

THE
GOLDEN BLADE
1988



THE STARS OF THE YEAR
TREES AND PLANETS

995
Douglas Jewin

THE GOLDEN BLADE

FORTIETH (1988) ISSUE

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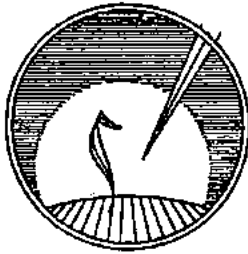
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Anthroposophy springs from the work and teaching of Rudolf Steiner (1861 to 1925). He described Anthroposophy as 'a path of knowledge, to guide the spiritual in the human being to the spiritual in the universe'. The aim of this annual is to bring an anthroposophical outlook to bear on questions and activities of evident relevance to the present, in a way intended to have lasting value. It was founded in 1949 by Charles Davy and Arnold Freeman, who were its first editors.

The title derives from an old Persian legend, according to which King Djemjdid received from his God, Ahura Mazdao, a golden blade with which to fulfil his mission on Earth. It carried the heavenly forces of light into the darkness of earthly substance, thus allowing its transformation. The legend seems to point to the possibility that man, through wise and compassionate work with the Earth, can one day regain on a new level what was lost when the Age of Gold was supplanted by those of Silver, Bronze and Iron. Technology could serve this aim; instead of endangering our planet's life, it could help to make the Earth a new Sun. But for this task knowledge of the inter-relationships of nature and spiritual reality is needed.

This issue is concerned with the movement of the planets in the starry sky during 1988 and afterwards, and with the relationship of the Sun, the Moon, Mercury, Venus, Mars, Jupiter, and Saturn to the trees in their life and growth. Uranus, Neptune and Pluto are not taken into account here, as Rudolf Steiner and subsequent research akin to his have dealt with them comparatively little and mainly in quite different connections.

Other articles are concerned with certain outstanding personalities, and some with recent publications.

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EDITORIAL NOTES

WORLD ECONOMY AND THE BRUNDTLAND COMMISSION

We are citizens of the community of Earth, and need balanced, truthful pictures and ideas of what is happening in this community. Part of the widespread discouragement which exists today is due to the difficulties encountered in trying to form such pictures and ideas. For example, if we ask how extensive and how serious poverty and unemployment are, what are their main causes, and what remedies can be found for them - we do not easily find answers. Nor do we, if we ask how much the air and seas are already polluted, and whether there are practicable measures which will effectively stay the process of pollution. And if such remedies and measures were found, would they be consistent with human freedom?

In the course of 1987, the human population of the earth reached five billion. By the year 2000, it is calculated that it will be six billion. Can Earth sustain so many? Can they all be properly housed, fed, and clothed? The answer is yes - but only if our human and material resources are well used. At present there is a terrible difference between rich and poor individuals and between rich and poor countries. "Despite official hope expressed on all sides, no trends identifiable today, no programmes or policies, offer any real hope of narrowing the gap between rich and poor nations". This is the considered and very well-informed judgement of Mrs. Gro Harlem Brundtland, Prime Minister of Norway, and Chairman of the World Commission on Environment and Development, which reported to the United Nations in 1987. (Its members come from all over the world, including China and the USSR). We are not using our human and material resources well, and both rich and poor countries are developing in ways which cannot be continued for long without terrible damage to the earth. In official language, the relatively poor countries are called "developing countries", and most of them are indeed increasing their "gross national product". But this is consistent with two kinds of increasing poverty; on the land, and in the cities. About two-fifths of the world's population now live in towns or cities; by 2000 the urban population will be nearly half of the whole. Urbanization has gone on much more quickly in poor countries than in rich ones; and it has brought about conditions unimaginable a few decades ago. The population of many African cities increased *more than sevenfold* between 1950 and 1980, while in some Asian and Latin American cities (including Bombay and Mexico City) it tripled or quadrupled. With such

growth, developing countries have found it impossible to provide even a very modest standard of housing, clean water, and sanitation - with grave consequences for infant mortality and health in general. (Malaria, for example, is increasing, and shanty towns make the struggle against it immensely difficult). While in the richer countries much could be done quite quickly to reverse the decay of the inner cities, given the political will and good human co-operation - and in some countries this is being done - the problems of most Third World cities seem almost insoluble. The Brundtland Commission believes that improvement can come less from central governments - which attempt to do too many things and do nothing well - but from countless small neighbourhood associations, doing much of their own building and planning. And this planning will include a concern for beauty. The city-dwellers of the Third World are for the most part malnourished physically; and like many in the rich countries too, they are very often malnourished in their souls.

Paradoxical though it may sound, urban agriculture and tree-planting could - and surely will - help to meet both these needs. Human beings can do wonders for each other even in the ugliest places; but the longing for contact with living plants and flowers is a deep-seated need, a part of our preparation for life in the spiritual world after death. The preponderance of the cities is not only physically but also spiritually polluting.

Outside in the country poverty and distress are to be found too. The country-dwellers must of course feed the town-dwellers as well as themselves; and those who actually do the work on the land are politically and economically weak, especially in Africa. Yields from the land have been substantially increased in parts of Asia and some other regions - mainly through the use of new strains of seed for the chief cereals - though productivity has grown even more in North America and Western Europe, through mechanization and a vast increase in the use of pesticides and chemical fertilizers. Yet in the 1980's "more than 780 million did not eat enough to lead fully productive working lives". More than one-seventh of the people of the world went hungry. As humanity is beginning to learn, it is not just a question of producing enough food, but of getting the right food produced in the places where it is most needed, and if it has to be brought from a distance, of distributing it in ways that do least harm to the local economy (for instance by bringing down too far the price local small farmers can obtain for their surplus food production).

The small-holder needs to be supported in every way that will protect the long-term fertility of the land, for example by re-afforestation, well-devised small-scale irrigation, and appropriate equipment. (There is much in the Brundtland report which would have pleased Dr. Schumacher, and confirms "Small is Beautiful"). If these things are not achieved, by co-operation at all levels, the deserts will go on creeping forward relentlessly.

But African governments, and indeed almost all national governments, have a disastrous distraction. Military spending in 1985 cost the world more than 900 billion dollars. "This was more than the total income of the poorest half of humanity". The resources used for the production, transport, and upkeep of weapons, well-used in a peaceful world, could make it possible for everyone to live in decent physical conditions. As it is, even without use in war, they are "a major contribution to pollution and environmental deterioration". Even worse is their claim on scientific personnel. "Half a

million scientists are employed on weapons research world-wide and they account for around half of all research and development expenditure. This exceeds the total combined spending on developing technologies for new energy sources, improving human health, raising agricultural productivity, and controlling pollution". A staggering amount of human thinking is occupied with methods of destroying life - and even a considerable part of agricultural and medical research is engaged in such things as new pesticides and with imparting illnesses to animals for experimental purposes. Too much human thought is bent towards destruction, too little towards life, for instance towards the improvement of human co-operation.

Africa has a great and ancient tradition of co-operative living - for instance, with methods of justice looking more towards compensation and conciliation than towards punishment. But when in the nineteenth century the continent was carved up by the politicians of the European nations, large and small, which wished to acquire colonies, the boundaries were arbitrary, paying no regard to the original inhabitants. And when the European powers withdrew, or were driven out from Africa, the nineteenth century boundaries were retained, with political constitutions imitating those of Europe, and national armies too. Their weapons had for the most part to be bought from Europe, the United States or Soviet Russia.

A co-operative world economy had been struggling to be born ever since the beginning of the century, but it has been distorted everywhere by competitive, ambitious nationalism. National capitalism and national communism became pervasive diseases; and willy-nilly the African states became involved, and even the poorest found themselves in debt. The Slave Trade had been followed by less evident forms of exploitation, which also had their roots in the past. Third world countries in general, unless they were oil producers, were forced to sell cheap and buy dear - until the western banks had to observe that at least half of the resulting debts could never be paid back, and even the interest payments were among the causes of appalling poverty.

Once more we can attempt to look at such facts from the aspect of the spiritual world. Whenever a human being does work, however uninteresting and monotonous it may be, which she or he can feel to be truly in the service of human needs in general, good elemental beings come into existence, and work in accord with the purposes of Christ. But where human labour is infected by group self-seeking, and above all by nationalism, destructive elementals arise. The light which should shine out from the earth-planet towards the stars is here and there darkened. What is the cosmic character of this darkness?

Every planet is not just a physical body, but has a sphere, along the limits of which this body moves; and this sphere bears a multitude of beings, not only an exalted spiritual leadership, but also a great adversary spirit and many others of the most diverse characters and qualities. The earth has long suffered the influence of adverse Mars-beings, who would achieve their full purpose if every human personality became the enemy of every other, filled with possessiveness and hate. And meanwhile they seek to fill whole nations with warlike emotions, with greed and contempt.

Esoteric Christianity has always had the purpose of healing this growing conflict. From the bodies of plants the earth-planet's light shines out more purely; and therefore roses growing from the cross are the symbol of esoteric Christianity. The plant does not

only nourish the bodies of animals and human beings - it is a source of healing for bodies and souls. To pollute the soil, the waters, and the air of earth is to put an axe to the root of the tree of life.

Each of the major threats to the biosphere deserves to be considered in itself. The Brundtland report makes a careful summing-up of the dangers of nuclear energy and nuclear war. Besides the dangers of ionizing radiation, they sum up the theory of nuclear winter very clearly. "The prospect of nuclear winter...has been most authoritatively explored by some 300 scientists from the USA, the USSR, and more than 30 other countries - working on a collaborative basis in some cases across ideological divides. The theory contends that the smoke and dust ejected into the atmosphere by a nuclear war could absorb enough solar radiation to remain aloft for some time, preventing sunlight from reaching the surface of the earth, causing a widespread and prolonged cooling of land areas. There would be severe repercussions for plant life generally and for agriculture in particular...The findings on nuclear winter are vitally important too for non-aligned nations...which are not parties to the East-West conflict...There is a danger that nuclear weapons will spread to more and more countries and be used in what begins as a limited regional conflict. Beyond the five recognized nuclear-weapon states, at least six others have a widely acknowledged potential nuclear weapons capability; a dozen others are not far behind".

If we try to grasp the full significance of such facts, it is natural to feel both helpless and hopeless. Such feelings do not contribute anything positive; indeed, they may take the form of a kind of nightmare. But if we can see the world situation of which they are part steadily and clearly, some real hopes can grow up. When something is plainly seen as an illusion, it may be overcome. And it can be seen what a sorry illusion national grandeur is, especially when connected with the possession of an "independent deterrent". And on the other hand it can be seen by an increasing number of people that in contrast to the mental picture of "nuclear winter" there is the great and holy reality of the seasons of the year and the festivals - festivals which are also celebrated, in their way, by the elemental beings. Something like a message from this realm has reached many people: a small green book by a blind poetess, Ursula Burkhardt. "Karlik" describes her relationship, since early childhood, with the elemental beings, whom she saw and heard spiritually. As a grown-up, she studied the work of Rudolf Steiner, and found much of her experience, particularly the quality of such perceptions, wonderfully confirmed. What she describes contributes a great deal to our understanding of the need felt by the most positive elementals to re-establish contact with human beings, and of what we do to alienate them. They celebrate in winter a festival of the spiritual Sun, akin to the human Christmas and some other winter festivals; for them too that human beings should devise, as a weapon for conflict with each other, something capable of producing so terrible a false winter is utterly appalling. But what is even now being done by us, year after year, has already had tragic consequences, not only for the visible plants and animals, but also for our invisible companions on earth, the elemental beings.

There are broadly three kinds of pollution. Simply by breathing, we increase the carbon dioxide in the air; with the expansion of the population on earth, this may be more than plants can assimilate. Secondly, the use of fossil fuels to provide energy in industry and transport brings pollution which may be irreversible. Thirdly, the chemical

industry produces new poisons which are used in industrial processes, or as pesticides and fertilizers, or dumped on land or in the sea as toxic wastes. A number of international agreements already attempt to control this form of pollution. The Brundtland Commission reports that "Some 70,000 to 80,000 chemicals are now on the market...some 1,000 to 2,000 new chemicals enter the commercial market each year". For most of these no health hazard data exist - though more than 500 chemicals and chemical products have been banned altogether or had their uses severely restricted in the country of origin. Methods of control which would extend over the whole world have been devised (for example in the "London Dumping Convention" of 1971) - but is human love for the earth and far-sightedness of purpose sufficient to make them effective?

A great change would be possible, and is needed, in our human relationship to matter. Even where some measure of reverence flows out from our hearts for *living* beings, lifeless "things" are often regarded as spiritually and morally neutral and insignificant. But it is one of the most striking revelations in Rudolf Steiner's cosmology that in the coming into existence of material substance the very greatest hierarchical beings accessible to us - called by the Christian tradition Seraphim, Cherubim, and Thrones - are active. No dealing with matter can be morally neutral; as Rudolf Steiner repeatedly said, "The laboratory table must become an altar". This mood was present, as is described by John Lash in a remarkable article in this issue, among the greatest of the alchemists, right up to the seventeenth century. (It is valuable to compare their findings, expounded here, with the description of the elements Hydrogen, Nitrogen, Oxygen, and Carbon, in Rudolf Hauschka's work, and in Rudolf Steiner's Agricultural Course).

While the spirits ultimately underlying the material being of stone and metal belong to the First Hierarchy, in the growth and movement of plant and animal we meet the working of the Second Hierarchy, called in Greek Kyriotetes, Dynameis, Exousiai (in Hebrew Elohim). While the First Hierarchy are the devoted spiritual servants of the Father-God, the Second Hierarchy have as their great leader the Sun-Spirit, the Christ. But among the Second Hierarchy there are beings who have not developed in the regular, harmonious way that would have been natural to them, and was followed, for example, by the Elohim. If the Elohim had fashioned alone the physical human being, as bearer of the I, the forces manifest in this form would have been those which work in human life between the ages of 21 and 42. But through the activity of irregular spirits, who had nevertheless powers comparable to those of the normal members of their hierarchy, impulses which preponderate in childhood, adolescence, and later life took hold of the human form and differentiated it to make it one-sidedly an image of the periods of human life outside the central period. This central period contains the essential development of the Human "I", the Sun in us. But the one-sided qualities are expressed in racial characteristics, which manifest qualities from the planetary realms; the Black race from the realm of Mercury, the Malays from Venus, the Mongols from Mars, the White race from Jupiter, and the American Indians from Saturn. But it should never be forgotten that all are endowed with the general human form given by the Elohim; and the racial characteristics are gradually losing their significance. A supreme alchemy is going on, to make all human forms transparent for the pure Light.

But every human being has a part to play in this process - and this is already

widely known, and perhaps most people try to put it into practice. It is to look beyond the colour of the skin, in each particular personality, to the I. But though probably most people succeed in doing this, when facing each other I to I - the devil gets into the matter in no small measure when we think of each other in groups. Wise Jupiter seems so much more impressive than playful Mercury. But no-one has because of his racial characteristics the right to dominate others. Cosmically, Jupiter and Mercury work together in the most wonderful way; world-wisdom with the will to heal. If we look at descriptions of the being of Mercury given by Rudolf Steiner from different aspects on a number of occasions, something very mysterious and exalted meets our inner gaze. Mercury in a sense holds together in the human being the influence of the Sun and the influence of the Moon, in such a way that these are not in conflict but work harmoniously. Cosmically, the human being belongs to the Sun; as the product of physical ancestors, to the Moon. Through the whole course of human life, but particularly during the years when we should enter the influence of the Sun-sphere, there can be a painful and sometimes even tragic tension between these.

When St. John on Patmos had his vision of the Christ, he saw him as having seven stars in his right hand "and his countenance shone like the Sun in full strength". For the universe the Christ is Sun Spirit; but he works through every planet bringing harmony, and for the second half of Earth-evolution, in which we now live, he works particularly as Mercury, as Healer.

Every planet has both a Genius and a Demon, as Rudolf Steiner describes in the lecture here printed explicitly for Mars. In the Gospels these seven Demons are described as possessing Mary Magdalene, until Christ casts them out. To what kind of evil, then, does the demon of Mercury tempt the soul? Greek mythology perhaps offers an answer. Hermes is not only the noble and helpful messenger of the Gods; he is also - from his cradle, as it were - a thief, stealing Apollo's cattle, and the inspirer of thieves. In this activity kinds of cleverness and skill are used which seem very far away from the wisdom and the art of the healer - and yet are akin to them.

Somewhere between these extremes lives the Merchant - sometimes exercising his craft nobly, like Shakespeare's Merchant of Venice, sometimes well described by those involved as a robber. When barter gave way to buying and selling, the possibilities of deception became boundless. Mankind has still not learned that the competition of the market place does not by itself ensure fair - or truthful - prices, though there have been many opportunities to learn. In fact true prices are hardly possible where there are great disparities of income, as there are everywhere today - including communist countries and the poorest countries of the Third World. For the wealthy man will generally be prepared to spend a particular sum of money on a much more trivial need than will the poor man; thus work and resources are diverted away from the gravest human needs. It is argued that only by large rewards will human beings be stirred to use their intelligence for the general good. And yet - must it not be evident to almost everyone that the best use of intelligence is made when it is inspired not by the prospect of gain, but by genuine love? (The wealthy man can indeed play an important part in the redemption of money by wise giving).

"Love" is a very much misused word. And so is the word "brotherhood". It can be used very trivially, and even as something which exists, as a matter of course, among

people of good will. But the reality of brotherhood is something to be striven for through the whole history of the earth, and concerns the deepest mysteries of human existence. The "I" of man is only true if it is brotherly. Rudolf Steiner spoke to those who sought to learn from him about the most intimate mysteries of the world as his "Sisters and Brothers". In the mantric verses given by him over the last twenty-five years of his life the word "I" comes often, the word "we" very seldom. But the "I" which is meant is not self-assertive, but selfless, and is the basis for every genuine future community, every healthy "we" - as in Rudolf Steiner's Foundation Meditation, where (in its original German form) in the first three parts "I" is spoken, and only in the fourth "our" and "we".

In the ancient world brotherhood was founded on a blood-relationship which was unfree, and which could develop hatred as well as love, as in the Biblical stories of Abel and Cain, or of Joseph and his brethren. This brotherhood of blood echoes on in the most manifold ways today, and becomes the source of endless untruthfulness. On every level of human existence a new, free brotherliness becomes necessary - and where this transforms Mercurial cleverness, it can redeem, though it may seem impossibly idealistic to say so, the use of money. We are beginning to see the need to channel money, not under the control of "profitability", but towards undertakings and uses which help to preserve the earth. These include the relief of poverty and the limitation of wealth world-wide, above all in Africa; and the guidance, and ultimate control of economic production by associations of producers and consumers, representatives of the people who do the work of hand and head, and of those who need food, clothing, shelter, transport, and all the rest.

There is a great impulse in the world towards free co-operation, in which no-one holds rigidly to his own point of view, but is prepared to devote himself to opposite aspects of the matter under consideration. Ita Wegman, the woman doctor who worked with Rudolf Steiner in writing his last book "Fundamentals of Therapy", spoke of the staff of Mercury in this sense. Minds are raised up, and circle upwards about the staff of truth, each taking up the position of the other and returning to its own on another level.

On earth we meet each other bearing some family and some racial characteristics, all of them with some significance; but this significance is declining. And we meet each other as bearers of the archetypal human form, fashioned by spirits of the Sun, capable of freedom, and of a sense of brotherhood extending over the whole earth. And we meet each other as souls, with the powers of all the planets working in us to raise us to our full human stature. Where the last two moods predominate, consciously or unconsciously, there is the desire for agreement, not the intention by either party of defeating the other. Then Mars in us does not want to dominate Venus, or Jupiter govern Mercury as if he were really nothing but an unintelligent child.

In the small community of marriage, or when people come together in some way to consider spiritual or practical questions, there is only communication if there is movement. In reality, as Heraclitus declared at the very dawn of Western philosophy, everything moves. The "fixed stars" only seem motionless in comparison with the swifter motion of the planets, or of comets, from the aspect of the earth. In relation to the fixed stars and the planets, the movement of the Moon is the most rapid; and with this the life of the human embryo is intimately connected.

