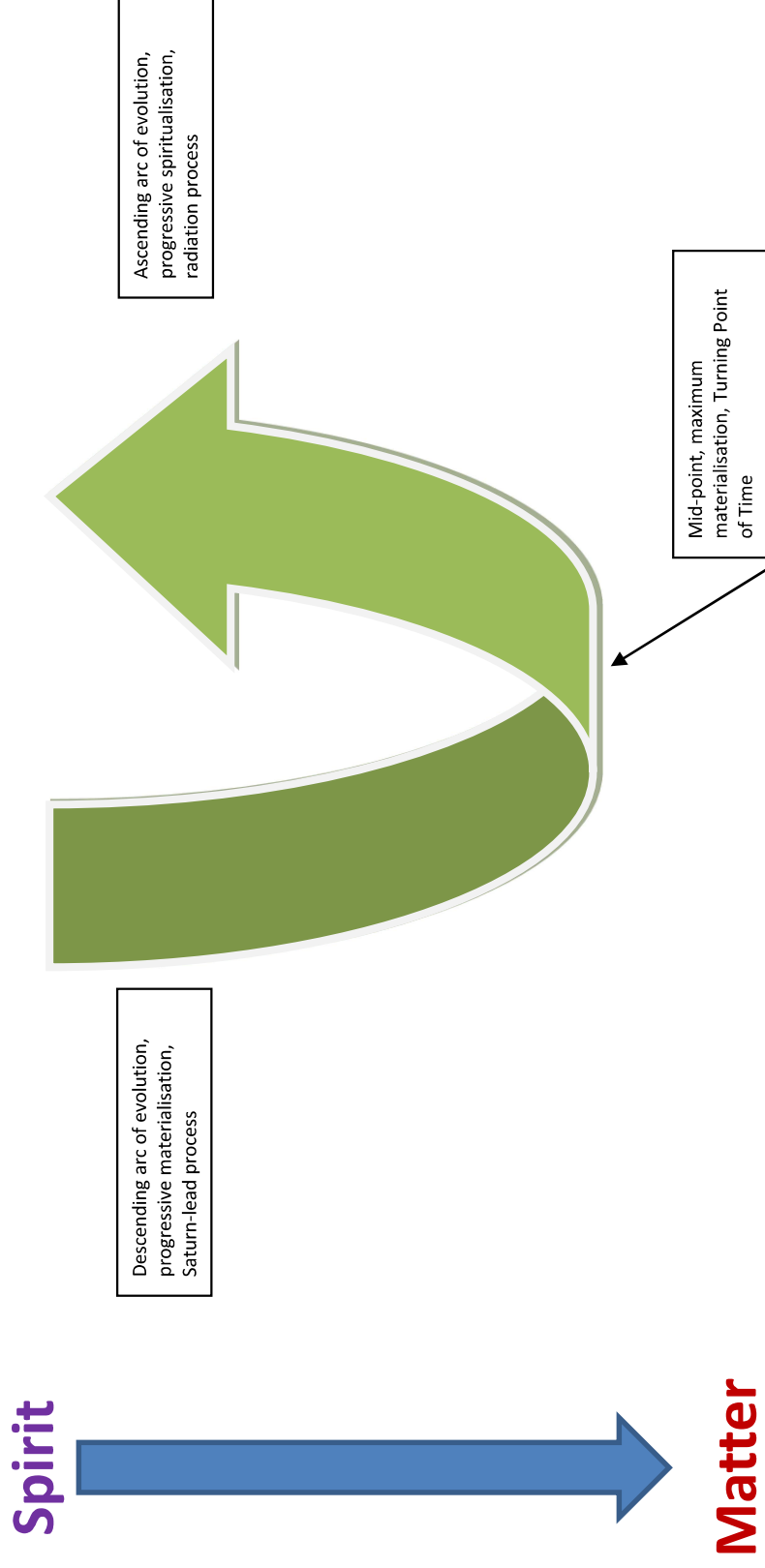
Planetary rulerships of plant anatomy



A diagram of a highly idealized eudicot. Author Kelvinsong. CC BY-SA 3.0. <https://commons.wikimedia.org/wiki/File:Plant.svg>

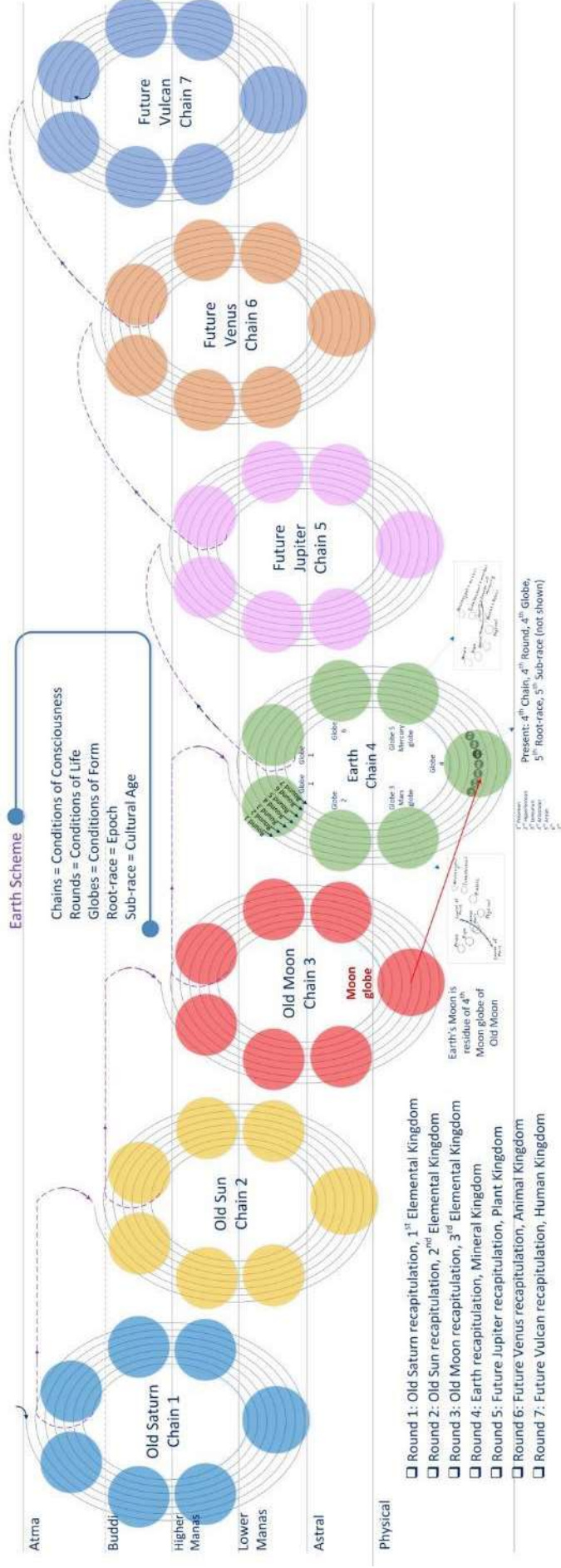
World stages

The in- and out-breath of Brahman



- 1st half is a cosmic exhalation where spiritual hierarchies 'give' and create layers of creation, with lower level beings receiving.
- 2nd half is cosmic inhalation, what is created is left to its own development, leading to metamorphosis, new contributions to the cosmos and redemption of karma. All this is then dissolved into a pralaya back to higher spiritual planes.

Earth Scheme

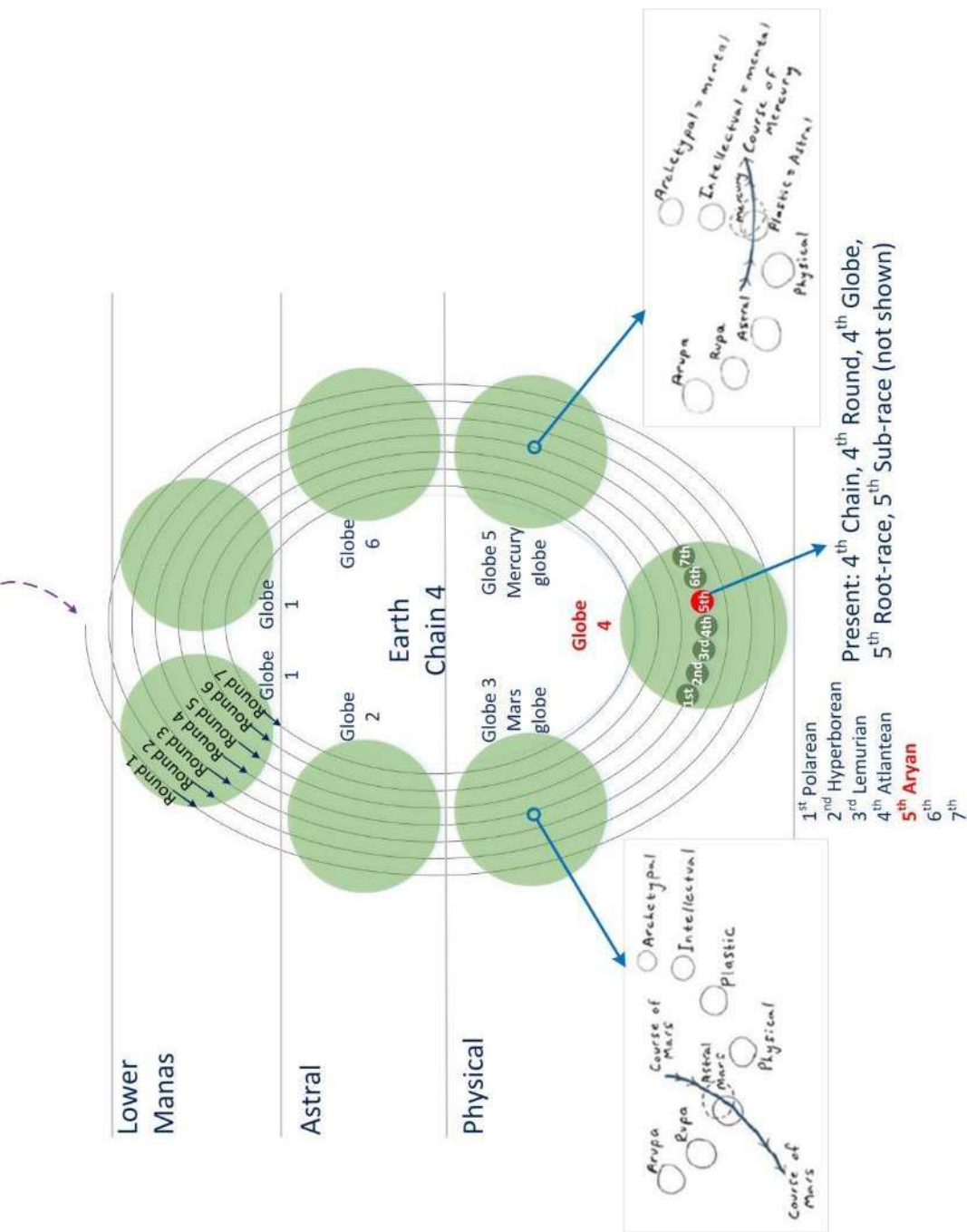


□ There are cycles and levels nested as three dimensions of evolution, i.e. Chains, Rounds, Globes.

□ There is a Pralaya between each Manvantara evolutionary cycle. Each Manvantara has two halves: 1st downward Spirit exhaling into Matter; 2nd Matter inhaling back to Spirit

□ The solar system with physical planets as seen now, was only created recently, in the 4th stage (4th round and 4th globe) of the Earth chain.

4th Earth Chain



Consciousness at each planetary stage

Planetary evolution	Condition of Consciousness	Demonstrated today by consciousness of
Old Saturn	Deep trance	Minerals
Old Sun	Dreamless sleep	Plants
Old Moon	Dream-filled sleep	Animals
Earth	Waking / objective	Human being
Jupiter	Imagination (psychic or conscious picture consciousness – astral)	Earth + Moon
Venus	Inspiration (super-psychic or conscious life consciousness – etheric)	Sound / Music of the Spheres
Vulcan	Intuition (spiritual or self conscious universal consciousness)	Identification of Self with Spiritual beings

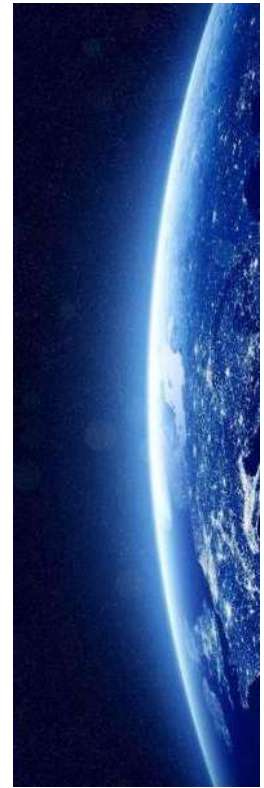
Old Saturn
Polarea 1st root race



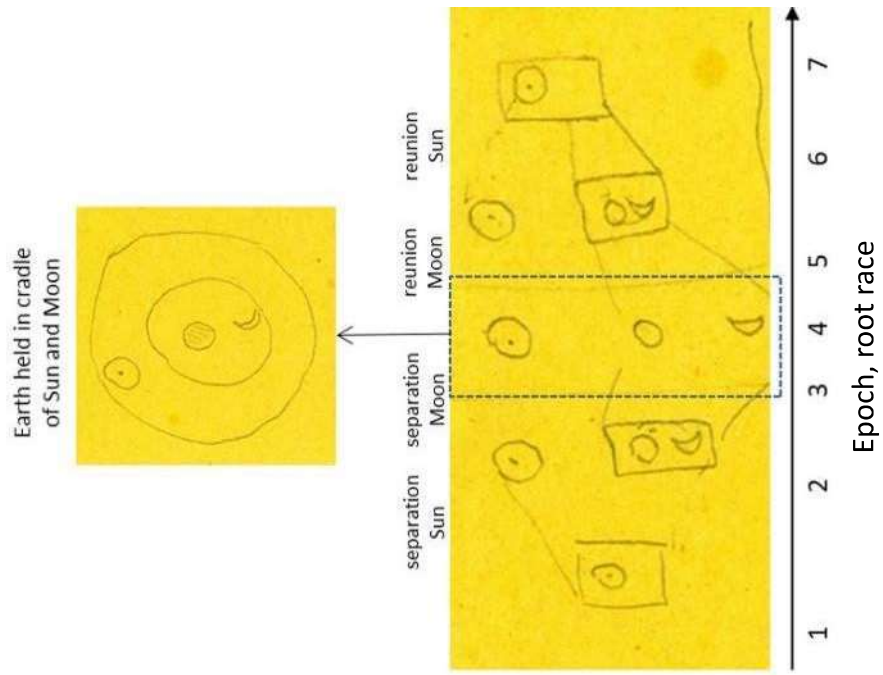
Old Sun
Hyperborea, 2nd root race



Old Moon
Lemuria, 3rd root race



Atlantis,
4th root race



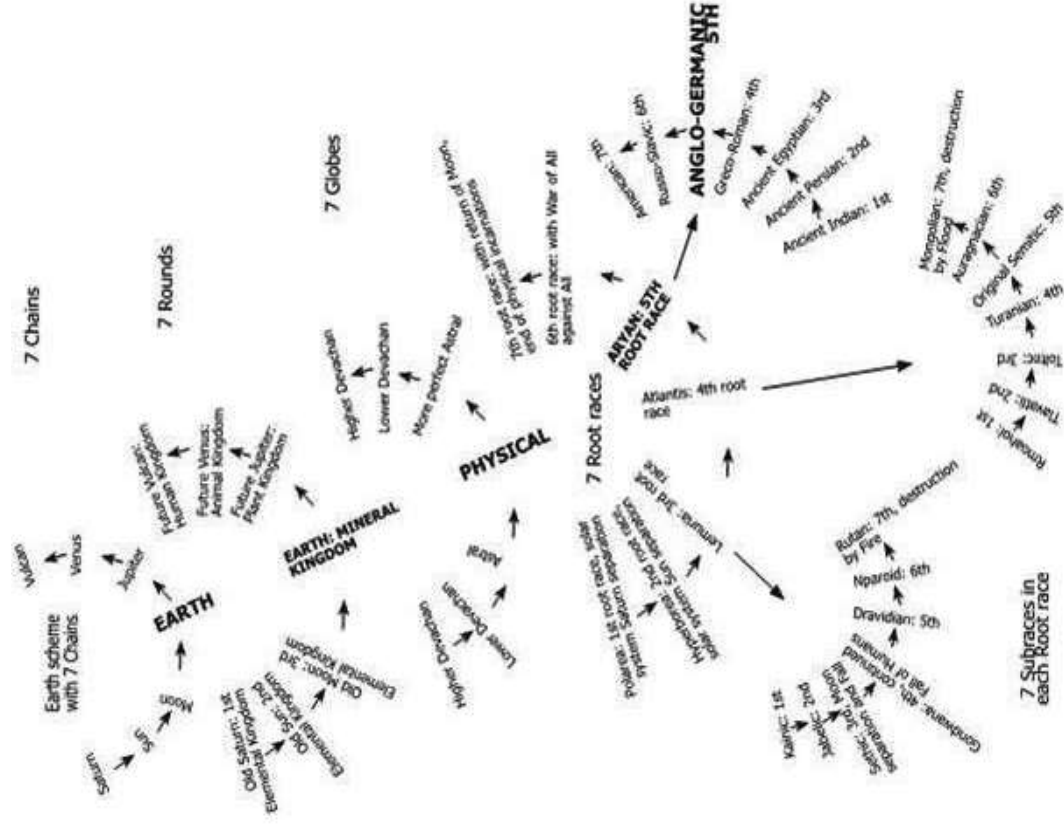
Left image series: Kathryn Mynott / Academy of Light (Yubraj Sharma)
Above right: Rudolf Steiner drawing of separations/reunions.
https://anthroposophy.eu/Planets_hosting_beings_at_various_stages_of_evolution
Left: Earth atmosphere captured. Author V.Cid7413. CC BY-SA 4.0.
https://commons.wikimedia.org/wiki/File:The_Amazing_Earth.jpg

Root races

During mid-Lemuria occurred:

- ❑ Separation of the Moon from Earth
- ❑ Fall of Human Race into physical bodies
- ❑ Segregation of Human Race into male and female
- ❑ Onset of karmic reincarnation
- ❑ Onset of psora miasm

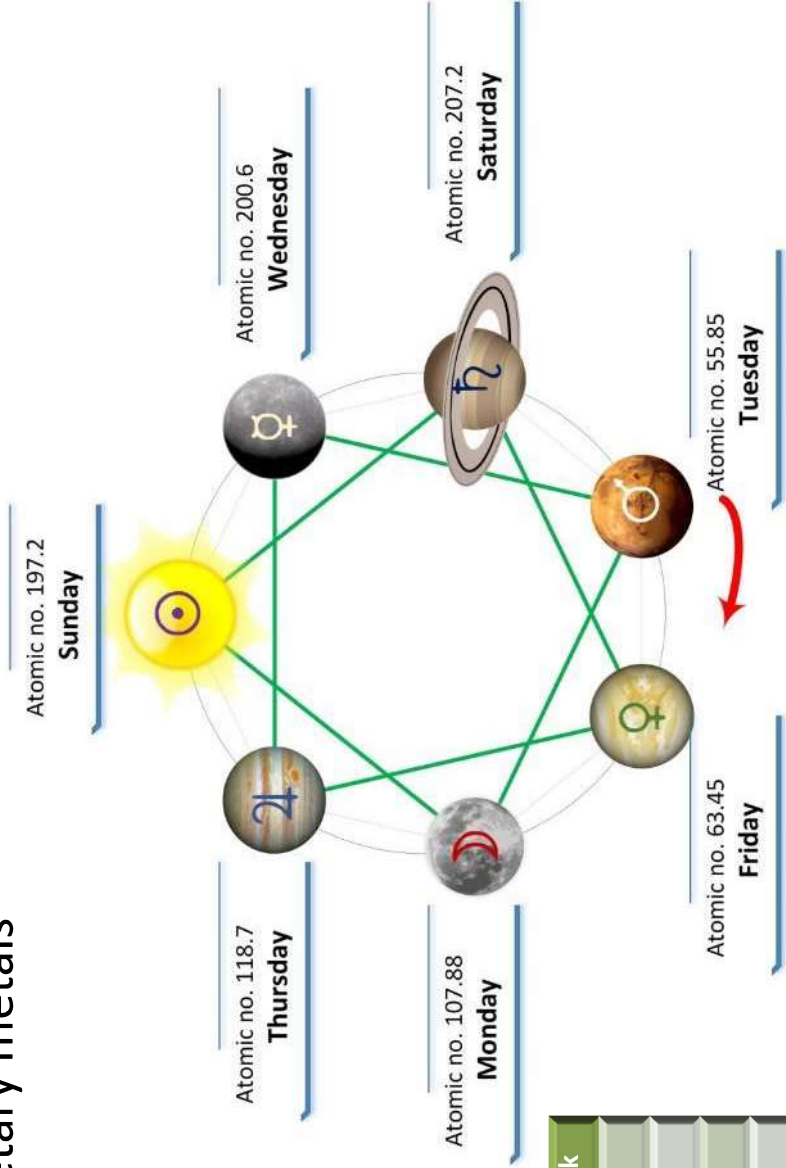
Note that Lemuria is the 3rd root race, Atlantis is the 4th root race, and we are currently the 5th root race. Within each root race are 7 sub-races. The current subrace is the 5th, the Anglo-Germanic. The ancient Egyptian 3rd subrace had reflected into it stages of the 3rd root race (Lemuria). Egyptian protection spells for the soul between its lives are still relevant for the current stage of the soul.



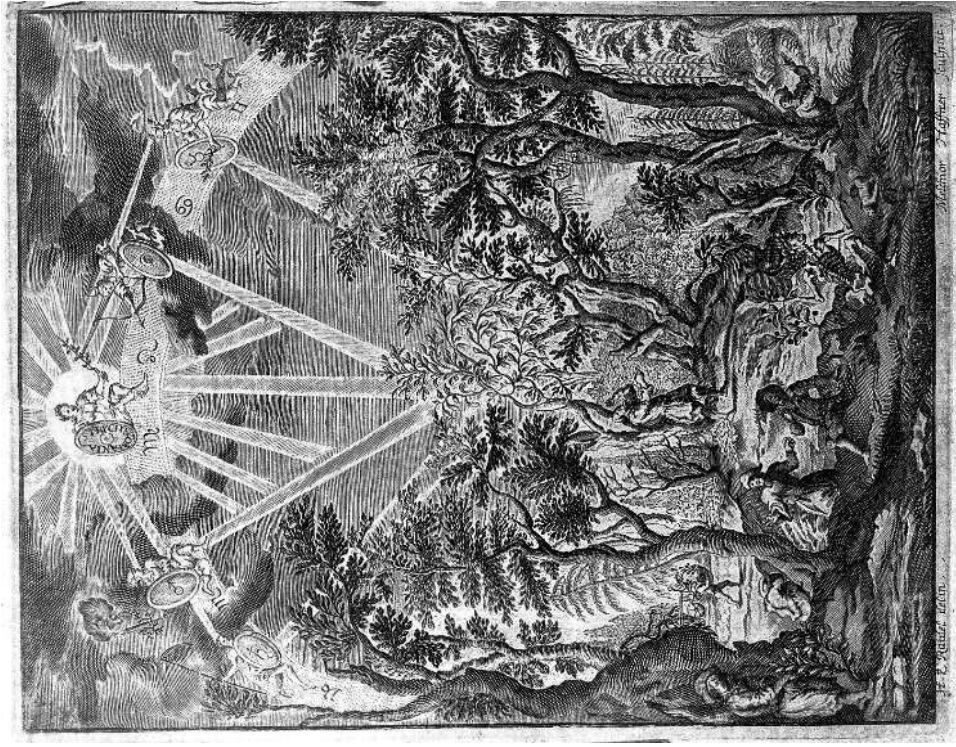
Time sequence of planetary metals

- ❑The 7 metals can be drawn in a circle, in order of atomic weights, placing Gold at the uppermost kingly position.
- ❑Linking of the metals in a 7 seven pointed star, starting from Lead, where a metal is linked to the next but one metal in the series.
- ❑ The sequence is Lead to Gold to Silver to Iron to Mercury to Tin to Copper (if starting at Saturn).
- ❑This describes the time sequence of earth evolution.

World stage	Mythic being	Day of week
Old Saturn	Sol/Helios	Saturday
Old Sun	Luna/Selene	Sunday
Old Moon	Mars/Ares	Monday
Earth – Mars stage	Mercurius/Hermes	Tuesday
Earth – Mercury stage	Jupiter/J Zeus	Wednesday
Jupiter	Venus/Aphrodite	Thursday
Venus	Saturn/Cronos	Friday
Vulcan	Not form a day, start of next octave	



Toxic and poisonous plants, and their potential therapeutic nature



Middle: Author H. Zell. *Atropa belladonna*, Deadly Nightshade, Botanical Garden KIT, Karlsruhe, Germany. CC BY-SA 3.0.

https://commons.wikimedia.org/wiki/File:Atropa_belladonna_001.JPG

Right: author Yubraj. *Atropa belladonna* fruit, Kew botanical gardens.

Left: A man suffering madness from having eaten poisonous plant. Planets instilling poisonous qualities into *Atropa belladonna*, and a man suffering madness from having eaten it. Melchior Haffner (1660–1704). Wellcome Collection, Wellcome (https://wellcomeimages.org/indexplus/obf_images/cd/bf/3a3c5c81cd1e3101f52dfe3c9e69.jpg) Photo number: L0011667. Public domain. Retrieved from: https://commons.wikimedia.org/wiki/File:A_man_suffering_madness_from_having_eaten_poisonous_plant_Wellcome_L0011667.jpg

Old Saturn



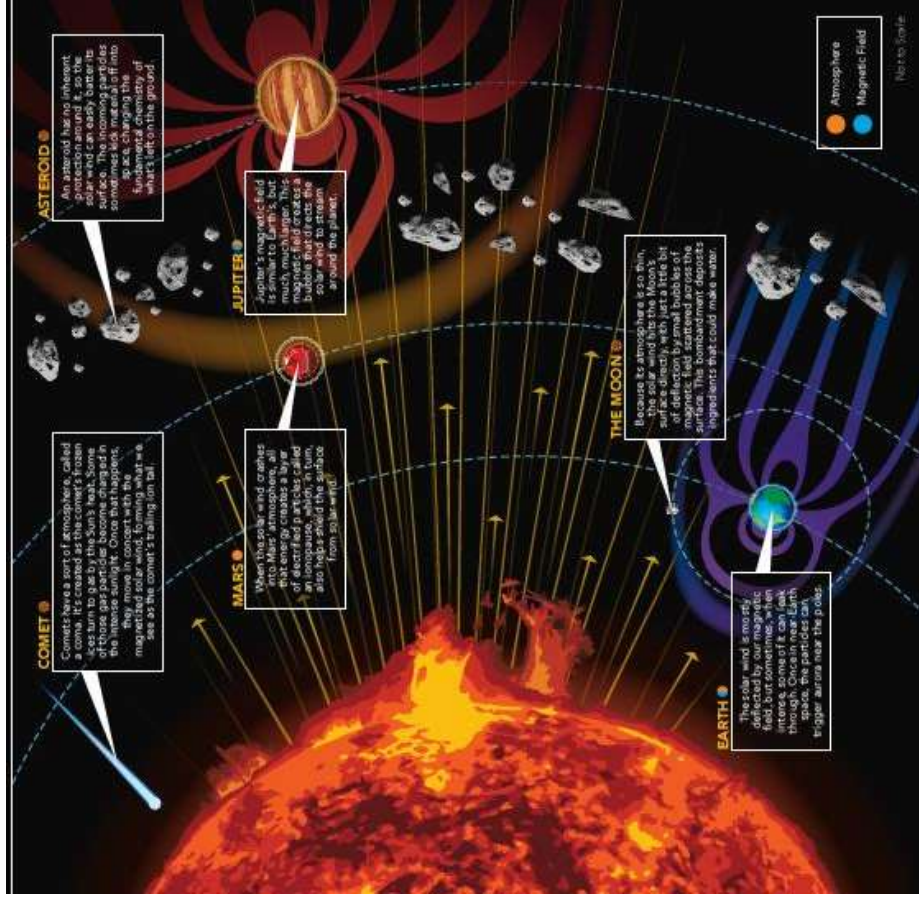
- ❑ Old Saturn as a heat world
- ❑ The zodiac around Saturn was as yet not clearly differentiated constellations, but like beams of fire and light encircling as an ocean of flame.
- ❑ Old Saturn was formed as a result of sacrifice from the beings of the Zodiac.
- ❑ These beaming forces also projected into Old Saturn, creating germinal physical Man, over a long period of 'time' sequence, starting from the 'head'.
- ❑ Hence warmth from Leo created heart region, Virgo the upper intestines etc.

Left. Artist: Limbourg brothers (fl. 1402–1416). Les très riches heures du Duc de Berry. Astrological Man. Collection: Condé Museum. Public domain. https://commons.wikimedia.org/wiki/File:Limbourg_brothers_-_Les_très_riches_heures_du_Duc_de_Berry_-_Astrological_Man_-_WGA13033.jpg
 Above. Iona Mackenzie, © Yubraj Sharma. Zodiac of spiritual beings

The Sun is not the source of heat and light

- ❑ Archangels went through their 'human' stage on Old Sun.
- ❑ They had greatest desire to flow outwards. Contracting back inwards was a limiting inferior experience.
- ❑ This was enabled by the Cherubim coming from four sides (as cosmic winged Lion, Eagle, Bull and Man) to enable the Archangels to reside longer in 'space' outside the Sun.
- ❑ The beginning of 'space' as a construct.
- ❑ This breathing process of the Archangels led to alternating light/shining and darkness and therefore day & night (and appearance in this of Luciferic beings).

The Sun releases a constant stream of particles and magnetic fields called the solar wind. This impacts bodies across the solar system with particles and radiation – which stream all the way to planet surfaces unless blocked by an atmosphere and/or magnetic fields. NASA's Goddard Space Flight Center/ Mary Pat Hrybyk-Keith. <https://solarsystem.nasa.gov/resources/2288/the-solar-wind-across-our-solar-system/>



Old Sun and Old Moon created a balance of evolutionary forces

- ❑ It was only after the Sun and Moon had left the Earth, that it could become an abode for human souls to incarnate physically.
- ❑ If the Sun had retained its influence, the earth would have such rapid development that humans would become old very quickly after birth.
- ❑ On the other hand, if the Moon had retained its influence, the earth would have become too slow and rigidified, causing human beings to become mummified. The planet would have become a graveyard of dense bodies. Indeed, before the Moon still separate there was a very difficult dark period during the first half of Lemuria.
- ❑ Hence Sun and Moon provide a balance, enabling human souls to develop at the right speed.



Upper. Magnificent coronal mass ejection erupts on Sun, 31st Aug 2012. NASA Goddard Space Flight Center. CC BY 2.0. Retrieved from: https://en.wikipedia.org/wiki/File:Magnificent_CME_Erupts_on_the_Sun_-_August_31.jpg
Lower. Author Alyssa Bivins. Photograph of Ramses I's mummy taken at the Luxor Museum in Luxor Museum, Egypt. CC BY SA 4.0. Retrieved from: https://commons.wikimedia.org/wiki/File:Ramses_I_Mummy.jpg

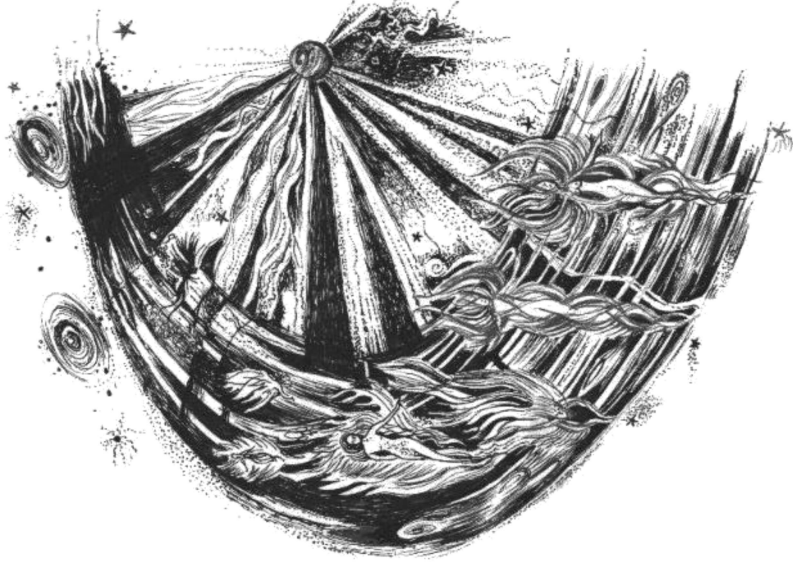
Spirits of Rotation of Time

Rudolf Steiner (lecture 1912-04-04-GA136)

.. not only the seasons of the year, and the growing and the fading of the plants, but also the regular alternation which, in relation to the earth-planet, expresses itself in day and night, is brought about by these spirits, which are to be classed as belonging to the astral body of the earth.

In other words, everything connected with rhythmic return, with rhythmic alternation, with the repetitions of happenings in time, is organized by spiritual beings which collectively belong to the astral body of the Earth, known as “Spirits of the Rotation of Time,” of our planet. What the astronomer ascertains through calculation about the rotation of the earth on its axis, is perceptible to occult vision....., and **are actually the bearers of the forces which rotate the earth on its axis.**

...in the astral body of the earth is to be found everything connected with the ordinary alternations between the blossoming and withering of plants and also all that is connected with the alternations between day and night, — between the various seasons of the year, and the various times of the day, etc.



Zodiac rulerships of plant physiology

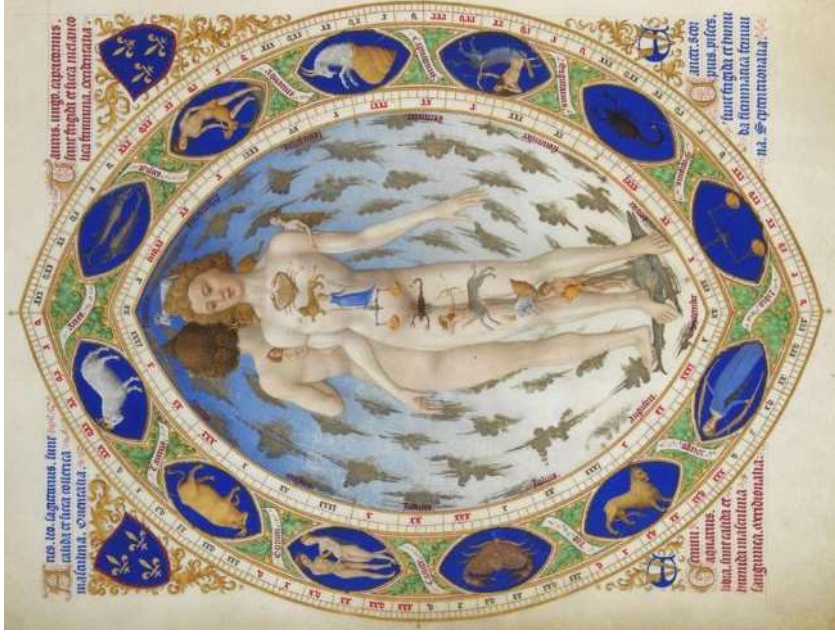
- ❑ Aries: germination
- ❑ Taurus: earth minerals, root nodules
- ❑ Gemini: respiration, clock cycles, leaf metabolism
- ❑ Cancer: sugar process, transport & storage products of primary metabolism
- ❑ Leo: budding process, preparation of fertility
- ❑ Virgo: secondary metabolites, complex chemistry
- ❑ Libra: flowering process, relationship to animal kingdom
- ❑ Scorpio: fertilisation process especially involving animals
- ❑ Sagittarius: fruit process
- ❑ Capricorn: seed process
- ❑ Aquarius: seed dispersal, alternative means of propagation
- ❑ Pisces: stage in earth over winter

Earth signs: roots, bulbs (Taurus), mineral chemistry (Virgo), seed formation (Capricorn)

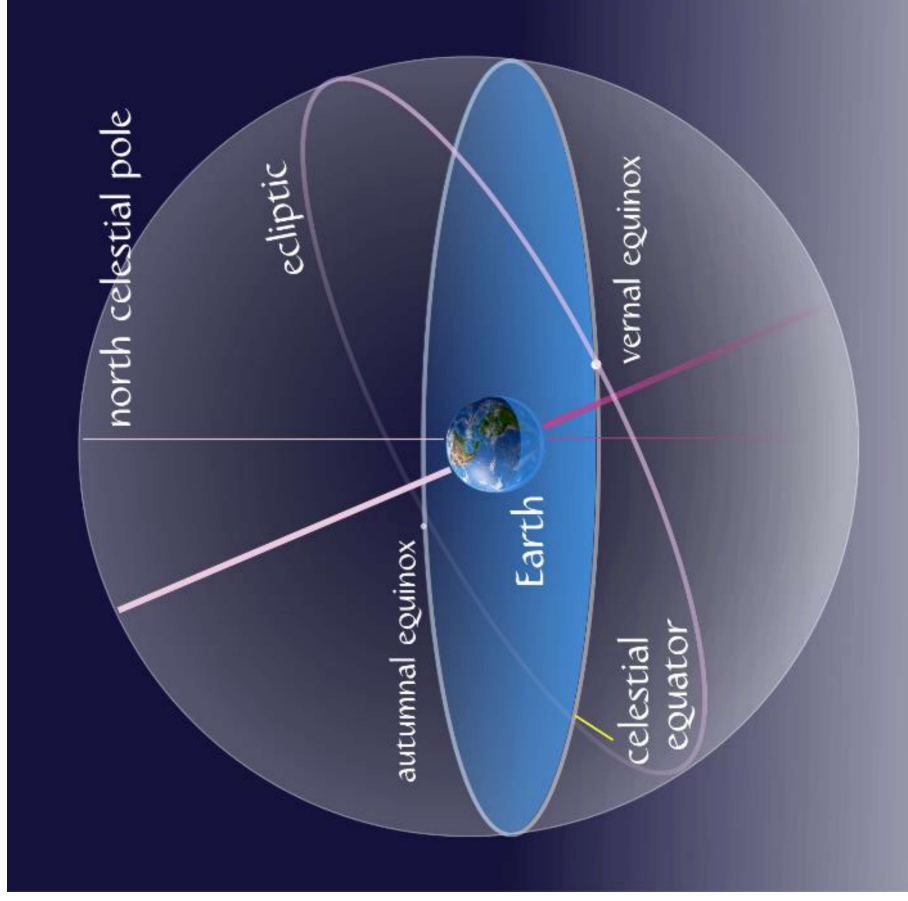
Water signs: phloem sap (Cancer), flowering fluids, nectar etc (Scorpio), earth fluids/soil water (Pisces)

Air signs: light processes, respiration/photosynthesis balance, air currents

Fire signs: seed oil process, fruiting processes

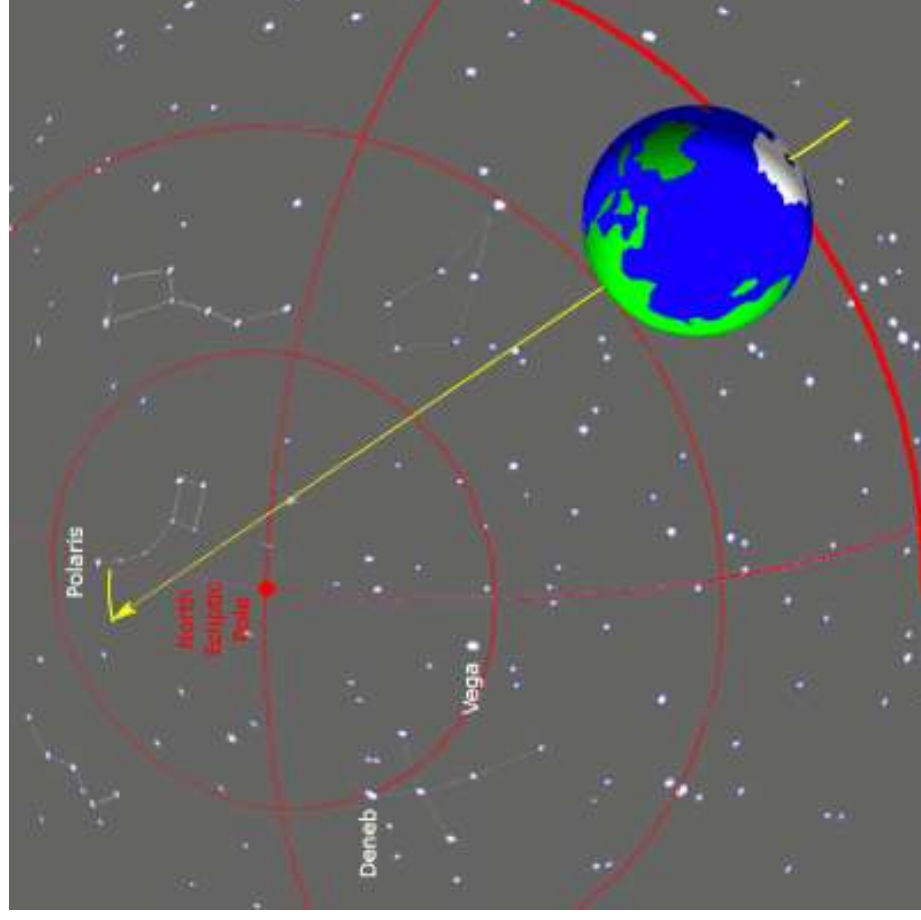


Precession of the equinox, earth great circles



Author Amitchell125. Earth's ecliptic and celestial equator. CC BY SA 4.0
https://commons.wikimedia.org/wiki/File:The_Earth%27s_ecliptic_and_celestial_equator.svg

Precession of equinox, animation



Author Tfr000

https://commons.wikimedia.org/wiki/File:Precession_animation_small_new.gif

[:Precession_animation_small_new.gif](#)

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Precession of equinox, shift of tropical and sidereal zodiac alignment

Equinox



Three zodiacs:

- ☐ Tropical fixed (inner circle)
- ☐ Sidereal zodiac (middle circle)
- ☐ Astronomic zodiac (outer circle).

