

Chapter 4

Star knowledge, the virginal mother of the sciences

In Chaldea of old, and sometime later in Egypt, for the first time in history –as far as is known– were made records in scripture of observations of the planet movements and star positions. These movements of the heavenly bodies were closely interwoven with the religious experiences of the gods that conducted the people.

Thus Venus as the morning star was seen as the god of war, as the evening star in her shape as the love goddess Ishtar. The cosmic events were being studied conscientiously in the temples¹ and daily life was being tuned to this. The cosmic rhythms determined cultural life, and man experienced the gods through those rhythms, though more their expressions all through the months and year. Nothing is known about star wisdom from before that Chaldean time. But in the old Persian empire the name of the then leading person Zarathustra (later on known under the names Zoroaster, Nazaratos), which means 'golden star', points to a scrupulous knowledge about the earthly-cosmic coherences. By later clairvoyants (Skythianos – Edda; Niflheim, house of the nebulae. Rudolf Steiner – From the Akasha-cronicle; Secret Science in Outlines) it is been observed that the atmosphere around the Earth initially was turbid, and that the people only saw a few colors cohering with their not yet being separated from the world of the gods and their little alert consciousness. The knowledge about the cosmos then has been an inner one, not one that could be observed in the outer world. This because the people still experienced the gods, working through and out of the heavenly bodies, still in and around them. They moved along inwardly with those rhythms. Because this rhythmical living with and in the gods diminished gradually and because the consciousness became more and more awake for the earthly surroundings, the people started to observe the heavenly bodies outside in the clarifying air; this in order to keep maintaining the connection (religion comes from religare=re-connecting).

There have been observed eleven, later on twelve Zodiactal star images as the background of the dance of sun, moon and the planets all through the year (initially the star image of Libra was seen as the scissors of the Scorpion). The Egyptians went one step further, and applied the positions of the Sun, Moon and the planets against the sky at the time of the birth of a king's child (the future pharao) to its life to come, its task and well-being. And because this priest-king, the initiate, was sent by the gods and acted as the earthly mouth-piece for those gods (the Egyptians again were some more emancipated of the gods), his well-being and woe, being read in the horoscope of his birth, became the standard for the entire people that he would lead later on. The workings of the stars were not only relied to nature and the cultural life being based upon this (such as the becoming visible at the morning sky of Sirius, the

dog star, that ushered in the 'dog days', which means the wet period of that year), but also to man (or rather half-god, as the priest-king was being considered).² This old knowledge of the stars is summarized in Ptolemy's *Almagest* (in the first century A.D.). That was a last record of the old wisdom, which as well then threatened to get lost as a tradition. The possibility to live with the cosmic rhythms then had almost completely been lost, because the organs to this (the inner senses) were closed, and also the observations on man were apt to do this, because man became more and more directed towards the world outside, the surroundings. This was all according to the plan of the gods in order to offer man the possibility to become aware of himself in his physical body and the earthly reality, without him having contact with the gods (Angels). This is what the Indians still knew from their mystery places; they called this the Kali Yuga or dark era; dusk for the activities of the world of the gods. This dark era lasted five thousand years; it started at 3000 B.C. and lasted until 1900, the beginning of the previous century (for that matter this is a global working in time; the one people did faster loose its contact with the gods than the other, in accordance with its own tasks and development. The ancient Germans for example have maintained this knowledge of and with the gods for a long time; even now many Scandinavians still have a half conscious knowing of the gods and natural beings).

Slowly the time ripened, with the Greek people in rise, that the people became more awake for their earthly life surroundings, and wanted to detach themselves more from group liens in which they were embedded; of family clan, tribe and people. The first one that was conscious of this was Socrates about 550 B.C. He did not listen to what the gods desired from him, but also acknowledged his own daimonon, his good conscience, on which base he tended to give more conduct to his life. That with this he also could go wrong, appears from the record of his pupil, that upon his complaint of being always plunged in thoughts and giving no shape to anything upon the Earth by himself – besides guiding the people that came with questions to him, or that he posed questions by himself –, he got the advice to start playing the flute and thus feed and express his feelings. This he has declined, so that he has left behind a task here. He had to pay for his inclination to listen to himself instead of to the gods with his death through the poison cup; this because his behavior at that time was being experienced as heretic.