In the course of each month every planet and every region of the Zodiac passes the centre of the Moon's mirror (to use a comparison made by Rudolf Steiner in the lecture

printed in this issue). Into the human being, to manifest themselves in the course of life in the soul, pour the virtues of the planets, the configurations of the stars; and we need to find these in each other and in ourselves. Countless people in East and West do indeed say, for example, "I am an Aries, she is a Taurus"; but such conceptions are generally much too static, and often limit instead of liberating. We enter into Earth at a particular place and time, from worlds of ceaseless movement, of limitless inspiration. The materialism of our time tries to stamp our soul with its image; but Saturn has offered us his vision of all the ages of the world, and we need to find some glimpses of this again here. Jupiter has imparted to us a joyful wisdom, with which to sustain the burdens of Earth-life, and Mars has given us courage to meet them. In every group of people these qualities are stirring. We feel them, for example, in music, which crosses many ideological and national barriers.

In this issue of the Golden Blade the planetary qualities are studied particularly from two aspects. How are the planetary bodies to be seen, during 1988 and in following years, from different places on earth - and how can these positions recall to us great imaginative pictures which lived in the soul of ancient Greece? And can we begin to see the effect of planetary forces in the life of trees, even in the qualities of different kinds of wood? Nothing in such studies should be regarded simply as academic; when each pillar of the original Goetheanum was carved out of a different wood, they did not simply stand side by side in space, but represented a great journey through the ages of time. In the week's little image of cosmic evolution, there is no single Earth-day between the Moon's day, Monday, and Jupiter's day, Thursday. Instead, we have the days of Mars (Tuesday) and Mercury (Wednesday). With the influence of Mars the Earth has hardened, though our lives here have strengthened a courage which must now be raised into spiritual vigour. With the influence of Mercury, the Earth needs fresh life and movement, the raising of human thought into healing imaginative power. It is above all in the realm of plants and trees that health for the earth, and healing for humanity, are to be sought (for example, among the multitude of endangered species in rain-forests that have not yet been studied). But we meet the tragic problem; the elm, the tree of Mercury, is gravely ill; the race in whom the Mercury forces are now ebbing, the black people of Africa, are stricken with poverty and most vulnerable to sickness. The dying forests of the earth must be protected from poison and the axe; the poor of the world must find among the rest, and among themselves, a brotherhood nourished by imaginative understanding. The strength to carry these things through in practice can only be found with the help of those who have died, and of those not yet born.

A.B.

THE STARS OF 1988

Twelve Monthly Observations

John Meeks
Michael Brinch

THE STARS OF 1988

Twelve Monthly Observations

John Meeks and Michael Brinch

For the first time since the *Golden Blade* came into being in 1949, we are offering a guide to some of the most important celestial events of the year. If it is well received, it could become a regular feature of this journal. We have consciously refrained from calling this a "Calendar". To deserve this name it would have to contain a far more detailed account of the day-by-day occurrences. But the limitations of space would prohibit going into more than a few in any depth. Therefore the reader who would like to complement the study of these pages with a more complete picture of the year is referred to the excellent calendars already available, such as *Working with the Stars* (in Britain) or the *Kimberton Hills Agricultural Calendar* (in America).

One might think of these twelve monthly contributions as a series of contemplations on the stars. Although they are accompanied by excursions into Greek mythology, these are in no way intended as fixed interpretations. Every myth has many "true" meanings. This is why they were an inexhaustible source of inspiration for artists and poets. The artist could draw on the world of myth as from a fountain of eternal life. No attempt to understand a myth conceptually can hope to embrace its whole truth. A part will always elude us, and this is for the good. The reader is therefore encouraged to dwell upon these pictures, to move them in his imagination, to carry them as living questions. If they can enliven the understanding of the pure phenomena, and bring it nearer to the sphere of art, they will have served their purpose.

The other side of our presentation is a close and intimate look at the phenomena themselves, the "appearances" of the sky. An appearance is a percept, it is what meets the eye, not what we imagine we would see if we could transpose ourselves to some cosmic vantage point outside the earth. The earth, after all, is our home, and yet the heliocentric view is so deeply rooted in our culture and education that many people today can hardly free themselves from it. Hearing a simple statement like, "The star is rising", they cannot rest until they have translated it into another frame of reference. "Aha!", they say, "but what is really happening is that the earth is rotating!". In this way, the quest for an "absolute truth" often prevents us from seeing the beauty, harmony and ultimate significance of what lies before our eyes.

The descriptions of celestial events given on these pages do not assume any previous knowledge of astronomy. Absolute beginners will find in them - we hope! - a fully comprehensible introduction to observing the sky. But because we would like to awaken their enthusiasm, we cannot spare them some of the subtleties of the subject. May they pardon us if the path is sometimes arduous!

By including a number of illustrations for the southern hemisphere, we have tried to take a step towards bridging the gap which separates north and south on our globe. We feel motivated in this not so much by the desire to create a practical "handbook", as by the wish to help awaken a "global consciousness". This is perhaps the only limitation to our claim that all our pictures show what can be seen. The possibility to see some of

them depends on one's location on our planet. But we hope that wherever you happen to be located, you will find it worth the inner effort required to imagine what the sky would look like elsewhere. By so doing, we are including the cosmic environment of the earth in our endeavour to see and understand our planet as a living organism.

A NEW STAR IN THE SOUTHERN HEMISPHERE

On February 24th, 1987, a new star, or *nova* was sighted in the Large Magellanic Cloud, a small neighbour of the Milky Way in the dim constellation Dorado*. Its visibility is restricted largely to the southern hemisphere, although it can still be seen under more restricted conditions for as far as about 10° northern latitude. Astronomers soon identified the star as a "Supernova", a star which undergoes an exceptional increase in brightness, and can be seen for vast, even intergalactic distances. The last such naked-eye supernova appeared in the autumn of 1604 in the foot of the Serpent Bearer, near the Scorpion. This star, sometimes known as "Kepler's Nova" after its discoverer and commentator, was located in the zodiac, not far from the bright star Antares and the evening planets Mars and Jupiter. While Kepler devoted great attention to the deeper significance of his nova, Supernova 1987A, as it is dubbed with the cool detachment of modern astronomy, has become the source of much speculation about the physical evolution and internal structure of stars.

In lieu of either kind of speculation, we should like to offer a description by Rudolf Steiner of the significance of new stars for the earth. In a lecture on "The Whitsuntide Festival", held in Dornach on June 4th, 1924, Steiner refers to the influence of the astral or soul world on the etheric, or life organism of the cosmos:

"Every star we see glittering in the sky is in reality a gateway of entry for the astral world. ...Look at the starry heavens in their manifold formations. In one part the stars are gathered into heaps and clusters, in another they are scattered widely apart. In all these wonderful configurations of radiant light, the invisible, supersensible astral body of the cosmos reveals itself to us.

For this reason we must not consider the world of stars unspiritually. To look up at the stars and to speak of worlds of burning gases is just as though - forgive the apparent absurdity of the comparison, but it is precisely applicable - it is just as though someone who loves you were gently caressing you, holding the fingers a little apart, and you were to say that it feels like so many ribbons being drawn across your cheek. ...It is the astral body of the universe which is perpetually wielding its influence - like the gently stroking, caressing fingers - on the etheric organism of the cosmos. The etheric cosmos is organized for very long durations. It is for this reason that a star has its quality of fixity, representing a continual influence on the cosmic ether by the astral universe. It lasts longer than the stroking of your cheek. But in the cosmos things do last longer, for there we are dealing with gigantic measures. ...In this way, an immense, unfathomable life, yet at the same time a real and actual life of the soul, is brought into the cosmos. Think how dead the cosmos must appear to us when we gaze into the far

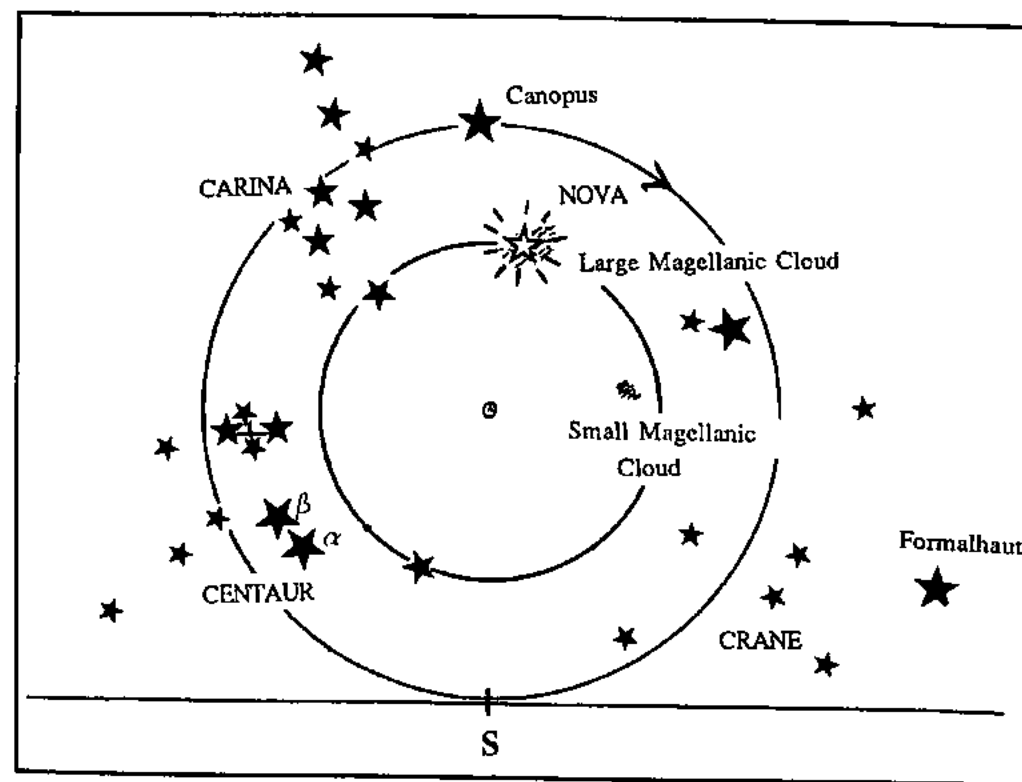
* The name Dorado is from the Spanish. It refers to the golden-iridescent fish *Coryphaena* which changes its colours at death. The usual translations "Goldfish" and "Swordfish" are misleading.

spaces and see nothing but burning gaseous bodies. Think how living it all becomes when we know that the stars are an expression of the love with which the astral cosmos works upon the etheric cosmos - for this is to express it with perfect truth.

Think then of those mysterious processes when certain stars suddenly light up at certain times, - processes which have only been explained to us by means of physical hypotheses that do not lead to any real understanding. Stars that were not visible before, light up for a time and disappear again. Thus in the cosmos too there is a 'caressing' of shorter duration. For it is true indeed that in epochs when divine beings wish to work in an exceptional way from the astral world into the etheric, we behold new stars light up and fade away again".

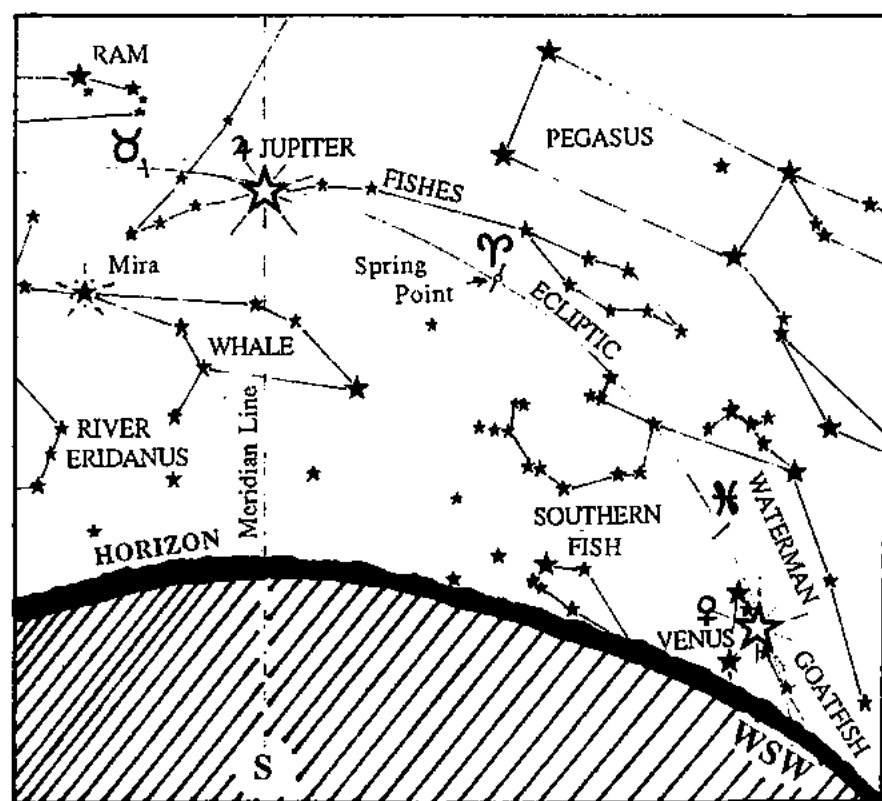
If we study the so-called "light-curve" of the nova in Dorado - a curve which expresses graphically its fluctuations in brilliance - we find that it does not conform to the usual "biography" of the ones which have so far been observed. The usual course of events could be described as a dramatic initial surge in brilliance, followed by a brief peak, or climax, and then a steady fading away, which might take six months to a year before the star has once again withdrawn into relative anonymity. With reference to Rudolf Steiner's description, one might say that this is the characteristic gesture for the way a nova "caresses" the etheric cosmos.

The Nova of 1987 appeared at first with such rapidity that most astronomers expected it to reach the brilliance of Jupiter during the spring. But hardly had it become visible to the naked eye when its increase in brightness suddenly ceased, and for several weeks it remained about the same, as a decidedly unspectacular star. Then the ascent began again, reaching a peak at mag. +2.7 on about May 20th/21st. At this time it was a star of middle brilliance, comparable, say, to an "average" star in the Great Bear or the Square of Pegasus. Since then it has slowly and steadily declined, and at the time of going to press (late July) it is around mag. +4.5, making it still an easy naked eye object, but far from conspicuous. Because of the unprecedented behaviour of this Nova, astronomers are watching it expectantly, and seem prepared for almost anything. Some astrophysicists are now predicting its "collision" with a neighbouring star, which they expect will bring about a further increase in its brightness in the months to come. While wishing to distance ourselves from any predictions based on purely physical observations, we should like to offer a little map showing the position of the Nova among the constellations, where it may or may not be seen during 1988. As the year opens, observers in the southern hemisphere can see Dorado with the Large Magellanic Cloud rising in the southeast at about sunset, culminating over the south celestial pole at midnight, and setting at sunrise. Our map shows the view over the southern horizon at a latitude of about $37\frac{1}{2}^\circ$ south at midnight on January 1st.



The New Star in Dorado. Southern Hemisphere, January 1st, midnight. The drawing corresponds to a southern latitude of $37\frac{1}{2}^\circ$ (Melbourne, Australia), where Canopus, the second brightest fixed star (after Sirius) just grazes the horizon at midday, in the lowest part of its orbit. Its whole circle of daily movement is indicated, as is that of the Nova, which remains circumpolar (i.e. always above the horizon). It will be noticed that the area around the celestial pole (SP), and in the immediate vicinity of the Nova, is a region of few and relatively dim stars. Unless there is an unusual development (which some astronomers have predicted) the New Star will no longer be visible to the unaided eye in 1988.

JANUARY 1988



Evening sky in early January, looking south at around 7 p.m. Jupiter is shown near the variable star Mira in the heart of the Whale (Cetus). On about the 7th, Mira - normally invisible to the naked eye - will attain its greatest brilliance. Jupiter is moving through the Fishes (Pisces) towards the head of the Ram (Aries). It is shown culminating over the south point of the horizon, while the still brighter Venus is about to set in the southwest.

Mira and Jupiter

As its name suggests, Mira is one of the most remarkable stars in the sky. While the vast majority of stars shine with such constancy that they were long regarded as eternal and unchanging, a very few undergo regular fluctuations in brightness which can easily be discerned with the unaided eye. By far the most dramatic of these is Mira, discovered - or re-discovered? - by the Dutch astronomer David Fabricius in 1596. In the illustration for March, Mira is also shown, descending in the western sky in the early

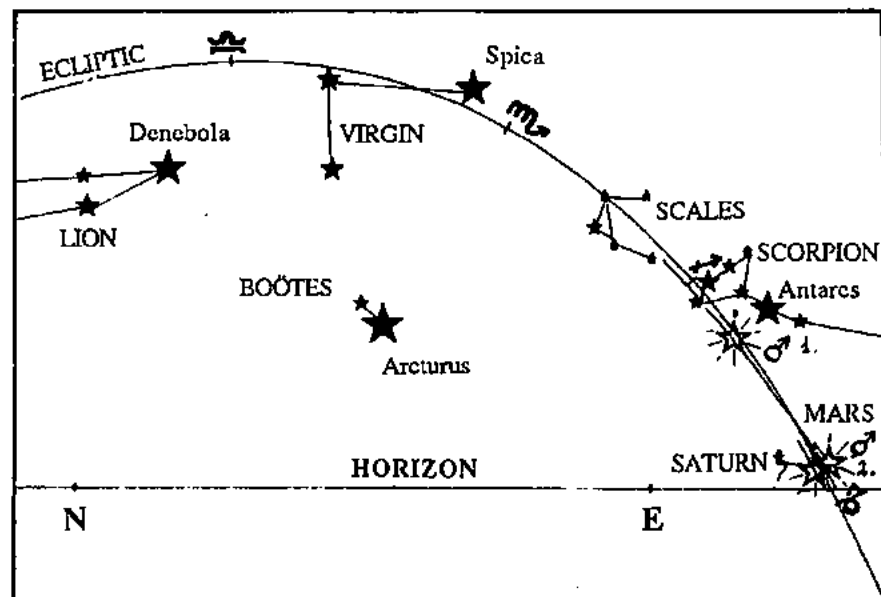
hours of the morning. In reality, however, it will only be visible towards the end of December 1987 and for a good part of January 1988. It will then slowly fade out of the sky, and will only be accessible for telescopic observation until November/December. During these periods it will rise in the early evening in the southwest and be visible for the first half of the night.

It is impossible to give an exact rule about Mira's brightness, or about the length of its visibility, for it is a "variable variable", and in some years is more conspicuous than others. In November 1799 William Herschel observed it to be nearly equal in brilliance to Aldebaran, making it one of the brightest stars in the sky, while in some rare years it has never even reached naked eye visibility. What can be said with some certainty is that its period of fluctuation averages 332 days. This means that Mira appears in the sky as a brief stellar "epiphany" one month earlier each year. Its visibility is thus like an echo of the rhythms of the planet Jupiter. While each stage of Jupiter's visibility cycle (such as its opposition to the Sun) is reached 33 days later each year, the visibility of Mira becomes 33 days earlier. The two cycles thus wander slowly through the seasons, but in opposite directions, until after 12 years the two return to the same temporal and spatial relationship as they had at the outset. The impression arises of two opposite streams of time, which meet at a certain moment when the planet is shining in the direct vicinity of the star. Such a "conjunction" takes place at the beginning of this year, and again at the beginning of the year 2000, when Mira can be expected to shine through the first half of the winter night to greet the new millennium.