Dates of cultural epochs and astrological ages

Cultural age	Date of cultural age	Predominant civilisation	Astrological age	Date of astrological age
			Aquarius	23,546 – 21,386 BC
			Capricorn	21,386 – 19,226 BC
			Sagittarius	19,226 – 17,066 BC
			Scorpio	17,066 – 14,906 BC
			Libra	14,906 -12,746 BC
			Virgo	12,746 – 10,586 BC
			Leo	10,586 – 8,426 BC
Cancer	7227 – 5067 BC	Indian	Cancer	8,426 – 6,266 BC
Gemini	5067 – 2907 BC	Persian	Gemini	6,266 – 4,106 BC
Taurus	2907 – 747 BC	Chaldo-Egyptian	Taurus	4,106 – 1,946 BC
Aries	747 BC – 1414 AD	Greco-Roman	Aries	1,946 BC – 215 AD
Pisces	1414 – 3574 AD	European	Pisces	215 – 2,375 AD
Aquarius	3574 – 5734 AD	Russian-Slavonic	Aquarius	2,375 – 4,535 AD
Capricorn	5734 – 7894 AD	American		

The astrological ages are based on sidereal time, and there is a time-lag of 1199 years between each 'Astrological age' in the heavens and its respective cultural age on Earth.

Common relationships in bodies

Kingdom of nature	Ego	Astral	Etheric	Physical
		Common with animals	Common with plants	Common with minerals
Mineral kingdom	All astral rays unite in highest devachan	Ray-like forms into cosmos	Surrounds physical	Enclosed
Plant kingdom	Group Ego in Earth centre – lowest devachan	Surrounds	Enclosed	Enclosed
Animal kingdom	Group Ego is in astral world, surrounding	Enclosed	Enclosed	Enclosed
Human kingdom	Enclosed	Enclosed	Enclosed	Enclosed

- ☐ Plants have an incarnated etheric body.
- ☐ The astral body of plants is throughout and surrounding the earth, especially its weather systems.
- ☐ The ego of the plant kingdom is in the centre of the earth. There are no individualized astral or ego forces in plants, they are all collective.

Rudolf Steiner: “The whole plant is permeated by an etheric body. But it does not possess an astral body of its own; instead the entire astral body of the Earth forms the common astral body of the plants. The I of the plants is to be found at the centre of the earth. This is true for all plants.” 1907-12-04-GA098 <https://wn.rsarchive.org/Lectures/GA/GA0098/19071204p01.html>

Anthroposophical approaches



- ❑ The etheric realm is characterised and revealed by spreading over large surfaces (through dilution), and also breaking down into smaller particles (through succussion).
- ❑ Etheric forces can work on physical particles when they are spread out and small enough.
- ❑ The etheric body of the plant is spread out within the earth's etheric realm, and meets the elementals.
- ❑ As the shoot develops/grows, one leaf after the other appears around it and finally the flowers unfold - the entire development is governed by the near and far surroundings and force fields, including etheric and astral.
- ❑ Hence there are local etheric earthly forces as well as cosmic/astronomical rhythms affecting the plant.

Above: Adam Jones. Panorama of Pripjat River from Boat Landing - Chernobyl Exclusion Zone - Northern Ukraine. CC BY SA 2.0.
[https://commons.wikimedia.org/w/index.php?title=File:Panorama_of_Pripjat_River_from_Boat_Landing_-_Pripjat_Ghost_Town_-_Chernobyl_Exclusion_Zone_-_Northern_Ukraine_\(27066507926\).jpg&oldid=497257887](https://commons.wikimedia.org/w/index.php?title=File:Panorama_of_Pripjat_River_from_Boat_Landing_-_Pripjat_Ghost_Town_-_Chernobyl_Exclusion_Zone_-_Northern_Ukraine_(27066507926).jpg&oldid=497257887)

Lower right, figure 2 from: Gerald H. Pollack. Why Hydrogels Don't Dribble Water. Gels 2017, 3, 43; doi:10.3390/gels3040043.

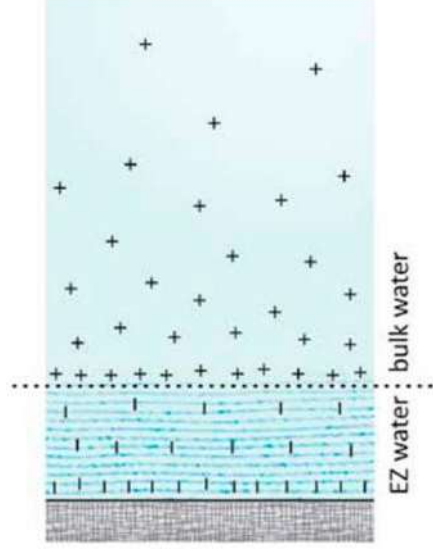
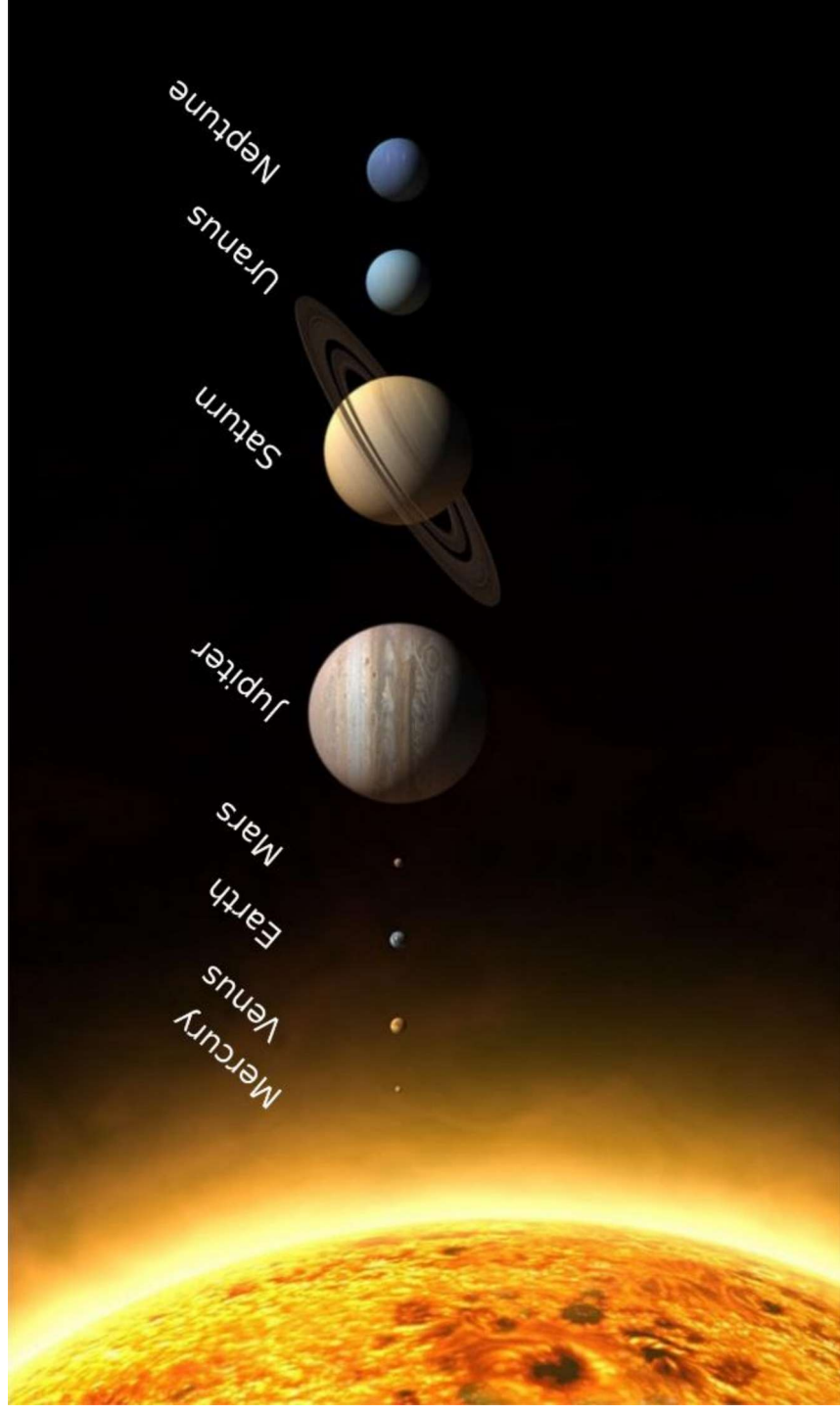


Figure 2. Diagrammatic representation of EZ water, negatively charged, and the positively charged bulk water beyond. Hydrophilic surface at left.

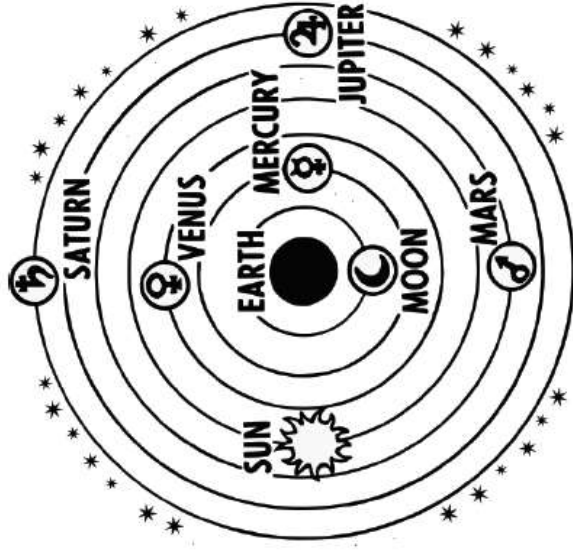
Solar system



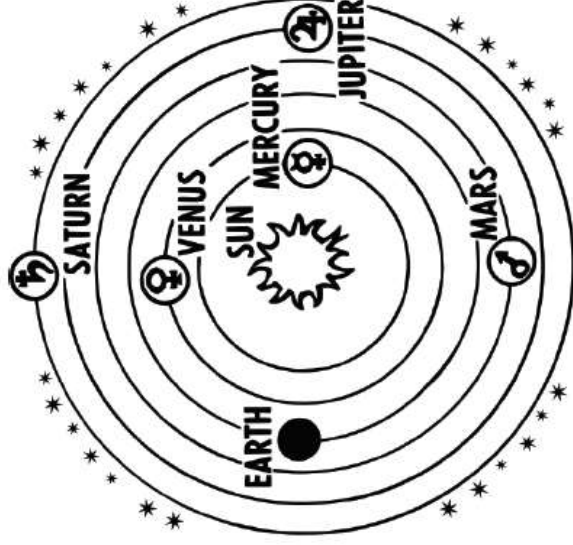
Geocentric versus Heliocentric solar system

The heliocentric view is not as relevant for understanding plants, which are on earth, whereas humans stretch consciousness and thinking into cosmic perspectives (heliocentric, galactocentric etc.)
See animation next slide

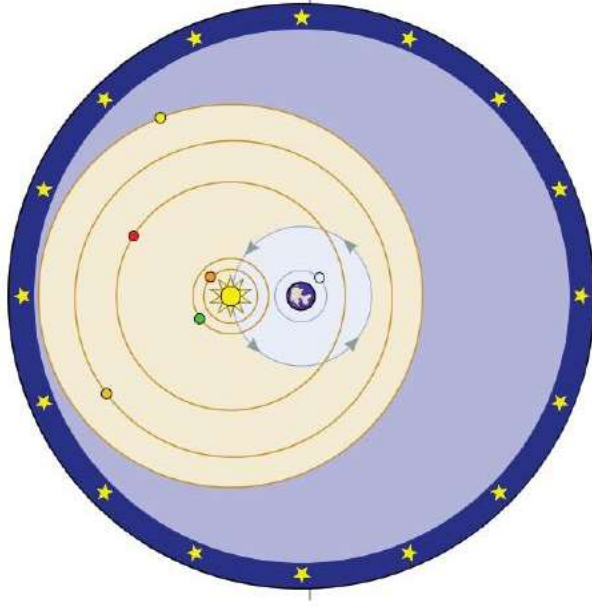
Geocentric solar system



Heliocentric solar system



Tycho Brahe solar system

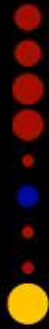


Geocentric & Heliocentric models: CC0 1.0 (public domain licence) <https://freesvg.org>

Tycho Brahe: Author Fastfission. In public domain. https://commons.wikimedia.org/wiki/File:Tychoonian_system.svg

Heliocentrism

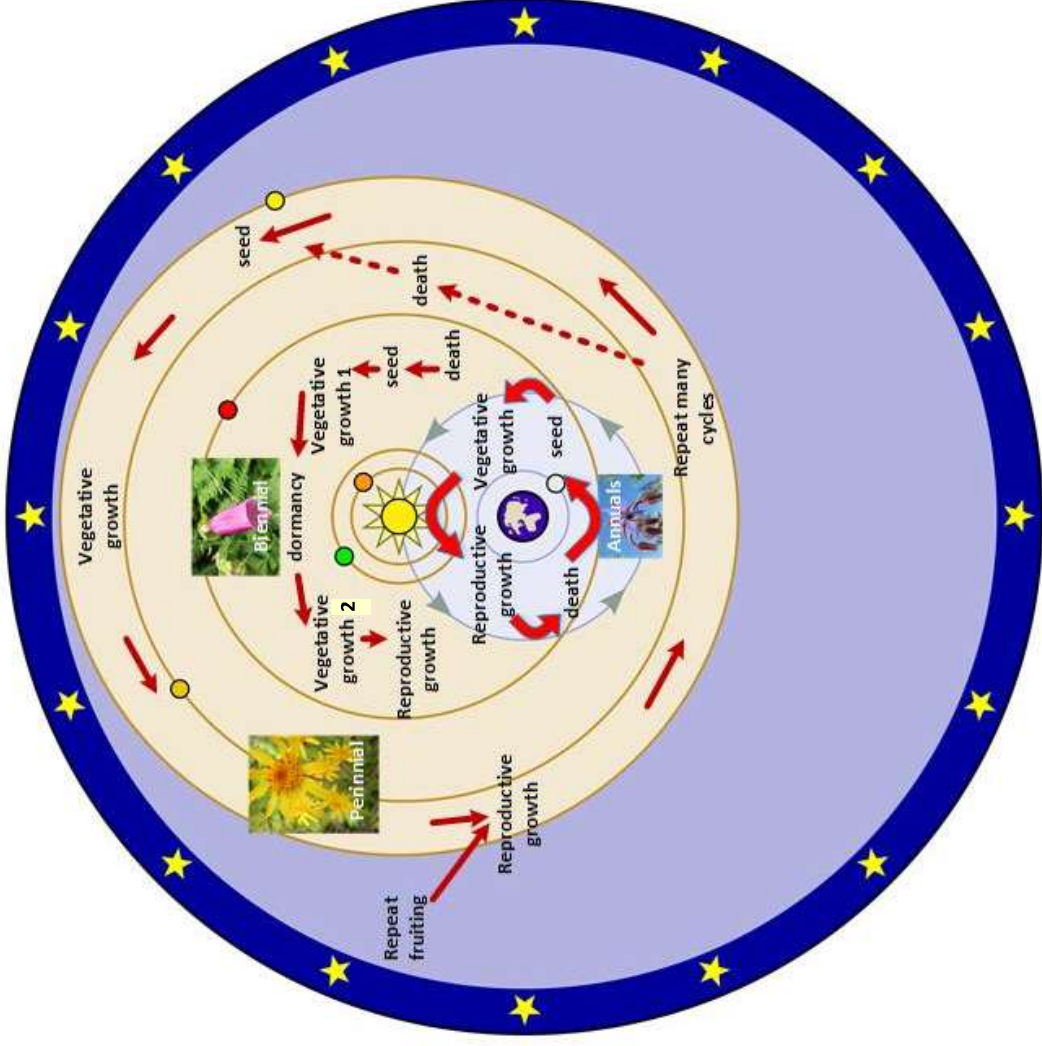
Geocentrism



$t_{\max} = 0$



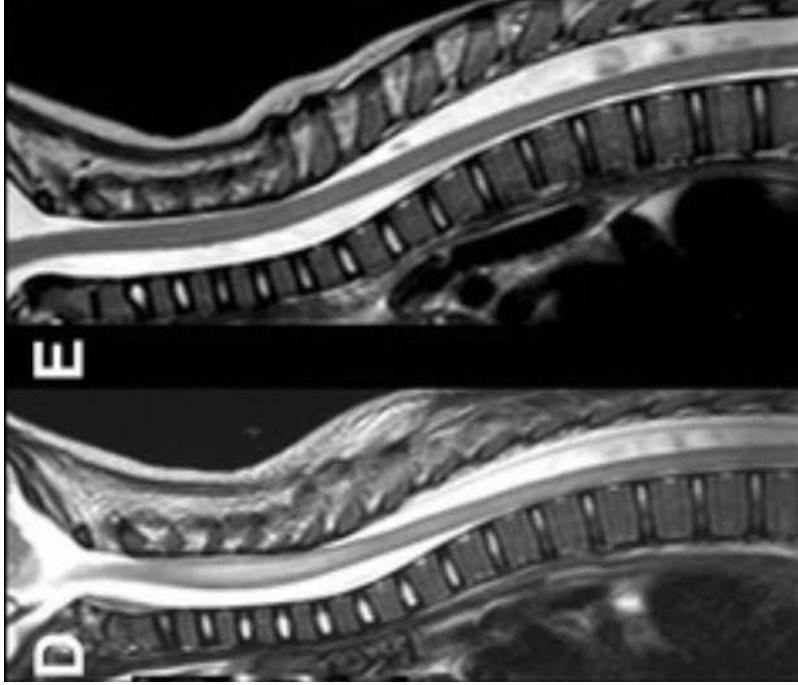
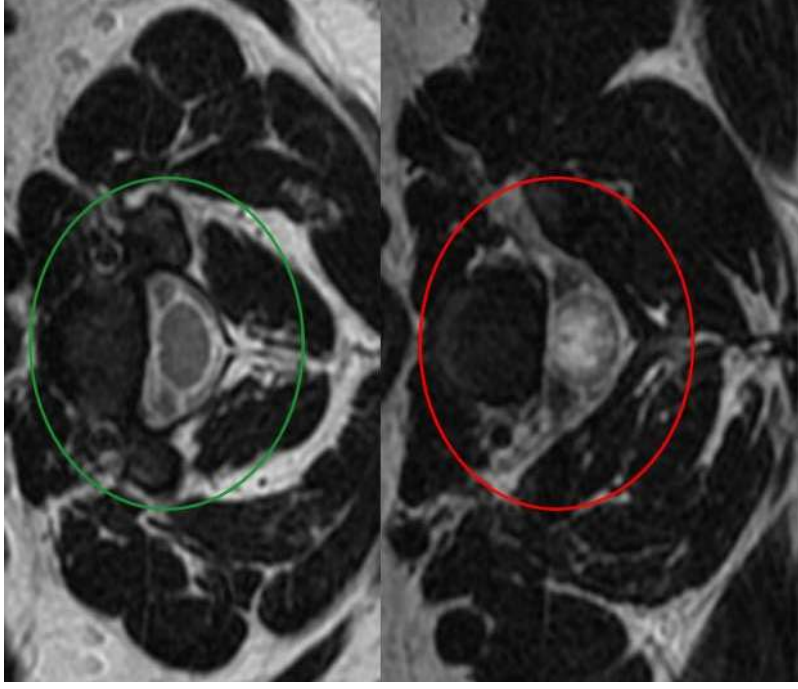
Plant life cycles and the solar system



created by Yubraj Sharma from:
 tfission. https://commons.wikimedia.org/wiki/File:Tychonian_system.svg
 itana: <https://www.flickr.com/photos/14161500@N08/1934323980/>
 ps://www.flickr.com/photos/swallowtailgardenseeds/26892520041
 rpurea: <https://www.flickr.com/photos/anemoneprojectors/4862662971>

Myelitis

Author JasonRobertYoungMD. Axial T2 MRI of cervical spine demonstrating normal cord signal (green circle) and abnormal increased T2 signal in the central cord (red circle) with transverse myelitis. This file is licensed under the Creative Commons Attribution-Share Alike 4.0 International (<https://creativecommons.org/licenses/by-sa/4.0/deed.en>) license. Available from: https://commons.wikimedia.org/wiki/File:Transverse_Myelitis.PNG_2/



Left: Author Susanna Esposito, Giovanna Chidini, Claudia Cinnante, Luisa Napolitano, Alberto Giannini, Leonardo Terranova, Hubert Niesters, Nicola Principi, and Edoardo Calderini. Magnetic resonance imaging (MRI) of the brain and spinal cord: a, axial T2 image at the level of the pons showing an increased signal in the tegmentum (white arrows), which was completely resolved in the follow up scan acquired 3 weeks later; b, sagittal and axial T2 image of the spinal cord (c, d) showing cord swelling, particularly at the cervical level (white, dot arrow), with extensive hyperintensity in the central cord (d), which was also completely resolved in the follow up images (e) acquired 3 weeks later.

Source <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5234096/> also available from: [https://commons.wikimedia.org/wiki/File:12985_2016_678_Fig1_HTML_\(cropped\).jpg_2/](https://commons.wikimedia.org/wiki/File:12985_2016_678_Fig1_HTML_(cropped).jpg_2/)

Transverse myelitis versus Multiple sclerosis



In comparing "transverse myelitis" to MS: » Transverse Myelitis

- Few levels
- Long vertical segment affected
- 2/3 cross-section of cord
- Peripheral nerve lesions (27%) » Multiple Sclerosis
- Multiple levels
- Short vertical segments
- < 1/2 cross-section of cord
- NO Peripheral nerve lesions Harzheim M, Schlegel U, Urbach H, Klockgether T, Schmidt S. Discriminatory features of acute transverse myelitis: a retrospective analysis of 45 patients. J Neurol Sci. 2004 Feb 15;217(2):217-23.

History

48 year old female with history of leg weakness and loss of sensation for 3 weeks, severe ataxia for 3 days and increased urination for 1-2 days. Past medical history is significant for hypertension and lupus nephritis diagnosed in 1987.

Exam: Physical exam showed sensory deficits including sensation to light touch, pinprick , vibration and proprioception, in the left and right legs up to level T2 and T3. Motor exam revealed hyporeflexia in the right leg and bilateral Babinski signs.

Findings

There is a large lesion involving most of the cervical spinal cord and a large portion of the thoracic spinal cord, extending from C2 to T9. There is smooth cord expansion with mildly decreased signal intensity on the T1-weighted images. T2-weighted images demonstrate increased signal intensity and cord expansion. The lesion involves more than two thirds of the cross-sectional area of the cord. Post-contrast images demonstrate multiple regions of patchy and nodular enhancement. There is also evidence of focal meningeal enhancement. The vertebrae and discs are not involved.

Transverse myelitis is not a single diagnosis. What is most important is to image the spinal cord to exclude other diseases – as well as clinical followup demonstrating resolution of signs and symptoms.

Lister Hill National Center for Biomedical Communications (<http://lhncbc.nlm.nih.gov/>) U.S. National Library of Medicine (<http://www.nlm.nih.gov/>) <https://medpix.nlm.nih.gov/case?id=9e3e3ebe-f97e-4b2d-a27b-849408a3bb5d>

Sun and stem

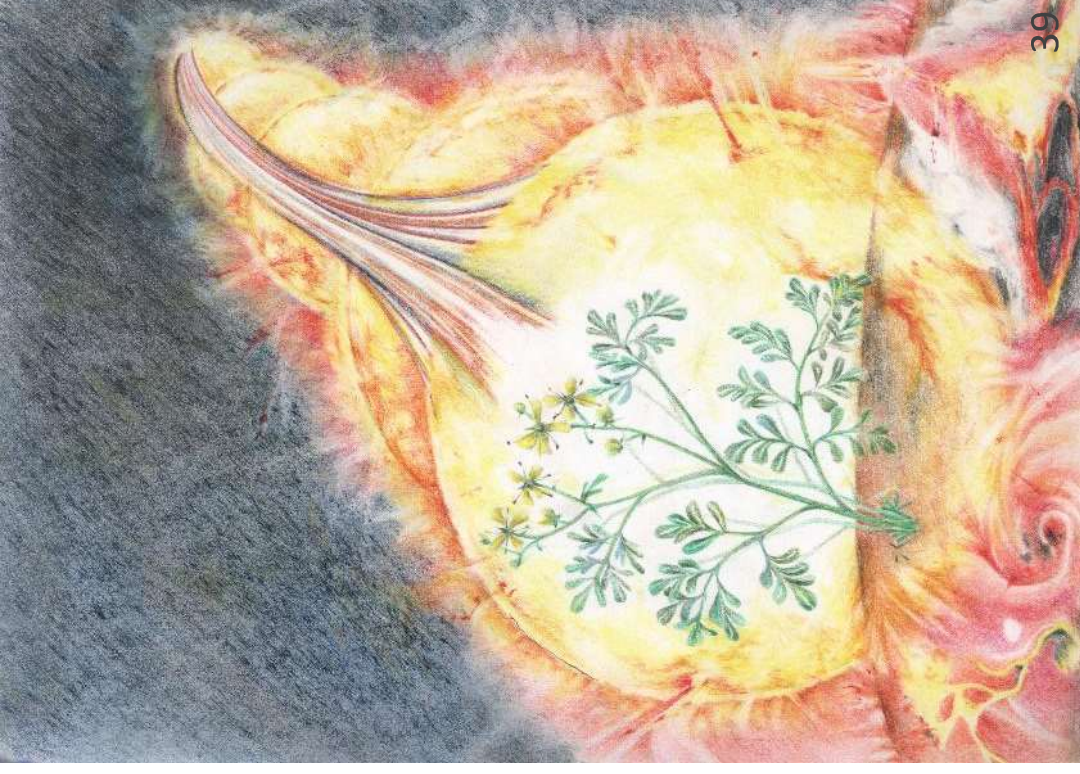


Phoebus Apollo, Briton Riviere, 1895. Birmingham Museum. <https://www.flickr.com/photos/birminghammag/6871454366>

Sun-space and suction forces

- ❑ The plant/stem growth is not simply an expansion and differentiation proceeding from the bottom of the plant to the top.
- ❑ The etheric body is anabolic (builds up tissue), there is a 'suction' type of force upwards that pulls on the plant from above.
- ❑ These Sun etheric forces work into the growth plate at the top of the stem.
- ❑ It hearkens back to the time of Sun separation, which led to the creation of plants within the air element, not yet rooted into a firm ground.

Ruta graveolens plant and Old Sun separation. ©Iona Mackenzie & Academy of Light Ltd (Yubraj Sharma)



Photosynthesis and harnessing of etheric energy

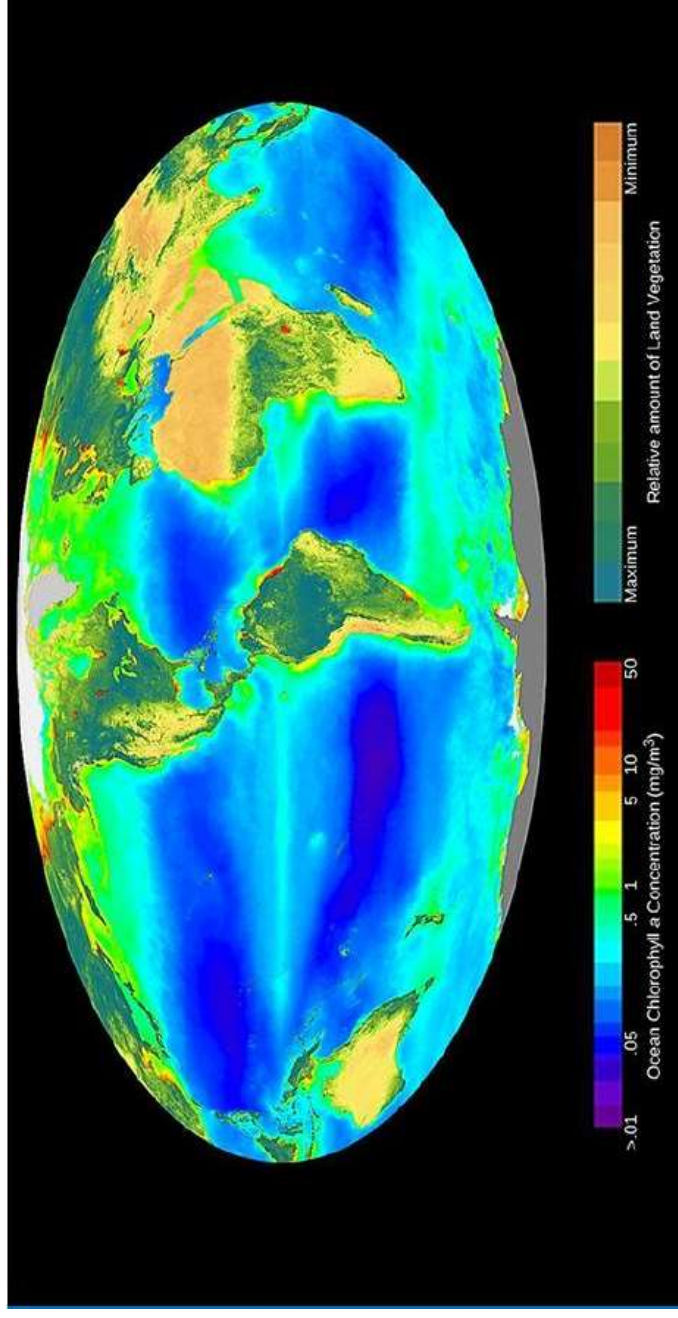
- ☐ Moon regulates the flow of fluids from the root through the shoot into the leaves.
- ☐ Mercury regulates the leaf inhalation of carbon dioxide,
- ☐ This CO₂ is materialized into glucose using light ether.
- ☐ Fine balance between Moon forces rising upwards through chemical ether/fluid phase, with Sun forces streaming downwards of light ether
- ☐ Photosynthesis involves magnesium guided capture of sunlight (cf Jupiter god of sky and lightning).
- ☐ Plant is harnessing etheric energy (including light ether) to produce physical matter (nutrients), this is a 'creation of energy' from 'free energy'.
- ☐ There is abundant, virtually infinite power in the etheric realm.



Photosynthesis uses solar energy, carbon dioxide, and water to produce energy-storing carbohydrates. Oxygen is generated as a waste product of photosynthesis.
Figure 8.4 from 'Biology 2e', <https://openstax.org>

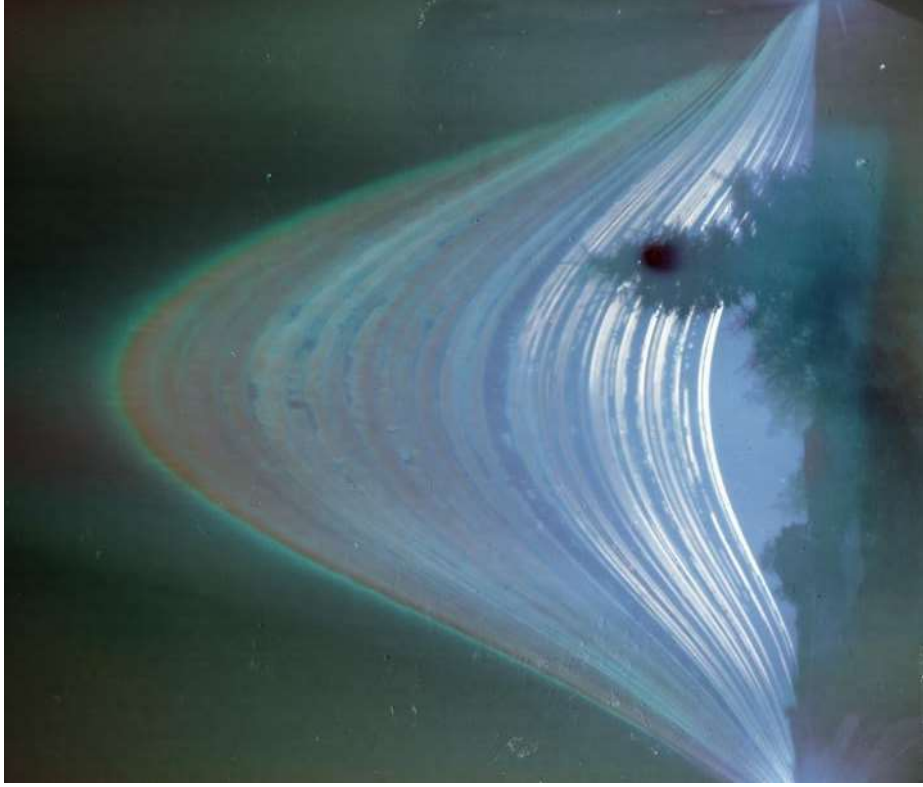
Earth zones

This world map shows Earth's distribution of photosynthetic activity determined by chlorophyll a concentrations. On land, chlorophyll is evident from terrestrial plants, and within oceanic zones, from chlorophyll from phytoplankton.



(credit: modification of work by SeaWiFS Project, NASA/Goddard Space Flight Center and ORBIMAGE). Retrieved from 'Biology 2e', <https://openstax.org>

Sun's path over course of the year



The center shoot of herbaceous plants show their connection with the sun. Especially during spring & early summer, the growing tip turns directly towards the sun to simulate the sun's movement from morning till night (phototropism).

Forces originating from the earth also continuously affect the formation of the shoot: the shoot adjusts to the gravitational pull of the earth.

Solargraph. 1 year exposure taken of whole year 2014. Sun leaves trails in its apparent motion from East to West. Location: Budapest, Hungary. Author Elekes Andor. CC BY-SA 4.0. Retrieved from: [https://commons.wikimedia.org/wiki/File:Solargraph_from_Sashegy_-_Budapest,_2014.01.01_-_2014.12.31_\(1\).jpg](https://commons.wikimedia.org/wiki/File:Solargraph_from_Sashegy_-_Budapest,_2014.01.01_-_2014.12.31_(1).jpg)

The Center Shoot: Earthly Image of the Sun

- ❑ Plants usually grow faster during the night than during the day.
- ❑ Shoots will grow even when sunlight is completely blocked. In darkness the internodes of dicotyledons become excessively long & leaves do not grow larger than scales. Shoots remain pale; have no vitality and are less well differentiated. This is growth without form-expression.
- ❑ In normal growth there is a diurnal rhythm, so the Sun forces of the day can shape the Moon forces active at night on growth.
- ❑ Light has a more or less restraining effect on growth. This allows tissue differentiation in the shoot, i.e. morphogenetic effects of light.
- ❑ Growth of the shoot is based on the meeting of Moon forces below the ground rising and entering a close connection with the suns light-sphere from above, the shoot is the reflection of the sun's light by the moon.

Sunflower germination, light and dark-grown animation

<https://plantsinmotion.bio.indiana.edu/plantmotion/earlygrowth/photomorph/photomorph.html>

Pumpkin fruit growth overnight animation

<https://plantsinmotion.bio.indiana.edu/plantmotion/movements/leafmovements/clocks.html>

Sun – stem reaching cosmic levels

In flowers at stem tips which are high above the leafy foliage, e.g. lavender, the stem continues way beyond the leaf stage to reach the higher cosmic levels of the sun realm.



Middle: *Lavandula angustifolia*. Author Franz Eugen Köhler, Köhler's Medicinal-Plflanzen. Public domain. https://commons.wikimedia.org/wiki/File:Lavandula_angustifolia_-_Köhler-s_Medicinal-Pflanzen-087.jpg

Right: *Lavandula angustifolia*, flowers. H. Zell. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Lavandula_angustifolia_003.JPG



Lavender and sleep disorders



Example Sun – stem distortions

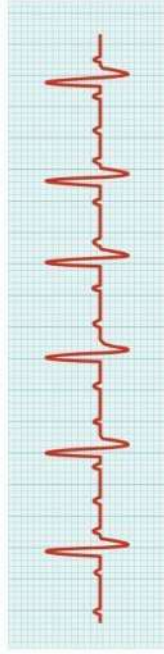
Flowers which are cramped in the midst of the leaves, e.g. Hyoscyamus indicate an entanglement of the moon, mercury and sun forces.



Left: (Hyoscyamus niger). Author Mikenorton. CC BY-SA 3.0. <https://commons.wikimedia.org/wiki/File:Henbane2.jpg>
Upper right: Hyoscyamus niger. Chelsea Physic Garden. Author: Yubraj Sharma
Lower right: Hyoscyamus niger. Author Лобачев Владимир. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Белена_чёрная_KR_01.jpg

Hyoscymus and cardiac arrhythmias

Note how half of the P waves are not followed by the QRS complex and T waves while the other half are.
Question: What would you expect to happen to heart rate (pulse)?



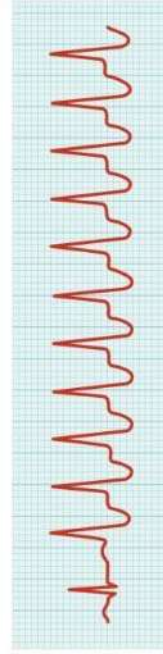
(a) Second-degree (partial) block

Note the abnormal electrical pattern prior to the QRS complexes. Also note how the frequency between the QRS complexes has increased.
Question: What would you expect to happen to heart rate (pulse)?



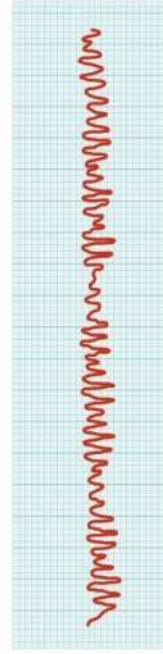
(b) Atrial fibrillation

Note the unusual shape of the QRS complex, focusing on the "S" component.
Question: What would you expect to happen to heart rate (pulse)?



(c) Ventricular tachycardia

Note the total lack of normal electrical activity.
Question: What would you expect to happen to heart rate (pulse)?