With the coming of Christ upon the Earth in Jesus of Nazareth the human individuality was born; that is the spirit germ that one calls with 'I'. Christ had already announced Himself with the Egyptians in the star image Orion, later as Osiris that approached the Earth, coming from the sun; a thousand years before His arrival He has revealed Himself to Moses in the burning blackberry bush as "I am the I AM" (so the ego of man).³ Nowadays this ego awakens with the child at about the age of three, when it no longer calls itself by the own name, but by 'I'. Since the coming of the human individual spirit germ, the ego, every man can go through an individual

development by walking along his personal destiny (about thousand years B.C., in the battle over Troy, one can very clearly distinguish the work of the gods in the human destiny – see the Iliad of Homer; this is not a poetical concoction, but is totally based upon observation). In Ptolemy's Almagest it still deals with the birth horoscope of the priest-king, and therewith about the people – so about the group soul and the king as an earthly representative of it. There were only written down the positions of the sun, moon and the planets in the Zodiacal star images in it. In the second century A.D. in Greece there appear birth horoscopes of separate individuals. With this two new ways of approaching strike. Firstly there is being started here with the Zodiacal **signs**, that are being determined by the spring equinox (the place in the Zodiac wherein the sun, coming from the south, moves perpendicular over the equator, and gives the impulse to the spring on the northern hemisphere). This vernal equinoctial point is zero arc degrees of Aries; all the following signs are being divided in zones of equal length of the ecliptic (the sun's orbit through the Zodiac), that each cover thirty arc degrees (in opposition to the star constellations, that each are larger or smaller than these thirty degrees). In this first century the vernal equinoctial point still is in the star **constellation** of Aries.

Secondly in this personal horoscope are also being indicated the twelve **houses**, as being an earthly reflection of the cosmic Zodiacal twelvefold division. These houses are being determined by the horizon and the middle sky (the highest point in the Zodiac at the sky) at the moment of birth. The houses give indications about the earthly **life regions** upon which the fate, being indicated by the planets, will work out; this coheres with the will and therefore with the individual **life destiny** to be run down. The horoscope is here being individualized, on the base of the individual ego of each human that since Christ's coming can go on it's own road of development. The gods, active out of the planet spheres and starry sky, therewith are no longer tangible or perceptible present, but work on silently from behind the 'screens of the sense surfaces'. The horoscope therewith was being looked upon as a last imprint of their working before birth in and through man (that has a certain extent of choice freedom to answer to the events that are being carried by fate or not).

Concerning the fixation of the Zodiac to the vernal equinoctial point in the twelve equally large star signs and no longer to the star images the following. Rudolf Steiner pointed out after a question of a close co-worker, Ita Wegman, that with the crucifixion of Christ, so about the year 33, and the subsequent resurrection, the Zodiac and the vernal equinox was being fixed. This because the high standing Angels that had worked on man and the cosmos inciting out of the Zodiac until that time (from out of the **constellations**), have begotten a more extra-cosmic task, so are no longer directed to us. In order to keep the rhythms within our solar system in tune (these are called Cherubs, that means Spirits of the Harmony), they created beings out of themselves that do this for the people. These beings are called the Spirits of the Circulation Times, they

are less self-reliant than their creators, and ought to keep with fixed orbital times. These beings work in the Zodiacal **signs** via the vernal equinoctial point.

The Zodiacal belt every 72 years stays one arc degree behind the vernal equinoctial point, and this at present is situated at 5 degrees of Pisces; star **sign** Aries starts in **constellation** of the Fishes. All signs now are about one constellation backwards in relation to the Zodiacal star images, so the visible stars.

From Ptolemy up to the present, specifically with the start of the new time, the clear ego-consciousness that initiates with the Renaissance (about 1420 A.D., in Italy), astrology and astronomy each one goes its own way. Astrology was and is further worked out and refined as an explanation system, takes however its start in the star signs and the physical even less visible houses; so stands separate from the direct physical observations. Astronomy, especially in rise after the invention of the lens and its application in the star watchers, does observations at the sky that make strongly totter the old knowledge, based upon belief. Where Ptolemy considered the starry sky immovable, for divine and so eternal, and also assumed the planet spheres being ideal circular as divine movements, the alert conscious observation of these heavenly bodies appeared to have to make other conclusions. Likewise one saw in the immovable thought crystal sky flickering of light; one saw the exploding and pulsating stars. Even minimal movements of stars were being observed. As well the planets appeared not to move in circles with epicycles, but in a very complicated system, out of which can be deduced that they do not orbit the Earth, but the sun, just like the Earth, and in ellipses, not in circles (this vision has been postulated by Kopernikus and further based and worked out on the basis of observations by Kepler). The planets do not move at all in a way that has something of a circle, but dance in a rhythmical way to the Earth in their orbit around the sun (Brahe). There also orbit moons around different planets (onwards from Mars to the outside they all have; Galileo was the first who saw this). Besides there are being observed rings and atmospheric movements on the different planets. The old world vision of order in the cosmos started to stagger, which gave rise to collisions with the church, the institutionalized believe that felt itself being attacked and undermined. Science and church as well through this each went its own way, and in science the tendency started to prevail to come through the thinking to an understanding for the phenomena. For astronomy this meant that it practitioners started to explain the planet movements out of reciprocal force activities (gravity as attraction, being postulated as a force; this could be measured upon the Earth, not however being observed directly – therefore it is a working hypothesis). With the aid of mathematics the natural laws were being approached mechanically and being interpreted in their force activities (Newton)⁴. They even started to search for new planets just out of calculation and supposition on the basis of irregularities in the orbits of the outermost planets. Thus the possible existence of Uranus was being calculated firstly by