A brief exploration into the realm of mythology can throw a further light on this little-heeded relationship. In the myth of Perseus the Sea Monster (represented by the constellation Whale) rises up out of the depths to threaten Andromeda, who is chained to a rock to atone for her mother's pride. Her suffering seems to be a stage in the initiation of the human soul at a time of awakening self-consciousness. The soul feels itself increasingly confined and imprisoned by the physical body. A division has taken place between the light-filled world of the atmosphere with its changing, weaving colours and forms, and the dark, mysterious world of the sea, which harbours wonderful and dangerous creatures. The atmosphere has become an image of the conscious life of feeling, the ocean represents a world which waking consciousness can no longer penetrate. Down from the heights of the atmosphere descends the hero Perseus, wearing the winged sandals of Mercury, the messenger of Zeus-Jupiter. In overcoming the monster and freeing Andromeda we could say that Perseus is liberating the human soul from the irrational and untransformed forces of the unconscious, and banishing them into the depths of the sea. His deed is not an outer feat of prowess, but an inner step in consciousness. Perseus can be seen as one of the initiators of a consciousness which is clear and focussed. As such, he stands under the guidance of Zeus, whose divine mission it is to bring to birth the great flowering of philosophy and art in Greece.

The constellation of the Whale, which in ancient times was situated far to the south on the celestial sphere, surrounded by other watery creatures, such as the Fishes, the River Eridanus and the Waterman, only emerged above the horizon for a brief part of the year. The incommensurable, unpredictable variations in the light of Mira may well have made her appear like an inconstant, flickering torch from the depths, a pale memory of what was once a great and all-embracing light, but is now no longer in its proper time. And the extraordinary polarity to the rhythms of Jupiter - if indeed they were known in an outer sense - seem to give a new dimension to the contrast between an old and a new light of consciousness.

FEBRUARY 1988



Mars, Saturn and Antares in the Morning Sky. Southern Hemisphere (35° S). Morning sky on February 23rd at 2 a.m. local time (about 4 hours before sunrise). Mars (Position 2) and Saturn are in conjunction near the summer point (winter point in the northern hemisphere). They are just rising to the south of east and will ascend steeply in the morning sky. In the northern hemisphere they will remain closer to the horizon and thus be somewhat more difficult to observe. At the time of conjunction, Mars is about $1\frac{1}{4}^\circ$ to the south of Saturn, the equivalent of about $2\frac{1}{2}$ lunar diameters. Mars is also shown (Position 1) in conjunction with the reddish Antares on January 22nd.

Saturn and Mars are each near the beginning of a longer cycle of visibility. The cycle of Saturn will divide the year 1988 in an almost perfectly symmetrical way. Thus Saturn begins the year as a morning star, rising earlier each morning before the Sun, until it dominates the whole night as a midnight star in mid-year. From this time onwards it slowly fades into the evening sky during the last part of the year. Thus 1988 could be seen in a very important respect as a Saturn year. Two accompanying phenomena may serve to reinforce this impression. The one is the fact that Saturn is presently located in the brightest part of the Milky Way, in the constellations Scorpion and Archer. This makes the Saturn year particularly impressive from the southern hemisphere, where this most luminous part of the sky ascends in a high arc over the horizon, and Saturn rises to its highest culmination within its 30-year revolution through the zodiac. The other phenomenon is that Venus almost perfectly mirrors the visibility cycle of Saturn.

Venus and Saturn in 1988

We have already seen on the January pages how one celestial rhythm may appear as a counter-movement to another. In the case of Mira and Jupiter we spoke of two opposite streams of time. During 1988 Venus and Saturn remain polar opposites with regard to their time and conditions of visibility. While Saturn is a morning star during the first

half of the year, Venus will be an evening star, and then describe a midsummer loop in the Bull (Taurus), directly opposite that of Saturn (see June). At its closest approach to the earth - only a week before Saturn's - Venus is briefly invisible. She will disappear from sight at precisely the time Saturn reaches his greatest brilliance in the midnight sky, and then re-emerge in the east to continue as a morning star for the whole second half of the year, while Saturn is becoming increasingly limited to the evening sky.

Thus Venus and Saturn are remarkably co-ordinated in their movements. Although they never meet in conjunction during the course of 1988, the impression could arise that they are performing a stately dance together around the earth - a dance to which Saturn imparts a certain solemnity, and Venus a quality of grace and beauty.

The Movement of Venus as Evening and Morning Star in 1988

The dignity which characterizes Saturn's rôle in his "dance" with Venus has much to do with the fact that he hardly moves at all against the background of the stars, while Venus accompanies the Sun in a full revolution through the zodiac. At the same time, she describes a beautiful and complex movement over the horizon, which varies according to the geographical location of the observer. Each morning and evening star visibility of Venus has its own characteristic "signature" over the horizon. This script is illustrated on the following pages for 13 different latitudes, ranging from 60° South to 60° North, at intervals of 10°. The curves represent the changing position of Venus over the horizon at the moment of sunset and sunrise during a period of about 8 months. The varying thickness of the curves represents (in a slightly exaggerated form) the varying brightness of the planet in the course of its visibility cycle. The evening visibility (Fig. 1) begins around the end of August 1987 (Venus behind the Sun), and extends to early June 1988 (when Venus is about to cross between the Earth and the Sun). It begins with a rather slow ascent along the horizon to the left (south). Only slowly at first does the planet's brightness increase. At the point shown on each curve Venus has reached its greatest angular distance from the Sun (greatest elongation). This takes place on March 3rd. The star is the greatest brilliance, around May 7th. At this time the planet's movement along the curves is becoming swifter as it approaches ever nearer to the earth. Just a month after greatest brilliance Venus disappears in the evening twilight to re-emerge after a few days as a brilliant morning star in the northeast (Fig. 2). The dynamic quality of Venus' movement is now like a mirror image of that in the evening sky*. Venus appears as rapidly as she disappeared, and surges quickly to her greatest brilliance on July 20th. In the southern hemisphere she makes a small loop around the time of greatest brilliance and greatest elongation (August 21st). She then slowly sweeps westwards, before her final eastward lunge into invisibility in the morning twilight during March of next year.

These visibility curves of Venus belong to the most beautiful and impressive forms of any planetary movements. Indeed, one can gain the impression of a kind of cosmic artistry which is at once graceful and mathematically subtle. It is a realm where the cosmos is turned earthwards, so that a quite individual and intimate relation to each part of the earth is attained. It is hoped that further research into these relationships may form the basis of an astronomical approach to understanding the earth as a living organism.

* The two series of curves would be an exact mirror image of each other if the inferior conjunction of Venus with the Sun took place directly at the summer point.

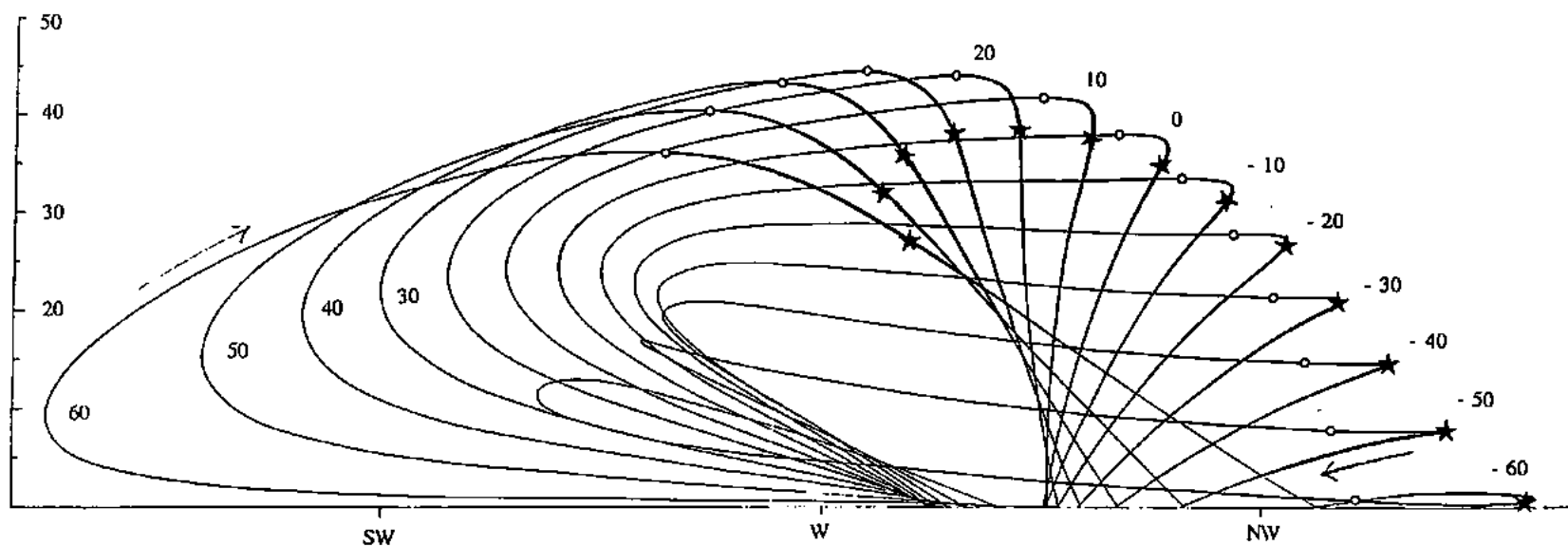


Figure 1 *Venus as Evening Star, August 23rd 1987 - June 12th 1988.*

The 13 curves represent 13 different geographical latitudes, from -60° (60° South) to 60° (60° North). Each of these curves shows the changing position of Venus over the western horizon at the moment of sunset, during the course of about $9\frac{1}{2}$ months. The direction of the planet's movement along the curves is indicated by an arrow. The varying thickness of the curves gives a rough idea of the planet's fluctuating brightness. Two positions of Venus are highlighted on each curve: its greatest elongation on April 3rd, 1988 (the day of its greatest angular distance from the Sun), and its greatest brilliance around May 7th, 1988. Greatest elongation is shown as a small circle, greatest brilliance as a star. It should be borne in mind that nowhere on the earth is Venus visible to the naked eye for the whole period covered, but the actual duration of visibility is slightly different for each latitude.

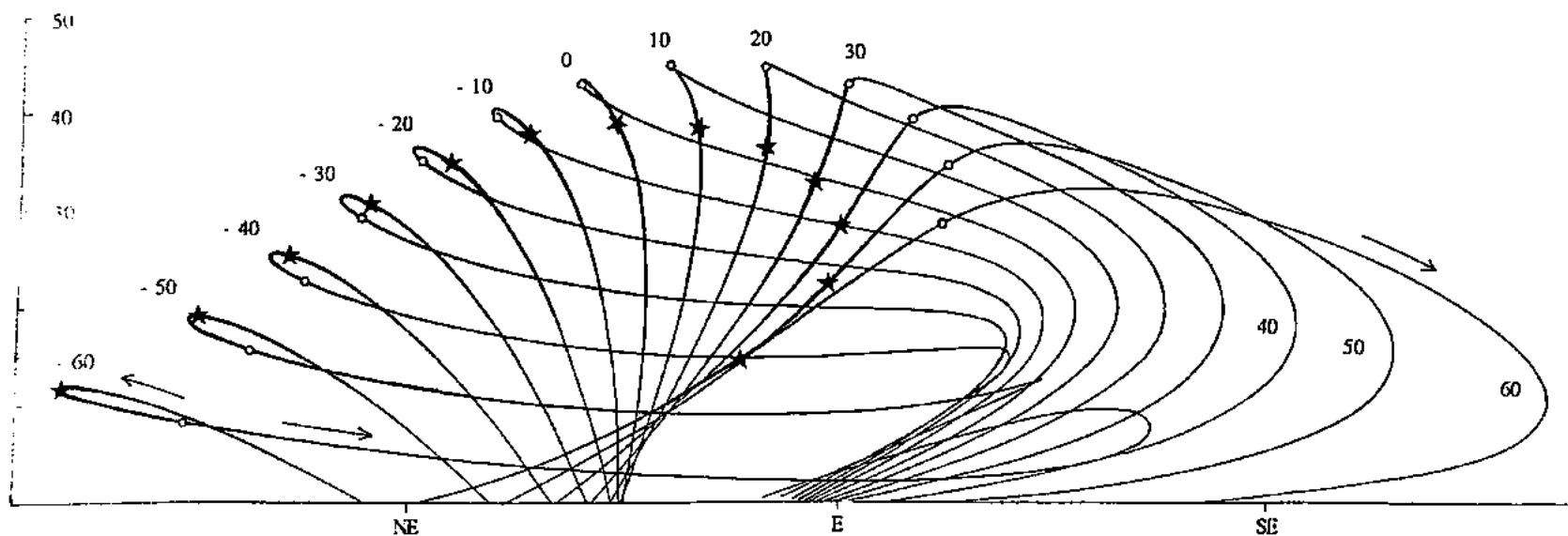
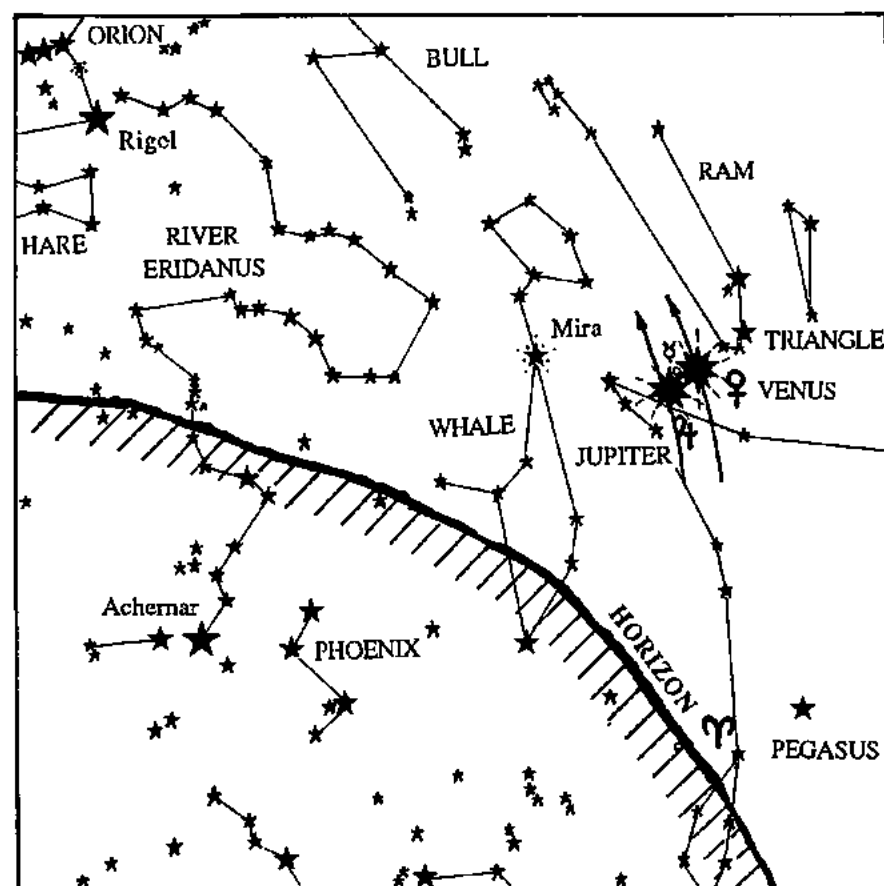


Figure 2 *Venus as Morning Star, June 12th 1988 - April 2nd 1989.*

The corresponding curves are shown over the eastern horizon at the moment of sunrise. The greatest brilliance (star) takes place around July 20th 1988, and the greatest elongation (circle) on August 21st.

- Drawings by Iris Pfennig.

MARCH 1988



Conjunction of Venus and Jupiter in the evening sky. Northern hemisphere (50° N). The stars above and below the southwestern horizon are shown for about 19.00 local time on March 5th. At the exact moment of conjunction (22.21 GMT) the planets will already have set in Europe. At their closest they will be about 2° apart (the equivalent of 4 Full Moon diameters). The conjunction takes place between the head of the Ram (Aries) and the convergence of the lines of stars which connect the two Fishes (Pisces). This part of the sky is populated by watery constellations: the Fishes, the Sea Monster (Cetus), and the River Eridanus. It was referred to in Babylonian mythology as the "Celestial Ocean". It is an area of relatively few bright stars, being far removed from the Milky Way.

A Mythological Perspective

Conjunctions between Jupiter and Venus can never occur during the climax of Jupiter's visibility, when it is opposite the Sun, rising around sunset and setting near sunrise. Because Venus can only reach a maximum separation of about 48° from the Sun, such conjunctions always take place in the morning or evening sky, near the beginning or end of a Jupiter visibility.

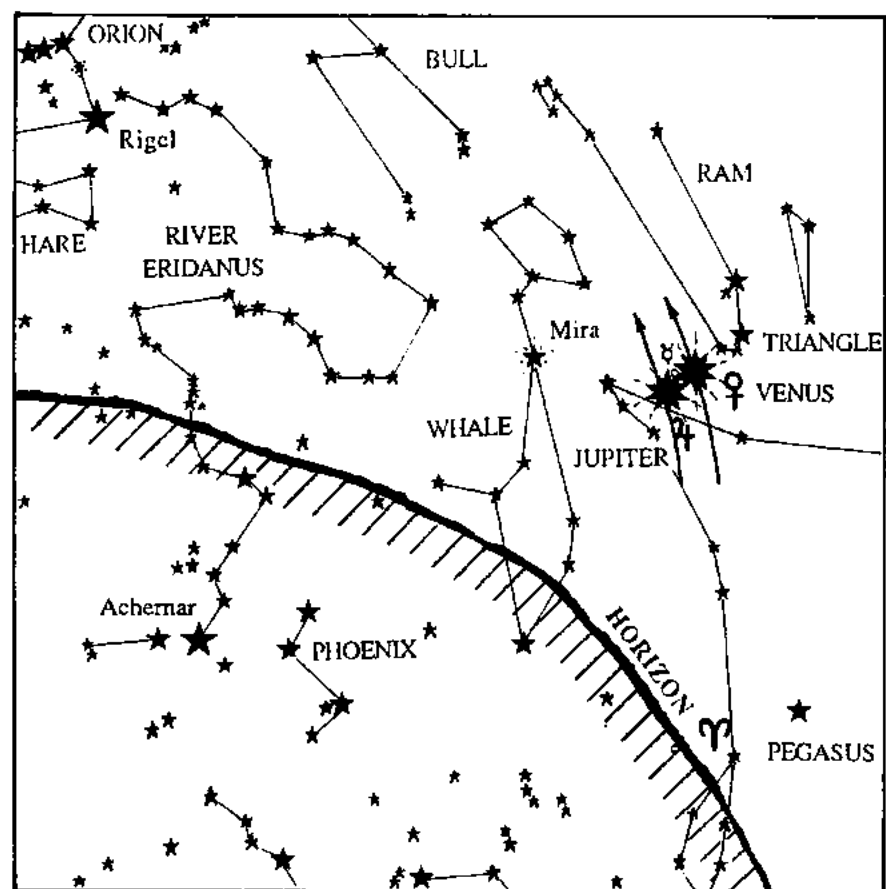
In the Homeric Hymns the first meeting is described between Venus-Aphrodite, newly born from the foam (*aphros*) of the sea, and the Olympian gods. The moist breath of Zephyr (the west wind) wafts her to the land, where she is received by the rejoicing goddesses of the Hours. They adorn her with heavenly garments and precious stones, and then bring her to "their father's house to join the lovely dances of the gods". The gods, seeing her, gave her their hands. "Each one of them prayed that he might lead her home to be his wedded wife, so greatly were they amazed at the beauty of violet-crowned Cytherea".

The conjunction this month of Venus and Jupiter could be experienced as a memory of this festive moment of theogony. Descending from the midnight heights of the winter sky, Jupiter approaches the violet-indigo of the evening twilight where Venus is at her most radiant. Here, in the transitional region between day and night, where in the darkening sky delicate veils of colour weave about the Evening Star like garments given her by the Hours, she can be seen long before Jupiter, outshining him many times in her splendour. It is as though Jupiter, the planet of wisdom, had left the wakeful clarity of the Olympian heights, to partake in another level of consciousness, a world of dream where he readily acknowledges the supremacy of the goddess of love.