(d) Ventricular fibrillation

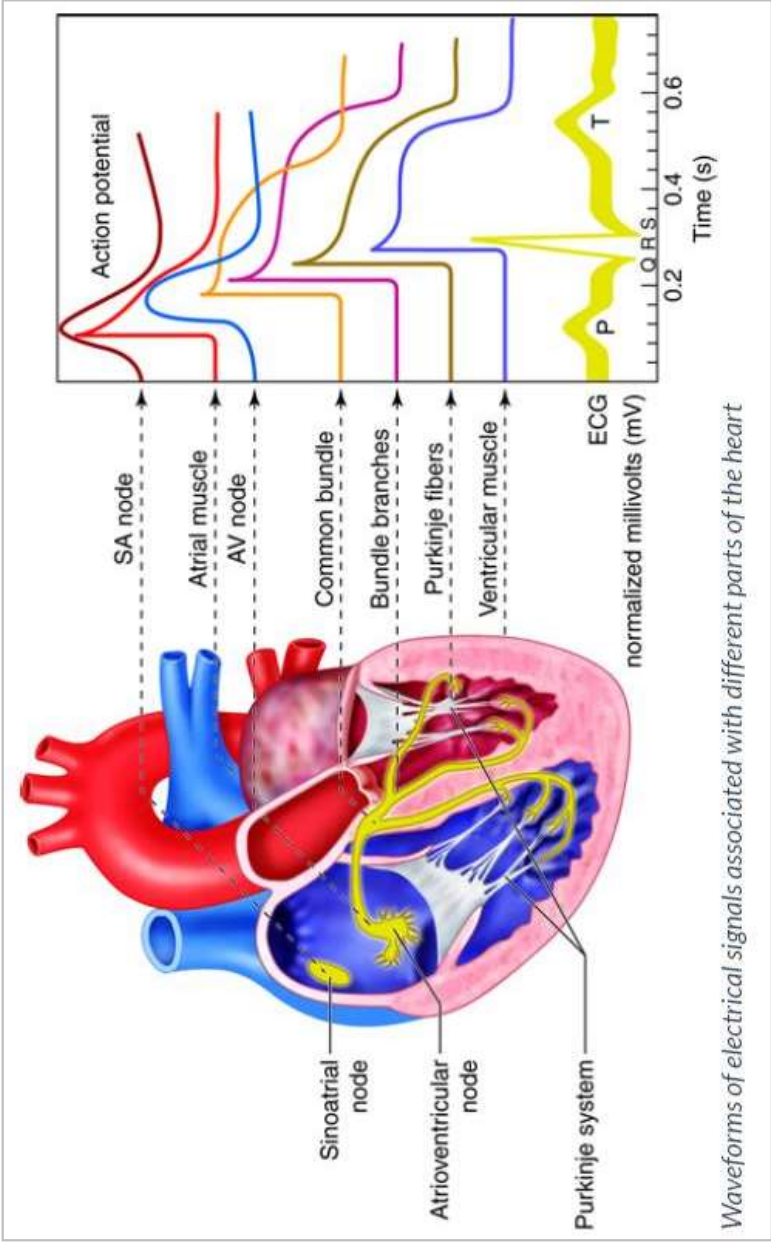
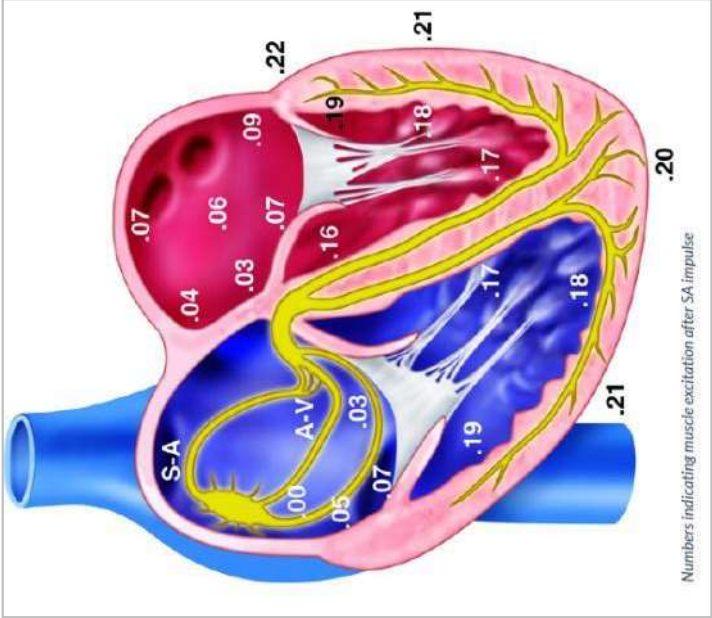
Note that in a third-degree block some of the impulses initiated by the SA node do not reach the AV node while others do. Also note that the P waves are not followed by the QRS complex.
Question: What would you expect to happen to heart rate (pulse)?



(e) Third-degree block

Author: OpenStax College. Illustration from Anatomy & Physiology, Connexions Web site. <http://cnx.org/content/col11496/1.6/>, Jun 19, 2013.
Retrieved from: https://commons.wikimedia.org/wiki/File:2024_Cardiac_Arrhythmias.jpg

Hyoscyamus and cardiac arrhythmias



The Center Shoot: Earthly Image of the Sun



April to May

Anemone pulsatilla



May to June

Adonis vernalis



July to Oct

Cimicifuga racemosa



May to July

Ranunculus acris



Dec to Feb

Clematis cirrhosa



May to June

Hydrastis canadensis



May to Aug

Delphinium staphysagria



Dec to Feb

Eranthis hyemalis



May to June

Paeonia caucasica



June to Aug

Aconitum napellus



Dec to Feb

Helleborus niger



In many families the successive development of the center shoot may be seen in the various species as they approach midsummer, e.g. progression in *Ranunculaceae* of blooming.

See next slide for image references

The Center Shoot: Earthly Image of the Sun

All plant images cropped from sources:

Anemone pulsatilla: Pulsatilla vulgaris. Author: Orchi. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Pulsatilla_vulgaris_Saarland_02.jpg

Coptis occidentalis: US Forest Service (http://www.fs.fed.us/r1/clearwater/LewisClark/lewis_clark_plants/LC_photos/forb_white/coptocci.htm)
In public domain. Retrieved from: https://commons.wikimedia.org/wiki/File:Coptis_occidentalis.jpg

Hydrastis canadensis: Author Phyzome. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Hydrastis_canadensis_-_goldenseal_-_desc-flower_front_view.jpg

Paeonia caucasica: Author Sergei Kazantsev. CC BY-SA 4.0. https://commons.wikimedia.org/wiki/File:Paeonia_caucasica.jpg

Adonis vernalis: Author Martin Bahmann. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Adonis_vernalis_gonsenheim.jpg

Ranunculus acris: (https://www.flickr.com/photos/plant_diversity/5384211407/) Uploaded by Tim1357. This version Author: Matt Lavin. CC BY-SA 2.0. Retrieved from: [https://commons.wikimedia.org/wiki/File:Ranunculus_acris_\(5384211407\).jpg](https://commons.wikimedia.org/wiki/File:Ranunculus_acris_(5384211407).jpg)

Delphinium staphysagria: Author, H. Zell. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Delphinium_staphisagria_003.JPG

Aconitum napellus: author Yubraj, Kew botanical gardens.

Cimicifuga racemosa: Author Cbaile19. CC0 1.0. https://commons.wikimedia.org/wiki/File:Actaea_racemosa,_2015-07-05,_Mount_Lebanon,_06.jpg

Clematis cirrhosa: Author, Dericks-Tan. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Clematis_cirrhosa_Blüte.JPG

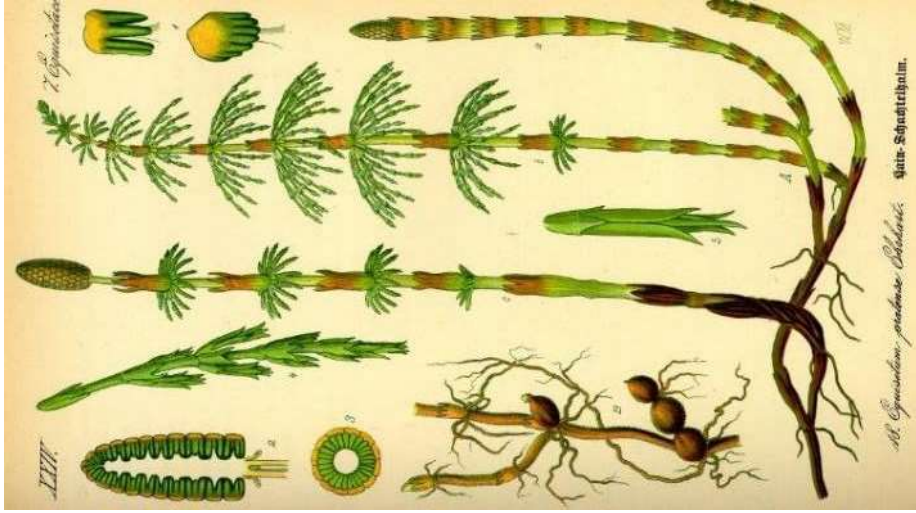
Eranthis hyemalis: Author, gaucho. CC BY-SA 3.0. <https://commons.wikimedia.org/wiki/File:Winterling-Bluete-70.jpg>

Helleborus niger: Author Robert Hundsdoerfer. CC BY-SA 2.0. https://commons.wikimedia.org/wiki/File:Helleborus_niger_Kaiser.jpg

Painting:

Helleborus and formation of the embryo. Jasmine Mercer. Spiritual Bioenergetics of Homeopathic Materia Medica vol 2, Dr Yubraj Sharma

Prototypic Sun plant: Equisetum and Heliocentric charts



Contains up to 67% silicic acid, is a 'light' plant. Its air tube system makes it an air plant and also close connection with element water, via roots. Treats water congestion, gives structure to water, regulates body water levels and stimulates kidney function.

Left: Equisetum pratense. Prof. Dr. Otto Wilhelm Thomé Flora von Deutschland, 1885, Germany. Public domain.

https://commons.wikimedia.org/wiki/File:Illustration_Equisetum_pratense0.jpg

Middle left: Equisetum telmateia. Author Enrico Blasutto. CC BY-SA 3.0.

https://commons.wikimedia.org/wiki/File:Equisetum_telmateia_ENBLA06.jpg

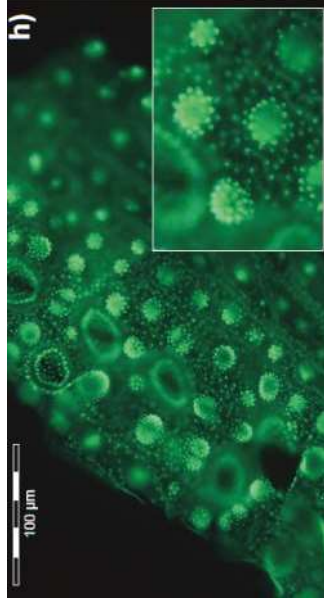
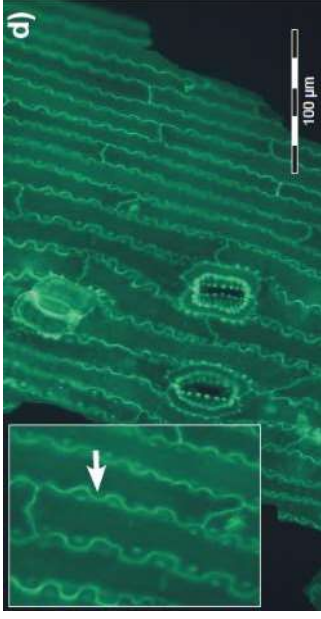
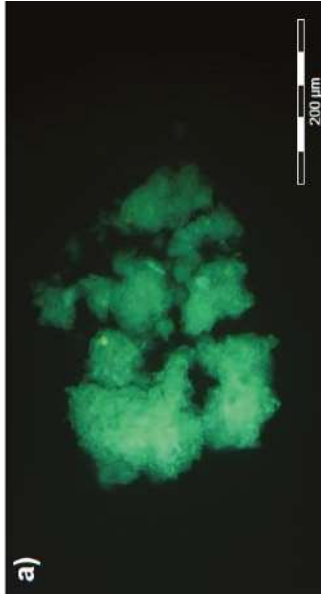
Middle right: Spore forming cone (Strobilus) with sporophylls of a horsetail Equisetum sp. Author SuperSorex. Public domain.

https://commons.wikimedia.org/wiki/File:Equisetum_arvense_L.JPG

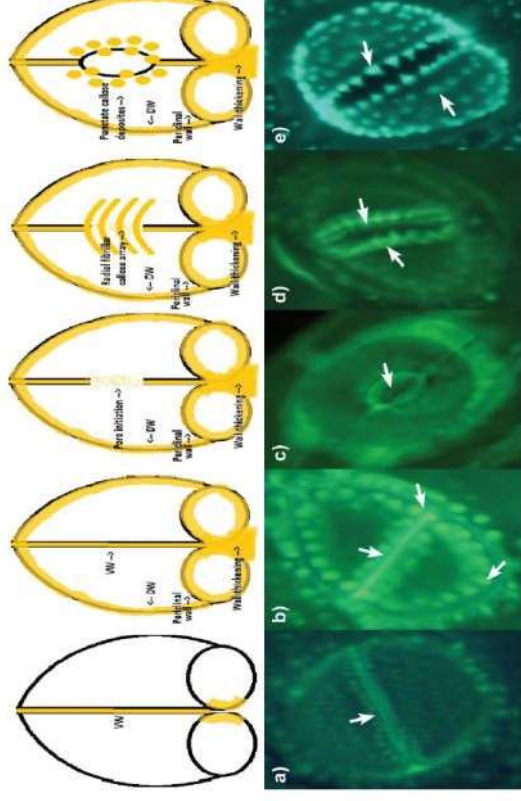
Right: Crystal Skull, British Museum. Author: Rafał Chałgasiewicz. CC BY-SA 3.0.

https://commons.wikimedia.org/wiki/File:Crystal_skull_british_museum_random9834672.jpg

Prototypic Sun plant: Equisetum



As the plant dries, silica crystals form in stems & branches, appearing as feathery tails. Plant has scratching properties (used for polishing).



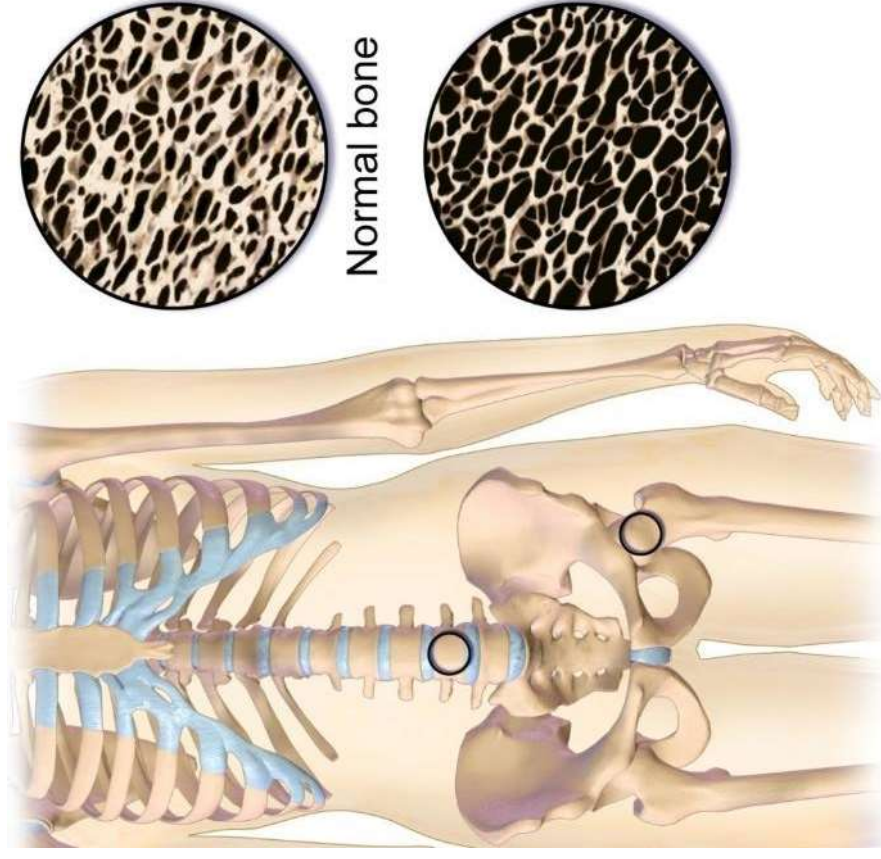
Above: PDMPO-labelled silica deposition in horsetail. **(a):** Rhizome; **(d):** Basal stem, arrow shows punctate deposits of silica within invaginated cell walls; **(g):** Node, jagged appearance of silica-rich cell walls; **(h):** Leaf, high densities of rosette-like silica structures.

Right: Deposition of callose (diagrams) and silica (fluorescent images) in differentiation of stomata in *E. arvense*. **(a):** Callose (yellow) and silica (arrow) deposition at nascent ventral wall (VW) of post-cytokinetic guard cells; **(b):** Deposition of callose (yellow) and silica (arrows) in the periclinal wall & dorsal wall (DW) and callose/silica remaining in ventral wall; **(c):** Callose (yellow) & silica (arrow) disappear from centre of ventral wall during pore initiation; **(d):** Callose (yellow) & silica (arrows) as radial fibrillar array as the stomatal pore forms; **(e):** Upon stomatal pore formation callose (yellow) and silica (arrows) remain as punctate deposits on guard cell walls.

Chinnoi Law & Christopher Exley. Law and Exley *BMC Plant Biology* 2011, 11:112

<http://www.biomedcentral.com/1471-2229/11/112>

Equisetum and silica process in bone, e.g. osteoporosis treatment



The Center Shoot: Earthly Image of the Sun



Tussilago farfara, Coltsfoot



Primula veris, Cowslip

- ☐ Early spring species among the herbaceous plants have quite short shoots, e.g.
- ☐ Crocus - the shoot does not even reach the surface of the ground.
- ☐ Coltsfoot - centre shoot grows underground as a rhizome; only short-stemmed flowers emerge.
- ☐ Cowslip and dandelion leaves remain in rosettes on the ground.

Left: Tussilago farfara. Author: Enrico Blasutto. Torrente Cicogna, Limana(BL). https://commons.wikimedia.org/wiki/File:Tussilago_farfara_ENBLA04.jpeg

Right: Primula veris. Botanical Garden, Karlsruhe, Germany. Author: H.Zell. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Primula_veris_001.JPG

Moon and root

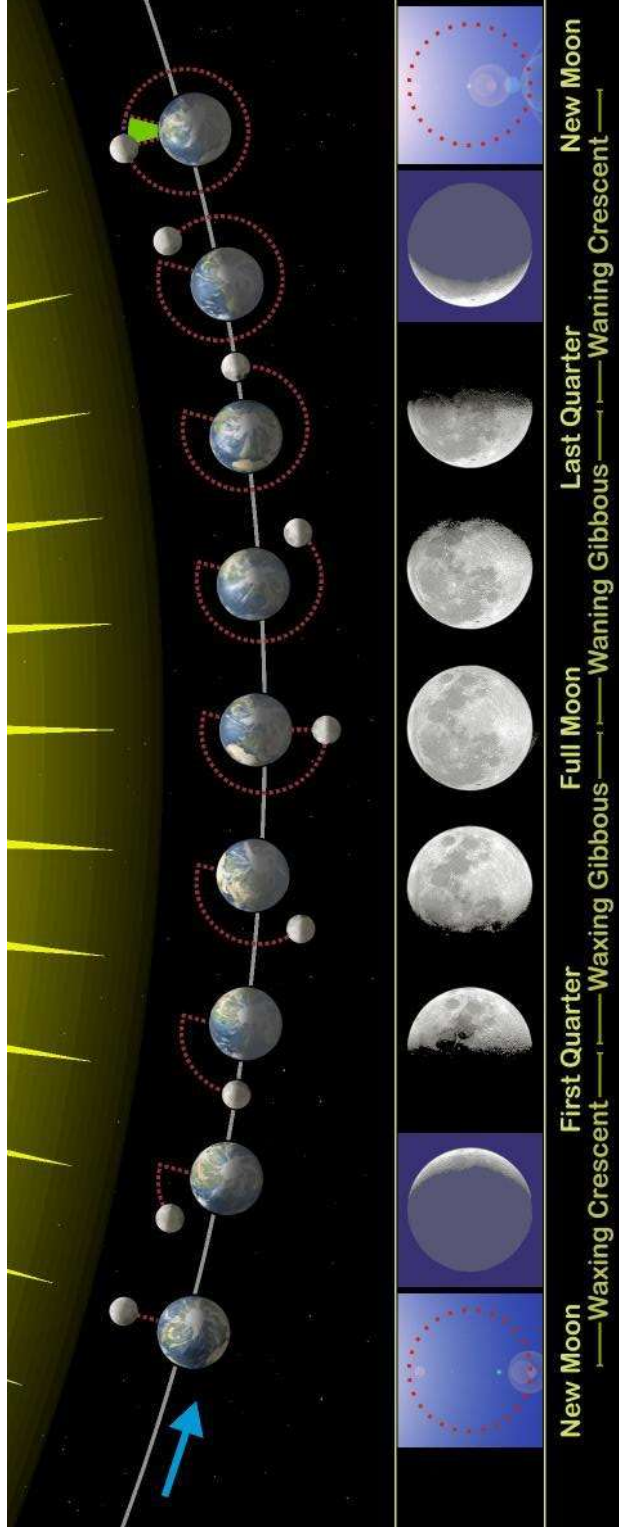


Albert Aublet (1851–1938). Selene kisses Endymion while he's asleep. Retrieved from: https://commons.wikimedia.org/wiki/File:Selene_and_Endymion.jpg

Moon synodic and sidereal months

While the sun moves through almost $1/12^{\text{th}}$ of the zodiac, the moon reflects the sun's light to the earth in one synodical cycle. Each month the moon travels through the whole zodiac and reflects the sun's light at that sign of the zodiac, like a lens. The synodic moon is 29.53 days. If the synodical cycle of the moon were only one day longer, conjunction with the sun would occur after 30.53 days, at a time when the sun progresses through more than one section of the zodiac.

The sidereal moon cycle by comparison is 27.32 days, and regulates moon rhythms into the physical body in relation to the cosmos. The synodic cycle regulates the etheric body in relation to the Sun.



Author Orion 8. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Moon_phases_en.jpg

Corn germination animation

<https://plantsinmotion.bio.indiana.edu/plantmotion/earlygrowth/germination/germ.html>

Moon and roots, taproot



Left: Mandrake root. Author: Jenny Laird. CC BY 2.0. www.flickr.com/photos/99095055@N04/2269241280

Middle: Dicotyledoneae Asteraceae - root system, primary root becomes tap root & lateral roots. Author RoRo. CC0 1.0.

https://commons.wikimedia.org/w/index.php?title=File:Dicotyledoneae_Asteraceae_herb_-_root_system,_primary_root_becomes_tap_root_and_lateral_roots.JPG&oldid=459866613

Right: Tree roots. Author: Felix Mittermeier. CC0 Public domain. <https://pxhere.com/en/photo/1567493>

Moon and root development

- ❑ Greater lunar influence allows a plant to develop roots from regions of the shoot, leaves or even in some extreme cases the flower.
- ❑ One characteristic of monocotyledons is the bulb; amongst dicotyledons it is found rarely and is insignificant.
- ❑ A bulb is an intensely swollen bud in the darkness of the ground, the moon's influence reaches into the normal development of the shoot and leaf



Moon and root development

Rhizomes are growths from the center shoot. It has lost its connection with the sun and, like the root, will last through winter. In various examples, each year new shoots emerge from the rhizome, these may be for foliage only, and after years of continued growth lead to flowering shoots.



Left: *Cyperus laevigatus* rhizome. Author: Harry Rose. CC BY 2.0. www.flickr.com/photos/macleaygrassman/42639560085

Right: *Iris pseudacorus* rhizome & roots. JonRichfield. CC BY-SA 4.0. https://commons.wikimedia.org/wiki/File:Iris_pseudacorus_rhizome_and_roots_IMG_9222s.jpg

Loss of connection to Moon realm, e.g. vertical farms

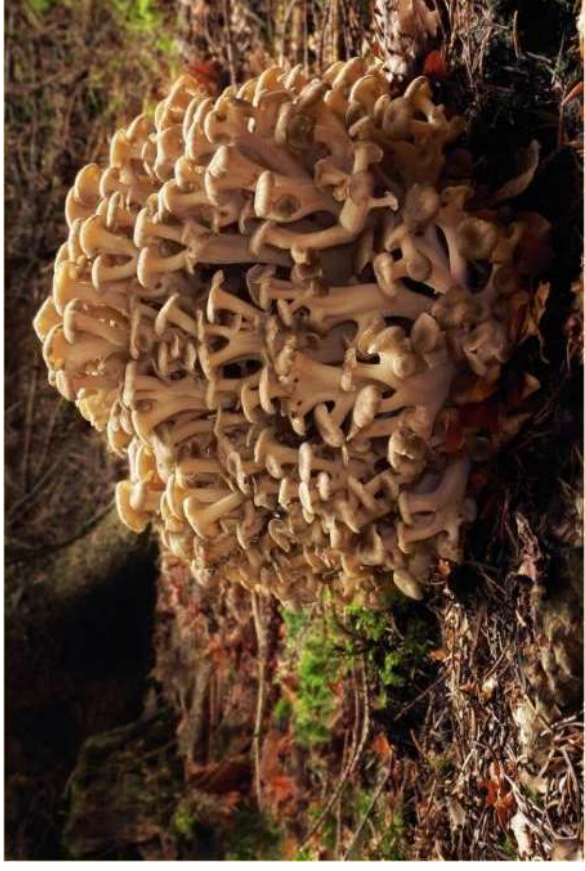
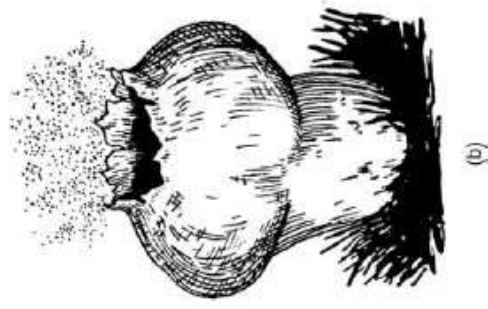


Consider the disconnection from elementals and earth etheric realm. Also sterile seeds and Demeter-Persephone karma

Left: Ginseng in a market in Korea. Photographer: Richardfabi. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Ginseng_in_Korea.jpg
Right: Vertical farm Hydroponics, Finland (iFarm.fi). Author ifarm.fi. https://static.tildacdn.com/tild3533-3831-4835-b637-316137643235/iFarm_salads_small.jpg
CC BY-SA 4.0 Retrieved from: https://commons.wikimedia.org/wiki/File:iFarm.fi_Vertikal_farm_Finland.jpg

Fungi as Moon plants

The giant puffball mushroom bursts open to release trillions of spores in a massive cloud of finely particulate dust. Compare with separation of Moon from Earth during Lemuria, and moon craters as ejection processes rather than crater impacts. Note molten silver spits out oxygen with a cratering action.



Left & centre: Puffball and spores. The (a) giant puffball mushroom releases (b) a cloud of spores when it reaches maturity. (credit a: modification of work by Roger Griffith; credit b: modification of work by Pearson Scott Foresman, donated to the Wikimedia Foundation) Retrieved from: Fig 24.6, *Biology 2e* available: <https://openstax.org>
Polyporus umbellatus. Author Lebrac. Permission:Eigenes Werk. CC BY-SA 3.0. <https://commons.wikimedia.org/wiki/File:Eichhase.jpg>

Carnivorous as Moon plants, example sundew



Left: *Drosera anglica*, (damselflies, *Enallagma cyathigerum* ensnared). Author Noah Elhardt. CC BY-SA 2.5. https://commons.wikimedia.org/wiki/File:Drosera_anglica_ne2.jpg
Middle: *Drosera capensis* "bending" in trapping an insect. Photo: Noah Elhardt. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Drosera_capensis_bend.JPG

Carnivorous (Cordyceps) Moon plant

In



Left: *Ophiocordyceps formicarium* (Kobayasi) G.H. Sung, J.M. Sung, Hywel-Jones & Spatafora
Location: The Mushroom Research Centre, Chiang Mai, Thailand. CC BY-SA 3.0.

Retrieved from: [https://commons.wikimedia.org/w/index.php?title=File:2015-08-19_Ophiocordyceps_formicarium_\(Kobayasi\)_G.H._Sung,_J.M._Sung,_Hywel-](https://commons.wikimedia.org/w/index.php?title=File:2015-08-19_Ophiocordyceps_formicarium_(Kobayasi)_G.H._Sung,_J.M._Sung,_Hywel-Jones_%26_Spatafora_591950.jpg&oldid=525391113)

https://commons.wikimedia.org/wiki/File:Puppen-Kernkeule_Cordyceps_militaris.jpg

Right upper: *Cordyceps militaris*. Location: Germany, Erbach, Ersingen. Author Holger Krisp. CC BY-SA 3.0.

https://commons.wikimedia.org/wiki/File:Puppen-Kernkeule_Cordyceps_militaris.jpg

Lower right: *Cordyceps sinensis* on caterpillars from collection of Womens collective, Munsiyari. Author L. Shyamal.

CC BY-SA 3.0. <https://commons.wikimedia.org/wiki/File:CordycepsSinensis.jpg>



Parasitic and semi-parasitic as Moon plants, example mistletoe

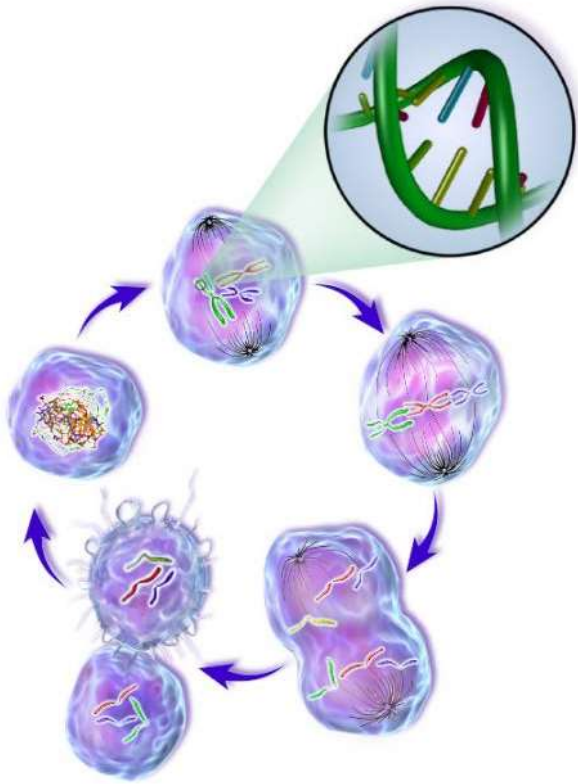


Upper left upper: Viscum album on the apple-tree. Ukraine. Author George Chernilevsky. Public domain
https://commons.wikimedia.org/wiki/File:Viscum_album_apple-tree_2009_G1.jpg
 Upper middle: Viscum album leaves. Yubraj Sharma. Chelsea Physic Garden
 Upper right: Viscum album fruit. Yubraj Sharma. Chelsea Physic Garden

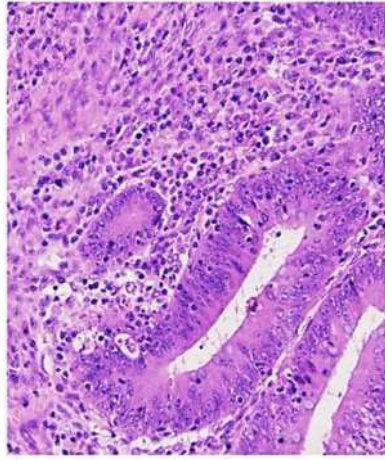


Lower left: Ginkgo seed dissection with embryo. Curtis Clark. CC BY-SA 2.5 https://commons.wikimedia.org/wiki/File:Ginkgo_embryo_and_gametophyte.jpg
 Lower near right: Comparison of monocot & dicot sprouting (image further cropped by me). Author: Peter Halasz. CC BY-SA 2.5.
https://commons.wikimedia.org/wiki/File:Monocot_vs_dicot_crop_Pengo.jpg
 Lower far right: Nandina domestica seedling, with two green cotyledons, and first red-green leaf. Author: Emmanuel Douzery. CC BY-SA 4.0.
https://commons.wikimedia.org/wiki/File:Nandina_domestica-Clapiers-4050~2015_03_29.JPG

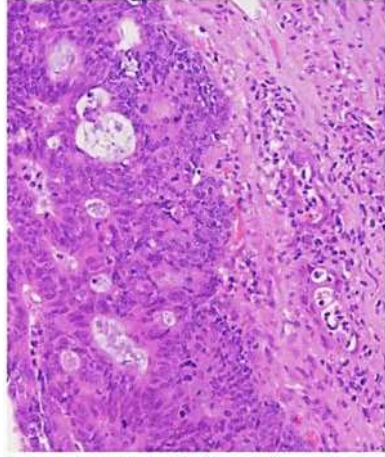
Viscum album and cancer



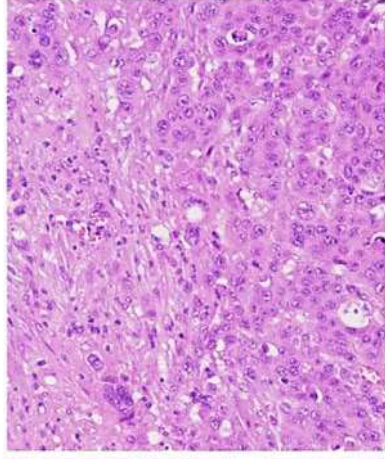
Left: Author BruceBlaus. Life cycle of a cancer cell. CC BY SA 4.0.
https://commons.wikimedia.org/wiki/File:Life_of_a_Cancer_Cell.png
 Below: Authors Zhou P, Cao Y, Li M, Ma Y, Chen C, Gan X. H&E stain. CC BY SA 4.0.
https://commons.wikimedia.org/wiki/File:Well-,_moderately_and_poorly_differentiated_colorectal_adenocarcinoma.png



Well differentiated

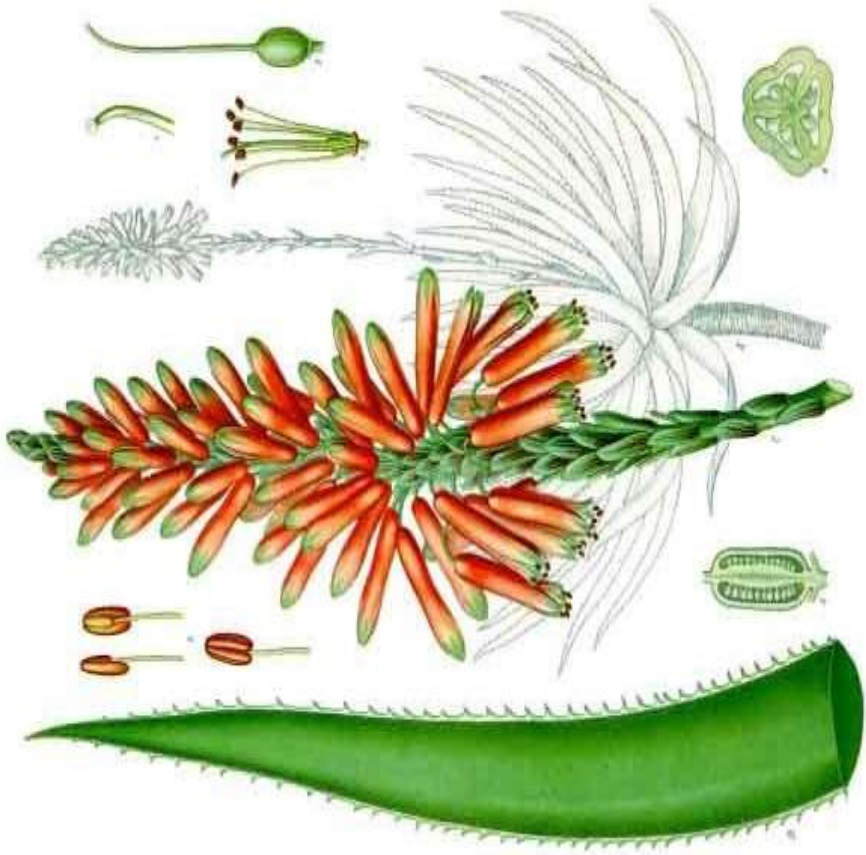


Moderately differentiated



Poorly differentiated

Aloe species, Liliaceae



Left: Author Franz Eugen Köhler, Aloe succotrina. Köhler's Medizinal-Pflanzen. 1897. Source List of Köhler Images (<http://pharm1.pharmazie.uni-greifswald.de/allgemei/koebler/koeh-eng.htm>). Retrieved from: https://commons.wikimedia.org/wiki/File:Aloe_succotrina_-_Köhler-s_Medizinal-Pflanzen-007.jpg
Right: Author Collage by MidgleyDJ, original images from Wikimedia commons (Image:Aloe_vera_offsets.jpg and Image:Aloe_vera_C.jpg). Aloe vera with flower inset image. Retrieved from "https://commons.wikimedia.org/w/index.php?title=File:Aloe_vera_flower_inset.png&oldid=485511025

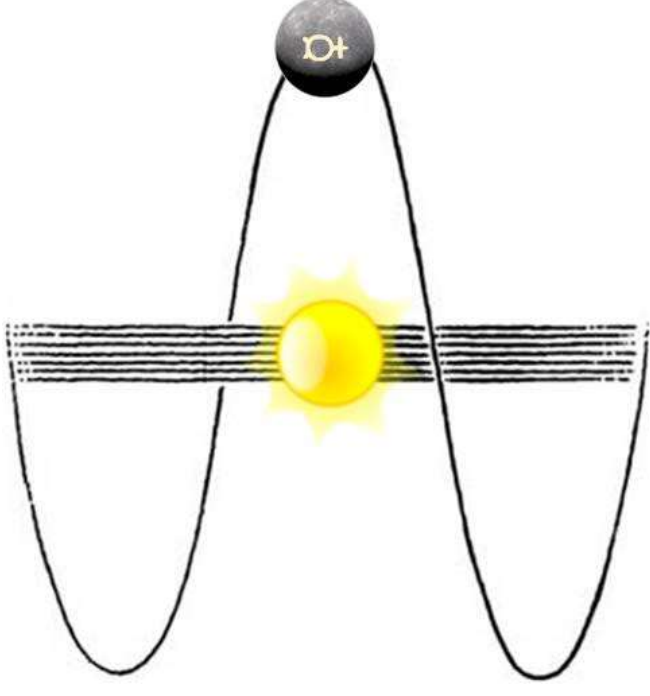
Mercury and foliage



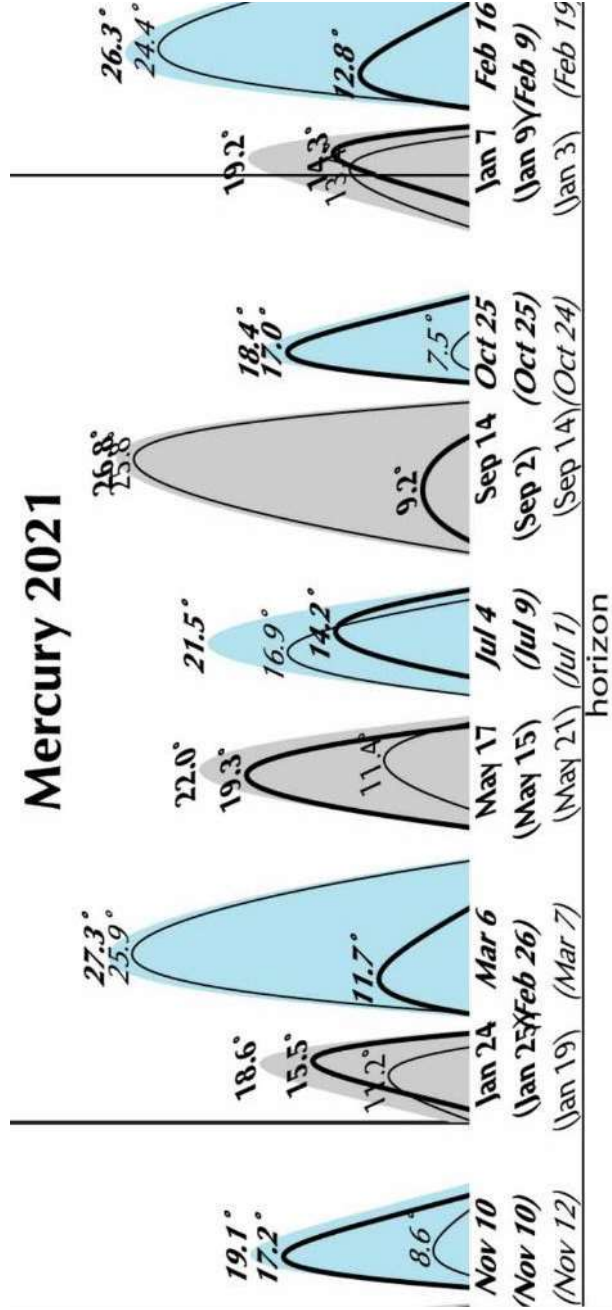
Giovanni Tiepolo. Mercury (detail of).
<https://ienikirbyhistory.getarchive.net/amp/media/tiepolo-giovanni-deckenfresco-im-treppenhaus-der-wurzbuerger-residenz-detail-3b501f>

Rhythmical Order in the Planetary System

- ❑ From December 21 until June 21, the sun rises to greater altitude each day above the horizon. By plotting the position of the sun at noon, the graphic illustrates the connection between the ascending sun movement with the stem growth.
- ❑ The gesture of shoot formation and the resulting development of leaves on a small scale form the mirror image of the movement of the sun and Mercury.