Bode, before Herschell actually found it some time later.

In short the cosmos was being taken of its soul and its spirit. What remained of it was an as immeasurable imagined space in which there seemed no coherence to be found, and the dynamic motions appeared to exist of lifeless mechanical forces. And that side of the star knowledge that considers man within, astrology, was for many people based on too little physical observation, and therefore was more often being labeled as superstition. This as well because Zodiacal signs and images less and less overlapped and seemed to contradict one another⁵.

Considered from the outside both directions look like two different, the one of the astrology being directed to the inner world of man, the one of the astronomy directed to the outwardly, physical observable. Out of the latter, all through the different times (which already started in antiquity), have been arisen the other sciences step by step, with first mathematics – geometry; directed onto the earthly reality as being a reflection of the spiritual cosmos, and based upon human sizes, such as in the cubit or ell (from ulna), the foot and the inch (from thumb). The initial rhythmical experience of the cosmos and the activities of it upon man and the Earth became more and more to space observation in size and number, later on in postulated force and energy. The inner link with the active gods in it got lost (because the inner organs for perception of them were being closed), the space experience broadened out in postulated millions of light years (with which space was being linked to time movement or the light, while light only has time character in matter) and the intellect could no longer hold that inner link, or rather, did no more want that, because it then ought to give up as a consequence its just conquered independence by assuming one is not the only intelligence in the cosmos. This was being carried through in its consequences in the doubt about the own individuality as being of spiritual origin that therewith gives sense to the Earth and the earthly existence as a possibility for development. Descartes' "I think, so I exist"; not "my ego exists and can think, but is not the thinking itself" (This has been rectified as a possibility to consciousness by Spinoza in his 'Ethica'). This development has continued in a baiting against everything that appears to be not explainable out of the physical itself, even until the denial of tangible results of research, like with Von Herzelee;^{5, Ch.1} this has started with the alien attitude toward nature that is put into words by Francis Bacon. Astrology therewith is being labeled at first as superstition, for it explains results without pointing at the direct physical causes – in despite the fact that quantum physics seems to bump against the same unexplainable limits⁶.

As a rough line of development one can see the following. The inner observing of the gods in their work in and around man, and in nature, their rhythmical affecting, got lost for our consciousness step by step in the development. In its place has come the alert day-consciousness, which is a result of the awakening of the individual human ego in a physical body, and was caused by the coming, death and resurrection of Christ. Through observation by means of the senses we have come to another perception of

ourselves and of the world. Medieval man still felt embedded in nature, the rosecrucian-chemist still experienced in and around his retorts the beings that dwell in her. We feel alien to her, initially experience her as being hostile and (at least science) tend to pilfer her of her secrets and next applying these in technique in order to protect us from her unpredictable inclinations. This corresponding with the already by the Indians acknowledged dark era, Kali Yuga, from about 3000 B.C. until (in Europe) 1900 A.D. Around this century change Rudolf Steiner, that on the basis of his own karmic and inner development of his soul-spiritual senses could peer into higher worlds of life, of soul and of spirit. He gave the impulse to the reopening of the mystery places, which since antiquity and the emergence of Christianity were being decayed and closed. He developed a way of schooling through which with right observations, self observation and contemplating, one could learn to reopen these higher soul-spiritual senses in a way that connects to the present-day consciousness, so that every single man ***through coming into motion inwardly by himself*** could find the way back to those higher worlds. So the new about this development is that one can grow back into the higher worlds through one's own exertions; the links, or rather the organs to this, are not being given for granted. This reopening of the mysteries has been settled integrally during the Christmas meeting in Dornach, Switzerland, in 1923. At this meeting he invited every serious for the spirit striving individuals, fraternities and organizations from all over the world that were known to him, to take part in the reopening of the mysteries, now out of the individual will strivings of each human, no longer being offered by the gods. Therewith he fulfilled the promise that was made by Christ to His disciples that He would send the Consoler, the Holy Spirit, so that the people could see Him in the heavenly kingdom (the spiritual world, to start with the life world). However with and out of the present-day self-consciousness, and being linked to the conscious exertion to climb up to that spiritual world all by himself.