The meeting takes place in a part of the sky which brings this transition to expression. The constellation of the Ram was regarded as an image of the cultural mission of Greece to develop clarity and independence of thinking. The ram-headed god Ammon, who awakened something like a foreshadowing of this faculty in Egypt, was later identified by the Greeks with Zeus. Anyone learning the constellations for the first time will be struck by the fact that there is very little to be seen of the Ram apart from its small, bright head. The attention is focussed and concentrated, almost to a point. The Fishes, by contrast, one of the largest and most diffuse constellations in the sky, offer the eye little rest. Its stars are so dim that they are better seen peripherally, than by focussing directly on them. To see and experience the form, the eyes must be in constant movement. Moreover, there are two Fishes. They are located at the extreme ends of the constellation, and are shown swimming apart. Between the open, mobile duality of the Fishes and the concentrated clarity of the Ram the conjunction of Venus and Jupiter takes place. Jupiter is inclined towards the dreaming world of the Celestial Ocean, from which Venus rose up at her birth, while Venus herself looks up to the Olympian light in the domain of the Ram. Thus we see the meeting of these two most brilliant planets in a moment of balance and harmony at the boundary between two worlds, before Venus continues her ascent as an Evening Star, and Jupiter slowly fades into the evening twilight.

* Hesiod, *The Homeric Hymns and Homeric*, translated by Hugh Evelyn-White, "To Aphrodite", p. 427. Harvard, Heinemann, 1977.

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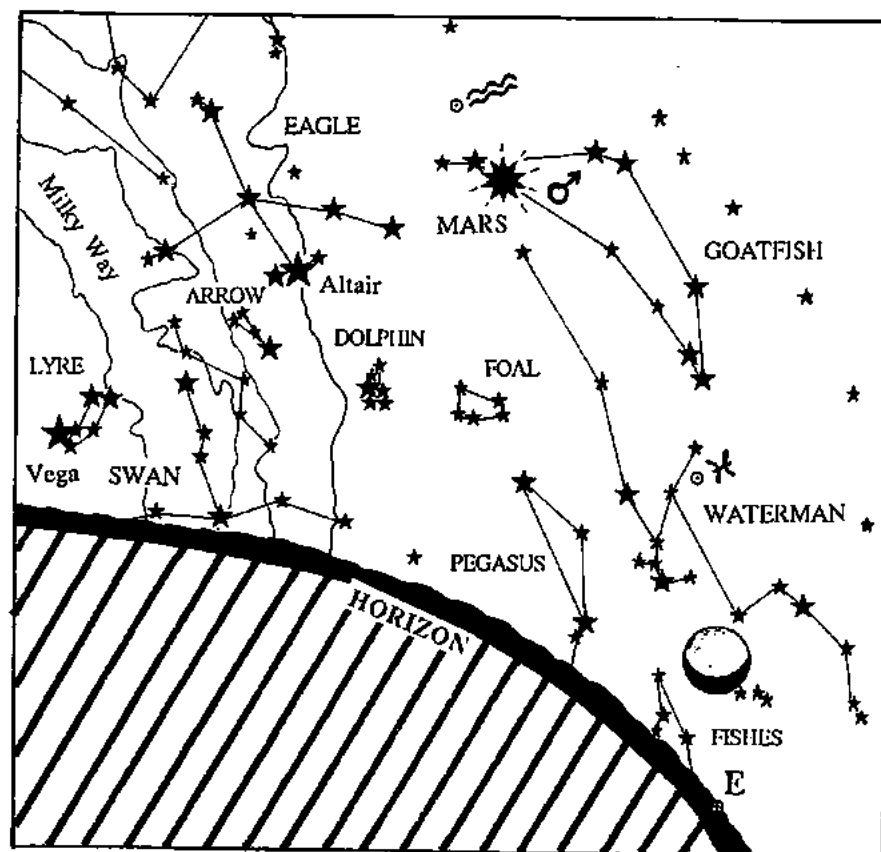
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APRIL 1988



Southern Hemisphere. The waning crescent Moon is shown rising between the Fishes and the Waterman on the morning of April 13th. The sky is calculated for 4.45 local time at Wellington, New Zealand. The exceptionally horizontal tilt of the crescent is characteristic for the waning phase in autumn, but is further enhanced by the extreme situation of the lunar orbit this year (see drawing and text for August). In the northern hemisphere, where it is spring, it will appear in a nearly upright position. Mars is shown in the head of the Goatfish (Capricorn), where it is slowly gaining in brightness as a morning star.

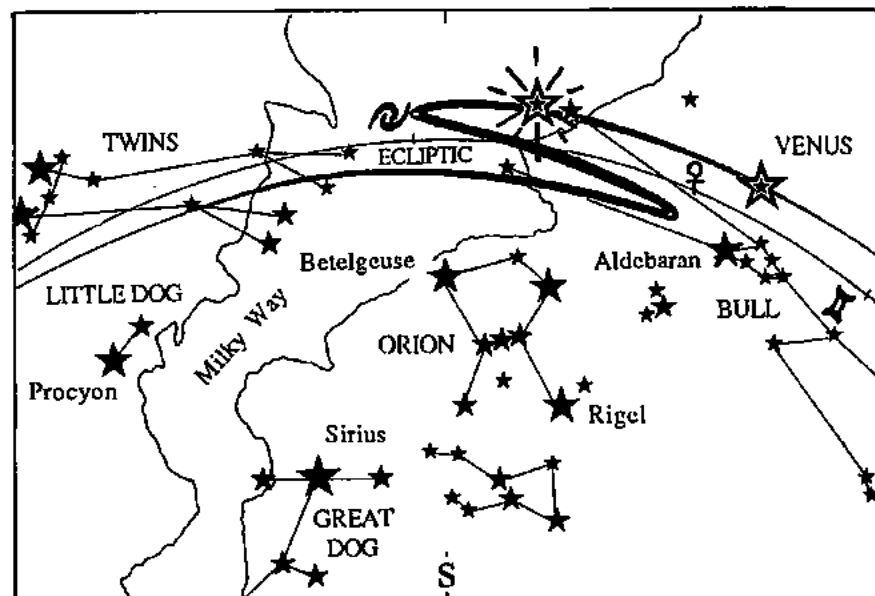
The Moon and the Power of Fantasy

The association of the Moon with the faculty of imagination, its ability to engender a poetical mood in the soul is well known, and has often been celebrated in song and verse. But is it only a tradition, or can we discover a new and more conscious relation to it?

In the drama of the changing phases of the Moon, our interest and engagement are never so strongly aroused as when we see a slender crescent in the twilight, embracing a pale blue or greyish disc of light. If the horns of the Moon are upright, as in the present drawing, they could be reminiscent of the Moon-barque of the Egyptians, carrying the gods across the celestial waters of the night, or again of the chalice of Hindu mythology in India, in which the heavenly soma - the nectar of the gods - is slowly gathered, day by day, until the Moon is full, and then distributed during the waning phase among the deities of the stars. If the horns are tilted to the side, so that their tips point to the right or left, we could think of the bow of Artemis, the divine huntress of the Greeks. While the "Chalice Moon" soars rapidly upwards from one evening to the next, soon leaving the horizon behind, the "Bow of Artemis" glides close along the horizon, maintaining as long as possible its relation to the earth and the twilight.

The appearance of one or the other lunar orientation, and the transitional forms between them, corresponds to the seasons of the year, as well as to the geographical latitude. To learn the "signature" of each month, its unique relationship to time and space, is not only an exercise in precise observation, but one which is certain to bring life and mobility into the thinking and the imagination. Readers who wish to pursue further this subtle and rewarding subject are invited to study the chapters "The Moon as a Mirror of Time" in *Movement and Rhythms of the Stars* by Joachim Schultz, and "The Moon" in *Astronomy and the Imagination* by Norman Davidson.

MAY 1988



Loop movement of Venus during May, June and July (northern hemisphere). The May and June pages of this calendar show the looping movements of Venus and Saturn, both of which reach their climax near midsummer. Not only are they located in opposite parts of the zodiac, but in respect to their visibility they are opposite in character. The loops of the outer planets, Mars, Jupiter and Saturn, represent the climax of their visibility periods. In the middle of their retrograde movement they reach opposition with the Sun, and can be seen all night in their greatest brilliance. Venus and Mercury, as inner planets, pass between the earth and the Sun during their retrograde movement, and are therefore invisible. During the period preceding a loop, they are always evening stars, and during the period immediately following, they emerge in the morning sky.

In our drawing, three positions of Venus are shown as it approaches its loop in the horns of the Bull. In Position 1 (April 23rd), Venus is in conjunction with the yellow-orange star Aldebaran in the eye of the Bull. Position 2 is May 1st, as the planet reaches its greatest brilliance in the evening sky. Position 3 is the beginning of the retrograde motion on May 24th. Beginning in early June the planet will be invisible for about 2 - 3 weeks in the neighbourhood of the Sun, before it emerges in the morning sky, once again near Aldebaran.

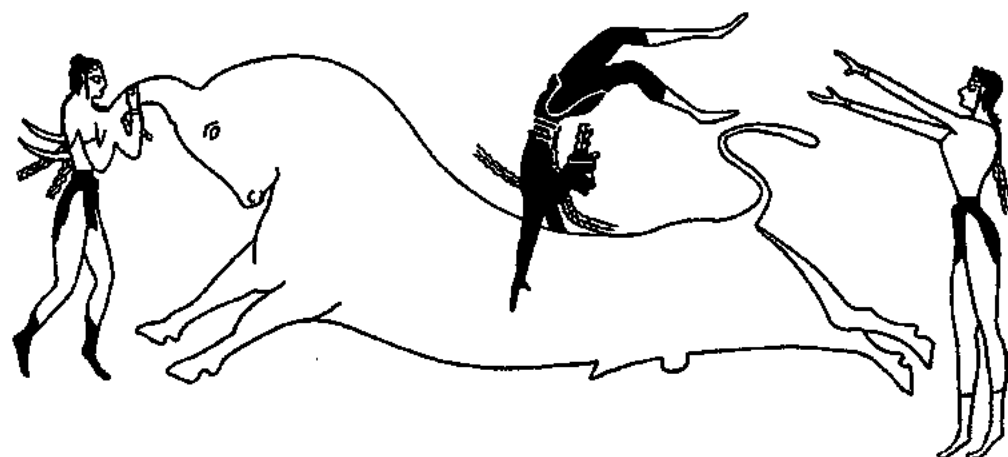
Mythology

The rhythmical, dance-like movement of Venus in the horns of the Bull could well call to mind the remarkable Cretan wall-paintings which show youths and maidens performing a somersault over the horns of a charging bull. Such pictures bring to expression a joyous, playful triumph of the higher over the lower nature. The unique and fascinating quality of these games seems to have its roots in the whole religious and

cultural life of Crete, which is quite different from what we meet elsewhere in the ancient world. Male gods are unknown, and it is possible that the religion centred on a single great goddess, who was imagined in close connection with nature: the mountains, the sea and the world of the animals appear to have been her chief domains.

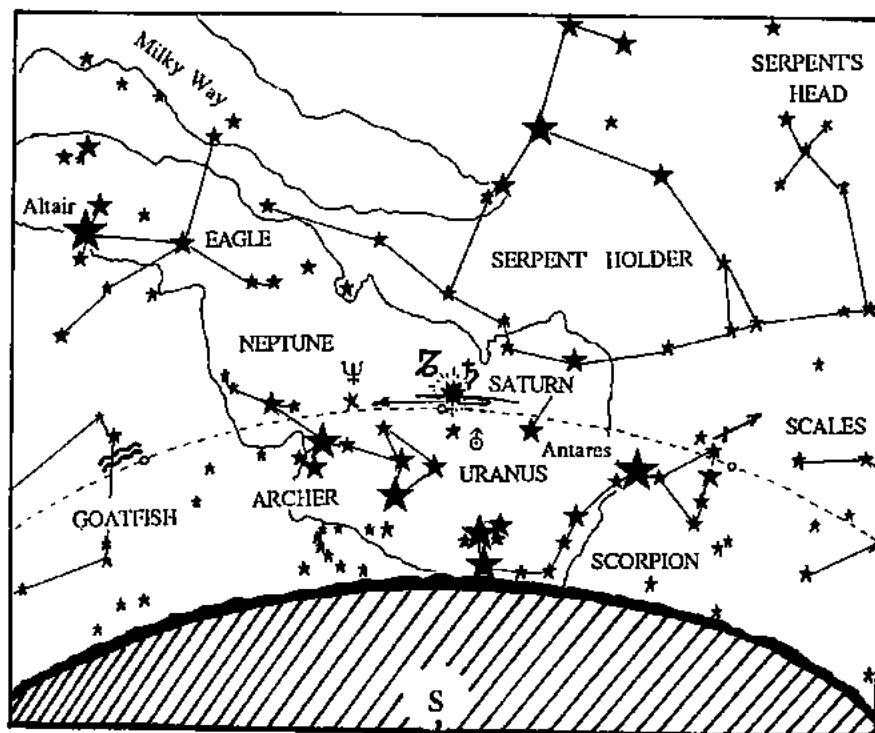
Many ancient cultures had their own versions of the encounter and struggle with the bull. We need only think of the battles waged by Gilgamesh, Heracles and Mithras against a mighty and formidable bull, all of which end in the latter's death. In the Spanish bull-fights we can still experience a degenerate relic of this heroic, masculine attitude. The remarkable thing about the Cretan games is that the human being triumphs without bloodshed. The feminine principle seems able to transform the "enemy" into a partner in a kind of dance. And the masculine world stands in utter bafflement. Toreros and gymnasts alike find it impossible to imagine how such a feat could be carried out at all.

It has been suggested that the Cretan bull-leap may have had a cosmic significance. The games, if they were carried out around the time of the spring equinox, when the Sun entered the constellation of the Bull, might have been symbolic of the crossing of a cosmic threshold. Perhaps this movement of Venus in her midsummer loop (in ancient Crete it would have occurred nearer the spring) - her "somersault" over the horns of the Bull from the evening to the morning sky - might offer a new perspective on one of the great riddles of the ancient world.



*The Cretan Bull-Leap. Wall-painting from the Palace in Knossos, 16th century BC. At the left a maiden has taken hold of the bull's horns, and is preparing to leap. A dark youth is springing over the animal's back, while another maiden is waiting to catch him with outstretched arms. (From: Julius Schwabe, *Archetyp und Tierkreis*, Basel, 1951).*

JUNE 1988



Saturn at Mid-year. (Northern hemisphere). While Venus describes a sweeping and dramatic loop near the summer point, passing in front of the Sun at her closest approach to the Earth, Saturn dominates the short summer nights, as it moves slowly through its small, compressed loop directly above the winter point. During the course of the year Saturn will experience a triple conjunction with Uranus (the latter being only just at the extreme limit of naked eye visibility). The dates of the conjunctions are: February 13th, June 26th and October 18th. Their respective loop movements are perfectly co-ordinated, as both planets reach their opposition to the Sun only 5 hours apart on the night of June 19th/20th. Not far away to the east Neptune is shown in the Archer (Sagittarius). In 1989 Saturn will experience a triple conjunction with Neptune, and in 1993 Uranus will meet Neptune for a similar triple conjunction in the eastern (left) part of the Archer. Thus the next five years will be marked by a slow and stately meeting of the three great outer planets where the brightest part of the Milky Way intersects the zodiac near the December solstice.

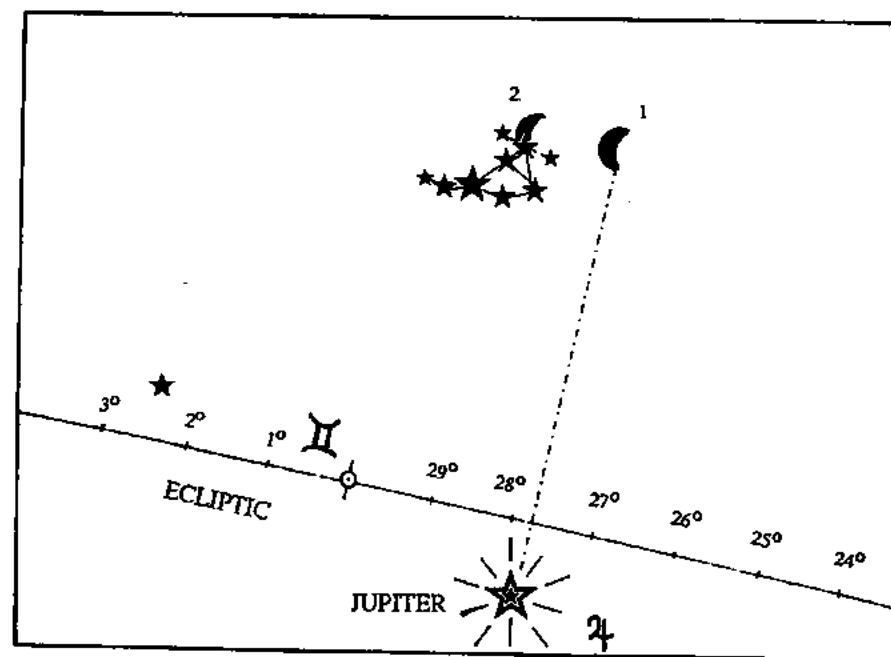
For the past fifteen years (since about August, 1973) Saturn has been steadily descending in its course through the zodiac. In so doing, it has mirrored the monthly descent of the Moon, travelling as far in a year as the Moon does in a day.

The ascending and descending path of the Moon between the two solstitial points has found its application in traditional and bio-dynamic agricultural practice. Similarly, there is much evidence at hand which points to the importance of the outer planets, and quite particularly of Saturn, in the growth rhythms of trees and in their seed production. Studies made by Joachim Schultz and others* on the seed-cycles of the beech during the past 150 years indicate that certain positions of these planets in the zodiac have an inhibiting effect, while others seem to stimulate seed formation. To a remarkable extent, it was possible to follow this relationship until the early 1970's. In the ensuing period it has become obscured, and it is quite conceivable that human interference with the balance of nature is to blame. Thus whole forests have been observed to produce unusually high numbers of seeds in successive years - an apparently pathological phenomenon, which suggests that the survival of the trees is threatened, and their life-energy is being channeled into the reproductive process. The reader is referred to the articles by Lawrence Edwards and Iris Pfennig/Georg Wilhelm Schmidt in this issue, each of which points in its own way to the danger of the growth-rhythms of the trees being severed from the cosmos.

The question has been asked in recent years whether the global dying back of forests may not have been accelerated by the descending path of Saturn, possibly "potentized" by the other outer planets (from mid 1977 to early 1984 the great outer planets Jupiter, Saturn, Uranus and Neptune were all descending), and whether the next decade and a half might not see a change. Surely there is no cause for complacency, as experiences in the southern hemisphere (where the planets have been ascending) will show. It is rather to be hoped that the beginning ascent of the distant planets will be accompanied by an awakening to our responsibility for the natural world.

* See for instance the articles by Joachim Schultz in the *Sternkalender*, Dornach, Switzerland for 1948 and 1951, and by Gerhard Wolber/Suso Vetter in the 1973/74 issue of the same publication.

JULY 1988



The movement of the waning crescent Moon over the Pleiades on the 9th July, and its conjunction with Jupiter.

In Position 1 the Moon is shown at the moment of its conjunction with the morning planet Jupiter (16.17 GMT). At their closest approach, they will still be about $51\frac{1}{2}^\circ$ apart, or the equivalent of about 11 Moon diameters! In Europe and the Americas this event takes place during the daylight hours, and even in Japan it will be about an hour past at the time of moonrise. It can, however, be observed in New Zealand close to the time of moonrise (around 3 a.m., local time). The drawing need only be turned upside-down to represent the event as seen in the southern hemisphere. Position 2, however, as shown in the drawing, can only be experienced in more northerly latitudes. In the southern hemisphere the Moon does not cover any stars of the Pleiades, but passes well to the north of them. This is an effect of spatial perspective, and indicates that the Moon's precise position against the starry background depends to some extent on the observer's position on the earth.