Mercury and leaf buds

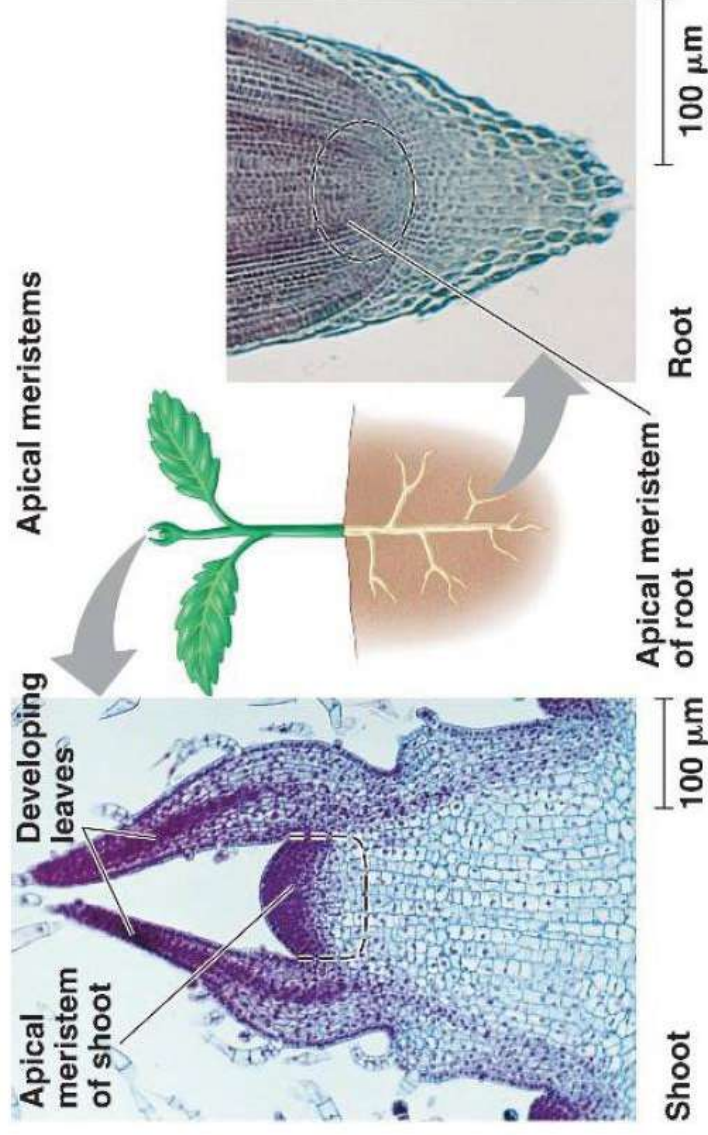


This graph compares Mercury's 3 morning and 3 1/2 evening appearances of 2021. Gray for evening and blue for morning. The top figures are the maximum elongations (dates shown beneath). Curves show the altitude of Mercury above the horizon at sunrise or sunset, for latitude 40° North (thick line) and 35° South (thin line), e.g. during late October it is more favourably seen in the northern hemisphere than southern.

<https://earthsky.org/astronomy-essentials/mercury-from-southern-hemisphere-august-september-2021/>

Mercury and leaf buds

Mercury for leaf formation, Venus for flower formation from apical meristem. Fast phase of Mercury as it approaches inferior conjunction relates to the upper part of the developing leaf. The centre of the meristem relates to conjunction phases, when Mercury is invisible (hence meristem tissues are shrouded).

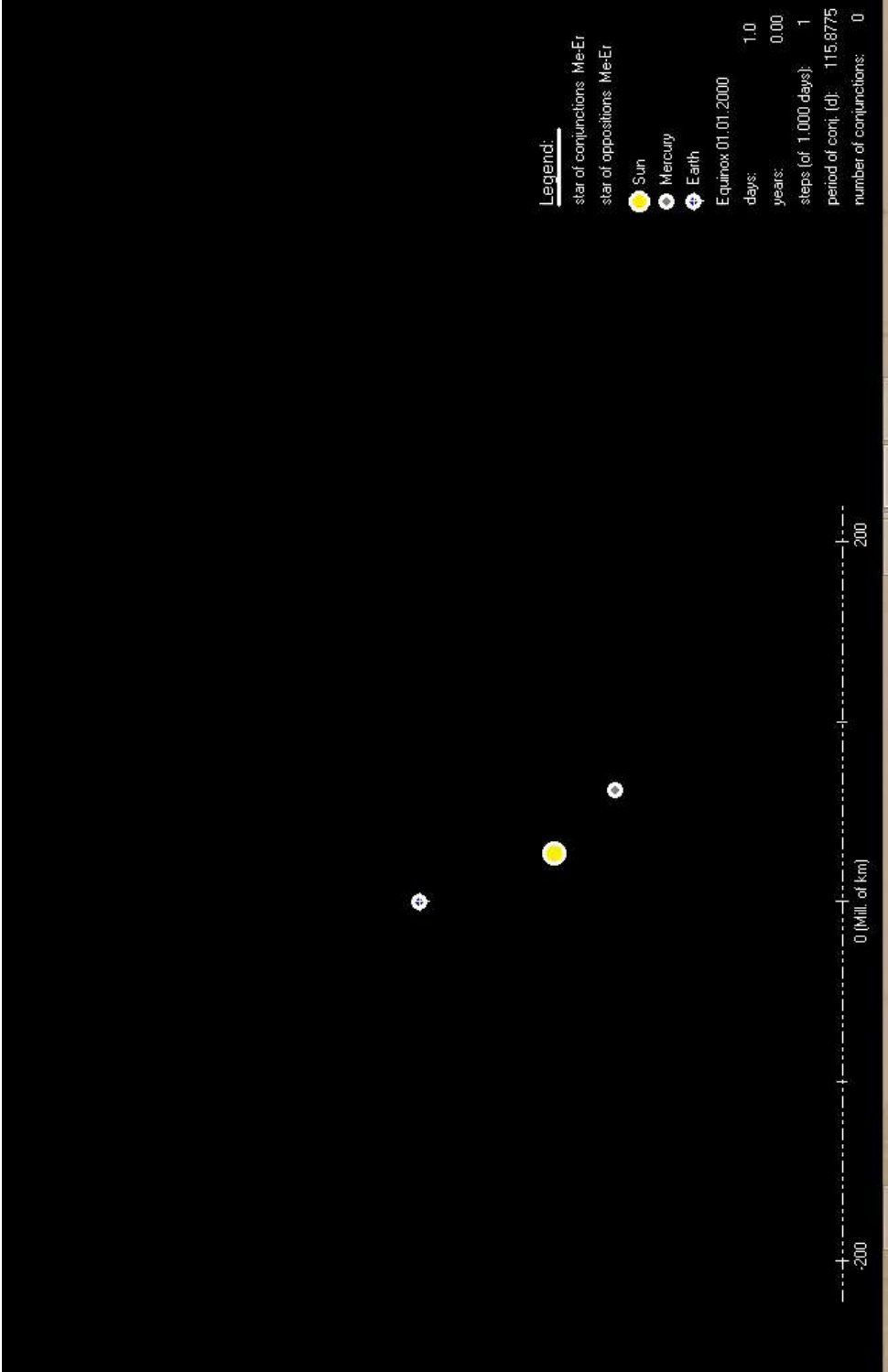


Credit: Peter Chen, Apical meristem. www.bio1152.nicerweb.com Apical meristems are regions of continual growth in plants and present in both ends (shoot and root).

Sunflower seed germination animation

<https://plantsinmotion.bio.indiana.edu/plantmotion/earlygrowth/germination/germ.html>

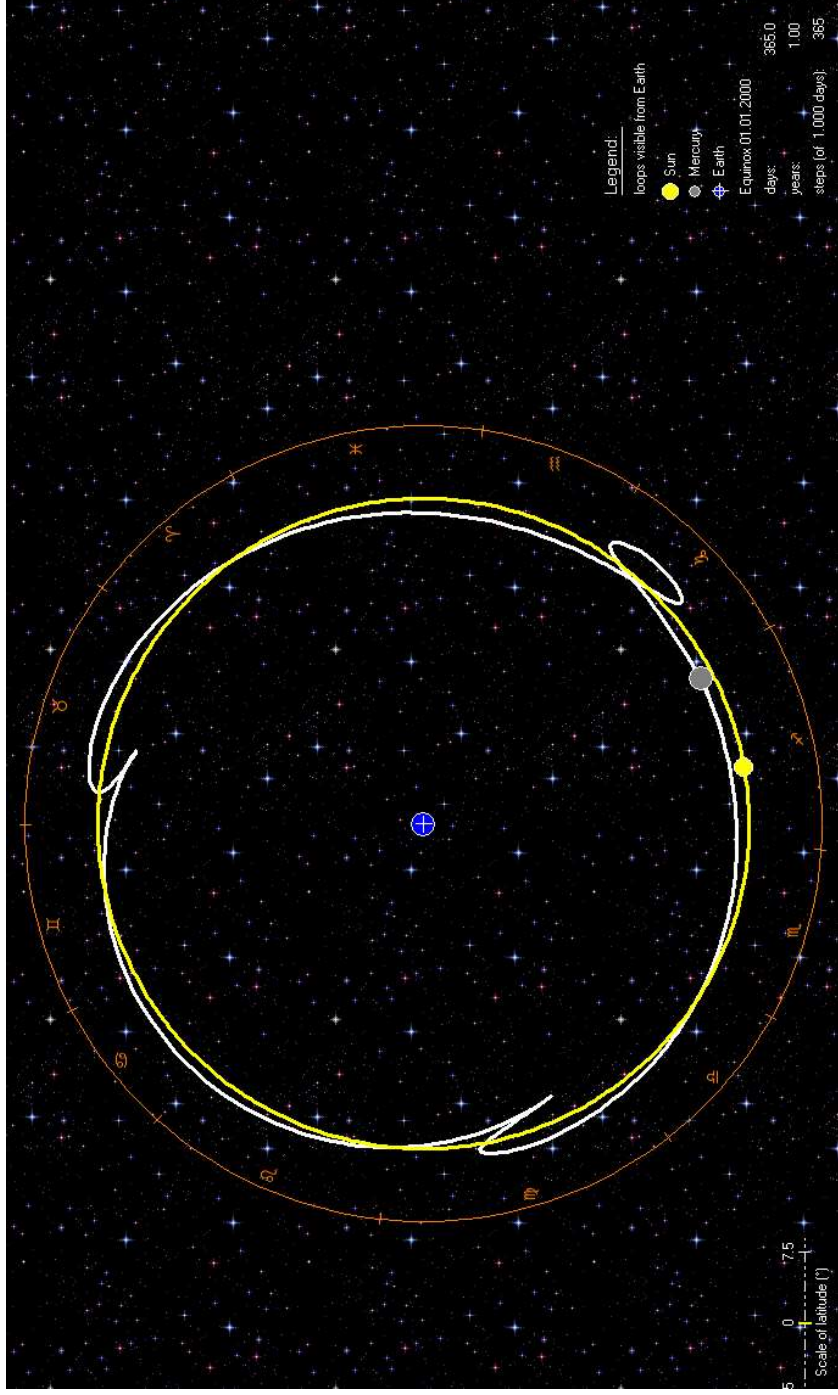
Animation: Mercury orbit around Sun, geocentric Earth view



Mercury's rhythms vary a great deal; the synodical cycle is between 104 and 132 days. The median time period is 116 (more exactly 115.88) days.

Mercury cycles

Fig.

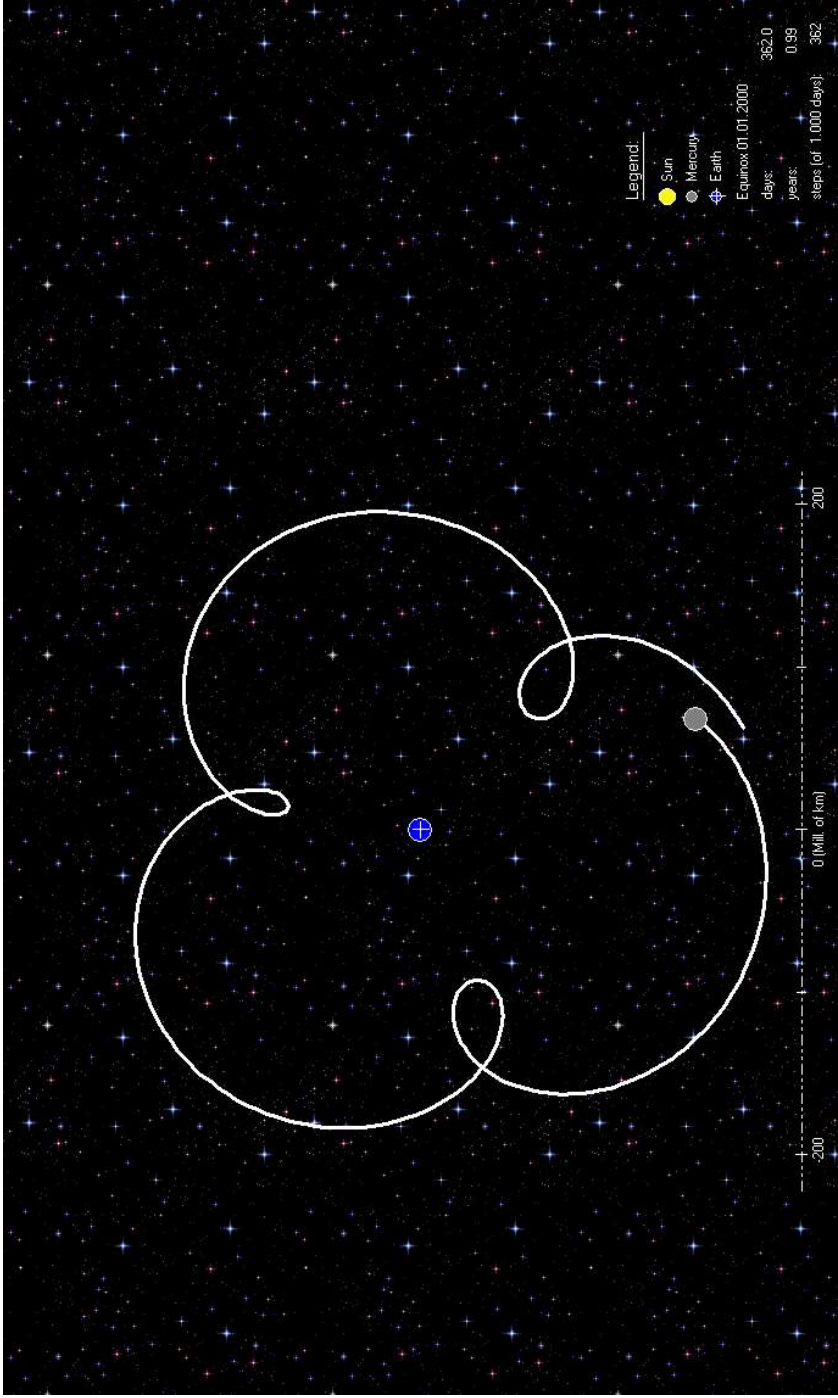


Mercury loops as seen from Earth, geocentric, during 1 year starting 1st Jan 2021, Sun's orbit and zodiac belt shown

Images made by Yubraj Sharma using Signature of the Celestial Spheres program (software available www.keplerstern.com)

Mercury cycles

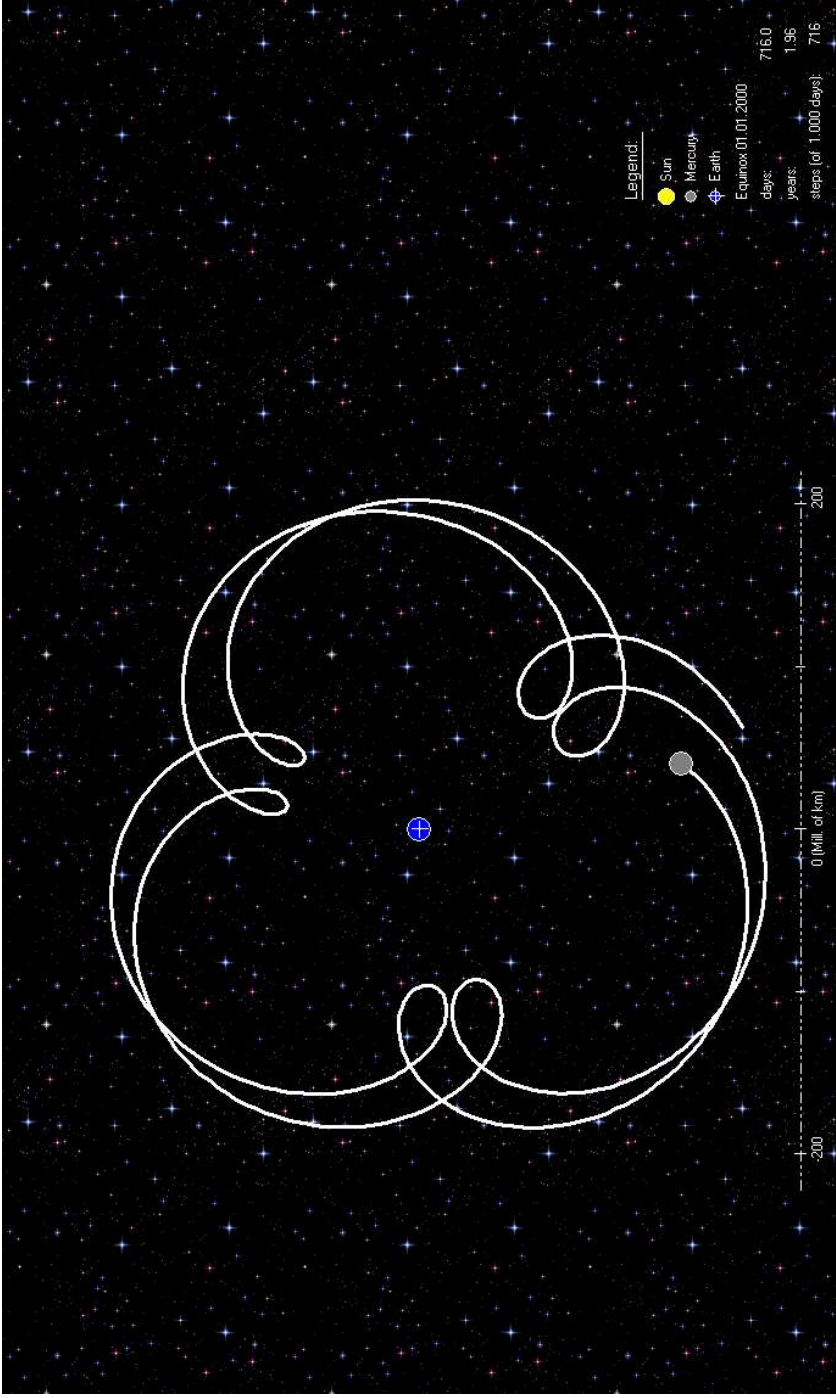
Fig.



Mercury loops as seen from Earth, geocentric, during 1 year starting 1st Jan 2021, Sun's orbit not shown

Mercury cycles

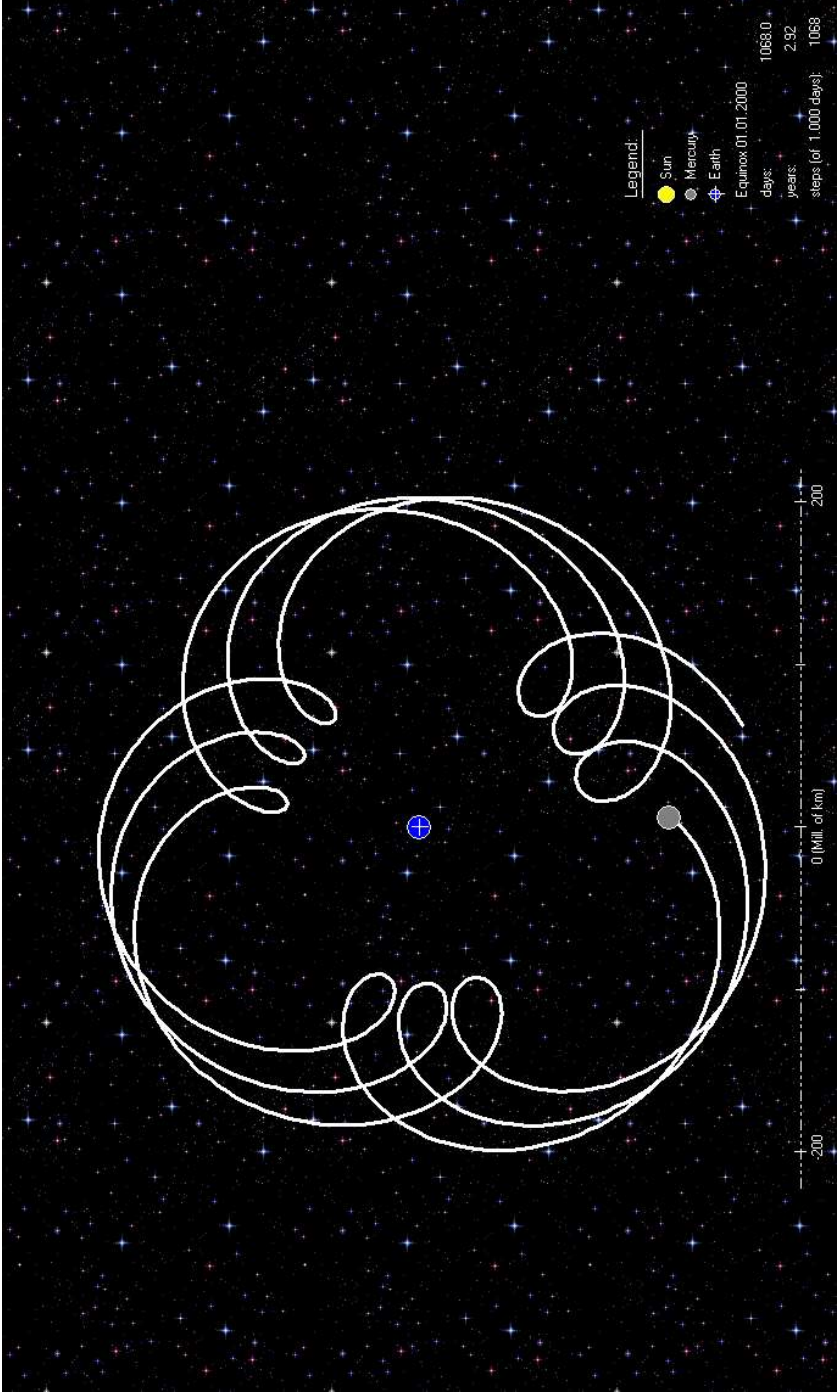
Fig.



Mercury loops as seen from Earth, geocentric, during 2 years starting 1st Jan 2021, Sun's orbit not shown

Mercury cycles

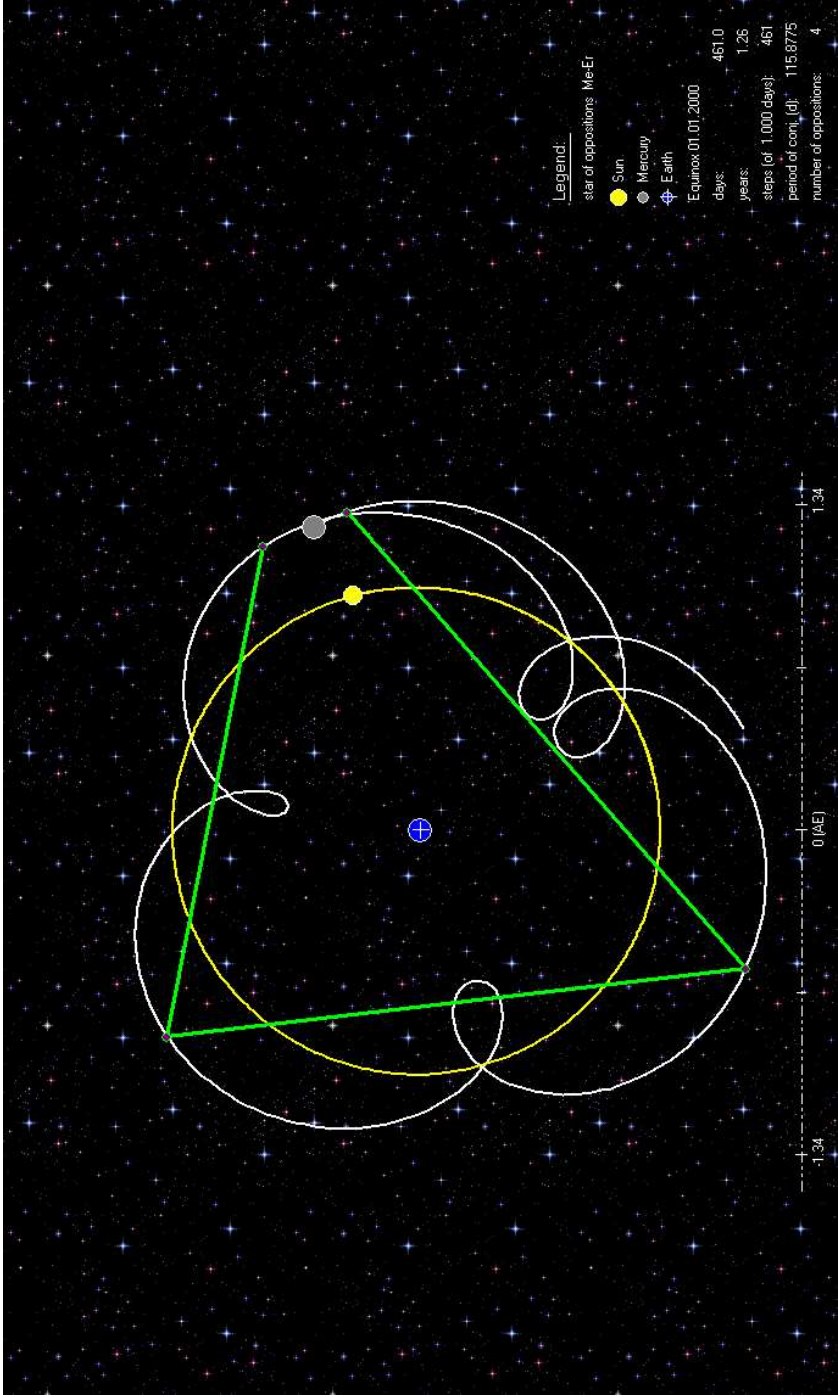
Fig.



Mercury loops as seen from Earth, geocentric, during 3 years starting 1st Jan 2021, Sun's orbit not shown

Mercury cycles

Fig.

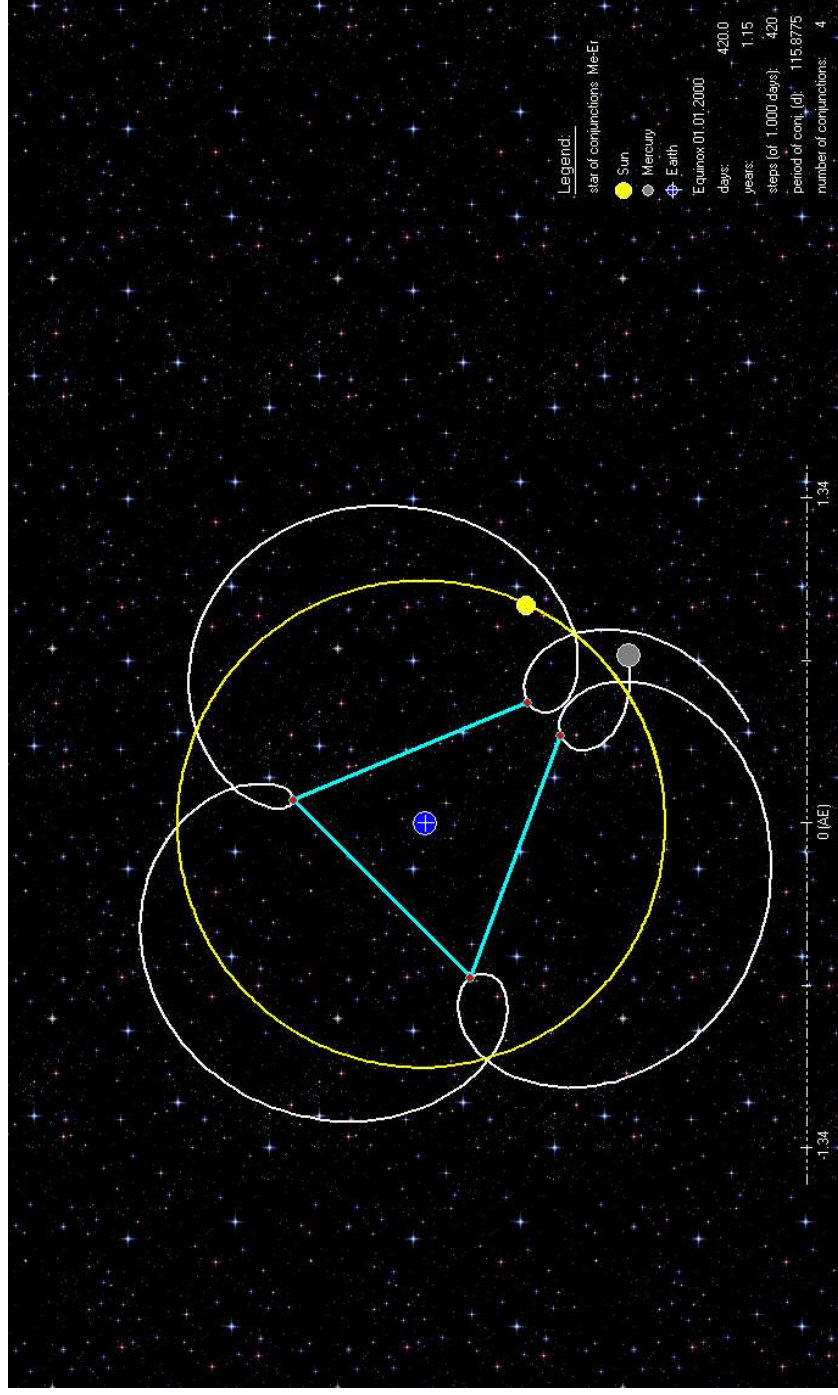


Mercury synodic cycle, superior conjunctions with Sun showing open triangle, geocentric view, during 1 year starting 1st Jan 2021, Sun's orbit shown.

Images made by Yubraj Sharma using Signature of the Celestial Spheres program (software available www.keplerstern.com)

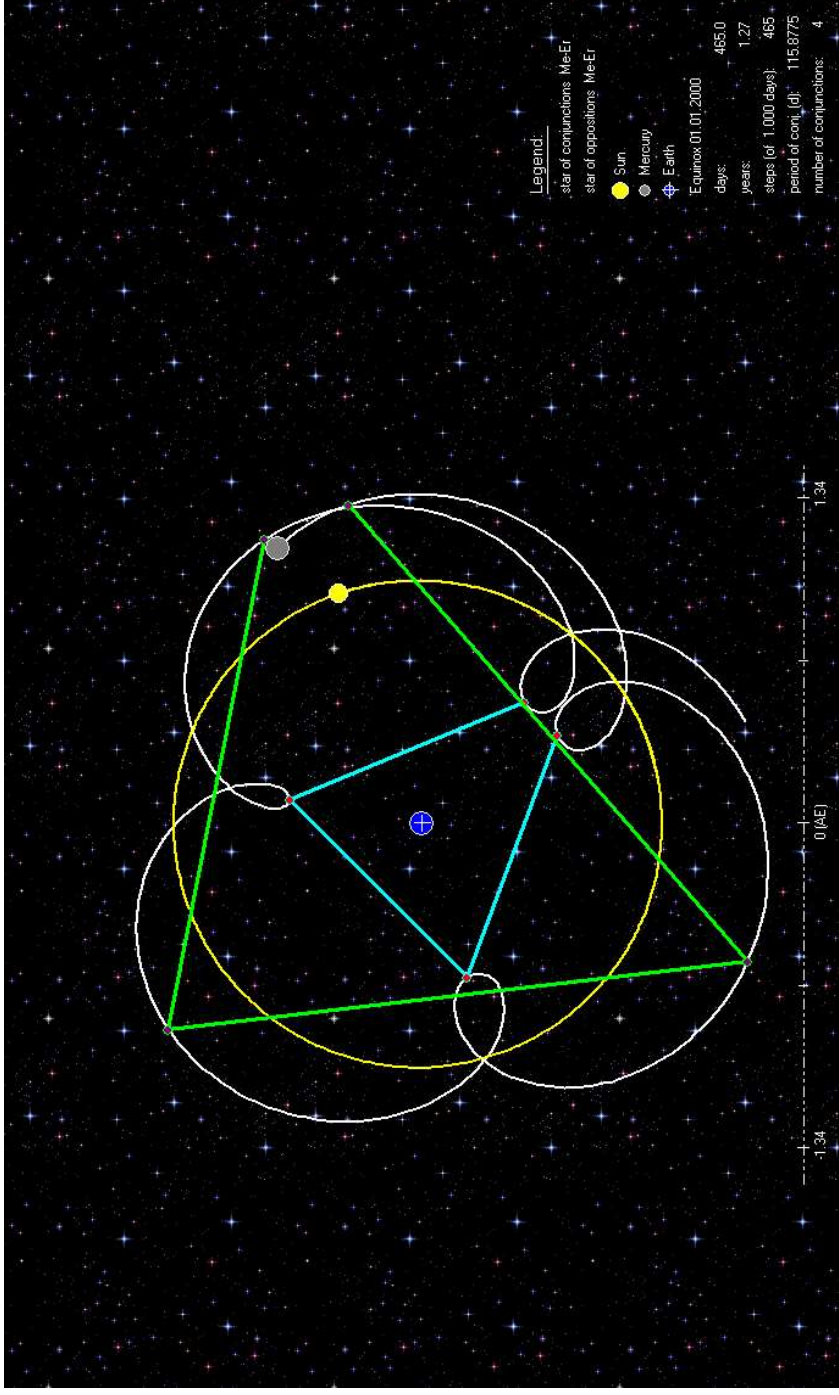
Mercury cycles

Mercury synodic cycle, inferior conjunctions with Sun showing open triangle, geocentric view, during 1 year starting 1st Jan 2021, Sun's orbit shown.



Images made by Yubraj Sharma using Signature of the Celestial Spheres program (software available www.keplerstern.com)

Mercury cycles

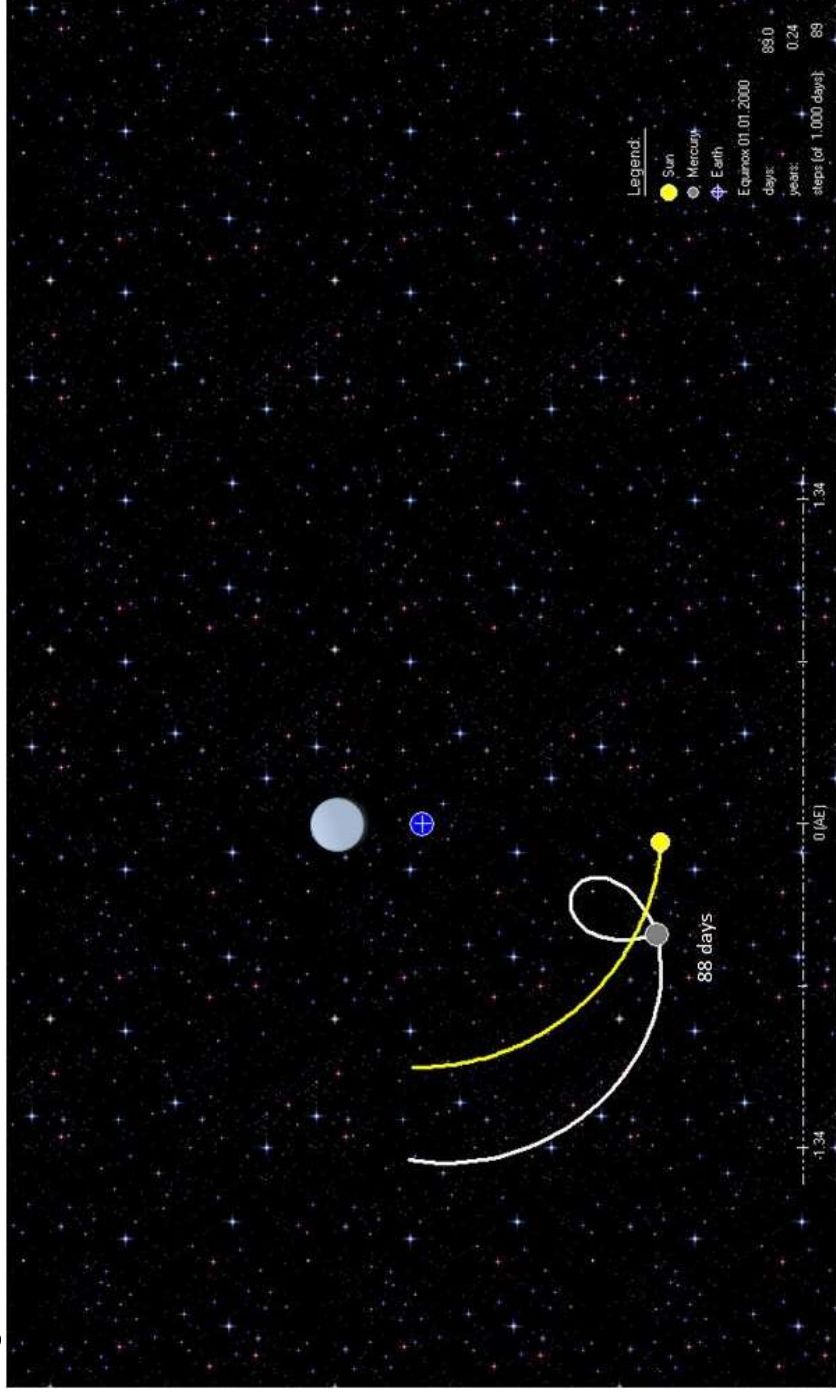


Images made by Yubraj Sharma using Signature of the Celestial Spheres program (software available www.keplerstern.com)

During the course of an Earth year, Mercury completes its synodical cycle three times (3 x 116 = 348 days). There are six conjunctions with the sun. Three conjunctions occur in the sphere between the earth and the sun (inferior), three beyond the sun (upper). The six conjunctions mark the corners of a hexagon formed by the Sun and mercury.