Out of this impulse grew spiritual science, which tries to enrich the natural sciences with the insights of the workings of higher worlds than the one of the physical phenomena. Tools for this are being painted out of the development of the Earth and cosmos in four stages unto the present-day physical condensation, which enables the life in the forms. This development has gone through three previous phases of fire (warmth), of air and light, and of water (sound) respectively, as this appears before the clairvoyant's eye. Herewith the human bodies have developed step by step through this; his ego-organization that expresses itself in the warmth and through which our spirit can act, is the most recent one, and only fully offered during the present solid Earth development. Our soul being expresses in and through the soul substance (feelings, that are a metamorphosis of the original spiritual light, and that can be experienced in nature as the separate colors, which are objectifications of our feeling contents), and is planted in us upon the original water-Earth. Now this works through the light in the air. Our life organization that sustains the growth and shape in the living tissues is being planted in us upon the light/air

Earth. At present this works through the watery element. In our physical body the substance forces are being directed in such a way and the substances ordered thus, that the life, the soul and the spirit can express themselves in the earthly physical reality⁷. Our body seen in such a way is the precipitation of a process of cosmic condensing that has already gone a number of metamorphoses; the natural empires on Earth (minerals, plants and animals) besides the human one are an objectification of this developmental and metamorphosis process.

These insights are a transformation for the present of that which was being observed in the antique mystery places. This still reverberates with the Greek philosophers in the doctrine of the harmony of the spheres and their precipitation in numbers (Pythagoras' Tetraktys) and in the doctrine of the elements (nature philosophers, particularly Empedocles; Plato and Aristotle).

These four element qualities can be recognized in each earthly occurring phenomenon and object. As has been painted, with shapes and processes one usually only deals with precipitation in measure, weight and/or number, but if you draw into consideration the higher than the mere physical world (which in itself is just a reflection of the life world of formative forces and rhythms), you have to work in a qualitative-characterizing way, and consider the own soul experiences within the observed phenomenon.

Shortly summarized: the **life world** of formative forces reflects itself in the shapes, which develop themselves **rhythmical**, in time. Here can be measured (in size, time unit).⁸ The **soul world** reflects itself in **feelings attitudes**, basically of sym- and antipathy, expressing themselves in attraction (cohesion, moving with, resonating) or repulsion (adhesion, counteracting, closing off) and their mixtures (interference). In the physical these workings reflect themselves as **forces**, of attraction or repulsion. The **spiritual world** expresses itself in **significant gestures**, in which the **ideas, concepts** reveal themselves all through the soul world (attitudes, relations, forces) and life world (of formative forces) rhythmical in shapes or processes.

The life world coheres with the watery. The formative forces of it can be approached in **sound patterns**. Physiology is a precipitation of this; the music behind it determines the dance of the substances, and their way of combining.⁹ The soul world has a connection to the light world and its refraction in and against the air, out of which the colors arise, each in its own way. Colors are the objectifications of our feelings. The spirit world coheres with the warmth, the element of fire (enthusiasm) that initiates, impels processes.

The physical world is a precipitation of these three worlds, through which they can reveal themselves in the earthly reality.

These four elements are being recognized in the natural sciences as the so-called aggregate states of matter (of solid, fluid, gassy, in energy levels), but not their essentiality, the active worlds behind these.¹⁰ Astrology does recognize these, however without containing consciously this deeper knowledge about the human bodies and higher worlds in its totality, and

assigns an elemental quality to each Zodiacal sign, and next explains each planet position out of that element. With the tools of spiritual science, the renewed mystery-knowledge, this can be further specified (for example to basic temperament out of the active worlds behind the elements and their coherence with the human bodies – thus someone with an ascending fire sign on the horizon at birth will have a choleric, doing-temperament and can hardly listen; this because his ego (spirit = fire quality) will manifest itself directly in the world. Investigations of the couple Kolisko amongst others (after salt crystallization of copper sulfate under the influence of cosmic activities)¹¹ indicate that also matter reacts to workings out of these elements, as well as the angles (aspects) which the different planets make with each other and with the sun or moon.