The "occultation" of a part of the Pleiades can be observed in the morning sky in Japan, beginning about an hour after moonrise (the Moon rises about 2 a.m. summer time in Tokyo on July 10th).

In speaking of the cultural differences between the Europeans and the Japanese, Laurence van der Post once wrote, "We were born in love with the sunset, they with the moonrise". It is quite possible that there is no other people on the earth which has cultivated such a profound sensitivity to the different nuances of feeling which the moonrise can evoke, as the Japanese. And so we can imagine that Japanese observers of

this summer morning moonrise are not only uniquely situated spatially to see an event which is hidden in most other populated areas of the globe, but may be equally favoured by their special sensitivity to its qualities.

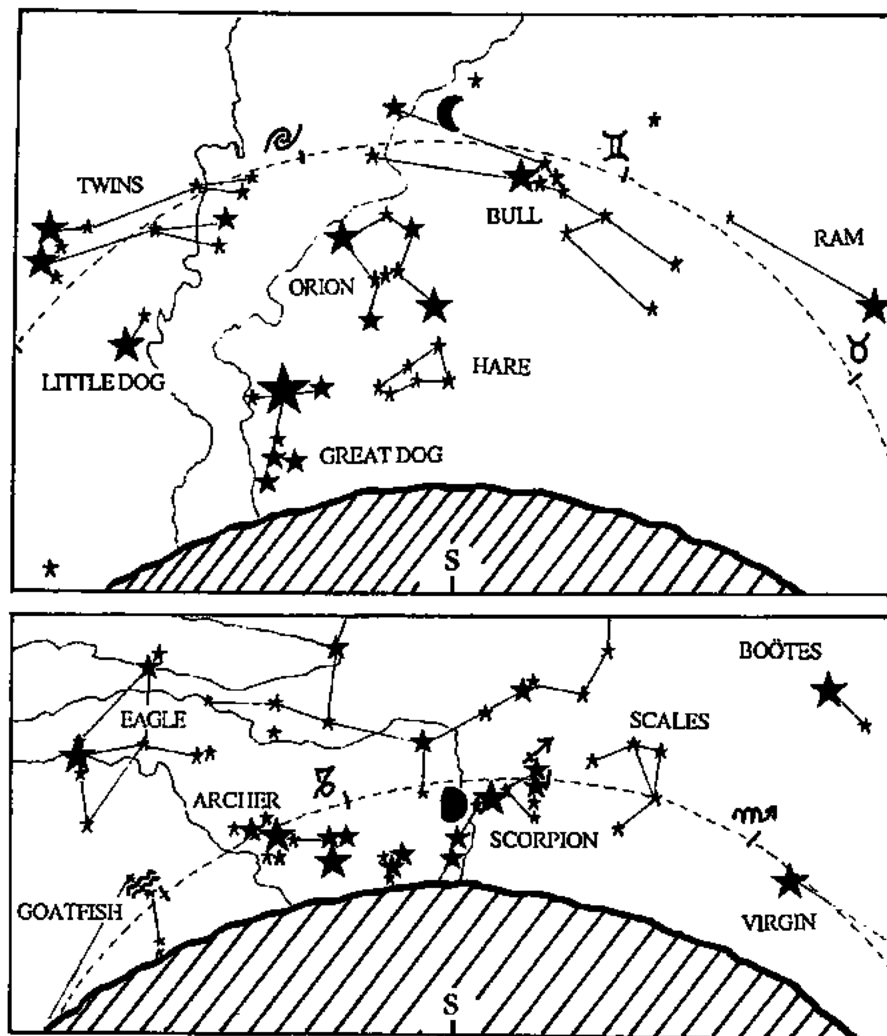
Occultations and Grazings of Stars by the Moon

As the Moon's orbit oscillates over an 18 year 7 month period (as elaborated on the pages for August) it meets different stars in its monthly circuit of the zodiac. Such encounters may take the form of "occultations", when the star is eclipsed by the lunar disc. If it passes roughly behind the centre of the Moon, it will disappear on the eastern (left) edge of the Moon, and remain hidden for about an hour before it re-emerges on the western (right) edge*. For a given place on the earth, the Moon will occult a particular star for a certain period of time within the 18-year cycle. During 1988 the northernmost stars of the Pleiades will be eclipsed regularly in much of the northern hemisphere. Other bright stars to be obscured this year are Antares in the Scorpion (shown just to the right of the Moon in the lower picture for August), Spica in the Virgin, and Regulus in the Lion.

The first occultation of Regulus takes place on June 19th, 1988. It can be seen from northern Scandinavia and Siberia as a close graze beneath the Moon's lower edge. The occultations continue each month until October 24th, 1989, when the last grazing occultation can be seen from a part of Antarctica. During this period of just over a year, the region of visibility travels southwards over the face of the earth, and the duration of the occultation first increases, and then decreases again. Position 3 of the Moon in our illustration for February shows the Moon still well above Regulus a few months before this series of 19 occultations begins. For any given place on earth, the occultation-period will be shorter than the global period mentioned above, and will always begin and end with a series of close grazes. Moreover, only a few of the many encounters in such a series will be visible from the locality in question, as three conditions must be fulfilled: 1) the Moon must be above the horizon; 2) it must take place at night; and 3) the Moon must be visible (i.e. not too close to the Sun). In the lower picture for August, for instance, the Moon is shown about four hours after an occultation of Antares (the bright star to the right of the Moon). This occultation is only visible in South Africa, Tasmania and the Antarctic regions. For an occultation of Venus see the page for October.

* For southern hemisphere reverse "left" and "right".

AUGUST 1988



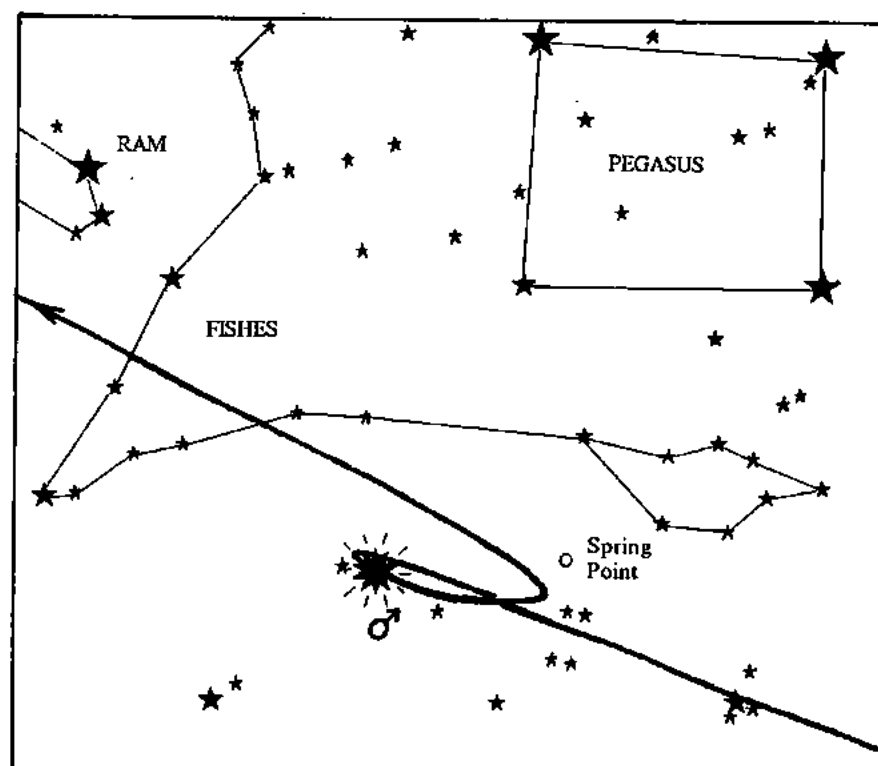
The highest and lowest positions of the Moon. Latitude 50° N. The first picture is drawn for 8.45 a.m. Summer Time on August 7th, the second for 19.45 on August 21st. The Moon is shown at the moment of culmination, when it is directly over the south point of the horizon. The Sun's orbit, or ecliptic, is shown as a broken line. The Moon is greatly exaggerated in scale.

The Moon's Shifting Path through the Zodiac.

Unlike the Sun, which maintains a constant and unswerving course through the constellations, the Moon can be seen in many different relationships to the stars. Over a period of 18 years, 7 months, its orbit slowly oscillates, swinging rhythmically from one side of the ecliptic to the other. This movement is usually explained as the revolution of the *nodes*, or crossing points of the lunar and solar orbits, through the zodiac from east to west - that is, in a direction opposite to the regular movement of the Sun, Moon and planets. Since eclipses of the Sun and Moon can only take place when New or Full Moon occurs near one of the nodes, the eclipses also gradually shift through the seasons in the course of this period. The eclipses of 1988 all occur near the equinoxes: the solar eclipses taking place on March 17th/18th (total) and on September 11th (annular), and a partial eclipse of the Moon on August 27th. This indicates that 1988 is a year when the nodes are near the crossing points of the ecliptic and the equator.

The drawings for August illustrate how this situation affects the placement of the lunar orbit. When the Moon reaches the spring equinox, it is near its northern, or ascending node (♈), meaning that its orbit ascends 5° more steeply above the equator than that of the Sun. When it reaches its monthly culmination near the summer point (upper picture) it is about 5° higher in the sky than the Sun at midsummer. When it reaches the autumn equinox about a week later, it is near its southern, or descending node (♏), and near the winter point (lower picture) it is 5° lower in the sky than the Sun in midwinter. During this part of its 18-year cycle the highest and lowest daily arcs of the Moon in the course of each month are 57° apart, as opposed to the highest and lowest daily arcs of the Sun in the course of each year, which are always 47° apart. Nine years and three-and-a-half months later, after half a rotation of the nodes, the situation is reversed. The Moon descends below the Sun's orbit at the spring equinox, and rises above it at the autumn equinox, and its highest and lowest culminations are only 37° apart. Thus, to an observer on the earth, the lunar orbit seems to expand and contract during a period of 18 years and 7 months, the result being a dramatic change in the extreme points of rising, setting and culmination. 1988 could be described as a year of an expanded lunar orbit, while 1997 will see the opposite, contracted situation. Another consequence is that its orbit slowly shifts within each constellation of the zodiac. During the whole period, this shift amounts to 10°, or 5° on each side of the ecliptic. Thus the Moon passes different stars at different times within this period. A few of this year's most interesting meetings are mentioned on the pages for July.

SEPTEMBER 1988



Mars' Loop near the Spring Point

For two months, from August 27th to October 28th, Mars is retrograde. Around these dates, sometimes described with a slight exaggeration as the "stationary points", the planet's motion against the background of fixed stars almost ceases. In reality, however, it is moving swiftly towards the earth on the first date, and equally rapidly away on the second. Although our spatial perspective prevents us from seeing this as movement, it comes all the more strongly to expression as a dramatic fluctuation in the planet's brightness - far more sudden and impressive than that of any other planet during the corresponding part of its loop. For a brief period around the time of its opposition to the Sun (September 28th) Mars will even outshine Jupiter, a rare and impressive event which happens only once or twice every 15 years. If we have followed its waxing light from the beginning of the year, when it barely equalled the magnitude of Antares (see the illustration for January), we can appreciate the more its short but dramatic surge in brilliance at the climax of its visibility.

Mars in Greek Mythology

Among the Olympian gods, Ares-Mars by his very nature seems an outsider, and his exploits make him from time to time an outcast. His sheer impulsiveness places him at a constant disadvantage among the other gods, and despite his strength and courage, he suffers defeat after defeat at their hands. In the Iliad we hear how his repeated attempts to help the Trojans are thwarted by Pallas Athene. It is understandable, perhaps, that the goddess of sobriety, as the guardian of the newly awakening powers of reflection and foresight, should become the special adversary of Ares. But the ignominy which the god of masculine strength must feel at being hurled with clattering weapons into the dust by a goddess, provides a welcome comic relief in the tale of battle and woe beneath the walls of Troy. And one can almost commiserate with Ares when he goes and complains to Zeus, only to be sent away with the angry words: "Don't whine here at my side, for of all the Olympian gods, you are most hateful in my eyes".

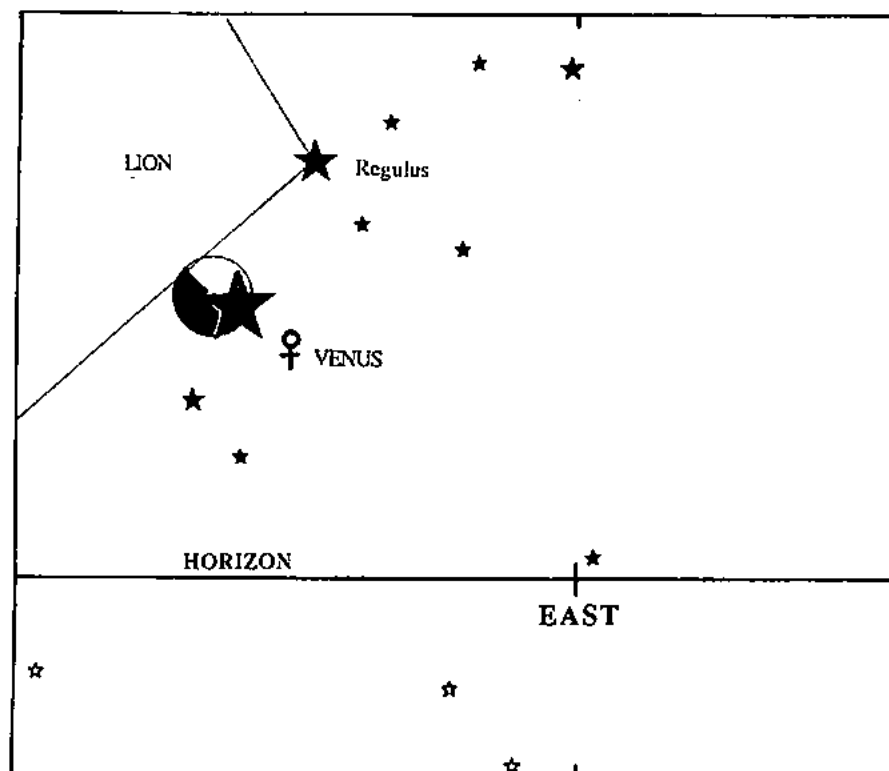
Again and again, Ares' unreflected actions, his inability to listen and learn, bring him into situations of utter and complete helplessness. He is dealt wounds which do not heal, and is made a captive by Hephaistos in a net so diaphanous as to be quite invisible, and yet all his heroic strength cannot avail him to free himself.

The dramatic surge in brightness of Mars during the course of its loop movement could well remind us of his rôle in mythology. Like a short-lived conflagration, the planet's red glow comes to dominate the night sky, drawing all eyes to itself. But its power is so short-lived, that in a few weeks it begins to fade as rapidly as it had grown. In this connection it is striking that just those loops in which the planet plunges earthwards* are by far the brightest and most dramatic. These are the late summer loops in the Goatfish, the Waterman and the Fishes when Mars, already low in the sky, comes still nearer the horizon at the peak of his power. By contrast, the ascending loops in the Lion and Crab are the weakest, when Mars at his brightest does not even quite equal Mercury or Sirius.

The loops of 1986 and 1988 are both of great power and brilliance. For the next 8 years, however, Mars will be "on the wane", as its bi-annual oppositions become ever paler until 1995. Only in August, 2003, will Mars again shine forth with a brilliance comparable to this year's appearance.

* This applies only in the northern hemisphere, where the myths here described had their origin.

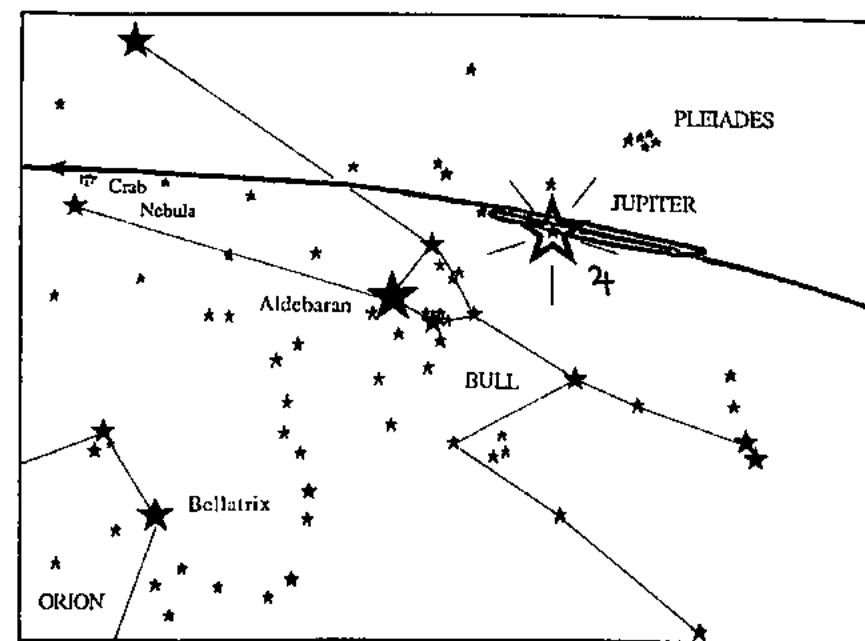
OCTOBER 1988



Occultation of Venus by the Moon. Visible in northern Europe on the morning of October 7th. The picture is calculated for London at 3.07 GMT, looking eastwards.

Shortly after moonrise (2.17 a.m.) Venus will plunge behind the dark eastern edge of the lunar disc, and is completely invisible at the time of the drawing. A short time later its brilliant light will begin to spill over the bright western edge of the Moon as it re-emerges into the morning sky. The drawing shows Venus in front of the Moon only in order to indicate its position. The laws governing the occultation of stars by the Moon are described on the pages for July. This is the only occultation of a planet this year which is visible from temperate Europe.

NOVEMBER 1988



Jupiter's Loop in the Bull between the Pleiades and the Hyades. For the southern hemisphere the drawing should be inverted. Jupiter's path is shown from the end of May 1988 until mid-June 1989. The bright star indicates its position on November 1st during the retrograde part of its loop. The beginning and end of the retrograde movement are September 26th and January 21st, with the opposition to the Sun taking place on November 21st.

Zeus and Europa

The island of Crete was celebrated as the still and secret birthplace of Zeus-Jupiter. Because his father Chronos-Saturn mercilessly devoured every child Rhea bore him, for fear of being overthrown by his own progeny, the birth of Zeus had to be concealed, and the great god spent his early childhood hidden in caves, while the natives of the island performed noisy ritual dances to drown out the infant's cries. When he had come to strength, he went abroad to the shores of Phoenicia, where he fell in love with the maiden Europa, daughter of the king. In the form of a white bull, Zeus appeared to Europa while she was walking along the sea-shore. Fascinated by the tame and submissive behaviour of the magnificent animal, she climbed onto its back. The bull plunged into the waters, and carried the girl to Crete. Thus the seeds of European culture were brought westwards from the Orient, and nurtured in the cradle of Zeus. Although the abduction of Europa was often represented showing the full figure of the bull, the constellation of Taurus is generally shown as only the head and shoulders of the bull, the rest of the body being submerged in the sea.