Mercury cycles

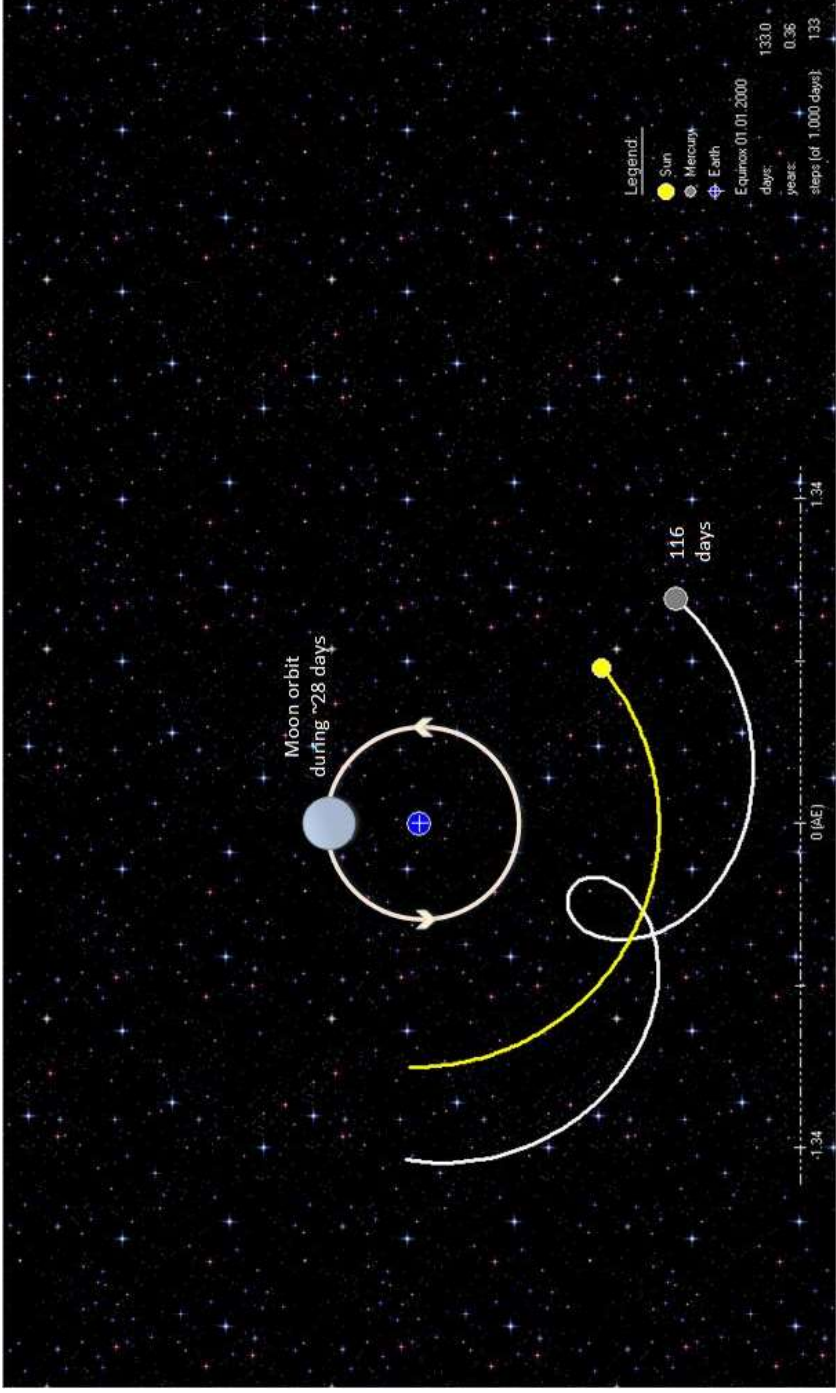
Fig.



Mercury sidereal
orbit (88 days), also
showing Moon at
start of an orbit

Images made by Yubraj Sharma using Signature of the Celestial Spheres program (software available www.keplerstern.com)

Mercury cycles



Mercury synodic orbit (116 days), with Moon orbit shown in time between Mercury's sidereal and synodic cycle. The moon mediates between the zodiac-related sidereal Mercury cycle and the earth-oriented synodical Mercury cycle. Overall, during one synodical Mercury cycle, the moon completes nearly 4 synodical revolutions (4 x 29.53 approx. 118 days).

Rosette growth animation

<https://plantsinmotion.bio.indiana.edu/plantmotion/vegetative/veg.html>

Mercurial leaf examples: *Foeniculum vulgare*, Fennel, Apiaceae/Umbelliferae



Left: Franz Eugen Köhler, Köhler's Medizinal-Pflanzen. https://co.m.wikipedia.org/wiki/File:Foeniculum_vulgare_-_Köhler-s_Medizinal-Pflanzen-148.jpg

Lower right: *Foeniculum vulgare* (flowers). Forest & Kim Starr (<http://www.starrenvironmental.com/>). CC BY-SA 3.0. https://en.wikipedia.org/wiki/File:Starr_070908-9242_Foeniculum_vulgare.jpg (image cropped).

Upper right: Fennel. CC BY-SA 2.0 © Alan Fryer – geograph.org.uk/p/506985



Cactaceae

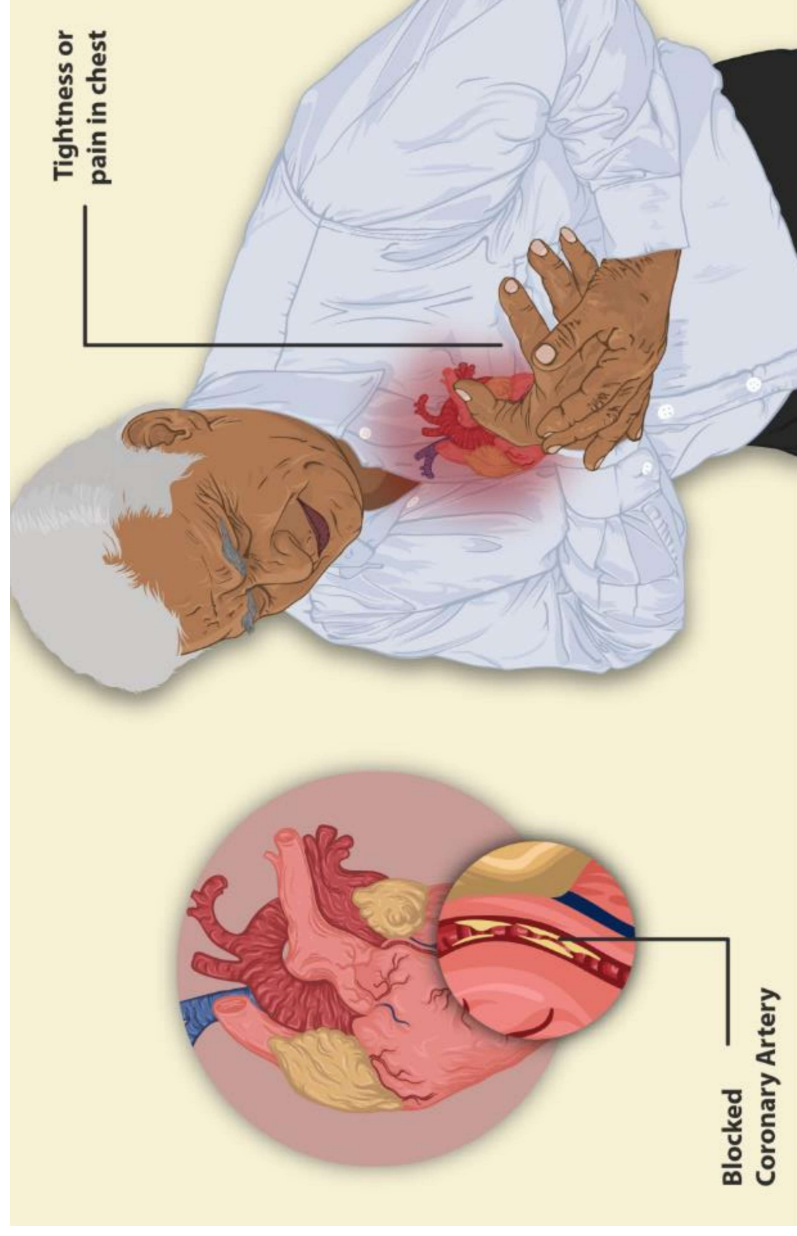


Left: G. Mütrel, Leipzig ; Berlin ; Wien : F.A. Brockhaus. Various Cactaceae. 1- *Nopalea coccinellifera*; 2- *Cephalocereus senilis*; 3- *Cereus giganteus*; 4- *Mammillaria longimamma*; 5- *Rhipsalis paradoxa*; 6- *Echinocactus* ; *ongihamatus*; 7- *Echinopsis oxygona*; 8- *Cereus grandiflorus*; 9- *Echinocereus pectinatus*; 10- *Leuchtenbergia principis*; 11- *Phyllocactus ackermannii*; 12- *Melocactus communis*
https://fr.m.wikipedia.org/wiki/Fichier:Various_Cactaceae.jpg

Above: Yubraj Sharma Academy of Light Ltd. Artist: Caroline Hamilton.



Cactus and angina pectoris



Mercury leaves: the ferns



Left: Author Carl Axel Magnus Lindman (1856–1928). *Dryopteris filix-mas* (L.) Schott. Image is in the public domain. Retrieved from: https://commons.wikimedia.org/wiki/File:501_Dryopteris_filix_mas.jpg

Right: *Dryopteris crassirhizoma*, Bristol botanical gardens. Author: Yubraj Sharma

Mercury, Banisteriopsis caapi (Ayahuasca ingredient)



Right: Banisteriopsis caapi. Author: Apollo. Attribution 2.0 Generic (CC BY 2.0) licence. Retrieved from: [www.flickr.com/photos/brindle95/17616366230](https://commons.wikimedia.org/wiki/File:Mercury_cocinando.jpg)

Left: Ayahuasca and chacruna cocinando. Ayahuasca y chacruna – cooking. Author Awkipuma. Creative Commons Attribution 3.0 Unported. Retrieved from: https://commons.wikimedia.org/wiki/File:Mercury_cocinando.jpg

Mercurial leaf themes, Leonurus cardiaca, Motherwort, Lamiaceae



Square shaped stem. Opposite leaves, basal leaves with 3 points, upper leaves 3 to 5 points. Flowers in leaf axils along upper plant, with 3-lobed bracts

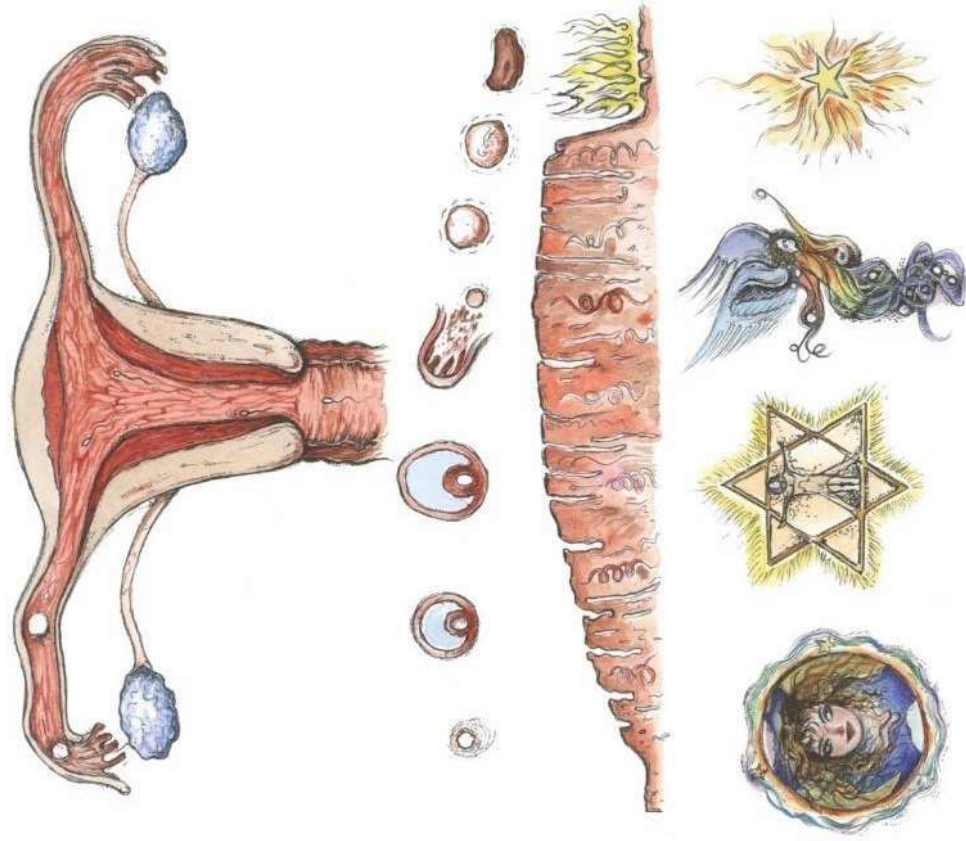
Mercury's sidereal rhythm of 88 days is $\frac{1}{4}$ of Sun's travel along the zodiac. Thus Mercury's sidereal positioning with the sun forms a cross or the four corners of the square.

This is portrayed where 4 leaves develop from the shoot in the form of a cross.

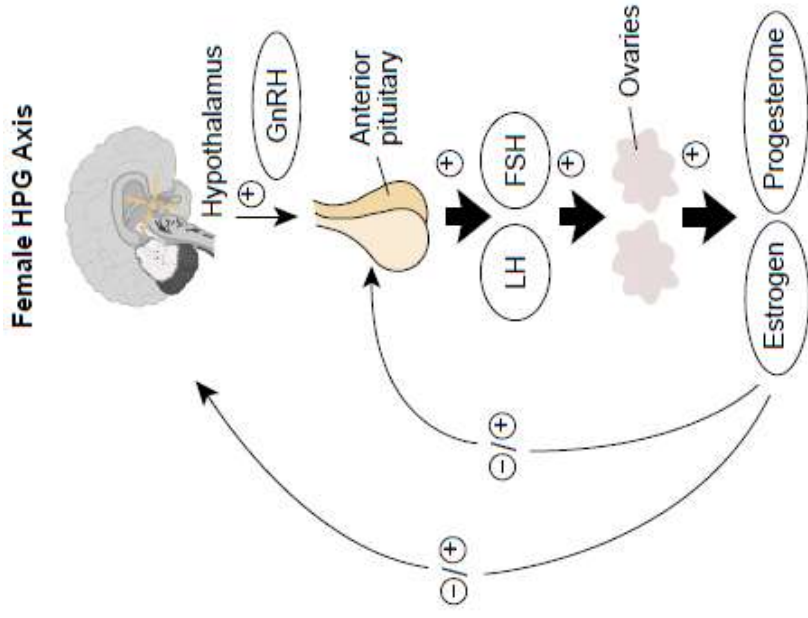
(This sidereal Mercury influence even shows in the four petalled flowers of e.g. crucifers, evening primroses, plantains etc.)



Left: Author D. Gordon E. Robertson. Leonurus cardiaca, Ottawa, Ontario, Canada. <https://commons.wikimedia.org/wiki/File:Motherwort.jpg>
Right: Leonurus cardiaca. Author: H.Zell. CC BY-SA 3.0. https://it.m.wikipedia.org/wiki/File:Leonurus_cardiaca_0003.JPG

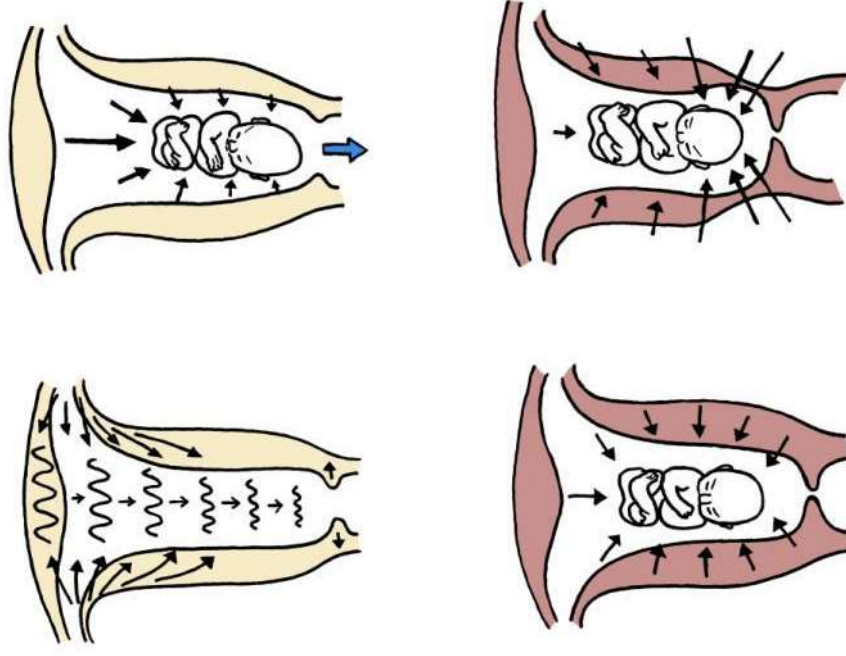
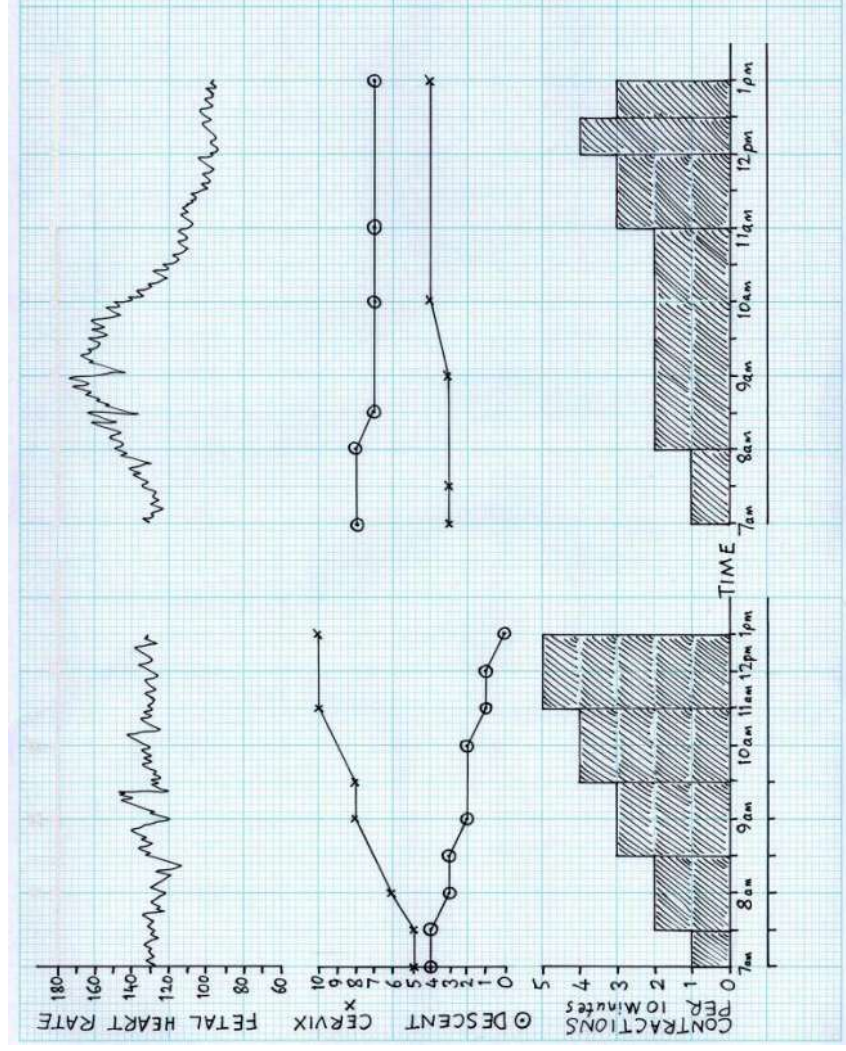


Uterus as rhythmic moon organ to Heart sun rhythms



Right. Authors: Lu Kong, Ting Zhang, Meng Tang and Dayong Wang. Hypothalamic–pituitary–gonadal axis in females. "Nickel Nanoparticles Exposure and Reproductive Toxicity in Healthy Adult Rats". International Journal of Molecular Sciences 15 (11): 21253–21269. DOI: 10.3390/ijms151121253

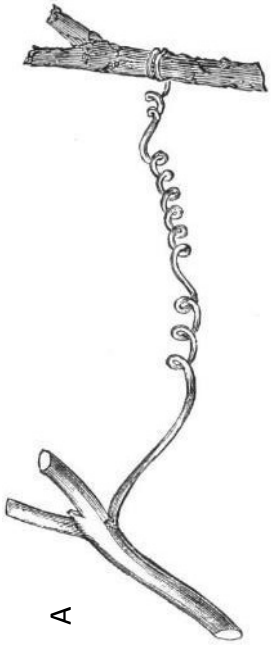
Uterus as rhythmic moon organ to Heart sun rhythms



Morning glory vine twining nutation animation

<https://plantsinmotion.bio.indiana.edu/plantmotion/earlygrowth/germination/germ.html>

Mercury tendril plants



A: Caught tendril of bryonia dioica. Unknown author. 1880. Public domain.

B: Bryonia root and cerebral brain. Lorraine Spiro. Spiritual Bioenergetics of Materia Medica vol 2. Dr Yubraj Sharma

C: Bryonia dioica. Author: Musklprozz. CC BY-SA 3.0. <https://commons.wikimedia.org/wiki/File:Zaunruebe.jpg>

D: Cucurbita pepo. Author Frank Vincentz. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Cucurbita_pepo_02_ies.jpg

E: Bryonia dioica flowers. Author TristramBrelstaff. CC BY-SA 3.0. <https://commons.wikimedia.org/wiki/File:Bryonia-dioica-White-bryony-20100606a.JPG>

F: Bryonia dioica, root. H. Zell. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Bryonia_dioica_005.JPG



Convallaria majalis, Lily of the Valley



Left: Convallaria majalis. Franz Köhler, Köhler's Medizinal-Pflanzen. Public domain. https://commons.wikimedia.org/wiki/File:Convallaria_majalis_-_Köhler-s_Medizinal-Pflanzen-045.jpg
Middle: H. Zell. Convallaria majalis. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Convallaria_majalis_0002.JPG

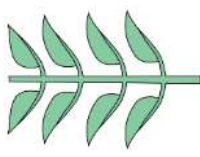
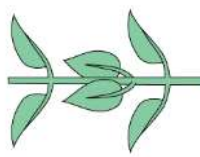
- ☐ The ascending movement of the sun and Mercury is especially visible in monocotyledons. Leaves show stronger growth activity close to the shoot as they sheath or rise along it. The alternately opposite leaf tendency reflects the eastern and western elongations of Mercury.
- ☐ Mercury alternately stands to right & left of the sun, just as the leaves alternate.
- ☐ This arrangement is characteristic of monocotyledons, but rare in dicotyledons.
- ☐ Parallel-veined, simple leaf-blades of monocotyledons generally originate directly from the shoot; in the grasses they even partially envelop the shoot.

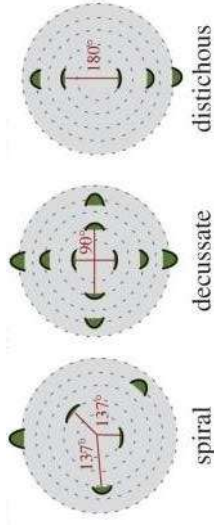


Foliage patterns summary

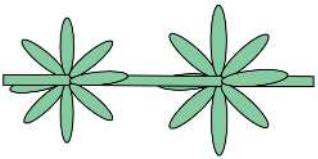
Sidereal Mercury cycles

Synodic Mercury cycles

Opposite distichous $\frac{1}{2}$ (same node) 180°    Lonicera, honeysuckle	
Alternate distichous $\frac{1}{2}$ (different node) 180°    Zingiber Ginger	
Opposite decussate $\frac{1}{4}$ (same node) 90°    Ocimum basilicum, basil	
Alternate decussate $\frac{1}{4}$ (different node) 90°  	

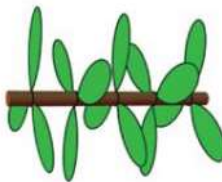


Whorled, $1/6$
(same node) 60°


Galium aparine, cleavers

Whorled, tricussate
 $1/3$ (same node) 120°


Allamanda blanchetii

Foliage patterns summary

Picture attributions previous slide, composite diagram with images cropped and sourced from:

Opposite distichous phyllotaxy. Author: Nova, modified Pipi69e. CC BY-SA 3.0. [https://commons.wikimedia.org/wiki/File:Ulistnienie_\(Phyllotaxys_opposite-distichous\).png](https://commons.wikimedia.org/wiki/File:Ulistnienie_(Phyllotaxys_opposite-distichous).png)

Lonicera, honeysuckle. Author: homeredwardprice. Source <https://www.flickr.com/photos/28340342@N08/6176209745/>

CC BY. 2.0. Retrieved from: <https://commons.wikimedia.org/wiki/File:Diervilla-lonicera-leaves.png>

Alternate distichous phyllotaxy. Author PAVdK. CC0. 1.0. [https://commons.wikimedia.org/wiki/File:Ulistnienie_\(Phyllotaxys_alternate-distichous\).svg](https://commons.wikimedia.org/wiki/File:Ulistnienie_(Phyllotaxys_alternate-distichous).svg)

Zingiber officinalis. Author Dacnoh. CC BY-SA. 3.0. https://commons.wikimedia.org/wiki/File:Zingiber_officinale_houseplant.JPG

Opposite decussate phyllotaxy. Author: Nova, modified Pipi69e. CC BY-SA 3.0. [https://commons.wikimedia.org/wiki/File:Ulistnienie_\(Phyllotaxys_opposite-decussate\).png](https://commons.wikimedia.org/wiki/File:Ulistnienie_(Phyllotaxys_opposite-decussate).png)

Ocimum basilicum, basil. Author: Carl Lewis. CC BY. 2.0. www.flickr.com/photo/carllewis/1469384173

Alternate distichous phyllotaxy. Author: Nova, modified Pipi69e. CC BY-SA 3.0. [https://commons.wikimedia.org/wiki/File:Ulistnienie_\(Phyllotaxys_alternate\).png](https://commons.wikimedia.org/wiki/File:Ulistnienie_(Phyllotaxys_alternate).png)

Whorled phyllotaxy 1/6. Author: Nova, modified Pipi69e. CC BY-SA 3.0. [https://commons.wikimedia.org/wiki/File:Ulistnienie_\(Phyllotaxys_whorled\).png](https://commons.wikimedia.org/wiki/File:Ulistnienie_(Phyllotaxys_whorled).png)

Galium aparine, cleavers. Author: Hans/22777. <https://pixabay.com/photos/waldmeister-leaf-stalk-green-54165>

Galium aparine, cleavers. Author Harry Rose. Galium aparine flower1 <https://www.flickr.com/photos/macleaygrassman/15100510157/>

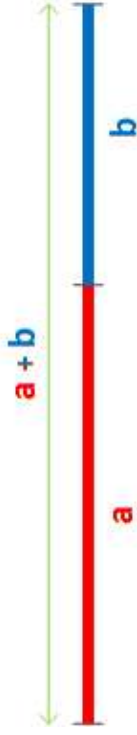
CC BY-SA. 2.0. Retrieved from: [https://commons.wikimedia.org/wiki/File:Galium_aparine_flower1_\(15100510157\).jpg](https://commons.wikimedia.org/wiki/File:Galium_aparine_flower1_(15100510157).jpg)

Allamanda blanchetii (whorl leaves). Author Filo gén'. CC BY-SA. 4.0. https://commons.wikimedia.org/wiki/File:Leaf_whorls_on_a_shrub.jpg

Phyllotaxis diagram. Leaf morphology is defined by four axes and the position of the leaf is defined by phyllotaxis. (d) When divergence angle between each leaf is approximately 137.5° the phyllotaxis is spiral. Decussate phyllotaxis has leaves in pairs 180° apart, with 90° between each successive pair ('crossed'). (f) Distichous phyllotaxis has leaves 180° apart ('of two rows'). Fig.1 from Martinez CC, Chitwood DH, Smith RS, Sinha NR. 2016 Left–right leaf asymmetry in decussate and distichous phyllotactic systems. Phil. Trans. R. Soc. B 371: 20150412. <http://dx.doi.org/10.1098/rstb.2015.0412>

Fibonacci series, the golden angle / section Phi ϕ

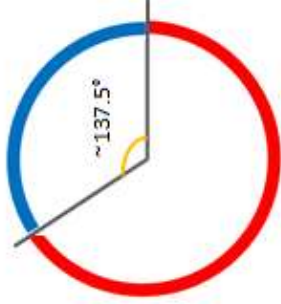
Golden angle 137.5° is the value of limit of the ratio between two consecutive numbers in the Fibonacci sequence. It governs the spiral phyllotaxis.



$$a = 61.8\%$$

$$b = 38.2\%$$

$$\begin{aligned} a/b &= (a + b) / a \\ &= \phi = 1.6180339887 \\ &= 137.507764^\circ \\ &\sim 137.5^\circ \end{aligned}$$



Foliage patterns summary

In the non-spiral Mercurial arrangements shown before, divergence angle between successive leaves is a simple fraction of 360° , e.g. 2, 4, 3 or 6. In spiral phyllotaxis, however, the divergence angle of nascent leaves at the shoot apex is the golden angle 137.5° . The Fibonacci sequence is an infinite number sequence:

1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597 etc

each number is the sum of the two previous numbers, i.e. $1+1=2$, $1+2=3$, $2+3=5$, $3+5=8$, $5+8=13$ etc.

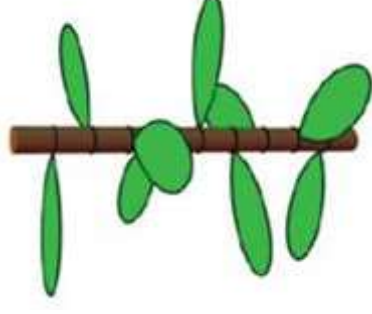
For any value above 34, the ratio between any two consecutive numbers becomes **1:1.618, or the Golden Ratio**. whereas angles between developed leaves vary as a sequence of Fibonacci fractions, e.g. $1/3$, $2/5$, $3/8$, $5/13$, etc.

Spiral $2/5$, 144°

Spiral $3/8$, 135° (this is same as $5/8$ in other spiral direction)

Spiral $5/13$, 138°

One hypothesis is spiral phyllotaxis evolved to optimize leaf spacing on the growing apex, maximizing capture of light for photosynthesis



Non-overlapping spiral phyllotaxis. Author Anders Sandberg. CC BY-SA 2.0. [https://commons.wikimedia.org/wiki/File:Phyllotaxis_\(3540498156\).jpg](https://commons.wikimedia.org/wiki/File:Phyllotaxis_(3540498156).jpg)
Fibonacci spiral of leaves. Takaaki Yonekura, CC-BY-ND. PLOS Computational Biology DOI: 10.1371/journal.pcbi.1007044

Venus



Sandro Botticelli. (1445–1510). The Birth of Venus. Uffizi Gallery.

Retrieved from: https://commons.wikimedia.org/wiki/File:Sandro_Botticelli_-_La_nascita_di_Venere_-_Google_Art_Project_-_edited.jpg

Fibonacci series in solar system



	C	D	x	E	F	G
Phi = 1.618	ϕ^{-3}	ϕ^{-1}	1	ϕ^1	ϕ^5	ϕ^7
Sidereal orbit calculated	0.236 years 86 days	0.618 years 225 days	1 year 365.25 days	1.618 years 591 days	11.09	29.034
Sidereal orbit actual	88 days	225 days	365.25 days	1.88 687 days	11.86 years	29.46 years

Golden mean and Venus-Earth distance

Planet	Distance from Sun in km	Distance where Mercury equals 1	Period where Mercury equals 1
Mercury	57,910	1.0000	1.0000
Venus	108,200	1.8684	2.5490
Earth	149,600	2.5833	4.1521

If Mercury's distance from Sun and sidereal orbital period are taken as 1.0 Then above are relative values for Venus and Earth

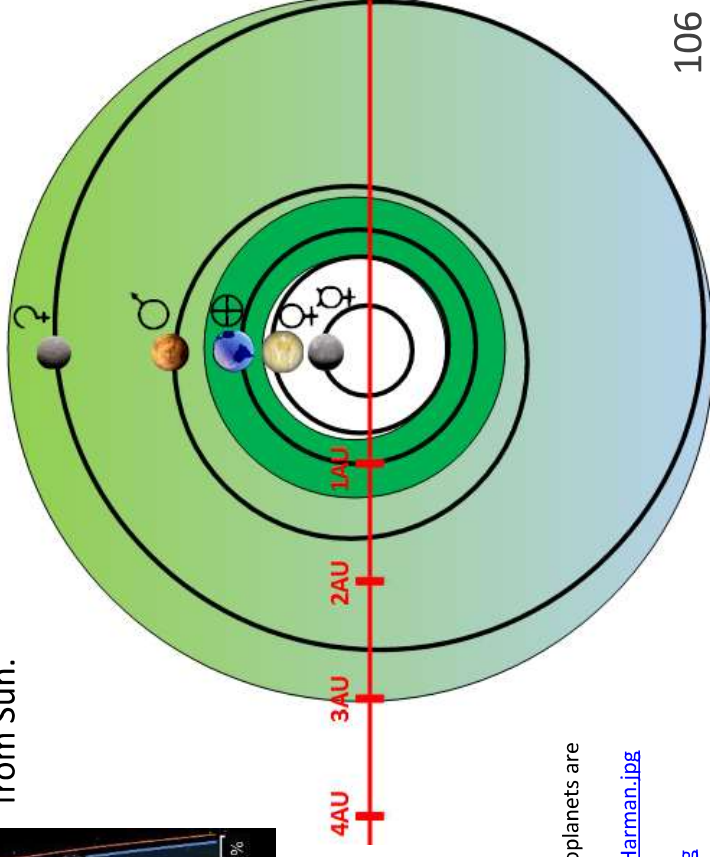
$$\sqrt{\text{Venus orbit period}} \times \phi = \text{Distance of Earth}$$

$$\sqrt{2.5490} \times 1.6180399 = 2.5833$$

So Venus is located at the exact distance (which gives its orbital period) where it is dimensionally by square root, placing the Earth at the 'correct' distance

Solar system habitable zone

Circumstellar habitable zone (CHZ) is the orbital range around a star within which a planet surface can support liquid water. The bounds of the CHZ for us in our solar system is based on Earth's position and amount of radiant energy received from Sun.



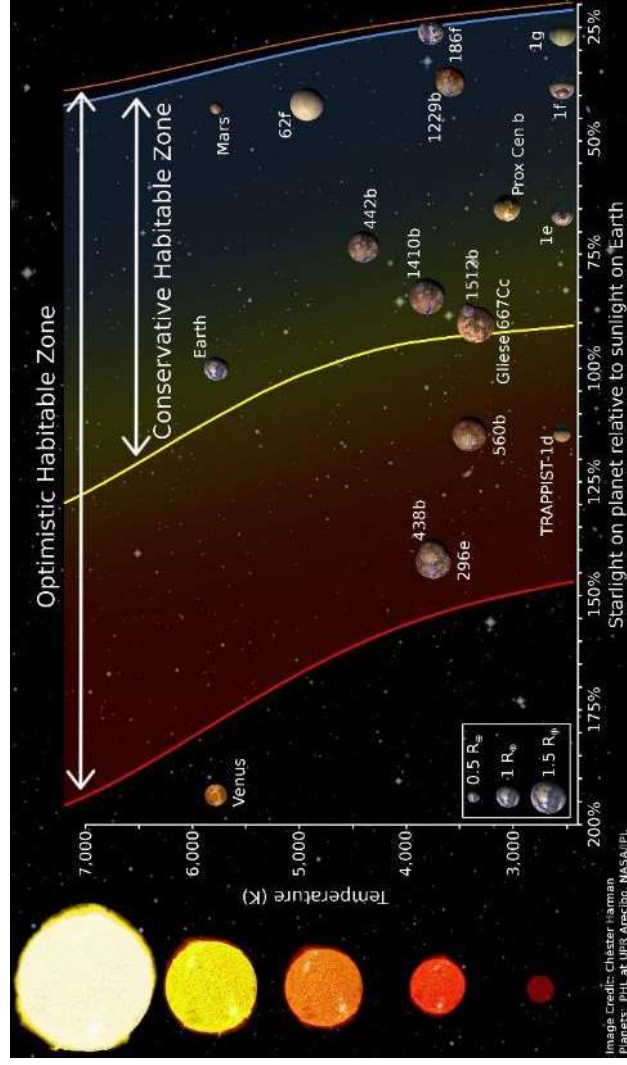
The aphelion of Venus lies at inner edge of the CHZ zone in most calculations . Whilst atmospheric pressure at Venus's surface is sufficient for liquid water, a strong greenhouse effect raises surface temperature to 462 °C, so any water will be vapour.

Left: Habitable zone regions of different stars. Shown is temperature vs starlight received. Important exoplanets are placed on the diagram, plus Earth, Venus, Mars. Author Chester Harman. CC BY-SA 4.

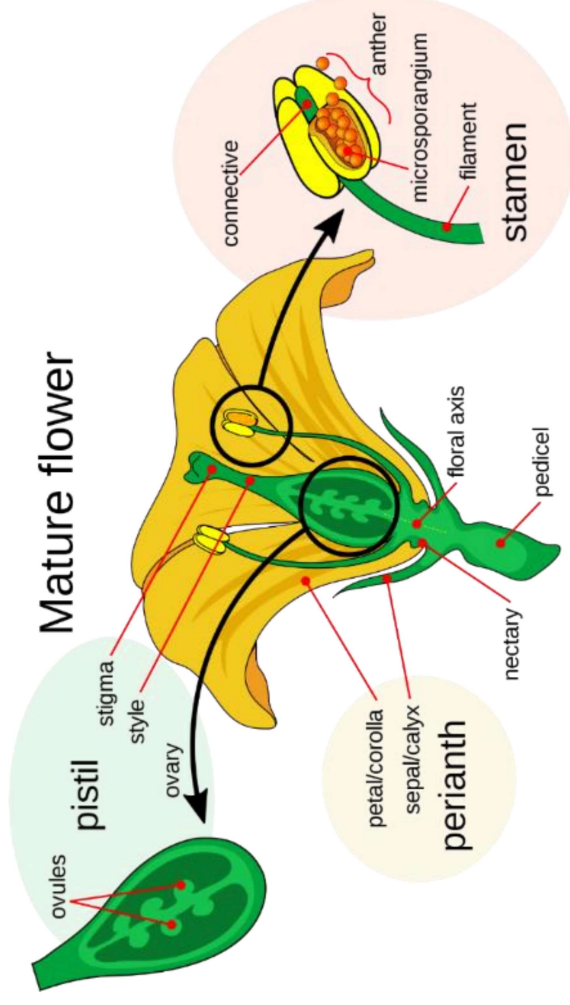
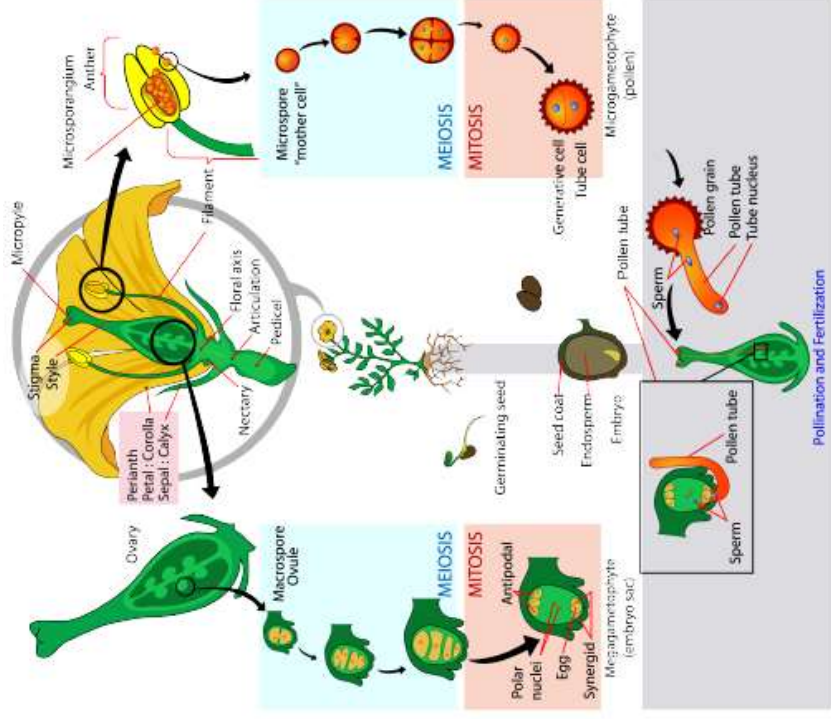
[https://commons.wikimedia.org/wiki/File:Diagram_of_different_habitable zone regions by Chester Harman.jpg](https://commons.wikimedia.org/wiki/File:Diagram_of_different_habitable_zone_regions_by_Chester_Harman.jpg)

Right: Solar system habitable zone estimate. Yubraj Sharma, adapted from image by EvenGreenerFish

https://commons.wikimedia.org/wiki/File:Estimated_extent_of_the_Solar_Systems_habitable_zone.png



Flower parts



Right: Flower structure. Author Mariana Ruiz LadyofHats (public domain image).

https://commons.wikimedia.org/wiki/File:Mature_flower_diagram.svg

Left: Angiosperm life cycle. The life cycle of an angiosperm is shown. Anthers and carpels are structures that shelter the actual gametophytes: the pollen grain and embryo sac. Double fertilization is a process unique to angiosperms. (credit: modification of work by Mariana Ruiz Villareal), Figure 26.15 from 'Biology 2e', <https://openstax.org>

Mercury influenced flower

Monocotyledon flowers:

- ❑ The plant is elevated to a higher level in the corollas of dicotyledons, with more perfected Venus manifestation. Their petals do not develop gradually from an initial green stage (as in monocotyledons), but emerge colored out of the bud. Their material nature is more delicate than for most monocotyledons. Also, their corollas expand wide and directly from the receptacle.
- ❑ Many monocotyledons instead have narrow petals. The perianth of monocotyledons is marked by six-foldness, of the dicotyledons by five-foldness. These are simpler blossoms, with 3 petals and 3 sepals as two circles, placed over each other, e.g. tulips, lilies, irises.
- ❑ The Sun rules the stem receptacle, and so the six structures of the perianth developing uniformly in all directions are an image of Mercury's hexagon of 6 conjunctions with the Sun (geocentric view) over the course of 1 earth year.
- ❑ After the 3 superior conjunctions, Mercury moves away from the sun's sphere rather slowly towards earth – corresponding to the 3 sepals (which are closer or approaching towards earth). After the 3 inferior conjunctions, Mercury pulls swiftly away from the earth towards the sun's sphere – corresponding to the 3 petals that move upwards.