In continuation of this, my methods to get conscious, with the aid of music and modeling, the soul attitudes, soul spaces and will strivings (gestures), and the therein distinguishable archetypal tendencies after element activity, planet attitude (coloring) and Zodiacal gesture, which mostly can be traced directly to prominent positions of the birth horoscope, form a big complement, that shows immediately the connections between the star and planet workings and their effects inside man all through the four elemental activities. Because I have tested this modeling also in courses through working with and out of the plant- and animal worlds, these activities of **form**, **attitude** and **significant form gesture** are to be objectified herewith – this of course only if one knows to recognize and characterizes the workings mentioned as **qualities** (so not through only quantifying, according to the non-physical origin and nature of the phenomena).

Herewith I again want to emphasize that through wanting to link oneself with the (inner and outer) phenomena (a soul process), by wanting to acknowledge the sense of it and investigating the how (spiritual recognition), with the workings in it one can identify with the form gestures by **doing** in singing together and/or clay modeling, (a process in the **life**-, formative world of forces) in order to be able to experience their tendencies and germ force (becoming) within oneself, and thus next make applicable in the life and work. So with this there can be made a recognizable link with the **workings** of star images and planets (astrology) out of their recognizable physical observable precedents (astronomy): this only if one wants to recognize the spirit activity as a **sense** of the physical manifested world.

Once one has felt the wish rising up to recognize a sense (spirit) in the natural becoming and evolution, then one can go on one's way to search for the connections between earthly phenomena and their causes (or synchronicity) with the cosmos. One needs some tools to do this. The three workings mentioned of form, attitude and willing intention (full of sense, conductive gesture of an idea, concept) as being reflections of the worlds above matter of life (formative force), soul (attitude) and spirit (idea), that reflect themselves in the earthly realms of water (life; plant), of air (color and soul; animal) and of fire (warmth; spirit; man), are tools to those worlds which

reflect themselves in the solid-material (form in substance; earth realm of stones and minerals, crystals) and the remaining three elements. Considered in this way, the physical observable world is the **precipitation**, the **working field** of the three higher worlds of life, soul and spirit mentioned.

The form tendencies of the four elemental realms (the types of formative forces in the life world):

- earth - crystalline, geometrical
- water - melting-metamorphic; rounding-bulging out, from the inside out and expanding; often in rhythmical repetitions (for example sand ribs at the beach)
- air - hollowing, shaping from the outside, with sharp rims
- fire - beaming out and concentrating all at once, asking strongly for the attention in space.

Along the chemical element sulfur (S) the course condensing until the physical-substantial will be painted.

In the spiritual world, which reflects itself in the Zodiac, lives the idea, concept of the **combining** and **reflecting** in one of the gods (higher Angels; in this case a Cherub). It is the quality that lives in the star image the Twins. This concept, living in the enthusiasm, fire, of this Angel, has to become co-creative in the cosmos and upon the Earth, so that the combining is a part of creation, and this does not fall apart (which would be the case on the basis of the tendency towards chaos in matter) and the activity of the gods can reflect itself upon the Earth. In order to be able to work this out in the lower, physical realm, it first has to go through the world of the feeling, of the soul, and is being colored with it. This world consists of the forces of sym- and antipathy, attraction and repulsion, and their gradations and refinements; besides of the faculty of making conscious by distinguishing. Combining has a large accordance with sympathy, attraction, and so will especially color itself with this. This soul world is impelled by the planets that dance within their life spheres around the Earth (rhythm is an expression of life). That planet which joins sympathy with combining and distinguishing, is the lively dancing and at times bright flaming Mercury; so this planet mediates in the soul region the concept of the combining and reflecting (by the awakening of consciousness). In the region of the life activities, the formative forces that maintain life in man and in nature, we find back the combining tendency in the inclination to whirling and joining, as in streaming out juices (a burning process) from plant flowers that bring forth smells and that penetrate animal and man with their presence. In our physiology the combining tendency precipitates in the protein forming amino acids that contain sulfur; and herewith becomes the combining and reflective tendency out of the Zodiac (the spiritual world) unto the physical as a process of condensation step by step all through the soul and the life visible. The combining and brightening-fire reflecting tendency of sulfur therewith has been painted until in its physical condensing (NB sulfur as a yellow crystal and chemical element is an ultimate, dead condensation of the force mentioned;