Jupiter and the Last Twelve Years of the Millennium

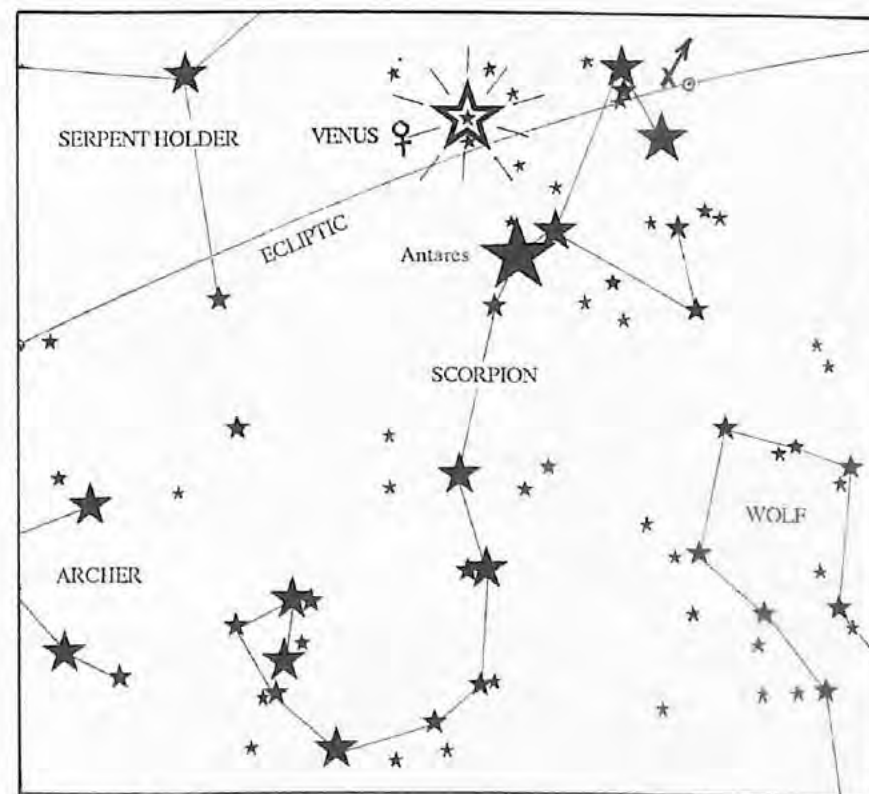
The constellation of the Bull contains two of the most remarkable and beautiful star-formations in the sky: the V-shaped Hyades in its head, with the bright orange star Aldebaran usually representing an eye; and the small, bright cluster of the Pleiades, or Seven Sisters, usually shown in the animal's shoulder. Particularly the Pleiades have been regarded with awe, and have been an inspiration for countless myths.

The age when the spring equinox was in the Bull roughly corresponds to the great flowering of Minoan culture on Crete (from around 3000 to 1500 BC). Although nothing is specifically known about Minoan star mythology, it was usual during this period - for instance in Babylon - to regard the Pleiades as the beginning of the zodiac, and therefore as a symbolic threshold among the fixed stars. The 7 stars of this cluster were seen as representatives among the fixed stars of the 7 planets. A loop of Jupiter at this threshold might therefore have been seen not only as a reminder of his deed in initiating European culture, but as the starting point of his journey through the constellations. Jupiter requires just under 12 years for such a revolution. During this period, it completes 11 loops, which are fairly evenly distributed among the 12 constellations. Thus the loop of 1988 begins a cycle which will be completed in the year 2000. On November 28th of that year - just 5 days earlier than in 1988 - Jupiter will reach opposition to the Sun while describing a loop in the Bull, this time slightly to the right of the Pleiades.



*Metope of a
Temple in
Selinunt, Sicily.
Europa on the
Bull.
Early 6th
Century BC.
Museum,
Palermo.*

DECEMBER 1988



Venus near Antares in the Scorpion. December 25th, 0.08 GMT.

Just after midnight on the morning of Christmas Day, Venus will stand in conjunction with the reddish star Antares, the heart of the Scorpion. In London they will rise about an hour before the Sun at around 7 a.m., when Venus will shine with great splendour, but Antares will already be fading somewhat in the early twilight.

The illustration for January shows that early in the year a similar meeting took place between Antares and Mars with Saturn still quite near in the foot of the Serpent Holder (Ophiucus). But while this event was striking on account of the great likeness of the star to the planet, both in colour and brilliance, the present encounter is remarkable for their contrast. Not only does Venus surpass the luminosity of Antares by more than a hundredfold, but the pure whiteness of her light emphasizes her different nature.

And indeed, mythological tradition seems to bear out this impression. We have already seen* that Mars was regarded as passionate and quarrelsome, that his impulsive and unreflected deeds brought about strife and division among men and gods alike. Similarly, the constellation Scorpion was seen as a power which separates and isolates. The Greek

* See text for September.

word *skorpizein* meant to "disperse", to "scatter". Christ uses this word during the Last Supper, when he tells his disciples that the time is coming when they will be dispersed (John 16, 32). Their dispersal had, however, already begun when Judas went out into the night to betray Him. In Leonardo's painting of the Last Supper we see Judas lunging forward on the table, his face now in deep shadow, isolated from the context of light which unites the other disciples with the sun-like being in their midst. Judas, who represents the quality of the Scorpion among the twelve, had thus sown a seed whose power to separate and isolate lived on and continued to work, even when he had left the circle. In the Round Table of King Arthur we find it again as the "Siege Perilous", the empty seat in the circle of knights. To fill this place once more, to bring into this cosmic seat a power of redemption, was regarded as the highest trial of human virtue. Towards the end of Malory's great epic *Le Morte D'Arthur* we find Arthur filled with a tragic consciousness that he may never again see the full circle of knights united in his lifetime.

It is remarkable that Aphrodite-Venus is described as having been created out of just such a moment of "dispersal", of cosmic isolation. In a great battle between two generations of gods, her father Uranos is overcome by his own son Chronos-Saturn. Uranos is castrated, he is cut off, isolated from his living bond with the created world. But his seed falls into the Ocean, and out of the foam (*aphros*) the "foam-born" goddess, Aphrodite, arises. Her whole being belongs to the realms of transition. The foam which gives her birth could be seen as the mingling of the elements of air and water, or, on a more cosmic scale, as the crucible in which the forces of the earth and the heavens can mingle. As morning and evening star she is a child of the twilight - the transition between day and night. As such she helps to weave together and to unite what had been sundered. Clothed in the colours of twilight, the dynamic interpenetration of light and darkness, she engenders a quality of consciousness transitional between the sobriety of waking life and the oblivion of sleep. It is the dreamlike, inspirational consciousness of the artist, to whom she gives the power to impart grace and beauty to the world around him. Her conjunction with Antares on Christmas morning may well remind us of the power of unifying love which streamed into earthly existence nearly two millennia ago.

KEY TO SYMBOLS USED IN THE DRAWINGS

Planets

☿	Mercury
♀	Venus
♂	Mars
♃	Jupiter
♄	Saturn
♅	Uranus
♆	Neptune

Constellations of the Zodiac

♈	Ram (Aries)
♉	Bull (Taurus)
♊	Twins (Gemini)
♋	Crab (Cancer)
♌	Lion (Leo)
♍	Virgin (Virgo)
♎	Scales (Libra)
♏	Scorpion (Scorpio)
♐	Archer (Sagittarius)
♑	Goatfish (Capricorn)
♒	Waterman (Aquarius)
♓	Fishes (Pisces)

The symbols (or more properly "sigils") for the signs of the Zodiac are always used to represent the beginning or 0° point of the signs as they were established by Ptolemy in the second century AD. These are the signs used in traditional astrology, and do not correspond with the visible constellations. According to this system, the 0° point of Aries coincides exactly with the point of the Spring Equinox, that of Cancer with the Summer Solstice, that of Libra with the Autumn Equinox, and that of Capricorn with the Winter Solstice*. This relationship is not affected by the so-called precession of the equinoxes. In other words, while the visible constellations slowly change their position with respect to the seasons of the year, the signs do not. It will be noticed that the constellations have shifted by nearly 30° since the time of Ptolemy. Thus, in the January picture, the sigil for Aries (the Spring Point) stands in the Fishes, while that of Pisces stands in the Waterman.

* For the Southern Hemisphere the opposite seasons prevail.

TWO COSMIC VERSES by Rudolf Steiner

Ostern: Das Mysterium zu Ephesus

Weltensprossenes Wesen, du in Lichtgestalt,
Von der Sonne erkräftet in der Mondgewalt,

Dich beschenkt des Mars erschaffendes Klingen
Und Merkurs gliedbewegende Schwingen,

Dich erleuchtet Jupiters erstrahlende Weisheit
Und der Venus liebetragende Schönheit -

Dass Saturns weltenalte Geist-Innigkeit
Dich dem Raumessein und Zeitenwerden weihe!

Easter: The Mysteries of Ephesus

Being sprung from worlds, thou in thy form of light,
Given strength from the Sun in the Moon's might,

Thou art endowed by Mars' creative resounding
And Mercury's wings bring movement to thy limbs,

Thou art illumined by Jupiter's shining wisdom
And by the beauty of Venus, bearing love.

May Saturn's world-old spirit-inwardness
Consecrate thee for space being and time's change.

The Sun and the Heart

Sonne, du strahlentragende,
Deines Lichtes Stoffgewalt
Zaubert Leben aus der Erde
Unermesslich reichen Tiefen.

Herz, du seelentragendes,
Deines Lichtes Geistgewalt
Zaubert Leben aus der Menschen
Unermesslich tiefem Innern.

Schau ich in die Sonne,
Spricht ihr Licht mir strahlend
Von dem Geiste, der gnadevoll
Durch Weltenwesen waltet.

Fühl' ich in mein Herz,
Spricht der Geist sein Eigenwort
Von dem Menschen, den er liebt
Durch alle Zeit und Ewigkeit.

Sehen kann ich aufwärtsblickend
In der Sonne hellem Rund
Das gewalt'ge Weltenherz.

Fühlen kann ich einwärtsschauend
In des Herzens warmem Schlag
Die beseelte Menschensonne.

Sun, thou bearer of rays,
Thy light's power over matter
Magics life out of the earth's
Limitless rich depths.

Heart, thou bearer of soul,
Thy light's power over spirit
Magics life out of the human being's
Limitless deep inwardness.

If I gaze upon the Sun
Her light speaks to me in radiance
Of the Spirit, filled with grace,
Wielding through the beings of worlds.

If I feel within my heart
The Spirit speaks its own true word
About the human being, loved by him
Through all time and eternity.

Looking upwards, I can see
In the Sun's bright disc
The mighty heart of worlds.

Looking inwards, I can feel
In the heart's warm beat
The human Sun ensouled.

THE SPIRITUAL INDIVIDUALITIES OF THE PLANETS

Rudolf Steiner

A Lecture given at Dornach, July 27th, 1923¹

I want to add to what has previously been said some explanation of certain deeper foundations of world-mysteries of which in modern civilisation all knowledge has been lost. To realise the loss we need think only of the modern conception of the planetary system: that it originated in some kind of rotating, primeval nebula, from which the various planetary bodies were dispersed. The speculations derived from this picture have led merely to the idea that there are no fundamental differences between these heavenly bodies, and this is the prevailing attitude towards them.

If the whole planetary system is comprised in the picture of a rotating nebula, out of which the heavenly bodies gradually separated, what essential difference is there between, for example, the Moon and Saturn? It is of course true that very important researches carried out during the 19th century into earthly substances - particularly the minerals - have been able to say a great deal about the material composition of the heavenly bodies, and have worked out a certain kind of physics and chemistry for them. This has made it possible for ordinary text-books to give specific details about Venus, Saturn, the Moon, and so on. But all this amounts to no more than making an image of - let us say - the physical organism of man, leaving out of account altogether the fact that he is a being of soul and spirit. With the help of Initiation-science we must again learn to realise that our planetary system, too, is permeated with soul and spirit. And today I want to speak of the "individualities" and the individual characters of the several planets.

We will think, to begin with, of the planet nearest the Earth, the planet with whose history the Earth's history - though only in a certain sense - is bound up, and which once played an entirely different part in earthly life from the part it plays today. You know from my book *Occult Science - an Outline*² that there was once a cosmic age - relatively speaking not in a very remote past - when the Moon was still united with the Earth. The Moon then separated from the Earth and now circles around it.

When we speak of the Moon as a physical body in the heavens, its physical nature is only the external, the most external, revelation of the Spiritual behind it. To those who have knowledge of both its outer and its inner nature, the Moon in our universe presents itself to begin with as a gathering of spiritual Beings living in great seclusion. Outwardly, the Moon acts as a mirror of the universe; the fact that it reflects the light of the Sun is evident to the most superficial observation. So we can say: What comes from the Moon is the light of the Sun which has shone upon it and is then reflected. First and foremost, then, the Moon is a mirror of the Sun's light. Now, as you all know, we see what is outside or in front of a mirror but we do *not* see what is behind it.

¹ From a shorthand report, unrevised by the lecturer.

² New translation by George and Mary Adams, 1963. Rudolf Steiner Press, London.

The Moon is not the mirror of the Sun's light only, for it reflects everything that radiates upon it - the radiations of the solar light being, of course, by far the strongest. All the heavenly bodies in the universe send their rays towards the Moon, and the Moon - as a mirror of the universe - then radiates them back in every direction.

It can be said, therefore, that the universe is before us in a twofold aspect. It reveals itself in the environment of the Earth and is radiated back by the Moon. The Sun's rays work with tremendous power in themselves and also in their reflection from the Moon. But every other radiation in cosmic space is also reflected by the Moon. There is the manifested universe and there is also its reflection from the Moon.

Anyone capable of observing the mirror-pictures thrown back by the Moon in all directions would have the whole universe before him in reflection. Only that which is *within* the Moon - that and that alone remains, if I may so express it, the Moon's secret; it remains hidden, just as what is behind a mirror remains hidden. What is behind the outer surface of the Moon, in the innermost sphere of the Moon, is significant above all in its *spiritual* aspect.

The spiritual Beings peopling this innermost sphere of the Moon are Beings who shut themselves off in strict seclusion from the rest of the universe. They live in their Moon "fortress". And only someone who, by developing certain qualities connected with the human heart, succeeds in relating himself to the Sun's light in such a way that he does not see the reflection from the Moon - only for such a man does the Moon become as it were inwardly transparent and he can penetrate into this Moon fortress of the universe. He then makes the significant discovery that through the utterances, through the teachings, of those Beings who have withdrawn into seclusion in this Moon fortress, certain secrets can be revealed that were once in the possession of the most advanced spirits on the Earth but have long since been lost.

The farther we go back in the evolution of the Earth, the less do we find the abstract truths that are the pride of present-day humanity. More and more we find *pictures*, truths expressed in pictures. We wrestle our way through the deeply significant truths still preserved as a last echo of oriental wisdom in the Vedas and the Vedanta philosophy; we press on to the primal revelations hidden behind the myths and sagas, and we realise with wonder and awe that a glorious wisdom was once possessed by men who received it without intellectual effort as grace from the spiritual worlds. And finally we come to all that was once taught to primeval humanity on Earth by the Beings who have now withdrawn into the Moon fortress in the universe, after leaving the Earth together with the Moon. A certain memory was preserved of what these Beings had once revealed to the peoples of a remote past - to men whose nature was quite different from human nature as it is today.

If we succeed in fathoming this mystery - I will call it the Moon-mystery of the universe - we realise that these Beings who have now entrenched themselves in the Moon fortress were once the great Teachers of earthly humanity; but all consciousness of the realities of spirit and soul hidden in this fortress has been lost. What is still transmitted to the Earth from the heavens represents only what the outer surface, the walls, as it were, of the Moon fortress radiate back from the rest of the universe.

This Moon-mystery was one of the deepest secrets in the ancient Mysteries, for it is the primal wisdom that the Moon enshrines within itself. What the Moon is able to

reflect from the whole universe forms the sum-total of the forces which sustain the animal world of the Earth, especially the forces that are connected with the sexual nature of animals; these forces also sustain the animal element in man and are connected with his sexual nature in its physical aspect. So the lower nature of man is a product of what radiates from the Moon, while the highest wisdom once possessed by the Earth lies concealed within the Moon fortress.

In this way one comes gradually to a knowledge of the "individuality" of the Moon, to knowledge of what the Moon is in reality, whereas all other knowledge is only like information we could glean about a human being from a pasteboard image of him displayed in some exhibition. Such an image would tell us nothing whatever about the man's *individuality*. Equally it is not possible for a science that refuses any approach towards initiation to know anything about the individuality of the Moon.

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We turn now to Saturn. In earlier times Saturn was regarded as the outermost planet of our system, Uranus and Neptune having been added much later. We will leave them out of consideration now and think of Saturn as a kind of antithesis to the Moon.

The nature of Saturn is such that he receives many diverse impulses from the universe but allows none of them to stream back - at all events not to the Earth. Saturn too, of course, is irradiated by the Sun, but what he reflects of the solar rays has no significance for earthly life. Saturn is an entirely self-engrossed heavenly body in our planetary system, raying his *own* being into the universe. When we contemplate Saturn, he tells us always what *he* is. Whereas the Moon - contemplated in its external aspect - tells us about everything *else* in the universe, Saturn tells us nothing at all about the impulses he receives from the universe. He speaks only of himself, tells us only what he himself is. And *what* he is reveals itself gradually as a kind of memory of the planetary system.

Saturn presents himself to us as the heavenly individuality who has steadfastly participated in whatever has come to pass in our planetary system and has faithfully preserved it in his cosmic memory. He is silent about the cosmic Present. He receives the things of the cosmic Present into himself and works upon them in his life of spirit and soul. True, the hosts of Beings indwelling Saturn lend their attention to the outer universe, but mutely and silently they receive the happenings in the universe into the realm of soul, and they speak only of past cosmic events. That is why Saturn is like a kaleidoscopic memory of our planetary system. As a faithful informant concerning what has come to pass in the planetary system, he holds its secrets of this kind within himself.

Whereas in endeavouring to fathom the mysteries of the universe we should turn to the Moon in vain, whereas we must win the confidence of the Moon Beings if we are to learn anything from them about cosmic mysteries, this is not necessary with Saturn. With Saturn, all that is necessary is to be open to receive the spiritual. And then, to the eyes of spirit and soul, Saturn becomes a living historian of the planetary system. Nor does he withhold the stories he can tell of what has come to pass in the planetary system. In this respect Saturn is the exact opposite of the Moon. Saturn speaks unceasingly of the past of the planetary system with such inner warmth and zest that intimate acquaintance with what he says can be dangerous. For the devotion with which he tells of past happenings in the universe arouses in us an overwhelming love for the cosmic past. Saturn is the constant tempter of those who listen to his secrets; he tempts them to give little heed to earthly affairs of today and to immerse themselves in what the Earth once was. Above all, Saturn speaks graphically about what the Earth was before it became

Earth, and for this reason he is the planet who makes the past unendingly dear to us. Those who have a particular inclination towards Saturn in earthly existence are people who like to be gazing always into the past, who are opposed to progress, who ever and again want to bring back the past. These indications give some idea of the individuality, the individual character, of Saturn.

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Jupiter is a planet with a different character. Jupiter is the Thinker in our planetary system, and thinking is the activity cultivated by all the Beings in his cosmic domain. Creative thoughts received from the universe radiate to us from Jupiter. Jupiter contains, in the form of thoughts, all the formative forces for the different orders of cosmic Beings. Whereas Saturn tells of the past, Jupiter gives a living portrayal of what is connected with him in the cosmic present. But what Jupiter reveals to the eye of spirit must be grasped with thoughtful intelligence. If a man does not himself make efforts to develop his capacities of thinking, he cannot, even if he is clairvoyant, approach the mysteries of Jupiter, for they are revealed in the form of thoughts and can be approached only through a genuine activity of thinking. Jupiter is the Thinker in our universe.

When efforts to bring clarity of thought to bear upon some weighty problem of existence are unsuccessful because of physical, etheric, and especially astral hindrances, the Jupiter Beings come to the help of mankind. A man who has tried hard to apply clear thinking to some problem but cannot get to the root of it, will find, if he is patient and works inwardly at it, that the Jupiter powers will actually help him during the night. And many a one who has found a better solution for some problem during the night, as though out of dream, than during the previous day, would have to admit, if he knew the truth, that it is the Jupiter powers who imbue human thinking with mobility and vigour.

Saturn, then, is the preserver of the Memory of our universe; Jupiter is the Thinker in our universe. To Jupiter man owes all the impulses he is able to receive from the spiritual present in the universe. To Saturn he owes all the impulses of soul and spirit he can receive from the cosmic past.