Calochortus nuttallii (Sego Lily). Author: C.Maylett.
CC BY-SA 3.0.

https://commons.wikimedia.org/wiki/File:Sego_lily_cm.jpg

Mercury influenced monocotyledon flowers



Left: *Akebia quinata* (Nagano pref. Japan. Author Apple2000. 29th April 2008. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Akebia_quinata08.jpg
Right: *Akebia quinata* in Mount Ibuki, female flower. Author Alpsdake. 1st June 2012. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Akebia_quinata.JPG

Mercury influenced flower



Left: The Annunciation. Bartolomé Esteban Murillo (1617–1682).
Photographer The York Project (2002) 10.000 Meisterwerke der
Malerei. Retrieved from:
https://commons.wikimedia.org/wiki/File:Bartolomé_Esteban_Per_ez_Murillo_023.jpg
Right: *Lilium tigrinum* and abundant fertile forces. Claire Stokoe.
Spiritual Bioenergetics of Homoeopathic Materia Medica vol 2
Lower: *Lilium lancifolium*, Tiger Lily. Bristol Botanic Gardens.
Author: Yubraj Sharma

Mercury influenced flower

Various examples show three inner petals bending upward and three sepals turned down towards earth, e.g. the iris.



Left: Iris versicolor. Author: Dlanglois. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Iris_versicolor_4.jpg

Right: Iris versicolor. Author R. A. Nonenmacher. CC BY-SA 4.0. https://commons.wikimedia.org/wiki/File:Iris_versicolor_SCA-0757.jpg



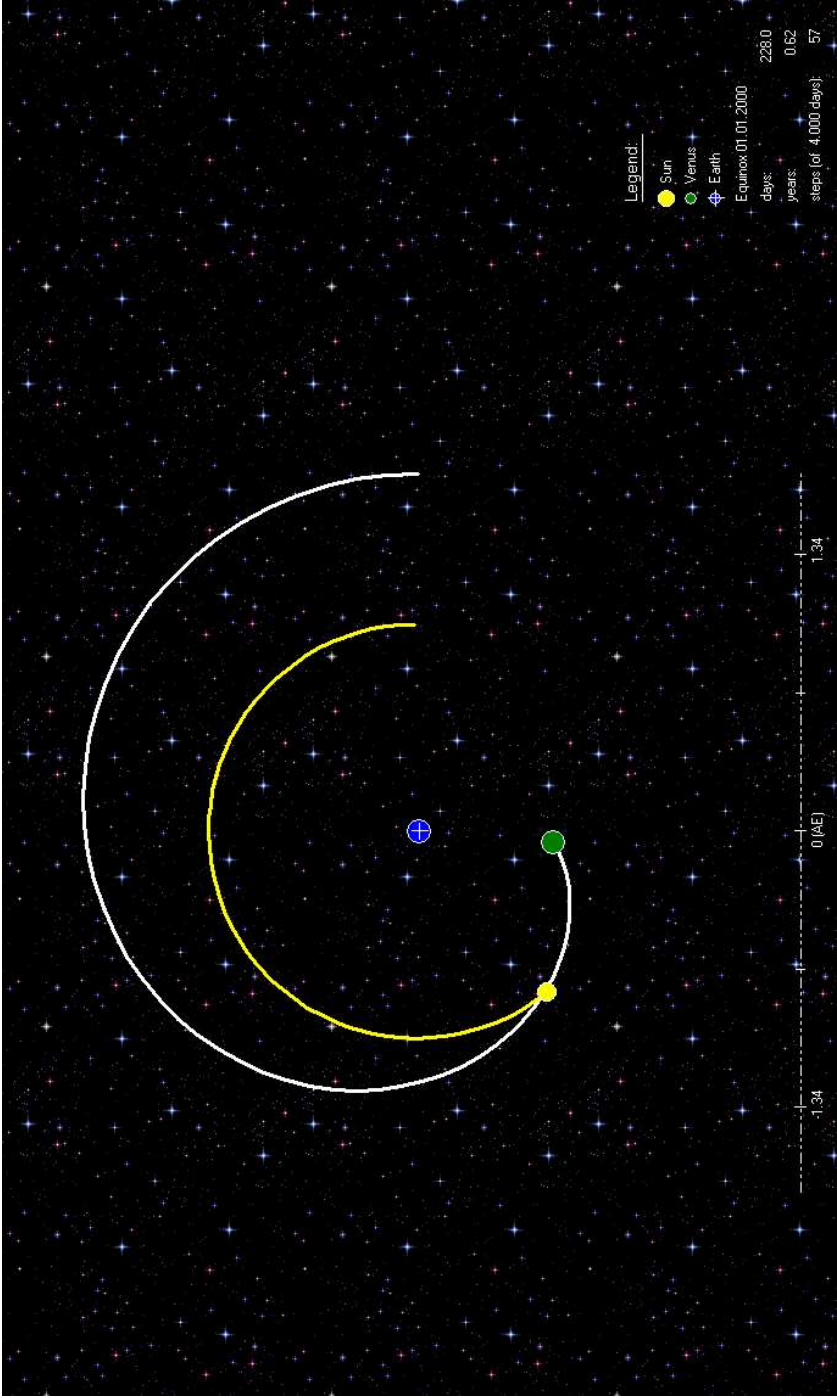
Venus cycles

- ☐ Venus rhythms is also closely connected to the Sun, but not as closely bound as Mercury. Venus, as a morning and evening star moves farther away from the immediate sun-sphere.
- ☐ This is also indicated by the synodical cycle of Venus no longer contained in the one-year cycle of the sun. With 584 days, it clearly stretches beyond the annual cycle.
- ☐ 584 days corresponds to $1 \frac{3}{5}$ th earth years. ($3/5$ th of one year is $3 \times 73 = 219$ days).

Following slide: Animation of Venus over 5 plus synodic cycles as seen from Earth geocentric, from 1st Jan 2021.

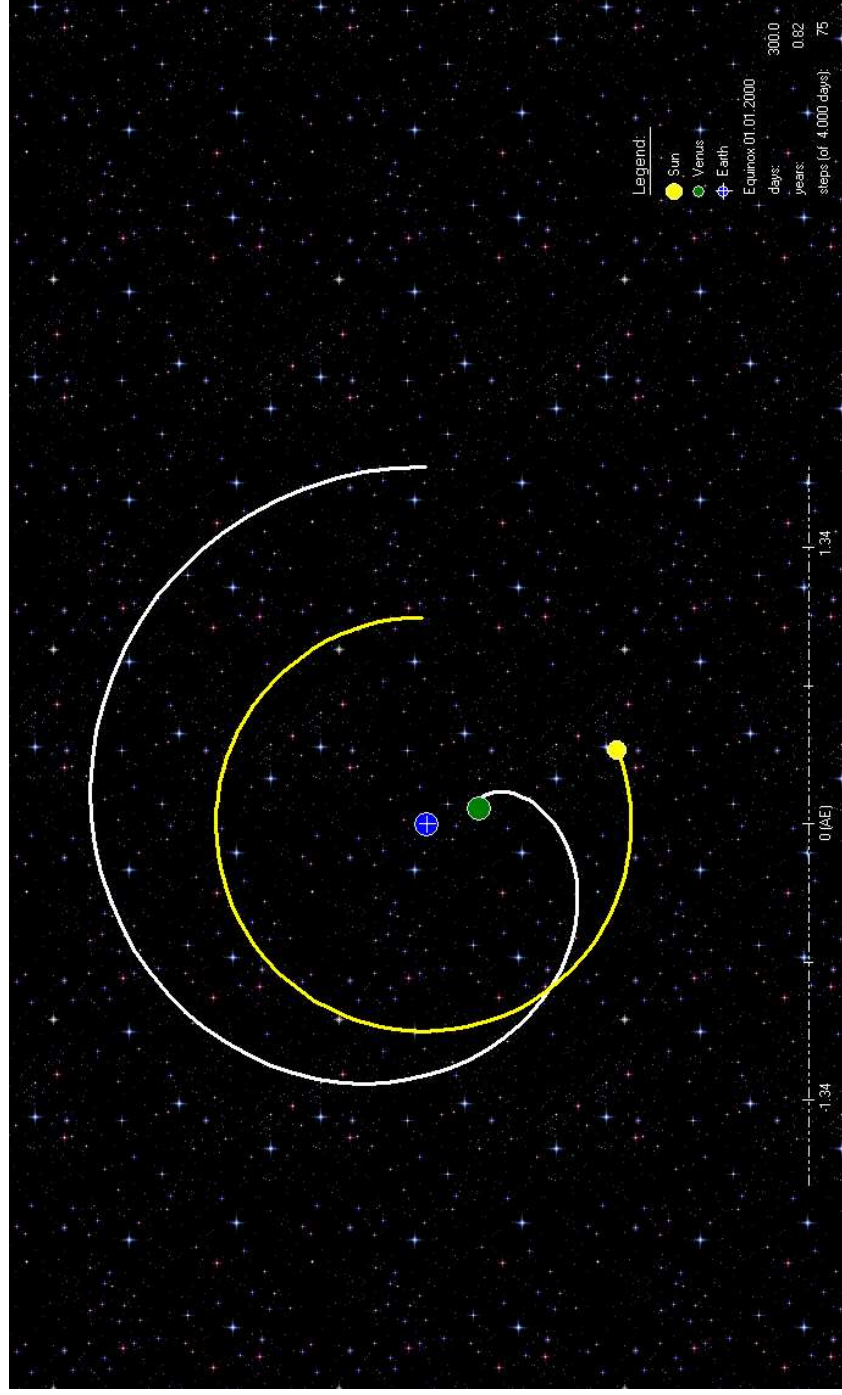
Venus cycles

Venus sidereal cycle
(225 days) dates
from 22nd Mar 2021
to 1st Nov 2021



Venus cycles

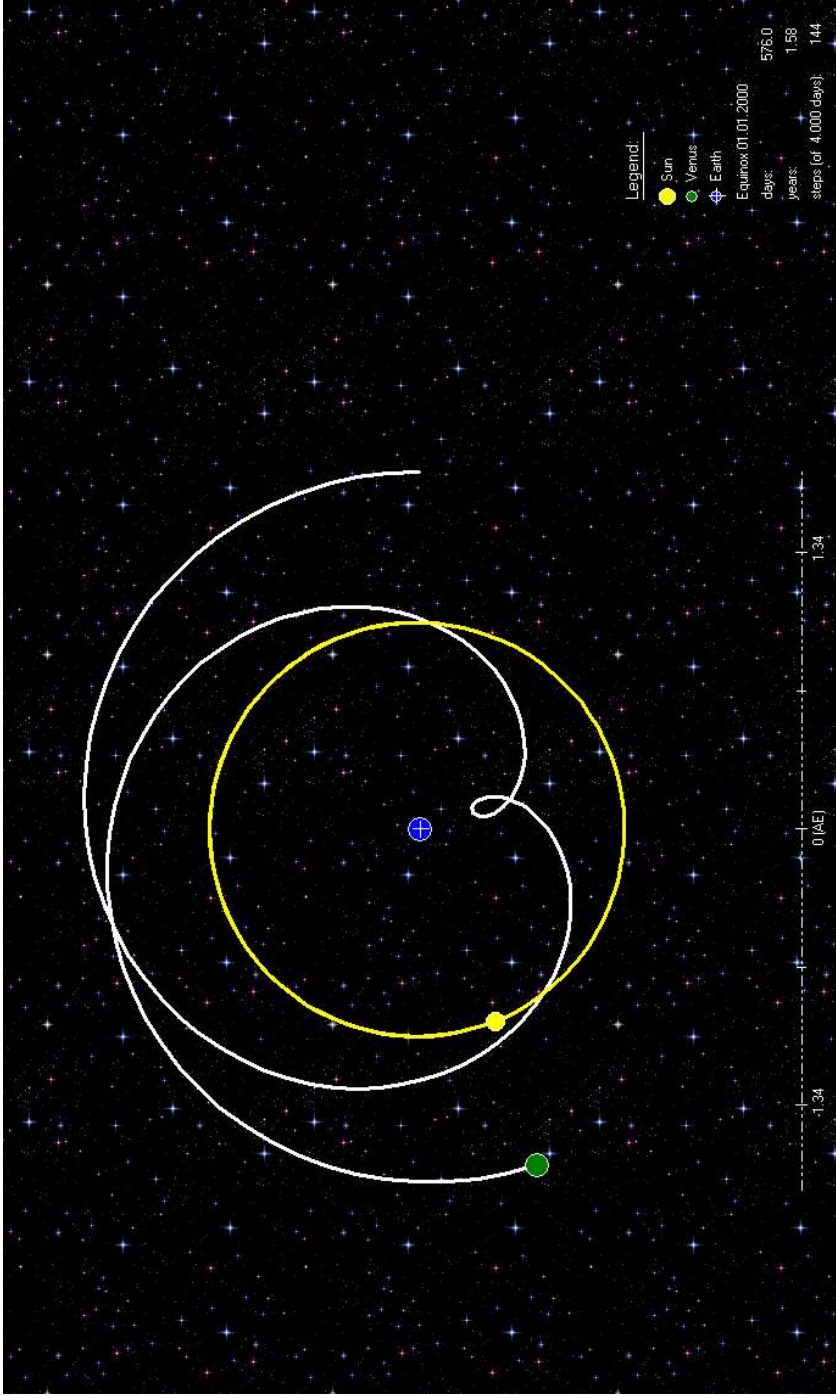
Venus cycle from
superior
conjunction to
inferior conjunction
(292 days in this
example) dates
from 22nd Mar 2021
to 8th Nov 2021



Images made by Yubraj Sharma using Signature of the Celestial Spheres program (software available www.keplerstern.com)

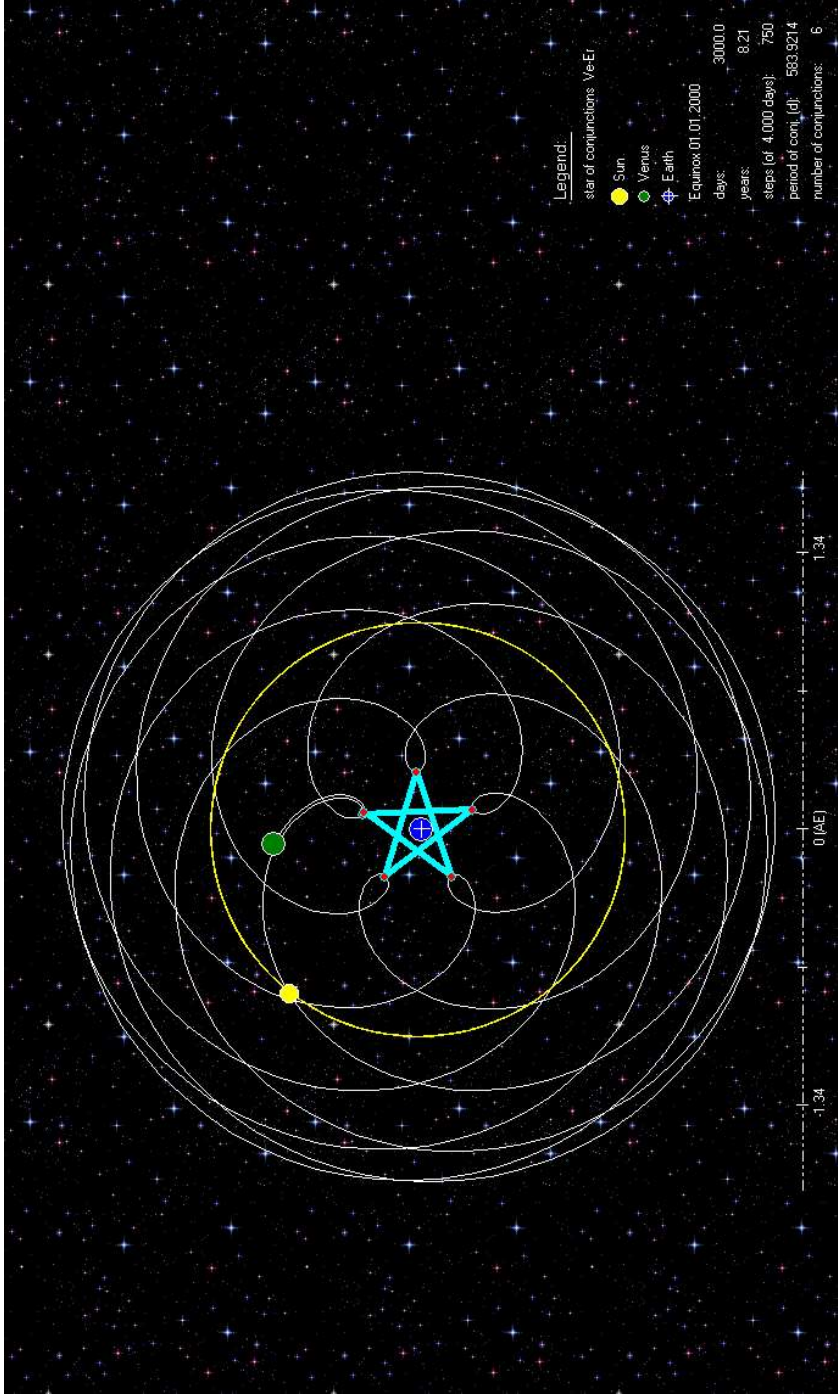
Venus cycles

Venus synodic cycle
(superior
conjunction to next
superior
conjunction
shown), 584 days
average period.
Dates from 22nd
Mar 2021 to 15th
Oct 2022



Images made by Yubraj Sharma using Signature of the Celestial Spheres program (software available www.keplerstern.com)

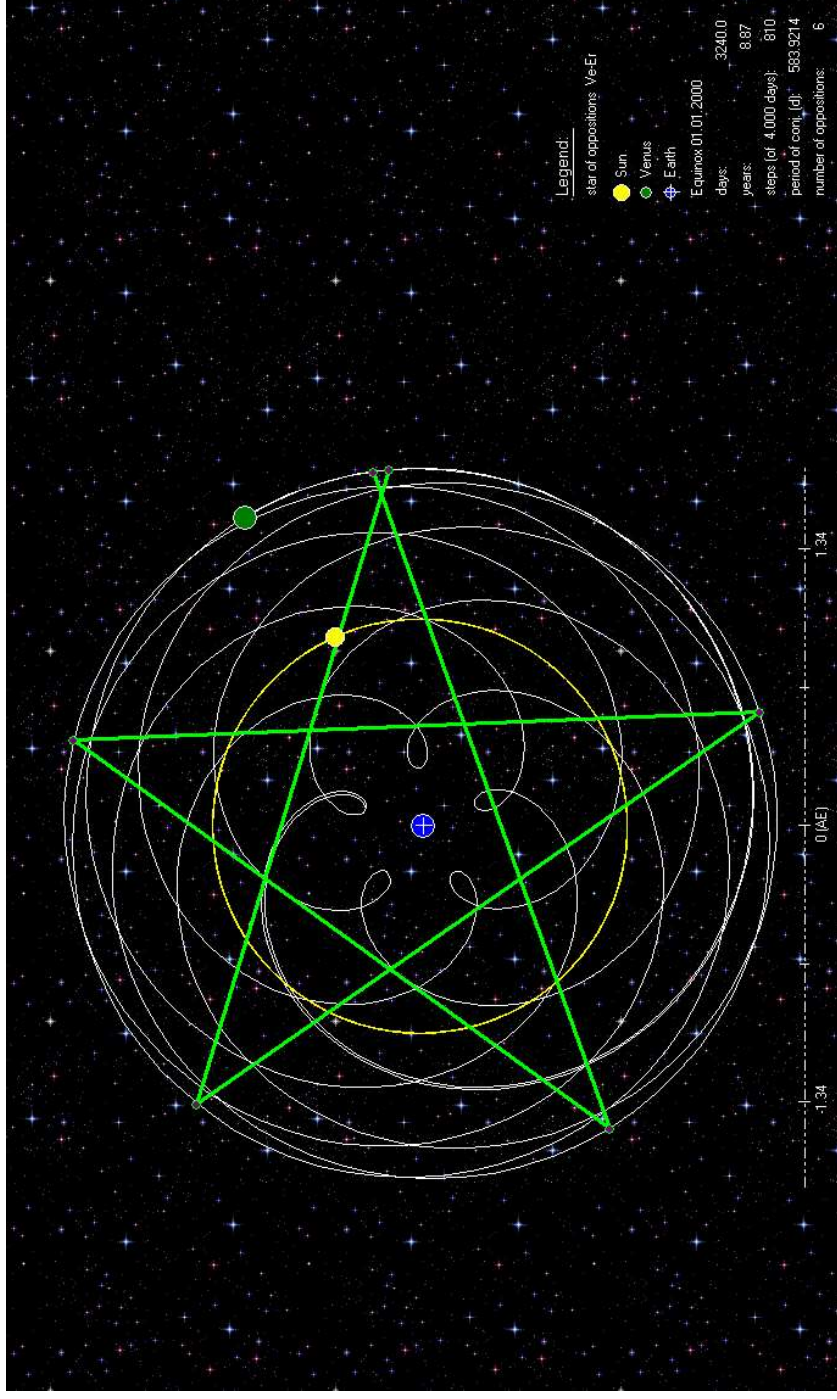
Venus cycles



The five upper conjunctions between sun and Venus during the course of eight Earth years ($5 \times 1 \frac{3}{5}$ years = 8 years) describe a pentagon (whereas Mercury-Sun conjunctions describes a hexagon during the course of 1 Earth year).

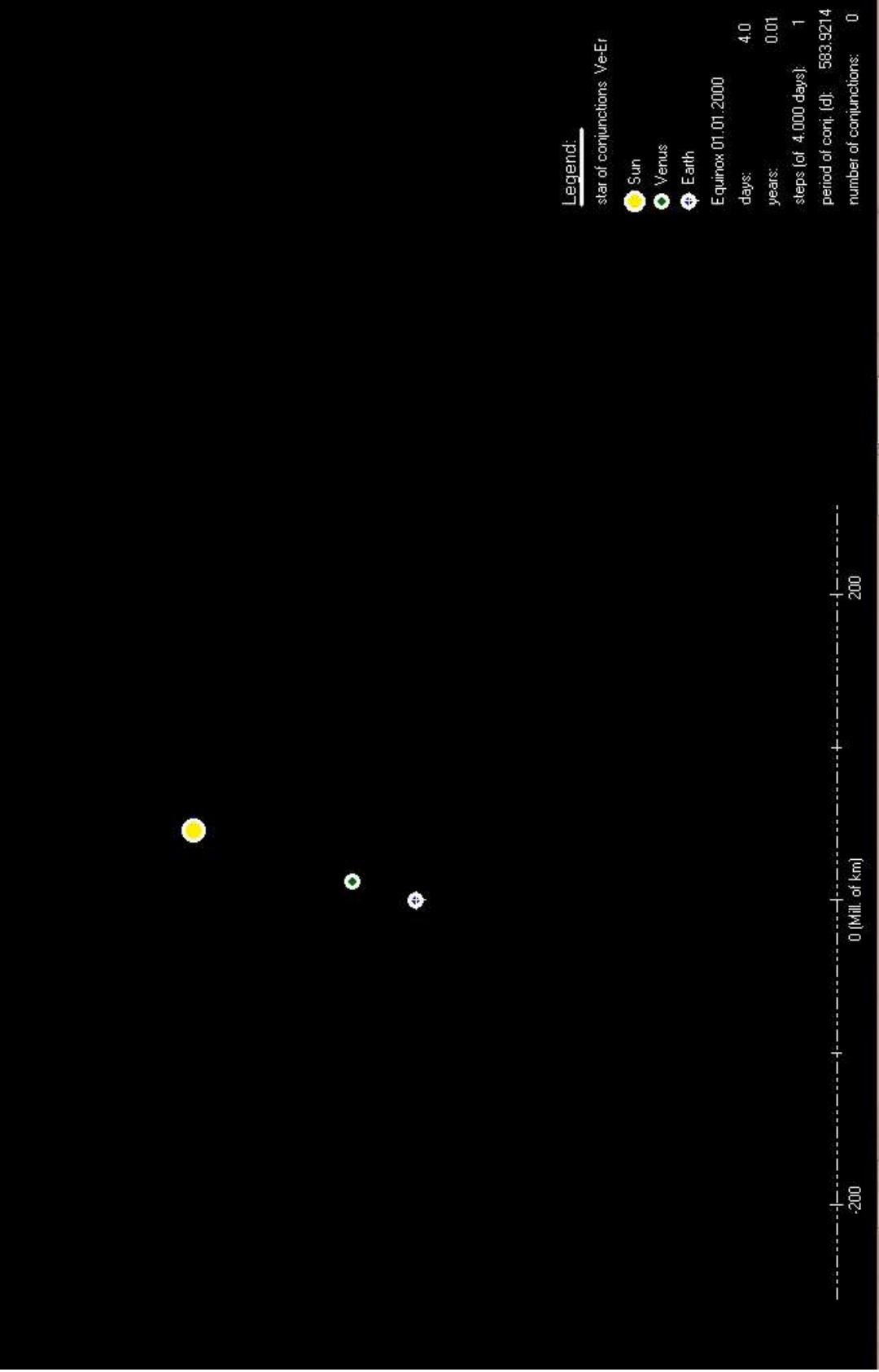
Venus synodic cycle, geocentric view, from 2012 Venus transit (5-06-2012) to 2020 (8 year cycle). Sun's orbit shown, inferior conjunctions of Venus shown with pentagon. Images made by Yubraj Sharma using Signature of the Celestial Spheres program (software available www.keplerstern.com)

Venus cycles



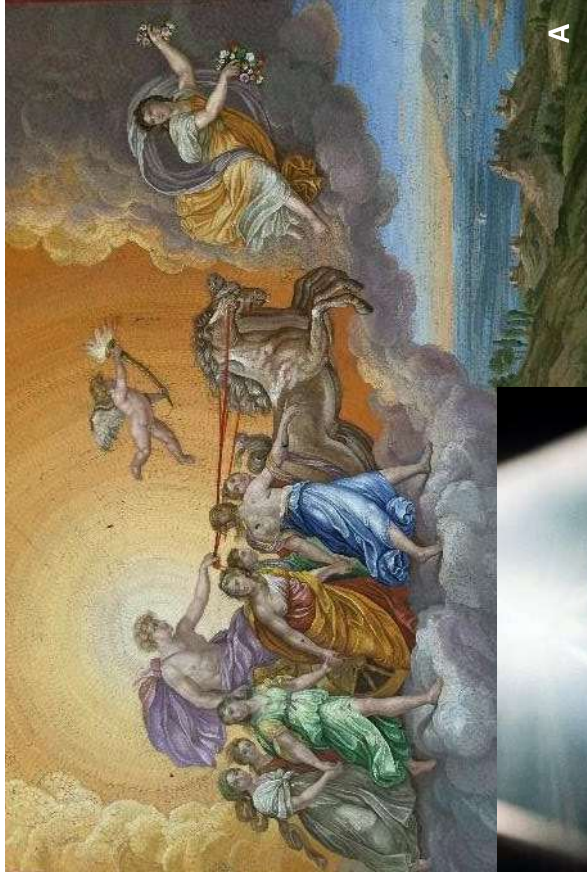
Start date 1st June 2012, Venus transit (5-06-2012) to 2020 (8 year cycle). Sun's orbit shown, superior conjunctions of Venus shown with pentagon. Images made by Yubraj Sharma using Signature of the Celestial Spheres program (software available www.keplerstern.com)

Venus synodic cycle, geocentric view.
There is nearly a orbital resonance, in 8 Earth orbits there are 13 sidereal Venus orbits. But there is a 1.5° mismatch after one 8:13 cycle, and the whole cycle thus randomizes around the zodiac in 1000 years. This is not regarded as a mean-motion (orbital) resonance.



Flower has structured Sunspace

The relationship between Mercury and moon is not paralleled by Venus and moon. Instead Venus rhythms are more closely tied to the course of the sun. Thus between the sidereal (i.e. relative to zodiac, 225 days) & synodical cycle (i.e. relative to earth, 584 days) of Venus, 359 days pass, during which sun moves through nearly the entire zodiac.



D



B

A: Table top depicting Aurora and the Chariot of Apollo. Guido Reni (1575–1642). Metropolitan Museum of Art. Accession number 2016.709. Public domain CCO. https://commons.wikimedia.org/wiki/File:Table_top_depicting_Aurora_and_the_Chariot_of_Apollo_MET_SF2016_709_img5.jpg

B: AS07-08-1933 (20 Oct. 1968) Morning sun reflects on Gulf of Mexico & Atlantic Ocean, seen from Apollo 7 spacecraft at altitude 120 nautical miles above Earth. Public Domain (CC0). <https://images.nasa.gov/details-as07-08-1933>

C: Bee-goddess. Gold plaques, 7th c. BC. Photo: Jastrow (2006). British Museum. Room 13, Greece & Rome. Acc. number GR 1860.4-123.4.

https://commons.wikimedia.org/wiki/File:Plaque_bee-goddess_BM_GR1860.4-123.4.jpg

D: Sunspace: bees, Apollo forces, structured light. Caroline Hamilton. Spiritual Bioenergetics of Homoeopathic Materia Medica vol 2, Yubraj Sharma. <https://openstax.org>



E

Flower as a higher order structure

- ❑ The flowers elevate the plant above mere vegetable life. The blossoms may develop high above the leaves through intense stretching of the shoot.
- ❑ With its leaves, the plant is connected with the sun, to produce nutrition. The green bud leaves now change into colored petals. The plant as a whole turns with its flower to the sun.
- ❑ Depending on the species, the blossoming is affected by day length and solar cycles over the year, or longer periods (some plants only flower after many years).



Middle: *Lavandula angustifolia*. Author Franz Eugen Köhler, Köhler's Medizinal-Pflanzen. Public domain.

https://commons.wikimedia.org/wiki/File:Lavandula_angustifolia_-_Köhler-s_Medizinal-Pflanzen-087.jpg

Right: *Lavandula angustifolia*, flowers. H. Zell. CC BY-SA 3.0.

https://commons.wikimedia.org/wiki/File:Lavandula_angustifolia_003.JPG



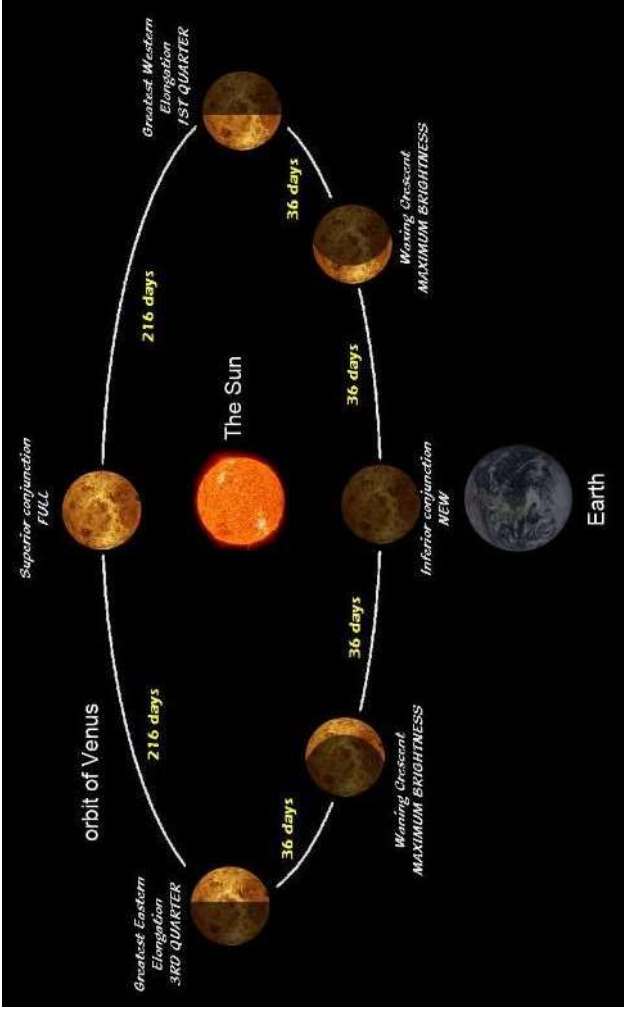
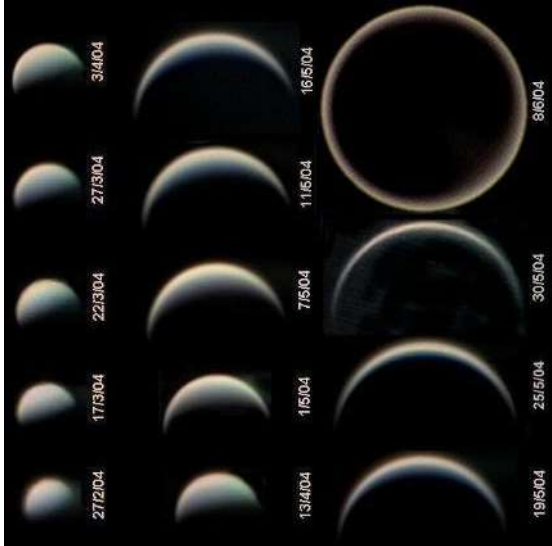
Venus cycle and phases

During one synodical Venus period, from superior Venus conjunction to another, Venus moves slowly east, then moves faster west through an inferior conjunction.

The cycle can be divided approximately into segments of 36 days or 72 days. Thus 216 days 3 x 72 days. And 72 days is about 1/5th of an earth year.

The synodic period fluctuates between 577 to 592 days, averaging 584 days.

Venus apparent size varies more than other planets, from superior to inferior conjunction it appears 7 times larger.

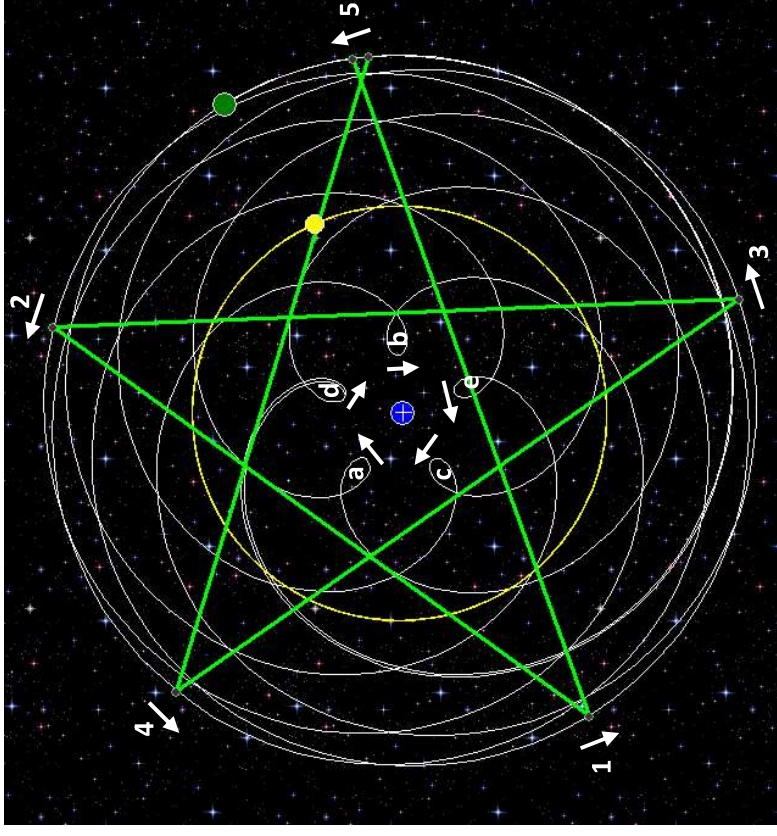


Right: Phases of Venus as seen from the Earth. NASA source images, modified by Jcpag2012, Rachel Knott. CC BY-SA 3.0. Retrieved from: https://commons.wikimedia.org/wiki/File:The_Phases_of_Venus.jpg (Additional annotation Yubraj Sharma)

Left: Phases of Venus and evolution of its diameter. Author Statix Kalyvas - VT-2004 programme. https://commons.wikimedia.org/wiki/File:Phases_Venus.jpg

Venus-Sun conjunctions

- ❑ Thus, during the eight-year cycle of Venus and the sun, there are five upper conjunctions where Venus moves east and, five intermediate inferior conjunctions.
- ❑ The directions of Venus movements at the five superior and five inferior conjunctions are marked with arrows.
- ❑ The calyx of the double perianth in dicotyledons is an image of slower Venus away from the sun during superior conjunctions. The five petals reflect quicker Venus at inferior conjunctions.



Stages of floral development of *Berberidopsis corallina* (Berberidopsidaceae). Early stage of perianth initiation showing two pentamerous whorls of tepals arising in spiral sequence. Arrow points to the sixth tepal initiating a second 'whorl'.
 Fig. 2A, Louis P. Ronse de Craene, Are Petals Sterile Stamens or Bracts? The Origin and Evolution of Petals in the Core Eudicots. *Annals of Botany*, Vol. 100(3), Sept. 2007. <https://doi.org/10.1093/aob/mcm076> Oxford University Press.