in water this becomes reactive, fiery; in the smells in the air it only shows its combining-spiritual tendency). The *gesture* of sulfur is combining, the *attitude* is that of whirling sympathy, the *working* is reactive warm, according to the warmth activities of Mercury in the similar life sphere. Man takes within him the Mercury process, and forms his lung organization and process with it – this connects the outer with the inner world through the air (breathing in and out; the lung is a gland turned inside out and thus connects the outer world with the body liquid of the lymph flow) and impressions via the senses (light-breathing) and does mirror both worlds, the outer and the inner, in each other (with the brains as a reflective organ for the thoughts and images).

Herewith I have roughly designed how the connection between astronomy and astrology can be restored again, and why it is significant to come to a reformulating of the sense of the sciences under a common divider and sight director, the renewed star knowledge that connects earthly and cosmic phenomena as being wanted precedents out of the spiritual world and working through those of the soul and of the life (formative forces).

With the help of the tools being mentioned (shape, attitude and willing gesture) you can connect yourself with these worlds all through the physical observations; therewith open the higher soul-sense organs (lotus flowers) that slumber in each human, and you get possibilities to start cooperating with the worldly phenomena in a moral-creative way; you learn to transform yourself and the world step by step out of what you experience as a sense, as ideal good. These ideals live in the star images and everyone has brought these with in his kernel of being as will strivings, reveals these in oneself by living into them in singing and by 'developing' them in modeling.

Therewith is my own search until now, and also the indication of founded tools on that way, being painted in large traits.

Notes and book references with Chapter 4:

1. Temples were mystery places in which education, professional and common initiation and research went hand in hand.
2. This happened as well with other cultures of people, like the Hunebed builders and Celts, even though these have not left behind written records. Recently there is discovered that stone heaps, grave mounds and towers in for instance Ireland and Germany stand scattered in the landscape in such a way that they form a reflection of the starry sky above it, at the time of their construction, and so could serve as places of observation amongst others. Besides this as places of radiation upon Earth of the cosmic forces, as has been proved by M. Pogačnik in his landscape research (see note 24), as well as has been investigated by Callaghan in Ireland at the stone towers. See his book 'Paramagnetics', Dublin 1986, amongst others.

3. In almost each Bible translation one has not been able to handle this saying, which therefore is translated falsely with 'I am who I am'. This vacancy in itself has clarified Rudolf Steiner in his lecture cycle, called 'The Fifth Gospel'.
4. This while the movements of the planets are dynamical, living, and through this show unexplainable irregularities according to the laws.
5. It is significant that Chinese astrology cannot be traced back to visible cosmic phenomena, but to rhythms. That comes from knowledge of other worlds outside the physical observable.
6. It is not considered in this Schiller's evolution thought of the individual, as he put that into words in his 'Briefe' (Letters). This starts with the individual human as being a species in itself, not with a race of species as a whole, which is subjected to degeneration. Here lies as well the complete misunderstanding of the race notion as this is handed by Rudolf Steiner, and upon which base he fully untrue is insulted for racism.
7. In comparison with for instance a stone is our physical body relatively weak and thin; it consists for 60% of bound water, for about 10% of unbound air, while the entire organization is pervaded with bound water (up to 96%) and with diluted air, and above all with warmth (which is substance-less).
8. Here is pointed out that with mathematics one afterwards can reckon out changes out of observed weight, measure or rate changes; also growth rate (weight augmentation per time unit) and alike, but that this is not the life itself; that contents its own essential workings, because it consists of beings with a soul and a will that can bring forth and maintain living phenomena.
9. See for this more extended my book *Cosmobiology* chapter 5.
10. Water is a special substance, witnessing its behavior when it cools down from 0 - 4 degrees centigrade; then it shrinks and sinks to the bottom. If this should not happen, then there was no under water life possible in the temperate regions (water life is the base of each food chain). That is why water cannot be exchanged just like that with the fluid condition of whatever substance; the life has not so much a connection with the liquid as specifically with water. For fire the same can be noticed as with water: he who has ever experienced the warmth in himself, knows that it is something completely different from what one expresses with energy level. Air is more pliable, can contain many gases; that indicates the narrow connection with the soul world, which can contain a lot the one besides the other.
11. 'Sternenwirken in Erdenstoffen' (Star activities in earthly substances), L. Kolisko, Stuttgart up from 1938.