It was out of a certain intuition that such great veneration was paid to Jupiter in the days of ancient Greece, when the human spirit lived so intensely in the present.

A stimulus to the whole development of the human being is given also through the part played by Jupiter in the cycle of the year. You all know that as far as his apparent movement is concerned, Saturn moves slowly, very slowly, round his orbit, taking some 30 years. Jupiter moves faster, taking about 12 years. Because of this quicker movement Jupiter is able to bring satisfaction to man's need for wisdom. And when, at the cosmic hour of destiny in the life of a human being, a certain relationship is established between Jupiter and Saturn, there flash into human destiny those wonderful moments of illumination when many things concerning the past are revealed through thinking.

If we look in history for occasions in the time of the Renaissance - particularly during its last period - when there was a great renewal of ancient impulses, we shall find that this was directly connected with a certain relationship between Jupiter and Saturn.

But, as already said, Jupiter is in a certain respect impenetrable and his revelations remain in the unconscious if a man does not bring to them clear and active light-filled thoughts of his own. And that is why in ancient times, when active thinking was still at

a very early state of development, the progress of humanity was in truth always dependent upon the relation between Jupiter and Saturn. When Jupiter and Saturn together formed a certain constellation, many things were revealed to our ancestors in those days. Modern man has to depend more upon receiving the memory of Saturn and the wisdom of Jupiter separately in the course of his spiritual development.

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We now come to Mars. It is difficult to find appropriate expressions for these things, but Mars may be called the great "Talker" in the planetary system. Unlike Jupiter, who withholds his wisdom in the form of thoughts, Mars is constantly blurring out to the souls in his sphere whatever in the cosmos is accessible to him - which is not everything. Mars is the most talkative planet in our system, and he is particularly active when human beings talk in sleep or in dream. Mars has a great longing to be always talking, and whenever some quality in human nature enables him to make a man loquacious, he stimulates this tendency.

Mars does little thinking. He has few thinkers, but many talkers, in his sphere. The Mars Spirits are always on the watch for what arises here or there in the universe and then they talk about it with great zest and fervour. Mars is the planetary individuality who in the course of the evolution of humanity instigates human beings in manifold ways to make statements about the mysteries of the cosmos. Mars has his good and his less good sides - he has his Genius and his Demon. His Genius works in such a way that men receive from the universe the impulses for speech; the influence of his Demon results in speech being misused in many and various ways. In a certain sense Mars may be called the Agitator in our universe. He is always out to persuade, whereas Jupiter wants only to convince.

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The planet Venus is again different. In a certain way - how shall I put it? - Venus wards off the universe. She is difficult to approach; she does not want to know anything about the universe. Her attitude is that if she were to expose herself to the external universe, she would lose her virginal nature. She is deeply shocked when any impression from the external universe attempts to approach her. She has no desire for the universe and rejects every would-be partner. It is very difficult to express these things, because the circumstances and conditions have to be described in terms of earthly language. On the other hand, Venus is highly responsive to everything that comes from the Earth. The Earth is, so to speak, her lover. Whereas the Moon reflects the whole surrounding universe, Venus reflects nothing at all of the universe, wants to know nothing of it. But she lovingly reflects whatever comes from the Earth. If with the eyes of soul we are able to glimpse the mysteries of Venus, the whole Earth with its secrets of the life of soul is there before us once again.

The truth is that human beings on Earth can do nothing in the secrecy of their souls without it being reflected back again by Venus. Venus gazes deeply into the hearts of human beings, for that is what interests her, that is what she will allow to approach her. Thus the most intimate experiences of earthly life are reflected again from Venus, in a mysterious and wonderful way. In the reflection she transforms everything, just as a dream transforms the happenings of physical existence. Venus transforms the occurrences

of earthly life into dream-pictures. In reality, therefore, the whole sphere of Venus is a world of dream. The secrets of men in their earthly existence are transformed by Venus into dream-pictures of infinite diversity. She has a very great deal to do with poets, although they are not aware of it.

I said before that Venus wards off the rest of the universe. She does not, however, repel everything in the same way. In her heart, Venus repels what approaches her from the universe but *not* what comes from the Earth. As I said before, she declines every would-be suitor, but for all that she listens attentively to the utterances of Mars. She transforms and illumines her dreamlike experiences of earthly things with what is communicated to her from the universe through Mars.

All these things have their physical side as well. Impulses go out from these sources into what is done and what comes into existence in the world. Venus receives into herself everything that comes from the Earth and she listens always to Mars - but without any desire that he shall be aware of having her attention. And from this process - only of course the Sun is there to regulate it - spring the forces which underlie the organs connected with the formation of human speech.

If we want to understand the impulses in the universe connected with the formation of human speech, we must turn our gaze to this strange life that weaves between Venus and Mars. When destiny wills it, the relationship of Venus to Mars is therefore a factor of great significance in the development of the speech or language of a people. A language is deepened, imbued with the quality of soul, when, for example, Venus is square to Mars. On the other hand a language tends to become superficial, poor in qualities of soul, when Venus and Mars are in conjunction, and this in turn has an influence upon the people or nation concerned. Such are the impulses which originate in the universe and then work into the earthly world.

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We come next to Mercury. In contrast to the other planets, Mercury is not interested in things of a physical, material nature as such, but in whatever is capable of co-ordination. Mercury is the domain of the Masters of co-ordinative thinking; Jupiter, the habitation of the Masters of wisdom-filled thinking.

When a human being comes down from pre-earthly life into earthly existence, it is the Moon impulse that provides the forces for his physical existence. Venus provides the forces for the basic qualities of heart and temperament. But Mercury provides the forces for capacities of intellect and reason, especially of intellect. The Masters of the forces of co-ordinative knowledge and mental activity have their habitation in Mercury.

There is a remarkable connection between these planets and the life and being of man. The Moon, which enshrines the Beings living in strict seclusion, and reflects only what is first radiated to it from the universe, builds and fashions the outer form, the body of man. It is therefore by the Moon that the forces of heredity are incorporated in his bodily constitution. The Moon is the cosmic citadel of those spiritual Beings who, in complete seclusion, muse upon what is transmitted in the stream of heredity flowing from generation to generation by way of the physical.

It is because the Moon Beings remain so firmly entrenched in their fortress that modern scientists know nothing essential about heredity. From a deeper insight, and in terms of cosmic language, it could be said that when at the present time heredity is

discussed in one or another domain of science, the latter is "Moon-forsaken" and "Mars-bewitched". For science speaks under the influence of the demonic Mars-forces and has not even begun to approach the real mysteries of heredity.

Venus and Mercury bring into the human being the karmic element that is connected more with the life of soul and spirit and comes to expression in his qualities of heart and in his temperament. On the other hand, Mars, and especially Jupiter and Saturn when a man has a right relationship with them, act as liberating factors. They wrest man away from what is determined by destiny and make him into a free being.

Biblical words in a somewhat changed form might be used as follows. Saturn, the faithful custodian of cosmic memory, said: Let us make man free in the realm of his own memory. Thereupon the influence of Saturn was forced into the unconscious; man's memory became his own possession and therewith he acquired the sure foundation of his personal freedom.

The inner will-impulse contained in acts of free thinking is due to grace vouchsafed by Jupiter. It would be in Jupiter's power to rule over and control all the thoughts of men. He is the one in whom we find the thoughts of the whole universe if we are capable of gaining access to them. But Jupiter too has withdrawn, leaving men to think as free beings.

The element of freedom in speech is due to the fact that Mars too has been gracious. Because Mars was obliged as it were to acquiesce in the resolution made by the other outer planets and could not exercise any greater coercion, man is free, in a certain respect, in the realm of speech too - not entirely, but in a certain respect free.

From another point of view therefore, Mars, Jupiter and Saturn may also be called the liberating planets; they give man freedom. On the other hand, Venus, Mercury and the Moon may be called the destiny-determining planets.

In the midst of all these deeds and impulses of the planetary individualities stands the Sun, creating harmony between the liberating and the destiny-determining planets. The Sun is the individuality in whom the element of necessity in destiny and the element of human freedom interweave in a most wonderful way. And no-one can understand what is contained in the flaming brilliance of the Sun unless he is able to behold this interweaving life of destiny and freedom in the light which spreads out into the universe and concentrates again in the solar warmth.

Nor can we grasp anything essential about the nature of the Sun as long as we take in only what the physicists know of it. We can grasp the nature of the Sun only when we know something of its nature of spirit and soul. In that realm it is the power which imbues with warmth the element of necessity in destiny, resolves destiny into freedom in its flame, and if freedom is misused, condenses it once more into its own active substance. The Sun is as it were the flame in which freedom becomes a luminous reality in the universe; and at the same time the Sun is the substance in which, as condensed ashes, misused freedom is moulded into destiny - until destiny itself can become luminous and pass over into the flame of freedom.

THE PLANETARY MOVEMENTS IN EURYTHMY

Glenda Monasch

In earlier times the human being gazed into the world, surrounded by the kingdoms of nature, and beyond, to the world of the fixed stars, the zodiac, and the planets. Before we had become only spectators, as participators we mirrored in our speech this created world without, giving sound to those movements which had worked in us, moulding our human form and life.

Now isolated from the world without, and our hearts unmoved within, it seems we must make our way to the "image-maker", the meaning that arises out of being moved, not out of conceptual understanding but by renewing acquaintance with that immense and dynamic pattern of life and rebirth that gives rise to our speech.

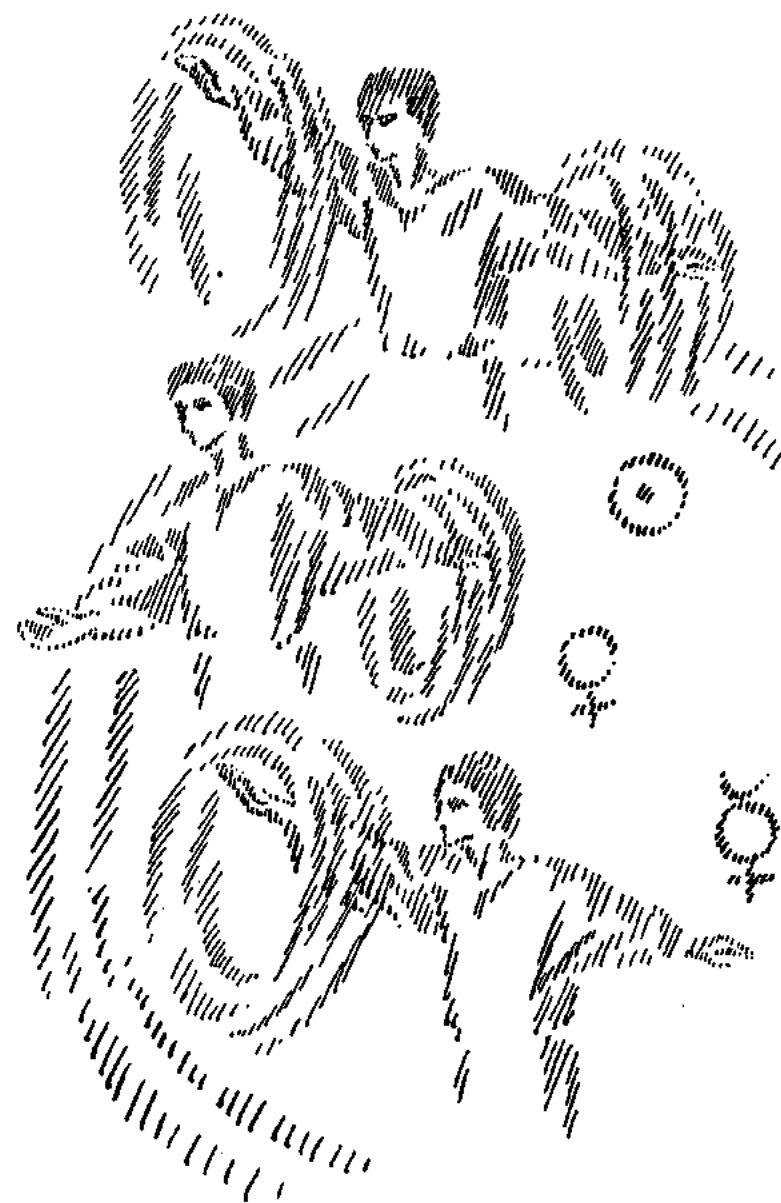
This is the direction taken by Rudolf Steiner in the course given to eurythmists in Dornach in the summer of 1924. In the opening lectures, the sounds of speech themselves gave rise to the eurythmic movements and gestures. Then in the tenth lecture a new direction emerges. Here Rudolf Steiner speaks of taking as a starting point movements that arise out of the being of Man, movements that give rise to speech. He suggests that these movements, based on the possibilities of form and life inherent in the human organism, are forces and qualities active within, whereby the external world is transmuted. With the zodiacal circle he indicates that we have a representation of the human being pictured as faculties of the principle animals gathered in our being and raised up to a higher level. For each of the twelve 'principalities' he describes a gesture. Then for the moving circle of the planets he says that here we find "qualities in the human being which tend outwards, possibilities of inner activity whereby the animal nature is gradually led over into the human". For each of the seven principles in this inner circle he described movements.

The reader will find illustrations of these by Assya Turgenieff accompanying this account. With each of these movements corresponding to or arising out of those forces working in us Rudolf Steiner gave brief epigrammatic descriptions.

Sun	the human being in his entirety
Venus	the human being in his aspect of loving sacrifice
Mercury	aspect of egoism
Moon	capacity for creation
Mars	aggressive element
Jupiter	activity arising out of wisdom
Saturn	deep contemplation.

To many reading these descriptions some will seem very puzzling and indeed, until one moves them they may remain so.

But the following perspectives may be helpful. Let us start with the movement given for the Sun. The Eurythmist stands upright; the right arm is raised above the horizontal line and the left lowered so that the two are held in a slight diagonal, the right forward, the left back. Then the arms are moved in a majestic streaming circular motion. All directions of space are encompassed in this movement that breathes as the human being is a breather. The centre through which this movement passes is freely streaming, giving and receiving. Of the Sun itself Rudolf Steiner says, "the force that streams from the Sun is the same force that streams from heart to heart, the warm enlivening power of love. Within us we carry a picture of the streaming forces of the Sun, in the streaming of our blood. The blood courses into the heart, there evaporating into a fine and subtle form,



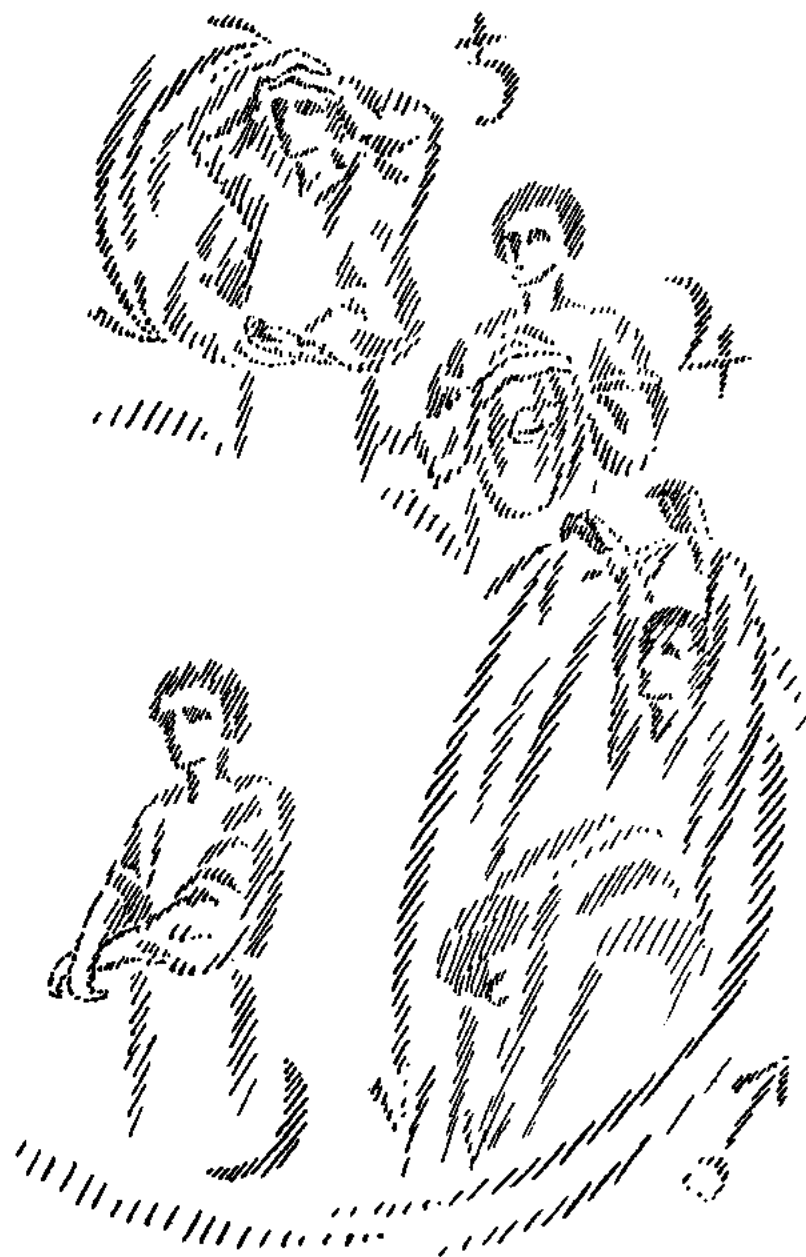
and then continues its streaming". This 'movement of the blood' in its tireless streaming, is the Sun sphere in our organisation, and circulates in a lemniscate, through the 'eye' of the heart. In that the eurythmic movement given for the Sun encompasses all the directions of space, up, down, forward, back, left and right, and circulates on the diagonal, the movement passes through the centre of the body, the heart and rhythmic centre, giving rise to this lemniscate form. This then is described as the 'human being in his entirety'.

Then in progressing to the movement for Venus, the right arm is lowered to the level of the breast, the hand held open, slightly cupped, receiving, and what is taken in is moved through the heart into the left arm circulating behind (as it had with the Sun movement) transforming all that is heard by the listening hand. The inner and outer conjunctions of Venus with the Sun occur five times in eight years, describing a rose form around the earth in time. The organ in the body which is especially related to Venus is the kidney and within these organs are small vessels shaped like roses and are in German medical terminology called 'Rosen'. In the eurythmic movement for Venus one is as a vessel receiving what is given and moving this through the heart one transforms it in the unseen world behind, to pass it then yet again through the heart and out through the open arm and hand in selfless giving.

The following movement, that of Mercury, contrasts strongly with the previous one, that of loving sacrifice. Here the movement goes into the right arm which is raised up, forward diagonally and moved in a circle, radiantly and energetically. The winged messenger of the gods, Mercury, is called by the Bushmen "The Foot of the Day" as morning star, and as evening star "The Heel of the Night". His brisk path makes him rightly the god who guides all travellers - as the angel Raphael in the Biblical story of Tobit guided Tobias. Through his quick dynamic movement the winged messenger unites the worlds of the gods and humankind, restoring to a balanced relationship inner and outer worlds; and this is at the same time a healing, a restoration of breathing. Here one is reminded again of the Tobias story. For Raphael helps Tobias heal Sara, and Tobit his father - the one possessed, unable to breathe out the evil spirit who held her, the other blind, unable to breathe in the world around.

We find this inner movement of breathing of Mercury again active in Goethe's studies of metamorphosis. When polarities are brought into movement, they remain not as incompatible opposites, rather they are enhanced through this rhythmically intensified movement, raised to something higher than each. This raising up, enhancing, not hardening in our differences but rather breathing between and harmonising, can perhaps enlarge our understanding of the "aspect of egoism".