Flower development sequence

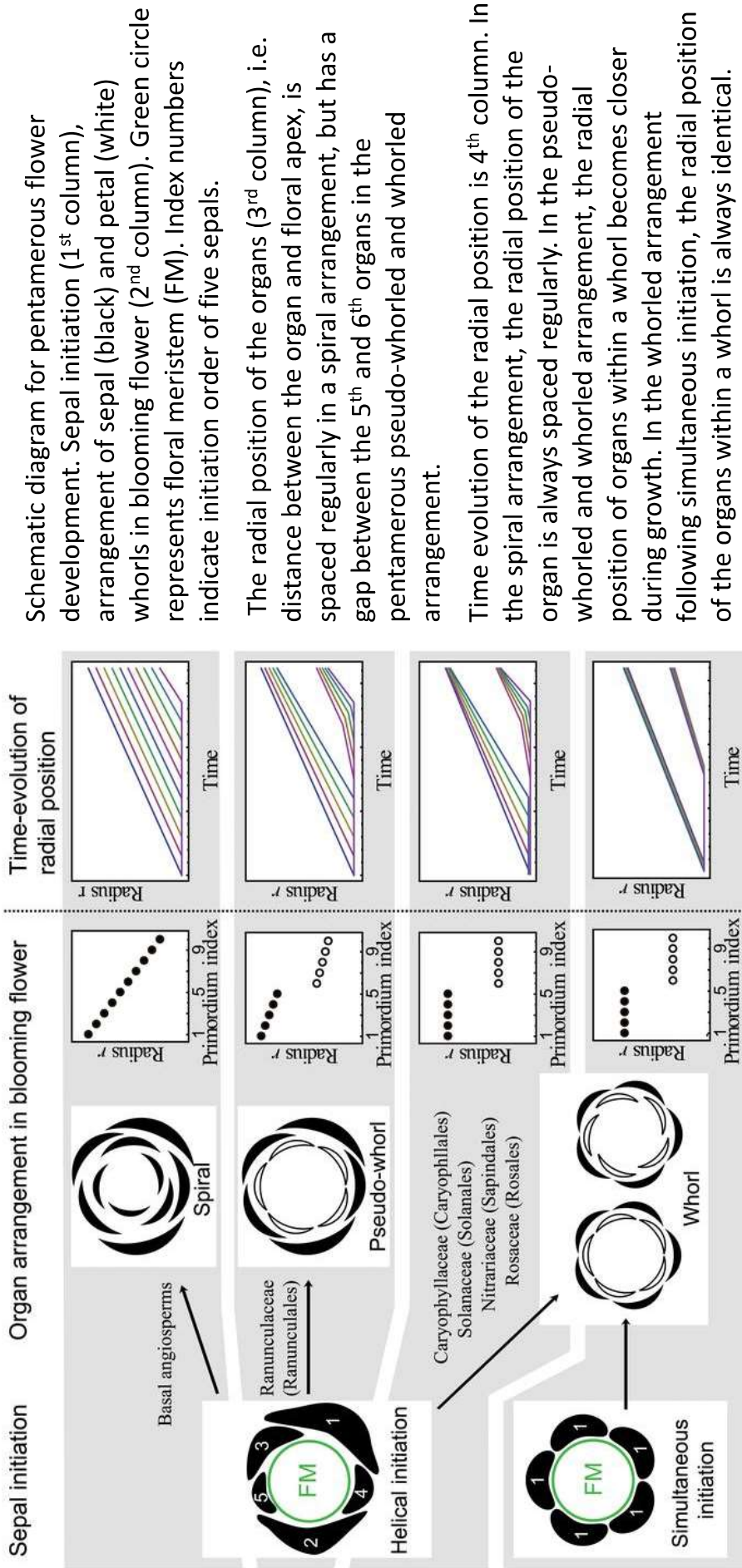


Figure 1 from: Kitazawa MS, Fujimoto K (2015) A Dynamical Phyllotaxis Model to Determine Floral Organ Number. *PLoS Comput Biol* 11(5): e1004145. doi:10.1371/journal.pcbi.1004145

Venus flowers examples: Aconitum sp.



Left: Author Franz Eugen Köhler, Köhler's Medizinal-Pflanzen. In the public domain. Retrieved from: https://commons.wikimedia.org/wiki/File:Aconitum_napellus_-_Köhler-s_Medizinal-Pflanzen-151.jpg

Right: author Yubraj. Aconitum napellus, Kew botanical gardens.

Venus flowers examples: Rosa



Left: Rosa canina. Author Otto Wilhelm Thomé (1840–1925). Source Prof. Dr. Otto Wilhelm Thomé; Flora von Deutschland, Österreich und der Schweiz -1885, Gera, Germany - www.biolib.de (<http://www.biolib.de>) In public domain. Retrieved: https://commons.wikimedia.org/wiki/File:Illustration_Rosa_canina1.jpg
Right: Rosa damascene. Cultivar: Rose de Resht. Author Kurt Stüber (<http://www.kurtstueber.de/>). Permission GFDL (<http://caliban.mpiz-koeln.mpg.de/mavica/fdl.txt>). CC BY-SA 3.0. Retrieved from: https://commons.wikimedia.org/wiki/File:Rosa_damascena5.jpg

Venus flowers examples: Passiflora



Left: Passion flower at Wave Hill Gardens, Riverdale, New York. Author: Oliver P. Quillia. 08-04-2008. CC BY-SA 3.0. Retrieved from: https://commons.wikimedia.org/wiki/File:OQ_Passion_flower.jpg

Right: Bracts of Passiflora foetida growing wild in Salem, India. Original author: Vvenka1. CC BY-SA 2.5. Retrieved from: https://nl.wikipedia.org/wiki/Bestand:P_foetida_bracts.jpg

Passionflower opening animation

<https://plantsinmotion.bio.indiana.edu/plantmotion/flowers/flower.html>

Venus flowers examples: Pulsatilla vulgaris



Pulsatilla vulgaris, Saarland Germany. Photographer Orchi. CC BY-SA 3.0. https://commons.wikimedia.org/wiki/File:Pulsatilla_vulgaris_Saarland_02.jpg

Moon influenced flowers – Cereus, night-blooming cacti



These cacti only flower at night-fall, with short-lived blossoms, they wilt by dawn. One species, ***Selenicereus grandifloras*** only flowers for a single night, once in the year. Flowers are generally white or very pale shades, usually large and fragrant. Plants in the same geographical location tend to flower on the same night (lunar influence within etheric field).

Upper left: Selenicereus grandiflorus bud. Author: Michaela Wenzler. Retrieved from: <https://pixabay.com/photos/queen-of-the-night-5263741>
Right: Author dafiana. Source: Selenicereus grandiflorus (<https://www.flickr.com/photos/72378197@N00/3612435917/>) Uploaded by Epibase. Creative Commons Attribution-Share Alike 2.0 Generic licence. Retrieved from: [https://commons.wikimedia.org/wiki/File:Selenicereus_grandiflorus_\(3\).jpg](https://commons.wikimedia.org/wiki/File:Selenicereus_grandiflorus_(3).jpg)
Lower left: Raimund Depner. Selenicereus pteranthus Blüte; Am Morgen danach; Juni 2004 Heilbronn. Creative Commons Attribution-Share Alike 3.0 Unported licence. Retrieved from: https://commons.wikimedia.org/wiki/File:Selenicereus_grandiflorus_am_Morgen_danach.jpg

Moon flower opening animation

<https://plantsinmotion.bio.indiana.edu/plantmotion/flowers/flower.html>

Ergot, Secale



Clockwise from left: **Claviceps purpurea**. Author Dominique Jacquin. In public domain. Retrieved from: https://commons.wikimedia.org/wiki/File:Claviceps_purpurea.JPG
Claviceps purpurea. Author Dominique Jacquin. Creative Commons Attribution-Share Alike 4.0 International. Retrieved from: https://commons.wikimedia.org/wiki/File:Phalaris_arundinacea_Claviceps_purpurea.JPG
Examination of a Witch. Artist Tompkins Harrison Matteson (1813–1884). Peabody Essex Museum. Retrieved: <https://commons.wikimedia.org/wiki/File:Matteson-witch.jpg>
Medication methylergometrine maleate (Methergin). Author Harmid. In public domain. Retrieved: https://commons.wikimedia.org/wiki/File:Moederkoornpreparaat_Methergin.jpg
Ergotism in hands, public domain image
Hordeum vulgare (barley) with *Claviceps purpurea*. Author Dominique Jacquin. Creative Commons Attribution-Share Alike 3.0 Unported. Retrieved from: https://commons.wikimedia.org/wiki/File:Hordeum_vulgare_Claviceps_purpurea_23-7-2009.JPG

Moon flowers examples: *Papaver somniferum*



Left: *Papaver somniferum*. Author liz west. Source poppy stages (<http://www.flickr.com/photos/53133240@N00/2626668070/>) Uploaded by Epibase. CC BY 2.0. Retrieved from: [https://commons.wikimedia.org/wiki/File:Papaver_somniferum_\(3\).jpg](https://commons.wikimedia.org/wiki/File:Papaver_somniferum_(3).jpg)

Right: *Opium* pod cut to demonstrate fluid extraction. Author KGM007. In public domain. Retrieved from: https://commons.wikimedia.org/wiki/File:Opium_pod_cut_to_demonstrate_fluid_extraction1.jpg

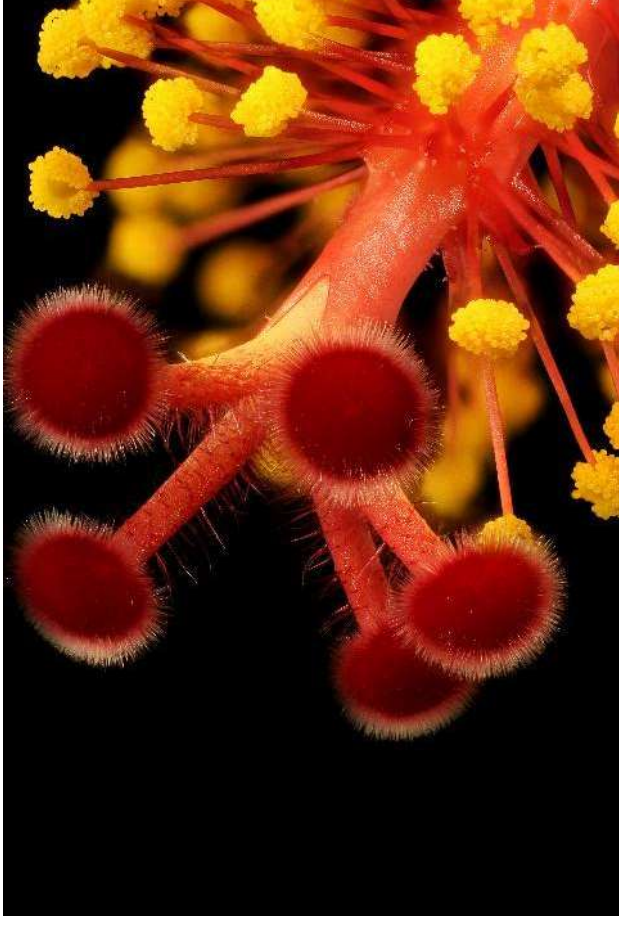
Mars and stamens



Joseph Benoit Suvée. 1743-1807 Bruges et Rome. Le Combat de Minerve contre Mars. <https://www.flickr.com/photos/mazanto/14231843071>

Ovary and pollination, Mars

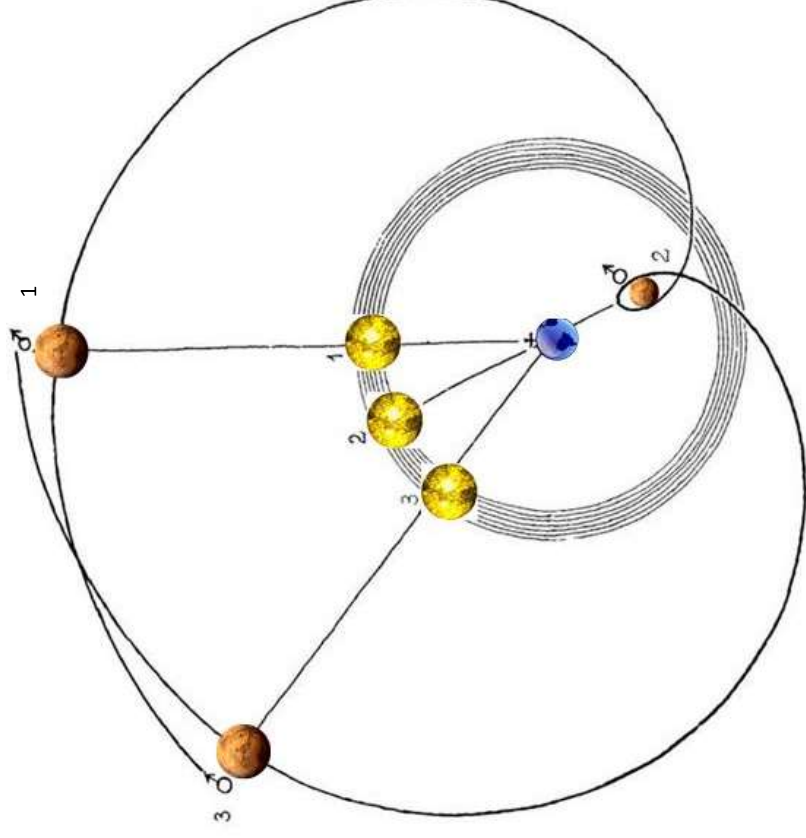
- ❑ The stamens and the pistil, are quite opposite organs. The stamens with their anthers and pollen reach far beyond the shoot. The pistil relates to the surrounding space through stigma and centers in the ovary.
- ❑ The moon creates a space around the earth with circulating reflection that permeates pistil and ovary. The effects emanating from the sun and Mercury reach the earth in two ways: once directly and once as reflected by the moon.
- ❑ The anthers are not only above the receptacle, but also above the ovary. In these formative processes, it the influence of Mars which (a) in contrast to Mercury and Venus is no longer tied in its movement to the immediate sun-sphere, but (b) moves in the periphery of the sun's sphere, and (c) still comes close to the moon's sphere.



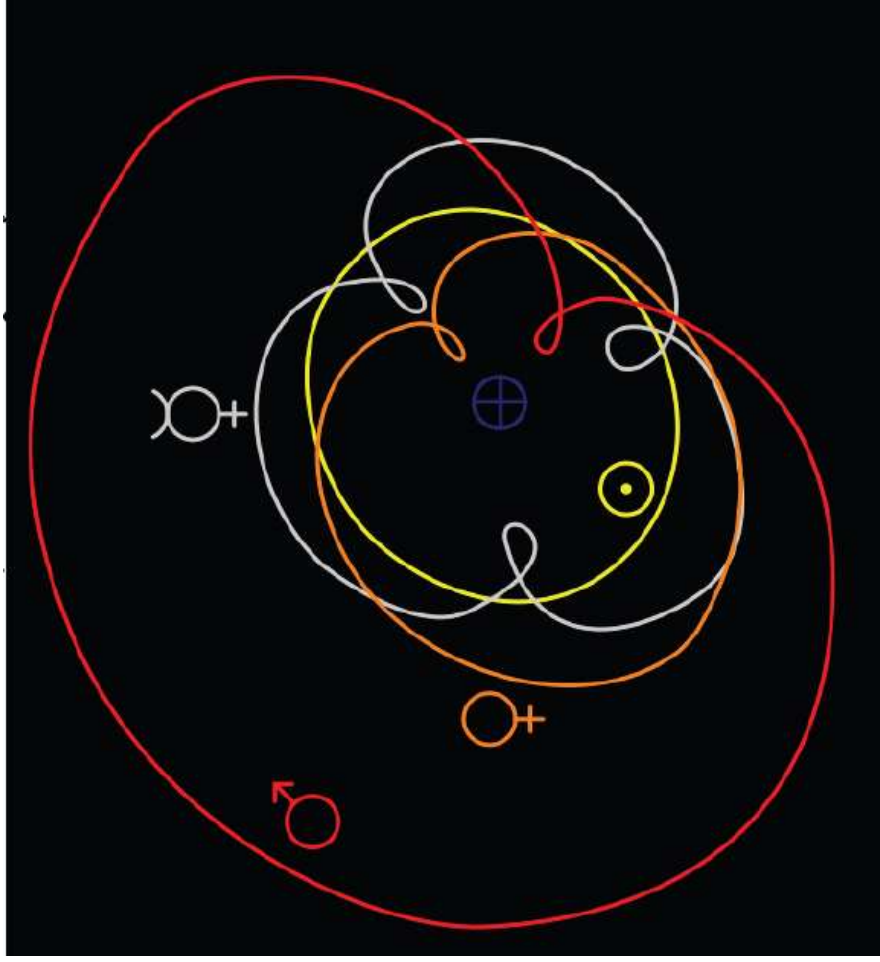
Author Benjamin Smith. A stigma is the female receptive part of a flower. It is supported by the style. When styles are fused, the collective along with the ovaries, are referred to as a pistil. The anthers are the male capsules which contain pollen. They are supported on filaments. Together, the anther and filament are referred to as a stamen. CC BY-SA 2.0. [https://commons.wikimedia.org/wiki/File:Hibiscus_pistil_and_stamens_\(14246111978\).jpg](https://commons.wikimedia.org/wiki/File:Hibiscus_pistil_and_stamens_(14246111978).jpg)

Mars cycle

- ❑ Of all the planets, Mars has the longest synodical cycle, with an average of 2 years and 50 days (1→3).
- ❑ In just more than one year, it moves into opposition to the sun (1→2). Here it penetrates deeply into the sun's sphere. Following opposition, Mars and sun slowly approach each other. At first, Mars is retrograde.
- ❑ During the second half of the synodical revolution, it pulls away from earth until its next conjunction with the sun (2 →3). Here it moves away from the earth and moon-sphere, and far into the space beyond the sun's sphere.
- ❑ This expansion in movement manifests in the pollen—originating in the anthers—carried beyond the shoot, leaves and perianth. During conjunction, the sun moves into the same sphere as the slower Mars. The sun briefly blends with Mars.



Mars cycle



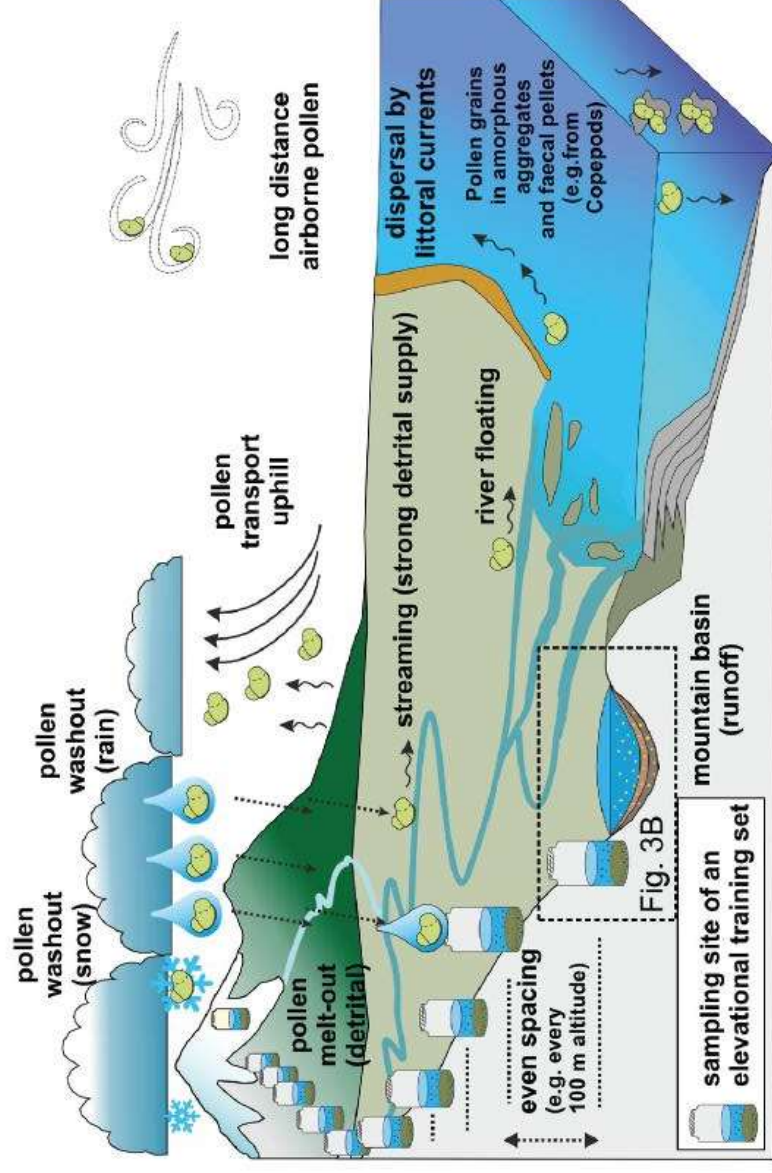
Approximate paths of the inner planets using Earth and background stars as references, showing retrograde loops.

Planet positions provided by Celestia. Image drawn in Macromedia Fireworks MX 2004 by User:Jecowa. CC BY SA 3.0 https://commons.wikimedia.org/wiki/File:Geocentric_movements_of_inner_planets.svg.

Animation of Mars
seen from Earth
geocentric, 1st Jan
2020. Mars has
longest synodical
cycle of all the
planets, of ~ 2
years, 50 days. In
just over 1 year, it
moves into
opposition to sun.
There it penetrates
deeply into the
sun's sphere.
During the second
half of the
synodical cycle, it
pulls away from
earth until its next
conjunction with
the sun.

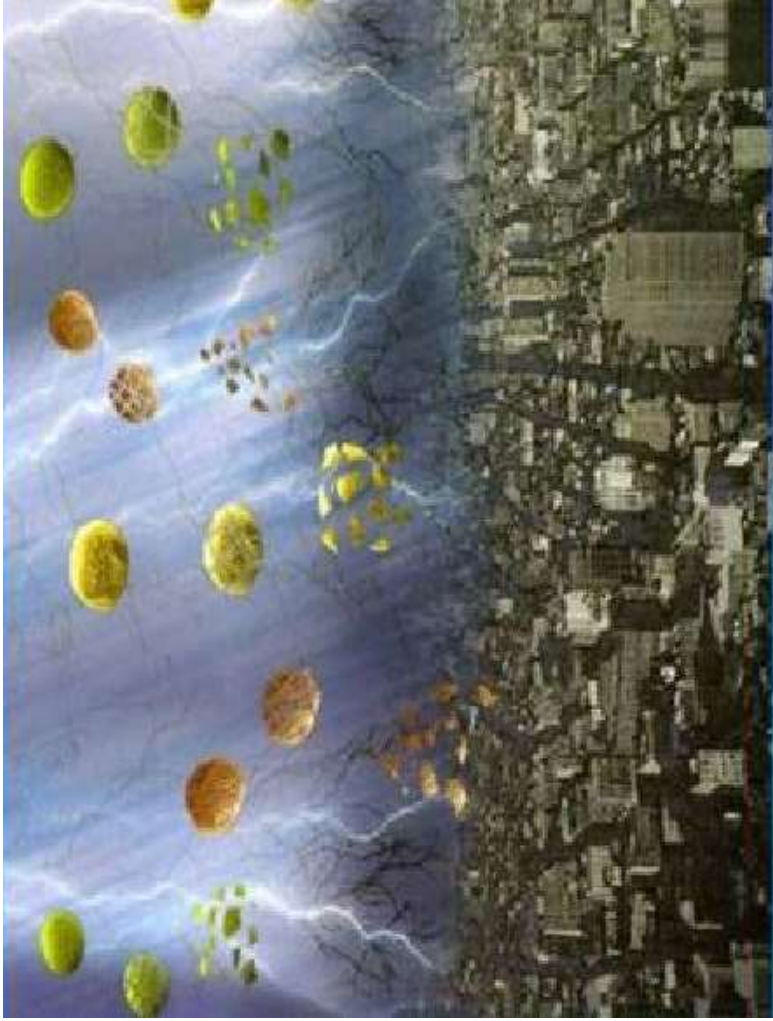
Pollen dispersal

Modern pollen deposition in natural sedimentary environments



Francesca Valle et al. Concepts and methodology
To quantitatively reconstruct climate
From pollen data. DOI 10.4461/GFDQ.2019.42.12

Pollen dispersal



Under wet conditions or during thunderstorms pollen grains may, after rupture by osmotic shock, release part of their cytoplasmic content into atmosphere

Medicinal use of pollen

 Acanthaceae 0 15	 Achariaceae 0 3
 Acoraceae 0 1	 Actinidiaceae 0 1
 Adoxaceae 0 9	 Aizoaceae 0 2
 Alismataceae 0 6	 Astroemerriaceae 0 1
 Altingiaceae 0 1	

 Caryophyllaceae 0 71	 Celastraceae 0 21
 Chloranthaceae 0 1	 Chrysobalanaceae 0 2
 Cistaceae 0 13	 Cleomaceae 0 4
 Clethraceae 0 1	 Clusiaceae 0 7
 Colchicaceae 0 2	



Nourishes blood and essence, restores
neuroendocrine-immune functions, balances
circulation
Stimulates immunity, resolves toxicosis & dysbiosis

Sample images from: Martin, A. C. and Harvey, W. J. (2017), The Global Pollen Project: a
new tool for pollen identification and the dissemination of physical reference
collections. Methods Ecol Evol, 8: 892–897. doi:10.1111/2041-210X.12752.

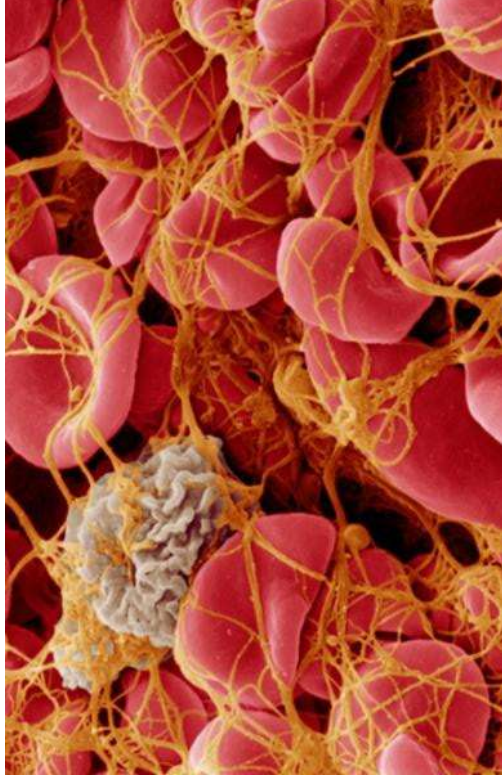


Mars - stamens

Pu Huang. Typhae pollen.

Typha angustifolia

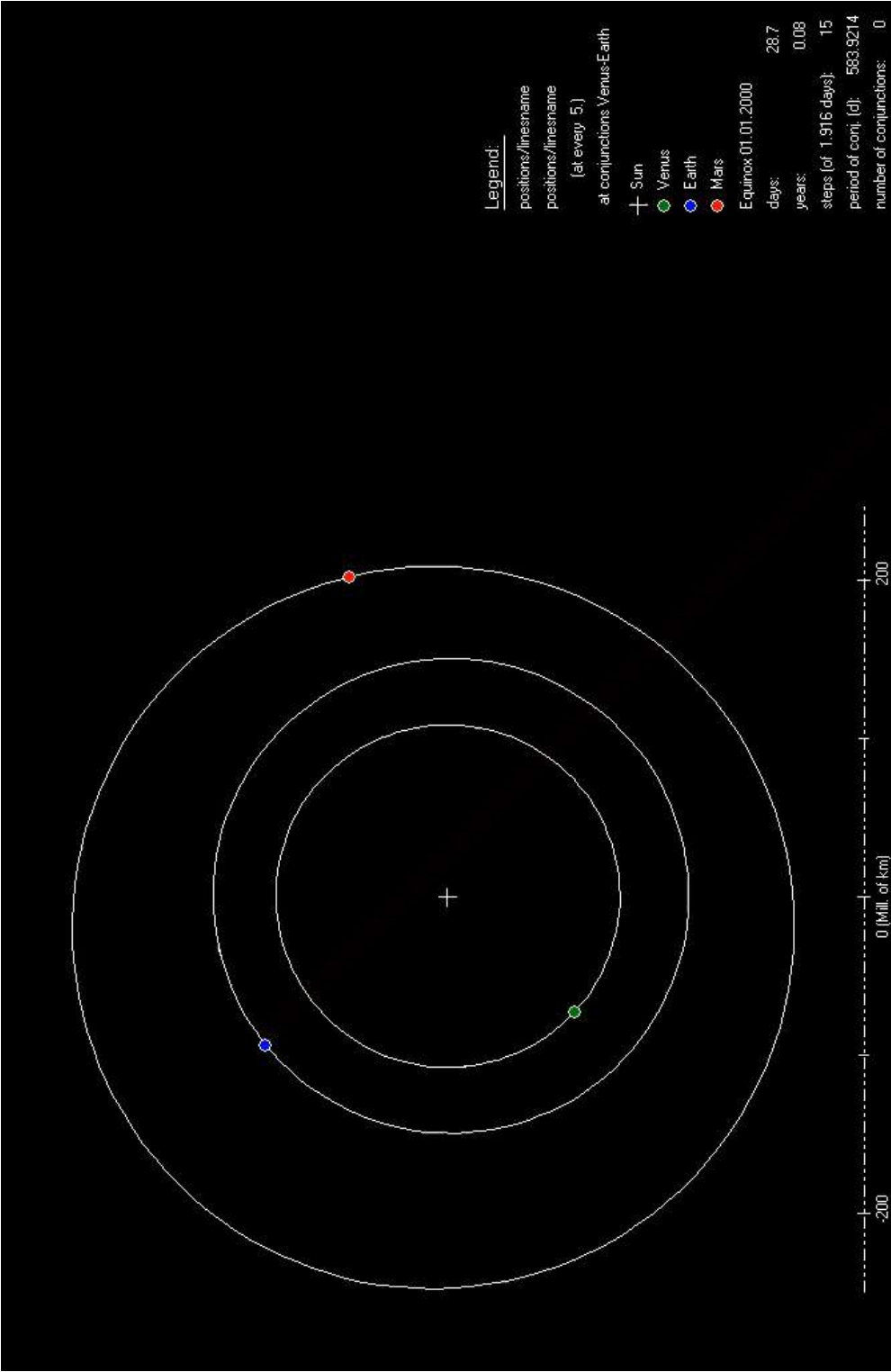
- ☐ Astringent, sweet, acrid
- ☐ Stops bleeding: traumatic injury, internal bleeding.
- ☐ Invigorates the circulation and dispels blood stasis

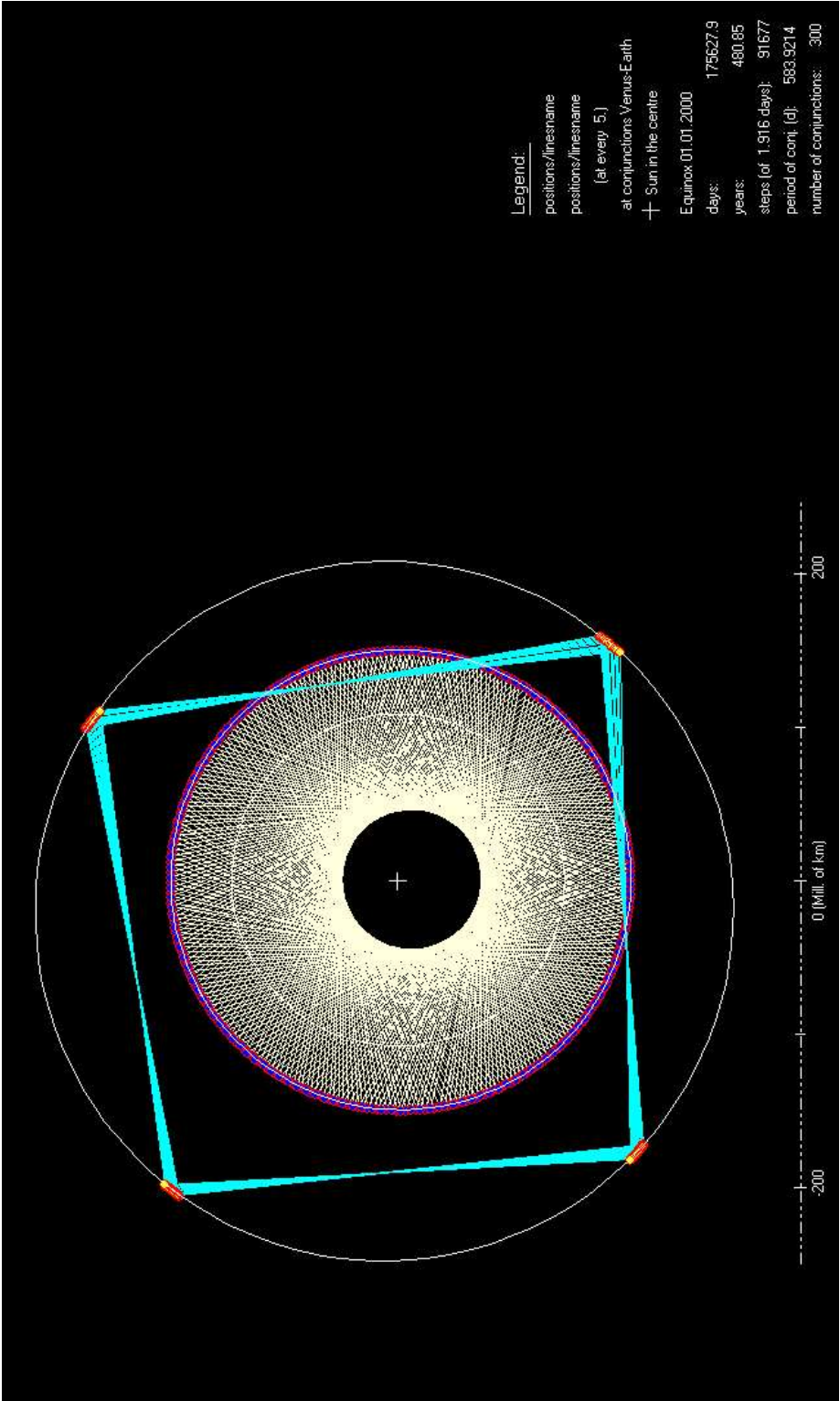


Author: Yubraj Sharma. Typha latifolia, common bulrush. Bristol Botanic Gardens.
 Right: Scanning electron microscopy of blood corpuscles in clot. David Gregory & Debbie Marshall.
 CC BY 4.0. <https://wellcomecollection.org/works/babcqin6>

Positions of Mars at Venus/Earth pentagrams, heliocentric view.

The sequential positions of Mars after every 5 Venus/Earth conjunctions is shown. The 5 Venus/Earth conjunctions corresponds to a pentagram. The time taken for 4 pentagrams is almost identical to 17 orbits of Mars. Hence Mars completes 17/4 orbits in the time taken for 1 pentagram, i.e. 4.25. Thus after each pentagram Mars is another quarter distance along its orbit. After 32 years (4 sets of Venus/Earth pentagrams), Mars will have completed a square pattern.



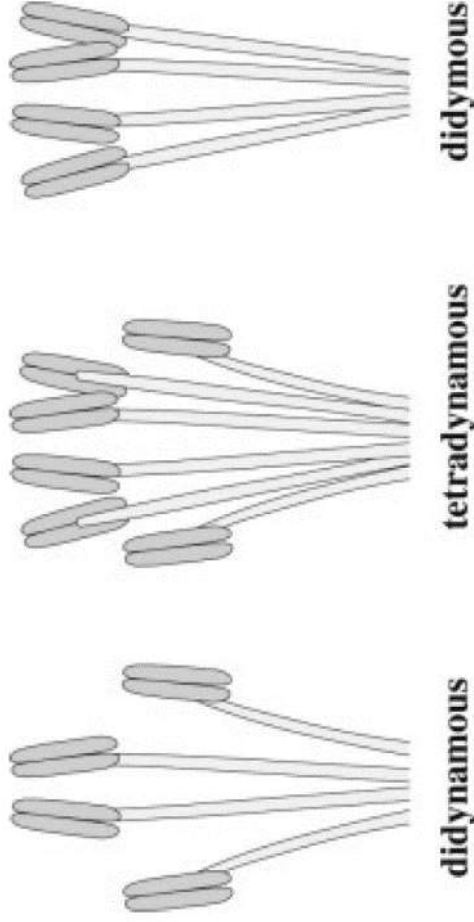


Positions of Mars at Venus/Earth pentagrams, heliocentric view.

This is after 480 years, when there would be 60 Venus/Earth pentagrams (each is 8 years).

The near identical ratio of 4 pentagrams to 17 orbits of Mars is shown by the close alignment of each Mars square at 32 years.

Mars – stamens, example arrangements



- ❑ Two stamen arrangements are spiral, with stamens arranged in a spiral,
- ❑ Or whorled, with stamens in one or more discrete whorls or series.
- ❑ Another stamen arrangement considers the relative lengths of stamens to one another:
 - **didymous**, with stamens in two equal pairs;
 - **didynamous**, with stamens in two unequal pairs (as in many Lamiaceae, Plantaginaceae, etc.)
 - **tetradynamous**, with stamens in two groups of four long and two short (typical of Brassicaceae).

Mars related plants, 4 petalled flower eg Chelidonium treats Mars patterns



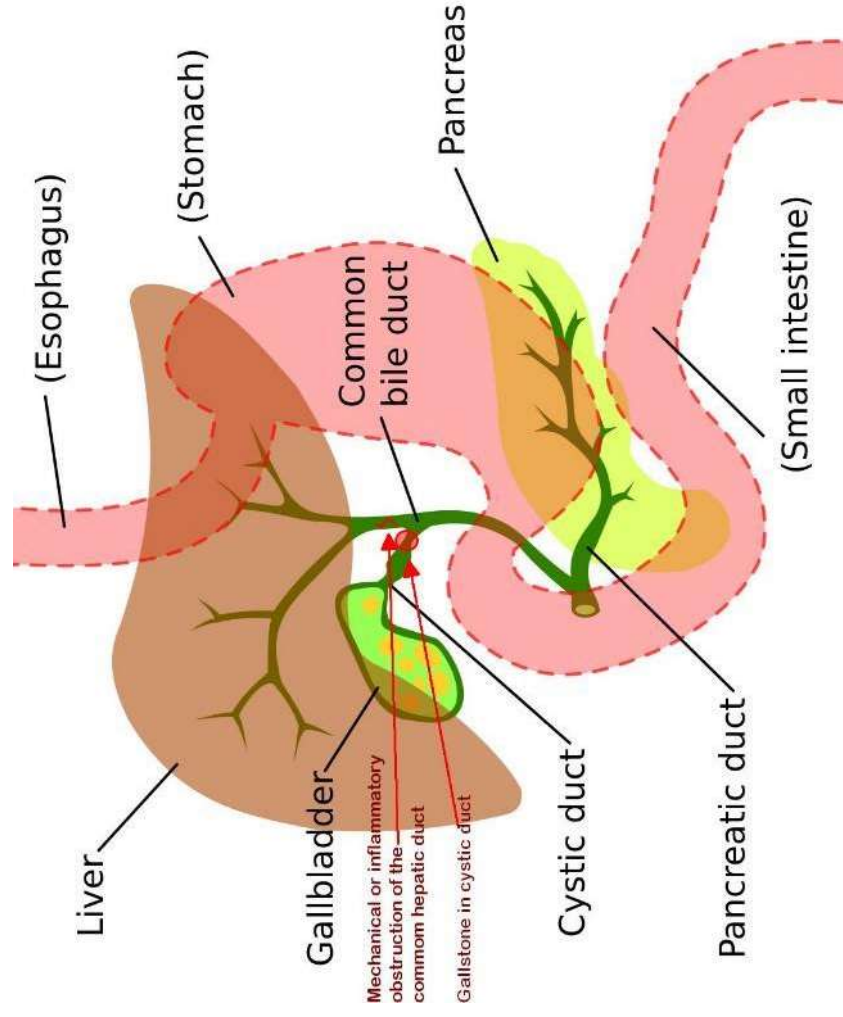
Left: Chelidonium majus. Author Franz Eugen Köhler, Köhler's Medicinal-Plflanzen. 1897. In public domain. Retrieved from:

https://commons.wikimedia.org/wiki/File:Chelidonium_majus_-_Köhler-s_Medizinal-Pflanzen-033.jpg

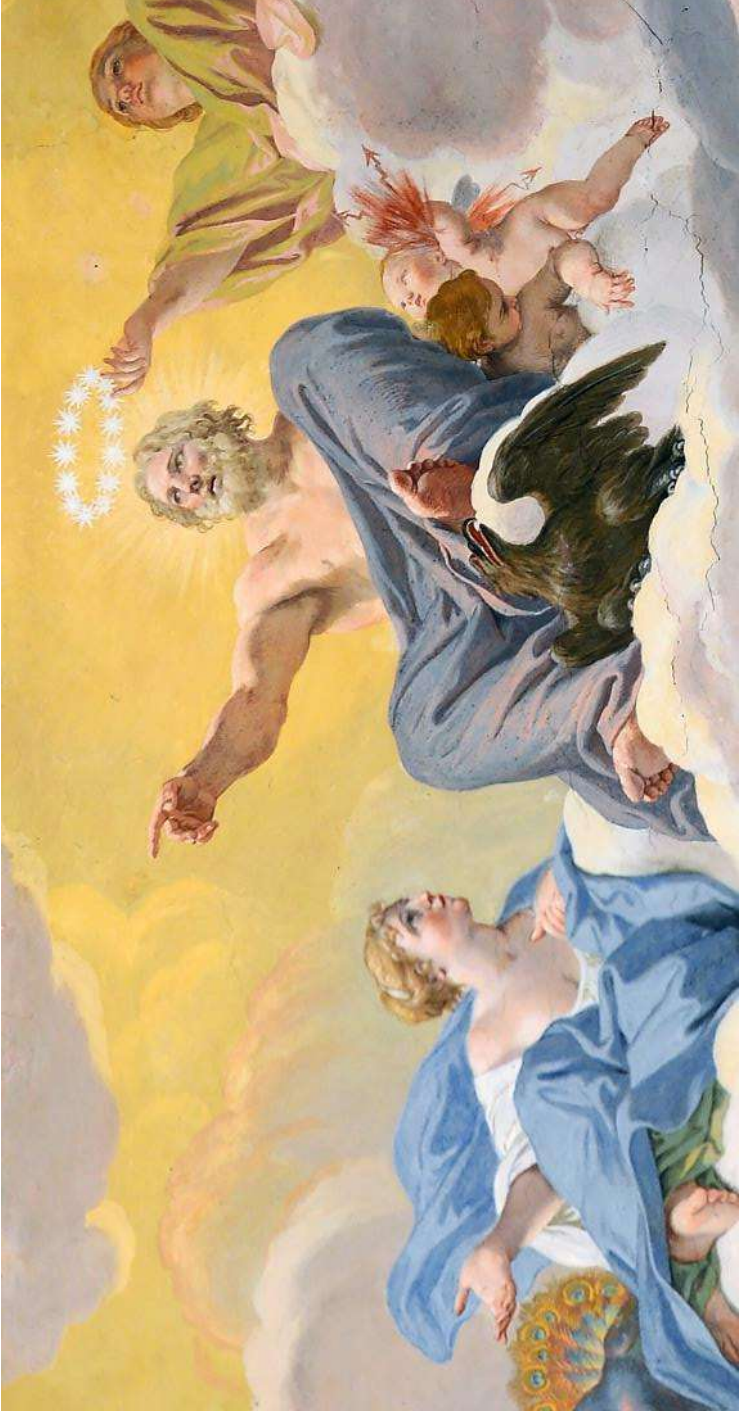
Right: Chelidonium majus at Ponferrada (León, Spain).17th May 2018. Author: Drow male. CC BY-SA 4.0. Retrieved from:

https://commons.wikimedia.org/wiki/File:Chelidonium_majus.001_-_Ponferrada.jpg

Chelidonium and biliary disorders

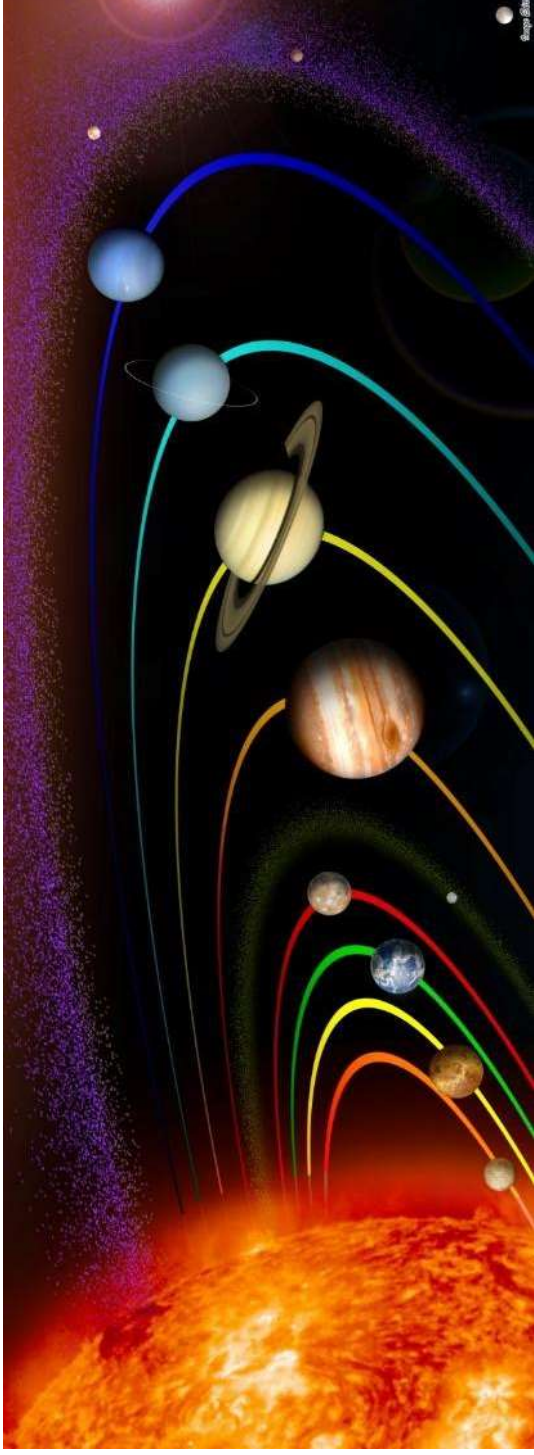


Jupiter



Giovanni Lanfranco (1582–1647), Council of the Gods (detail of Zeus and Hera), Galleria Borghese. Retrieved from: https://commons.wikimedia.org/wiki/File:Zeus_y_Hera_detail_of_'Council_of_the_Gods'_in_Galleria_Borghese_%28Rome%29.jpg

Far planets in the solar system



- ❑ Until Uranus was found by Herschel in 1781, the known far planets were Mars, Jupiter and Saturn. These far planets are not part of the immediate sun-sphere. They encompass the sun's sphere, and that of the earth. Hence geocentrically they can be in an opposition to the sun.
- ❑ Mars mediates between the spheres within the sun's sphere and those that surround it, as mentioned earlier.
- ❑ Jupiter and Saturn, however, move entirely beyond the sun's sphere.

Author: Image Editor (<https://www.flickr.com/people/11304375@N07>). Source: 01 The Solar System PIA10231, mod02 (<https://www.flickr.com/photos/11304375@N07/2818891443/>). Retrieved from: https://commons.wikimedia.org/wiki/File:01_The_Solar_System_PIA10231_mod02_%282818891443%29.jpg

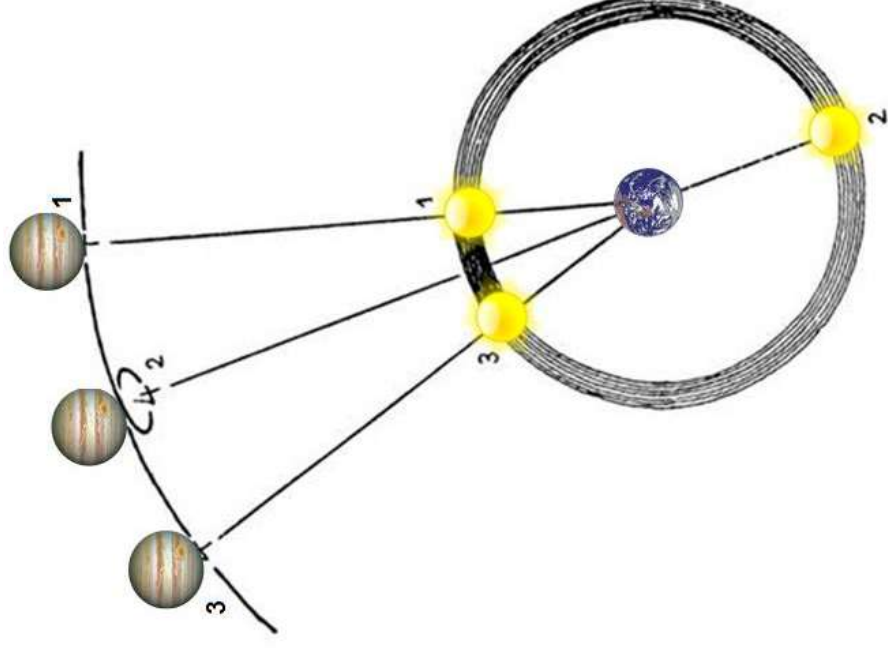
Jupiter synodic cycle

❑ Jupiter also depicts a link between the sun's annual path and the zodiac. Jupiter's sidereal rhythm is approximately twelve years (11.84 years).

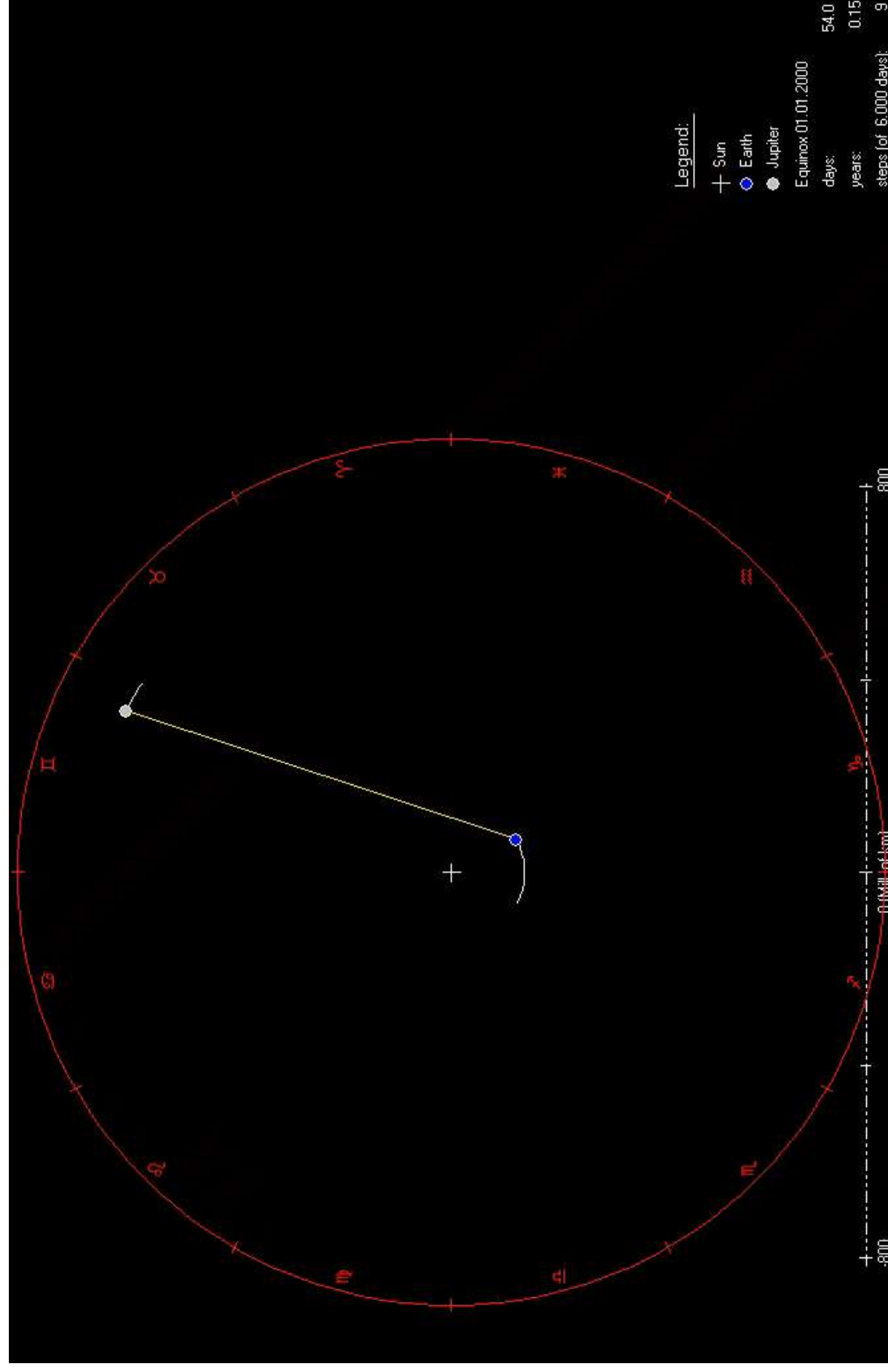
❑ Hence, it takes about one year to move through each sign of the zodiac. While the sun moves once along the whole zodiac, Jupiter reflects an energy from one sign of the zodiac.

❑ In a way, Jupiter is the peripheral aspect of the sun's energy as it moves along that part of the zodiac.

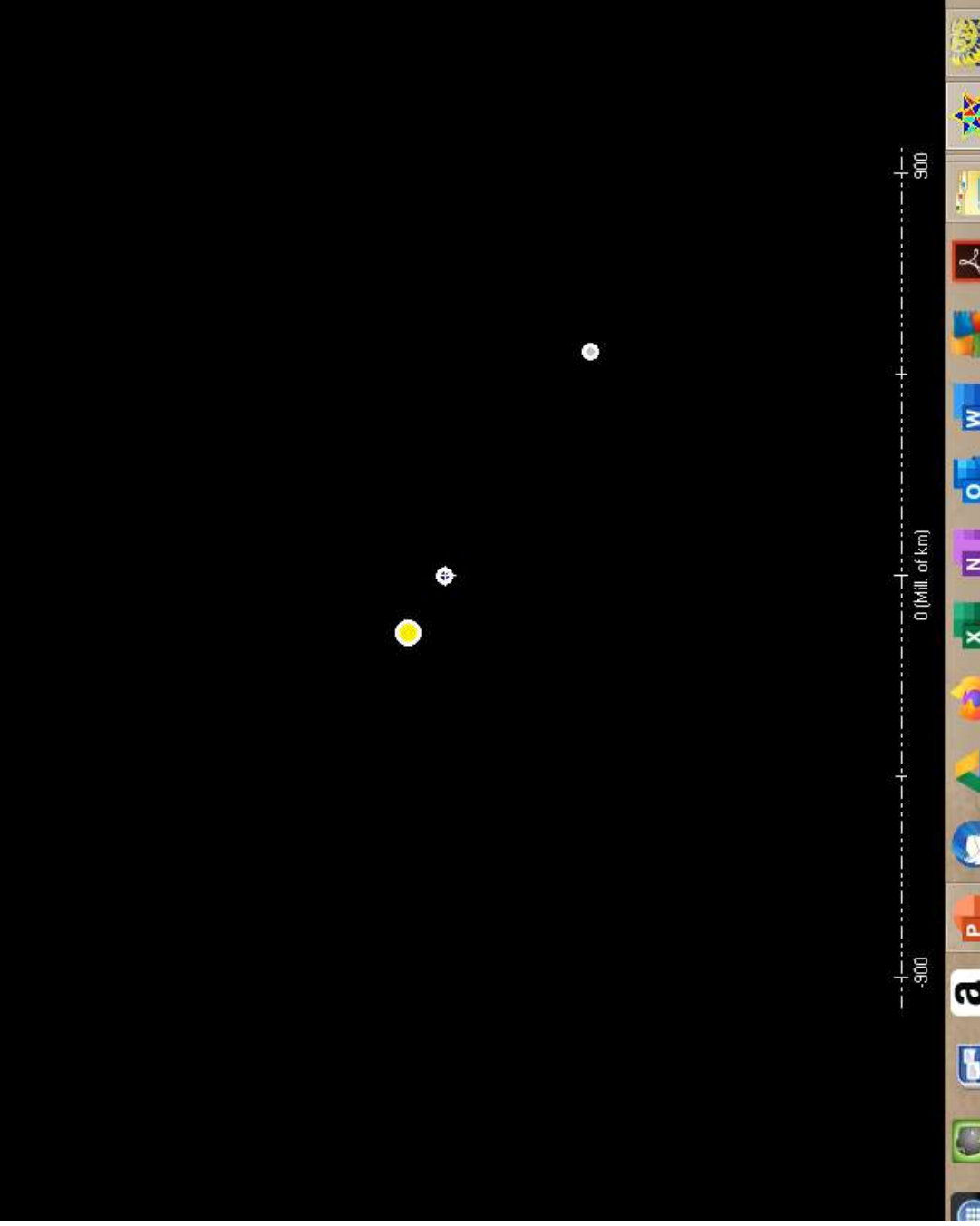
❑ The synodical cycle of Jupiter encompasses 1 year and 33 days ($1 \rightarrow 2 \rightarrow 3$). After a conjunction (1), the sun and Jupiter reach their opposition after a little more than half a year (2). From one conjunction to the next ($1 \rightarrow 3$), Jupiter moves through approximately $1/12$ of the zodiac.



Heliocentric
orbit of
Jupiter,
equates to
1 zodiac
sign per
earth year



Jupiter and Sun
conjunctions, oppositions,
Geocentric view, starting at
opposition on 20th Aug 2021

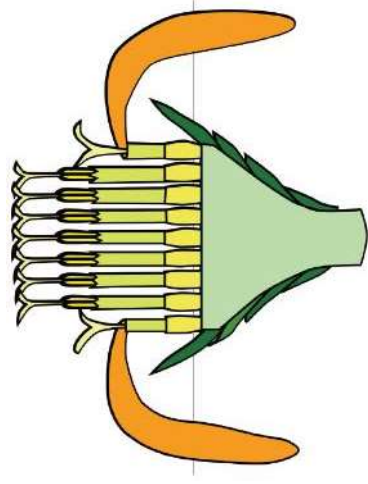


Sunflower opening animation

<https://plantsinmotion.bio.indiana.edu/plantmotion/flowers/flower.html>

Jupiter and more complex inflorescence patterns

- ❑ Jupiter has an influence where the flowering region comprises of numerous individual blossoms in a complex organization or higher order.
- ❑ Typically the shoot axis is first compressed and then expanded into the receptacle.
- ❑ An example are the Asteraceae, with a right cluster of many flowers. Here Jupiter's influence as yet keeps the cluster contracted into one apparent head.
- ❑ For the Apiaceae, where the umbels and double umbels further expand from the shoot tip into surrounding space, Jupiter further opens the arrangement into the periphery.



Top right. Author: Alvesgaspar. *Daucus carota*. CC BY SA 3.0. https://commons.wikimedia.org/wiki/File:Daucus_carota_May_2008-1_edit.jpg

Lower left. Author RoRo. CC0. 1.0. https://commons.wikimedia.org/wiki/File:Plant_morphology_-_inflorescence_asteraceae_compositae_longitudinal_section.svg

Lower right. Asteraceae. *Gazania* sp. A. Radiate head, face view. B. Head, side view, showing involucre. C. Head, longitudinal section, showing compound receptacle, central disk flowers, and peripheral ray flowers. Diversity and Classification of Flowering Plants: Eudicots. Michael G. Simpson, in Plant Systematics (2nd ed), 2010

Medicinal fruits, example Cucurbitaceae family



Author: Crops for the Future. <http://www.cropsforthefuture.org/> Selection of cucurbits of the South Korean Genebank in Suwon. Including luffas (*Luffa aegyptiaca*), wax gourds (*Benincasa hispida*), bottle gourds (*Lagenaria siceraria*), snake gourds (*Trichosanthes cucumerina*), and pumpkins and gourds—squash (*Cucurbita* sp.).
CC BY SA 3.0 Retrieved from: https://commons.wikimedia.org/wiki/File:Cucurbits_%28Cucurbitaceae%29.jpg

Medicinal fruits, example *Trichosanthes kirilowii*

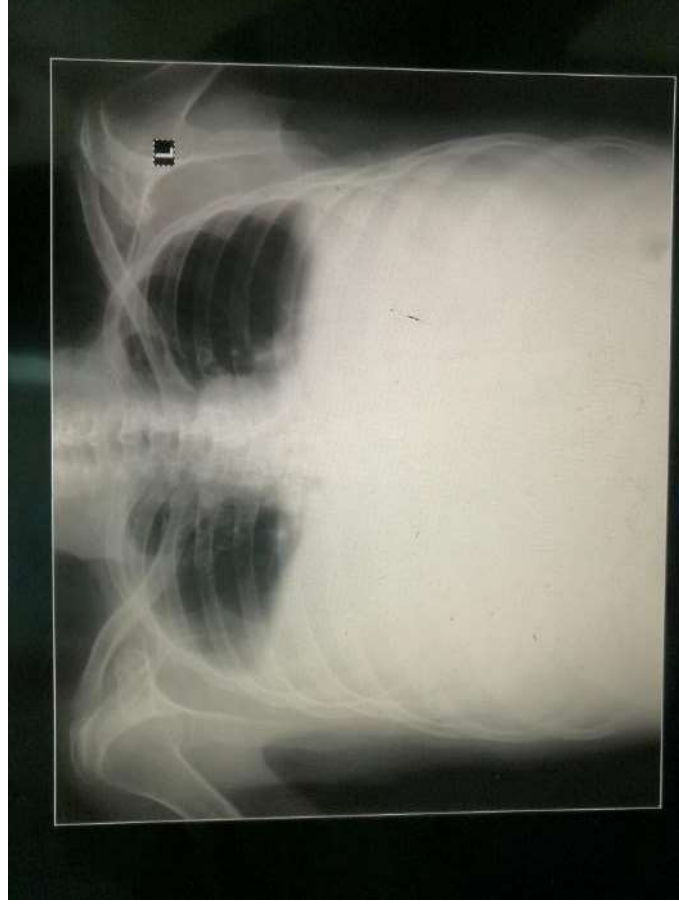
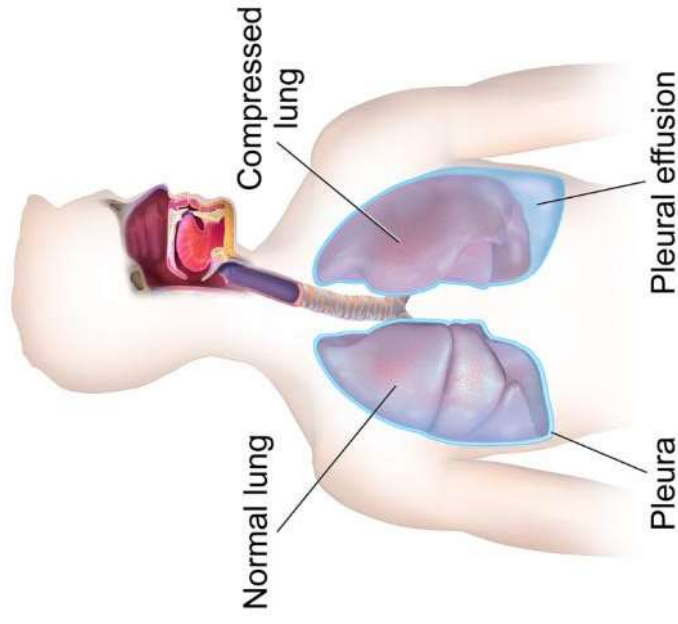


Author: Fanghong. Flowers of Snakegourd. CC BY SA 3.0. <https://commons.wikimedia.org/wiki/File:TrichosanthesKirilowii2.jpg>

Author: 杉山龍彦 CC BY SA 3.0. https://commons.wikimedia.org/wiki/File:Trichosanthes_kirilowii_var_japonica_Fruit.jpg

Author: 杉山龍彦 CC BY SA 3.0. https://commons.wikimedia.org/wiki/File:Trichosanthes_kirilowii_fruits.jpg

Pleural Effusion



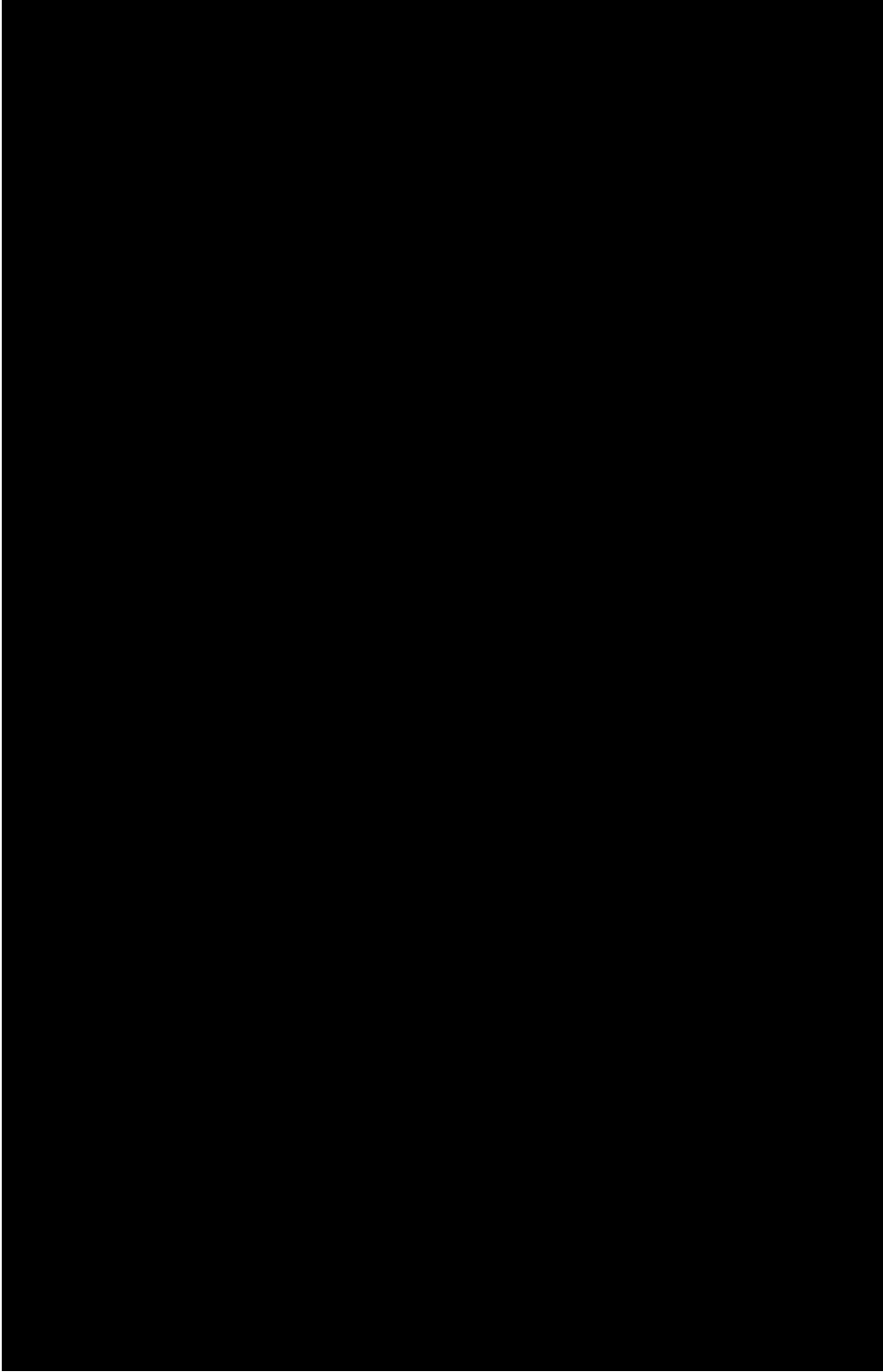
Left: Author BruceBlaus. CC BY SA 4.0. https://commons.wikimedia.org/wiki/File:Blausen_0993_PleuralEffusion.png
Right: Author Sara Nabih. Bilateral pleural effusion. CC BY SA 4.0. https://commons.wikimedia.org/wiki/File:Bilateral_Pleural_Effusion.jpg

Saturn

Jean-Baptiste Mauzaisse (1784–1844). Le Temps montrant les ruines qu'ilamène et les chefs d'oeuvre qu'il laisse ensuiteécouvrir, 1822, plafond de la salle des bijoux, Musée du Louvre, Paris
Retrieved from: <https://commons.wikimedia.org/wiki/File:Mauzaisse.jpg>

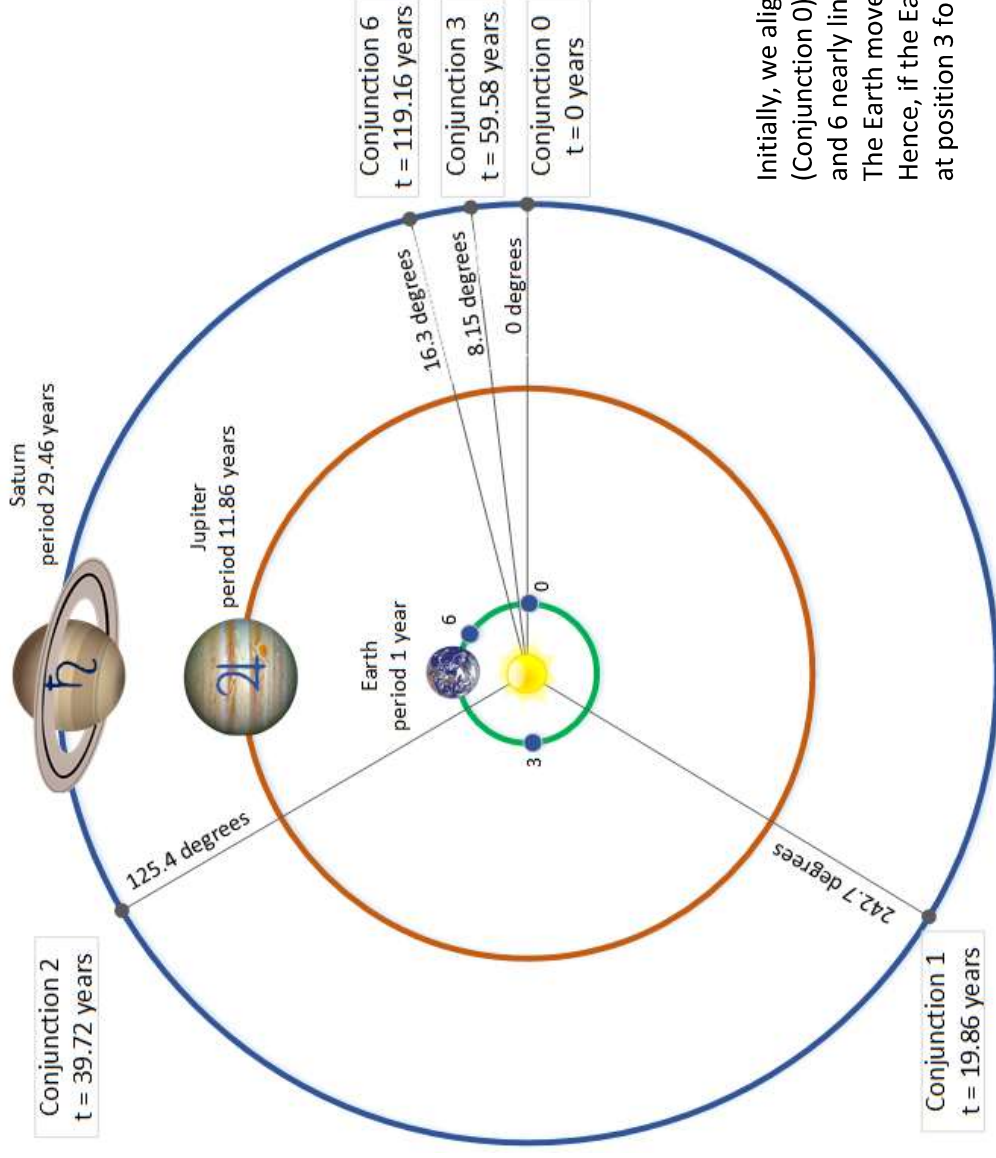


Heliocentric
orbit of Saturn,
equates to 29
earth years



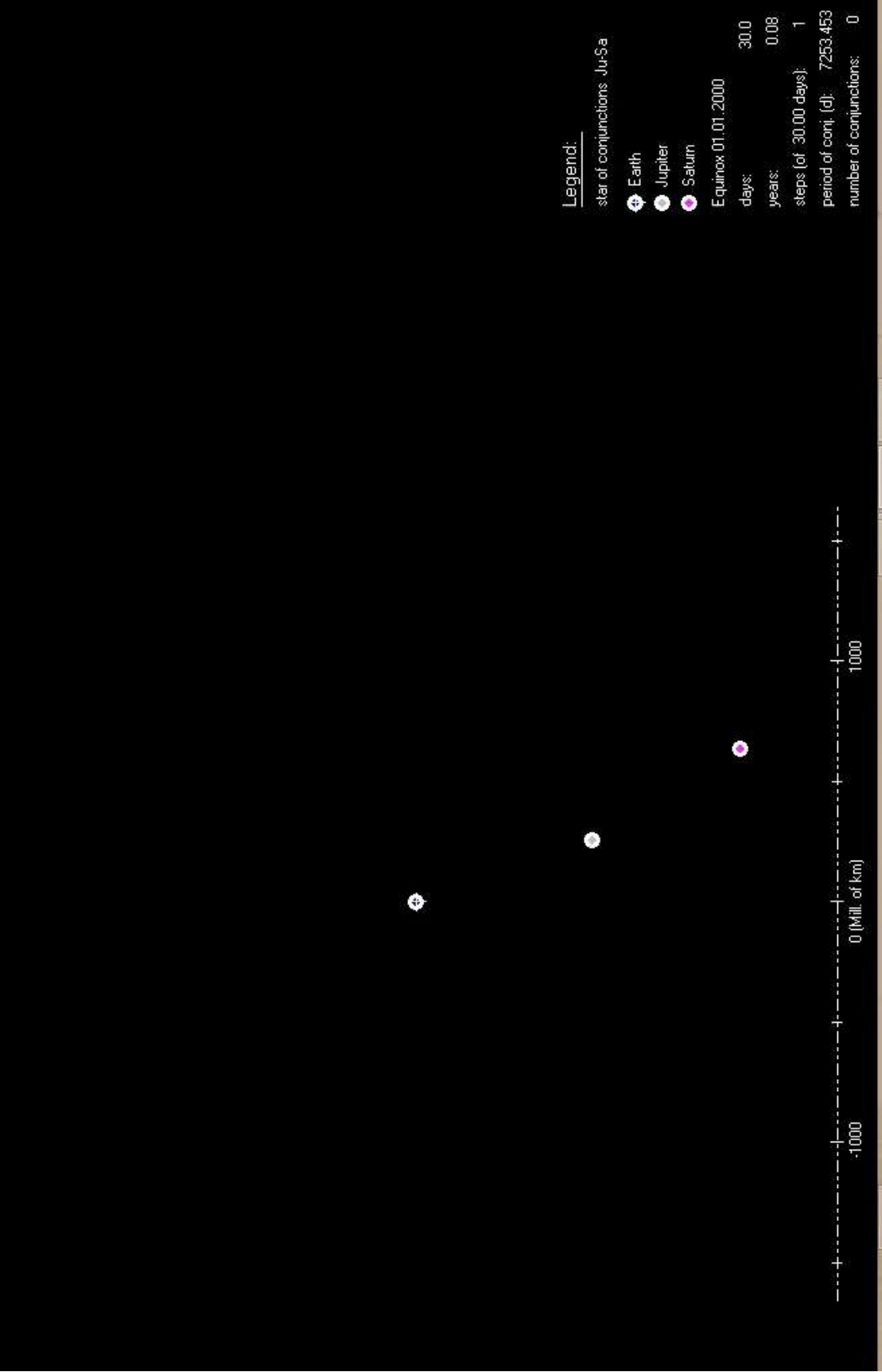
Saturn (Chronos)

- ❑ Saturn is even farther out in the solar system.
- ❑ It takes Saturn about $29\frac{1}{2}$ years (29.46 years) to revolve around the zodiac once. Compared to Jupiter, it remains in one region of the zodiac for about 2.5 years.
- ❑ There is a harmony between the sidereal rhythms of Jupiter and Saturn. During the period Jupiter takes to move through the zodiac five times ($5 \times 11.84 = 59.2$ years), Saturn completes two revolutions through the zodiac ($2 \times 29.46 = 58.92$ years).
- ❑ Thus the cycles of Saturn and Jupiter have a 2:5 ratio.



Initially, we align Jupiter and Saturn relative to the Sun at longitude = 0 (Conjunction 0). Subsequent conjunctions are labelled. Conjunctions 3 and 6 nearly line up with Conjunction 0. The Earth moves clockwise in its orbit for successive conjunctions. Hence, if the Earth (blue dot) is at position 0 for Conjunction 0, it will be at position 3 for Conjunction 3 and position 6 for Conjunction 6.

Jupiter &
Saturn
cycles,
geocentric
Earth view,
starting Oct
2020 for
nearly 60
years.
Ratio 5
Jupiter
cycles to 2
Saturn



Saturn plants, Lithops

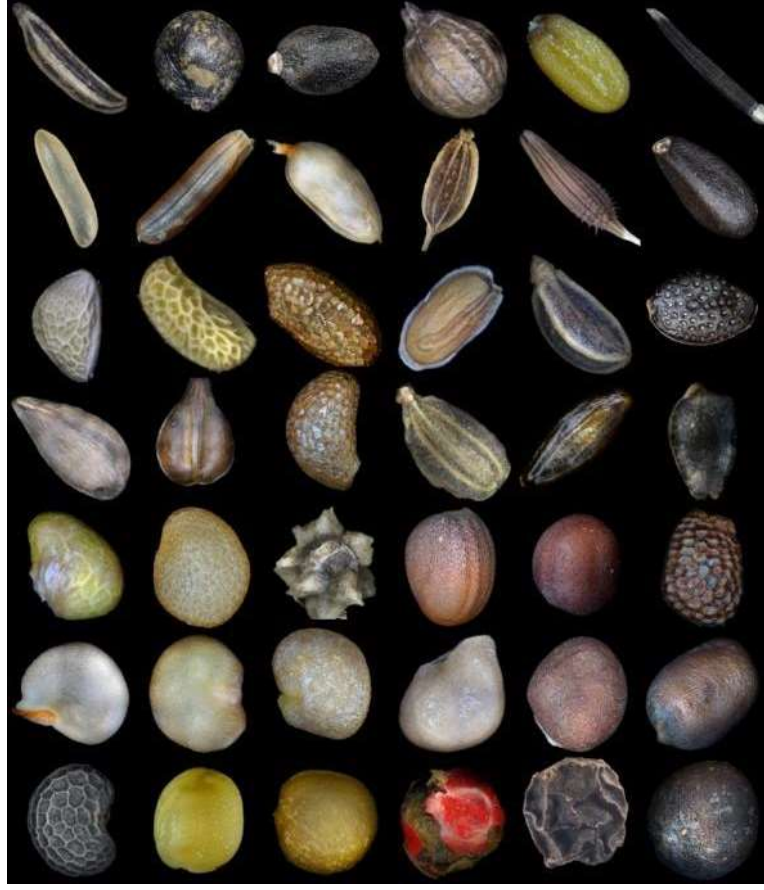


Saturn plants, coniferous trees



Peter O'Connor. Pinus sylvestris, Scots Pine. <https://www.flickr.com/photos/anemoneprojectors/5693039257>

Saturn rules plant seeds



❑ Microimages of seeds of various plants.

❑ 1st row: Poppy, Red pepper, Strawberry, Apple tree, Blackberry, Rice, Carum.

❑ 2nd row: Mustard, Eggplant, Physalis, grapes, raspberries, red rice, Patchouli.

❑ 3rd row: Figs, Lycium barbarum, Beets, Blueberries, Golden Kiwifruit, Rosehip, Basil.

❑ 4th row: Pink pepper, Tomato, Radish, Carrot, Matthiola, Dill, Coriander

❑ 5th row: Black pepper, White cabbage, Napa cabbage, Seabuckthorn, Parsley, Dandelion, Capsella bursa-pastoris.

❑ 6th row: Cauliflower, Radish, Kiwifruit, Grenadilla, Passion fruit, Melissa, Tagetes erecta.

Summary: the plant as an planetary organism

Plant Part	Planetary influence	
Seed (germ endosperm perisperm), self-contained plant form	Saturn	
Seed development	Moon, isolating Sun & Mercury's influence	
Fruit development	Jupiter, meditating zodiac to Sun	
Ovary	Moon, isolating effects of Mercury	
Stamens and pollination	Mars	
Perianth	Venus, moving within Sun sphere	
Leaves	Mercury rhythms closely tied to Sun	
Centre shoot	Sun and its movement	
Root	Geotropism of the Moon	

Recommended reading

Plants in Motion animations. Permission received verbally (telephone) 20th Oct 2021 from Prof. Roger Hangarter, Indiana University, for re-use of animations within powerpoint presentation, including embedding into recording of the conference presentation.

Recommended reading:

Ernst Michael Kranich. Planetary Influences Upon Plants: a cosmological botany. Biodynamic Literature. 1984. ISBN 0938250205

Wilhelm Pelikan. Healing Plants volumes 1, 2, 3
ISBNs: 9780929979649, 9783723510667, 9781935136187
Wynstones Press www.wynstonespress.com Tel 01384 399455

Joachim Schultz, Movement and Rhythms of the Stars, Floris Books, 9780863156694

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