The right arm is brought down from above and forward to meet the left arm brought from behind and below. The right arm rests on the left approximately at the wrists, level with the solar plexus. The hands are closed, contained. This is the movement for the Moon and though it is held, it is full of vital activity, bristling with creative reproductive energy. The gesture reveals something of the enigmatic mystery of the Moon. For on the one hand the moonshine, as mirror, reflects the light of the cosmos, influencing the sprouting and decaying, the ebb and flow, reproductive rhythms, the gateway of both birth and death, and on the other hand the hidden concealed mystery behind the shine. What is behind the mirror? Physically the organs related to the Moon are both the organs of reproduction and the brain. Organic reproduction is only an aspect of reproduction; thinking is a metamorphosis of this activity. The brain could be described as a mirror, a mirror for the world's thoughts. Rudolf Steiner describes the Moon as continually reproducing itself. "It does not rest. It is continually condensing matter, pressing it together and then splitting, spitting it out!". This inner capacity for



reproduction can perhaps now throw some light on the given movement for the Moon. The one arm resting, pressing, the other carrying - the two held not in inertia, but in enormous tension, creative potentiality.

Now both arms are raised high up, parallel, with the hands curled inwards retentively. The arms are then lowered, bringing what is above down, bringing the heavens to meet the earth, and then up again raising the earth to the heavens. The movement is dynamic, pulsed through with a contained molten strength, aggressive. The planetary movements of Mars are irregular too, as is his fiery light. He charges forward, then loops and retrogrades. Then seeming to stand still, he suddenly charges off again, fast and furious. These irregularities of movement were deeply shocking to the Greeks when they first began to observe them. Geminus of Rhodes wrote of this: "Only a drunkard stands still, staggers backwards, totters, then lurches forward again on his senseless way. How can it be that a god behaves like a drunkard?"

Rudolf Steiner describes Mars as inspiring with delight all speech. One only need think of a young child cheerily nattering on about this and that without any seeming "logic" to recognise the inspirer of the delight of speech in itself. Those timid in discussion groups will recognise the aggressive capacity needed to get a 'word in edgewise' or to speak 'out' let alone 'up'. This inner movement requires great mastery, for it has the power to work constructively or destructively, as we all know - like the iron that must be forged in the furnace and hammered on the anvil to become a tool.

Often one has the experience of a knotty problem which tugs at one this way and that. After 'sleeping on it' the problem is somehow solved or dissolved; the essential points seem clear, a path of activity evident; something has moved. This is the working of Jupiter, for he brings our thinking into movement, he helps us take wisdom into ourselves. The eurythmic movement given for this planet holds the left arm still, with arm and hand bent slightly inwards towards the solar plexus. Around this still contained centre the right arm revolves. The hand is open and receptive; the circular movement rising and falling, alternately going out and returning. From the forces of Jupiter the liver is formed. Most of the processes of this organ take place during the night. Its forces, nutritional and incarnating, bring us each morning regenerated with the fire of will to begin the new day. The eurythmic movement of Jupiter is described as the activity arising out of wisdom - a restful centre around which one moves, encircles, surrounds, and listens to all points of view, maintaining the centre while keeping in movement, transforming through movement.

The last movement, that of Saturn, brings the two arms together, laying the open right hand over the left on the curve of the forehead. Then the arms are moved slowly down to the solar plexus and up again to the forehead in long, slow, smooth, even movements like the visor of a helmet, deeply contemplative in mood. Saturn is the farthest planet, beyond his threshold one passes into the cosmos. In his slow measured step, his long rhythms, he is the guardian of all events from the beginnings of the earth's history. He holds time in his hands. In that Saturn bears the memory of the germ of our beginnings, so too he awakens in us the capacity for taking hold of the form we have, evolving through time and the stages of the earth. He awakens in us the movement for uprightness. We are not just upright by virtue of our skeleton, but through his activity in us, through which we raise ourselves up out of the horizontal plane of the animals into the vertical, standing between heaven and earth. The eurythmic movement for Saturn is entirely upright and expresses the human being turned in on himself, encompassing all that has been, deeply pondering.

GREEK COSMOLOGY

An Old and a New Science of Life

Markus Wülfing

Whenever we think of stars and planets, our ideas and expressions seem to have a close link with Greek culture and its heritage. Even in view of the far greater antiquity of astronomical records from Egypt and Babylon; even taking into account that Chaldean and Egyptian priests were among the first to read in the starry script - it is with the help of the Greek mind that we look at their knowledge.

The strong influence of Greek culture on our view of the cosmos is reflected first of all in language. Whether we look at the heavens as astronomers or astrologers (a distinction not made by the Greeks) we call many constellations, stars and planets by names that are either still Greek, or derived from Latin renderings of the Greek. Such fundamental words as "cosmos", "zodiac", "star", and "planet" go straight back to Greek sources, conveying the view that the "perfectly ordered whole" (*ho kósmos*) is composed of the "animated circle" (*ho zodiakos kýklos*), those luminaries which are "spread out" across the heavens (*ho astér* being closely related to the Indo-European root *ster*), and finally, the "wanderers" (*hoi planétes*).

But it is not only our language which testifies to Hellenic roots. Our whole scientific approach to the universe had its ancestors in ancient Greece. Greek thinkers are famed for having permeated the observations of Babylonian and Egyptian astrologers with an acutely scientific mind, mathematics. They began to regard celestial phenomena with an acutely scientific mind, as well as devising hypotheses to "save the appearances". Considered in terms of the history of ideas, a great many astronomical discoveries and theories still held today had their origin in Greek science and philosophy. After all, the idea that the earth might be a sphere and not a flat disc was first put forward in Greece. And the controversy surrounding the geocentric versus heliocentric view is at least as old as the school of Pythagoras.

Yet despite all these obvious links, closer scrutiny reveals how wide the gulf has become which separates our modern habitual views from the ancient organic conceptions of the Greeks. The difference lies not so much in the realm of ideas as in that of experience. Among most Greek astronomers, philosophers and poets of all centuries one finds the strong conviction that the cosmos as a whole and all the heavenly bodies in it are alive. In Greece people still had a sense of the universe as a living organism, and even eminent scientists like Aristotle confirmed that view.

Helios, the Sun, *Selene*, the Moon, and all the other planetary "wanderers" were given the names of gods and worshipped as such. Moreover, the fixed stars were also regarded as harbouring life-forces. The very name *zodiakos kýklos* ("animated circle") testifies to this view.

The question arises, how Greek thinkers were able to reconcile two such opposite approaches to cosmology? On the one hand, the scientific endeavour to measure the heavens and to explain the celestial movements in physical terms; and on the other, the recognition of stars and planets as deities.

This question leads over inevitably from the history of thought to the underlying history of consciousness. The very fact that a basically religious understanding of the universe seemed to be compatible for the Greek mind with a "materialistic" scientific one - a condition many modern thinkers might almost call schizophrenic - hints at a basic difference between our whole way of looking at the world and theirs. We may rightly

assume that in Greece two levels of consciousness overlapped - or rather, led into one another: the old mythological awareness, for which the animated nature of celestial phenomena, for instance, was still a matter of immediate experience; and the new-born logical thinking, which rejected pictorial imagery and followed the path of empirical investigation. The simultaneous presence of both these stages of consciousness, and the gradual transition from the mythological to the "merely" logical outlook is what most fundamentally distinguishes the Greek mind from the modern. Most westerners nowadays do not experience that immediate participation in nature which still pervaded mythological consciousness, and consequently, the whole of Greek culture.

In view of this double character of Hellenic thought, the centuries between about 800 and 200 BC seem especially suited for the study of evolving consciousness. The development from mythological imagery to logical thinking is the first far-reaching change in world-conception to have been widely documented by the literary sources available to us. And within this heritage it is the cosmological writing that seems to reveal most clearly and dramatically the nature of this step.

In reading Greek myths it is striking to notice how the starry heavens - and nature in general - are regarded as personified deities throughout. It still seems to have been a matter of course for the Hellenic peoples to see the stars and planets as gods who ruled over the course of men's lives. Thus many different myths relate the origin of the universe as a chain of doings and undoings carried out by divine beings. And it is essential to understand that gods like Gaia, Uranos, Kronos, Rhea or Zeus were not just metaphorical images at that early time, but living realities that revealed themselves outwardly to man in celestial and natural phenomena. The boundary between the human and divine realm was still experienced as permeable. This is illustrated by those innumerable stories which tell us about men, women and demi-gods who were placed among the stars after their death. Many well-known constellations, like Cassiopeia, Andromeda, Perseus, Orion, or the Twins, Castor and Pollux, still bear their names.

However, we can perceive a transition away from this early mythological view, which regarded the visible cosmos as a garment of the gods, as early as the 7th century BC. From then on, philosophical thinking started to divest the ancient deities of their living reality, and transformed them gradually into natural forces, elements and concepts. The traditional gods partly became mere metaphors for celestial and sub-lunar appearances, partly they lost their cosmic significance altogether. Yet a remarkable interplay between the old and the new scientific world-conception was to shape the face of Greek philosophy during the centuries of that period of transition.

One of the first heralds to usher in this particular era of human consciousness - a man Steiner also pointed out in his *Riddles of Philosophy* - was Pherekydes of Syros. In his writings the gods Zeus, Chronos and Chthon gradually took on the qualities of the concepts "space", "time" and "matter", a development which was to be of far-reaching influence on the further course of conceptual thinking.

The early Natural Philosophers started to draw a sharper distinction between spirit and matter, yet they never separated them completely. Accordingly, we find in those thinkers a strong tendency to materialize man's image of the cosmos, without, however, creating a thoroughly materialistic view of the world. Different philosophers such as Xenophanes, Heraclitos, Empedocles, Anaxagoras, or the Atomists Leucippos and Democritos testify to this development. Apart from their opposite approaches to many philosophical questions, they all shared in the new view that stars and planets were physical bodies compounded of fiery substance. And they all took the material aspect of cosmic phenomena as significant, apart from any spiritual content they may have attributed to them.

On the other hand, it was still customary in Greece at that time to worship the Sun and Moon as deities, and failing to do so could result in capital punishment. One of the gravest charges brought against Socrates was that he no longer practised these religious rites. The penalty for his trespasses was death.

This verdict of the people of Athens was not without its irony. Socrates, after all, was a foremost representative of that stream in Greek philosophy which not only exercised the faculty of autonomous thinking, but also carried further the spark of old mystery wisdom. He and his followers emphasized the spiritual dimension of man and the universe by regarding them as images of each other. The ancient wisdom of the initiation, the teaching of man as a microcosm, mirroring the living organism of the macrocosm, was being transformed from clairvoyant insight into the realm of conceptual thinking. The champions of this great historical step, who included the Pythagoreans, Socrates, Plato and Aristotle, no longer worshipped the planets as deities in public ritual. They recognized that such traditional customs had become empty and barren through the fading of the very spiritual capacities which had led to their founding.

The Pythagoreans were the earliest representatives of this philosophical stream. They laid the foundations of what one might call a "rationalized path of initiation" by combining mystical with mathematical wisdom. In their cosmology they gave the universe a numerical structure, dividing it into ten spheres, beginning with the outermost realm beyond the fixed stars. This was followed by the zodiac and then all the eight planetary orbits, among which the sun and the earth were included. All those orbits revolved around what they called the "central fire" in the midst of the cosmos. Their mathematical and partly physical conception of the universe was meant to reflect archetypal laws of balance and order. The Pythagoreans recognized these in terms of musical harmony as well. They taught that the revolving spheres created a heavenly music which penetrated microcosm and macrocosm alike.

Later on, Plato based his own cosmological ideas on this Pythagorean tradition. His convictions concerning the relationship between man and the stars are put forward in the dialogue *Timaios*, named after an imaginary Pythagorean philosopher. Speaking through this character, Plato gives the reader his view of the creation, according to which God fashioned the world into a moving image of his own timeless and changeless realm, where goodness, beauty and reason ruled in perfect harmony. The cosmos, being but an image of the ideal, divine sphere, never attained quite the same degree of perfection. However, in ascending through the various planetary spheres towards the unchanging world of the fixed stars and beyond, one could approach ever closer to it.

Despite its imperfection, the philosopher conceived of the whole universe as a lesser God, whose imperceptible soul rules over the eternal revolutions of its spherical body. The stars and planets within it form yet another hierarchy of divine beings, starting with the sphere of fixed stars, composed of those fiery gods whose movements are closest to the ideal realm of the Creator, followed by the wandering planets, conceived as deities modelled on the starry hierarchy above them, and finally the Earth, as the oldest and most distinguished Goddess of the universe (in distinction to the Pythagorean teaching of the "central fire").

In Plato's view, all these divine beings possessed an individual soul which directed the circular movement of their spherical bodies. Moreover, man's higher soul was itself related to those celestial souls in its immortal core, which potentially contained the same laws of harmony and balance as those which prevail in the macrocosmos. In fact, Plato was convinced that each human soul was connected with a particular star, to which it might return after having lived a harmonious life on earth.

The observation of the celestial phenomena in their dance-like rhythms - being, as

it were, the eternal drama of the universe, performed by living deities - taught man to recognize his own divine origin, as well as the secrets of number, measure, space and time. These latter were the embodiment of cosmic law in earthly existence. Discovering them through the contemplation of the visible heavens led, according to Plato, to the birth of science and philosophy. He emphasized the very intimate link between ancient astrology and the development of rational thinking, which first exercised its strength by attempting to account for natural phenomena. Plato even went so far as to make the perfect circular motion of the universe a model for the movement of the human mind whenever it follows the path of pure contemplation and reason.

His most famous pupil, Aristotle*, however, disputed this particular conviction of his master. In his criticism of the *Timaios*, he divorced mental activity completely from spatial motion, pointing out that "thinking is the movement of thought", while "the movement of the circle is revolution" (*On the Soul*, 407, a 20). This change of perspective is more than just incidental. It expresses a further, very decisive step in the evolution of rational consciousness. For not only had Aristotle's distinction between cosmic appearances and intellectual processes the effect of bringing the human being further down onto the earth, but it also liberated man's mind from any confining spatial analogies, and assured the activity of thinking its independent, supersensible status.

However, the basic differences between Plato's and Aristotle's views on cosmology go further than that. One of their main disagreements was the fact that Aristotle did not acknowledge a physical creator of the universe at all. In his eyes, the divine cosmos existed eternally throughout past, present and future. Only its spatial motion pointed to a source beyond itself. This highest being, whom Aristotle describes as an Unmoved Mover - for he could only be the ultimate cause of every motion if he himself were not moved by anything else - this archetypal initiator did not create the cosmos, he only imparted to the stars their first impulse to revolve, and then he withdrew again into his own realm of eternal contemplation, outside time and space. The Aristotelean God did not have to interfere with earthly matters, since all further cosmic movements, below the sphere of the zodiac, followed as logical consequences from his primeval act.

Aristotle deduced the ensuing structure of the universe, scientifically and rationally, as a sequence of causes and effects. He was able to do so through a combination of his theory of locomotion with his conception of the elements. According to his teachings, each element possesses a specific movement in space proper only to itself, and therefore directs it to its appropriate place in the universe. All earth, for instance, has the natural inclination to descend towards the geometrical centre of the cosmos, where it forms our globe. Water and air, however, not only share in the downward urge of the earthy element, but can also rise. Accordingly, they compose the second and third sphere around and above the earth. Fire, however, always has the tendency to ascend towards the heavens, and therefore it assumes its proper place in the fourth sphere in the concentric hierarchy of the Aristotelean universe. The further realms of planets and stars are distinguished from the sub-lunar world by being composed of an independent, fifth element, which Aristotle himself called *ether*, and later centuries *quintessence*. This noble element circles eternally, and thus participates in the most perfect spatial motion.

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This Aristotelean conception of the universe dominated European cosmology for more than a thousand years, until the end of the Middle Ages. In comparison to Plato's views, its basic structure was already much more determined by natural law and scientific thinking than by divine activity and philosophical speculation.

Yet despite all these differences, Aristotle did concur with Plato on one crucial issue. He conceived of the cosmos as a living organism, whose soul directed the circular movement of its spherical body, after the Prime Mover had retired from it. Yet no sooner does Aristotle embark on his descriptions of the nature of stars and planets in greater detail, than further revealing discrepancies emerge. Although he begins with the Platonic conviction that they are ensouled beings, at the same time he claims that their visible bodies, which we see in the sky, do not revolve independently. They do not carry the source of their movement within themselves - as indeed the human being does through his soul - but rather the stars and planets form a system of interlocking crystal spheres, each of which is moved by a particular spiritual power.

This conception, though still referring to divine movers, actually began to distinguish the perceptible universe from its spiritual essence by looking at celestial motion as an indirect effect of imperceptible forces. The main difference to modern reductionist science lies in the characterization of those forces as spirits, while the thought structure underlying the Aristotelean view is already very similar indeed to a western physics. However, the core of Aristotle's cosmology - and his philosophy as a whole - can in a certain sense be seen in his image of the highest divinity. His Prime Mover, who does not create the universe in a physical sense, but sets it in motion, and then returns to his own sphere of contemplation, is, in some ways, a model for the human intellect itself. This intellect does not create directly either, but generates activity through affecting the emotions and the will. That he made contemplative thinking the prime occupation of the supreme divinity and, at the same time, the ultimate source of all visible and invisible phenomena of the cosmos, is therefore one of the reasons why Aristotle's cosmology can rightly be said to mark the full birth of man as an independent thinker.

If we look back from this perspective to the old mythological picture of the cosmos, we can get some sense of what an enormous transformation human consciousness must have undergone between the times of Homer and Aristotle. On the whole, the story of the Greek mind appears to us as the story of a loss and a gain. The loss lay in the waning vision into the spirit and soul of the cosmos, the gain in the field of scientific knowledge of its physical aspects.

The main difference between our modern cosmology and its Greek origin, however, seems to bear little direct relation to this loss and gain. With regard to them, we have simply proceeded further along the path of our Hellenic ancestors. Nowadays most people perceive still less of the qualities of soul and spirit in the world around them. At the same time, most scientists have come to direct their attention exclusively to the material world.

What distinguishes Greek cosmology and science in the first place does not lie in its more or less metaphysical or materialistic assumptions, but rather in its intimate understanding for the organic. The Greek observer still participated in the life-forces of a phenomenon, whether of terrestrial or celestial origin. The reality of these life forces - which to the Greeks were beings - seems to have been mainly a matter of experience, not of rational inference. Accordingly, not even Aristotle thought it necessary to underpin his conviction that the cosmos was a living organism by elaborate argument. On the other hand, questions regarding the soul and spirit of the universe became increasingly the object of intellectual dispute.

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One does not have to go as far as calling the intellect a whore - as did the medieval philosopher Nicholas of Cusa - in order to see that it can generally argue for as well as against any proposition. The many attempts to prove or disprove the existence of God or the reality of freedom through logical argument may be cited as a reminder of this. Therefore Plato's and later Aristotle's attempt to demonstrate the cosmological significance of spiritual beings through rational argument was bound to provoke the opposite endeavour, namely to deny their existence altogether. This negative view was already tried and considered as a speculative possibility by many philosophers long before the present materialistic conception of the cosmos had finally succeeded in asserting its dominance. After that turning point, usually referred to as the Scientific Revolution, it became much more than just one more conceivable hypothesis among many. The spiritual void of the universe assumed the status of scientific truth.

This comparison between the various stages of Greek cosmology and our present point of view, though only briefly sketched, may nevertheless offer a worthwhile perspective on the development of human consciousness. Only by looking at cosmology against the background of this progressive undercurrent in history can those giant strides from mythology to philosophy to modern astronomy be seen as meaningful steps along the same path.

In my view, the value of such a study does not only lie in the clearer understanding it gives of the present through the discovery of our historical roots; it can also yield some useful hints about the direction of any future development. We have discovered that the Greeks possessed a direct and participatory awareness of the living quality of the cosmos. This awareness has been lost in the course of the centuries. If we are able so to transform our rational thinking that it can become an organ for understanding the life of the universe as readily as it now understands purely physical laws, then we will have gained access once more to the living reality which was still apparent to the Greeks. But we will stand on the foundation of the intellectual gifts we have inherited from them and carried further, rather than revert to a dream-like awareness fed out of mythological sources. Clear thinking of the kind Aristotle helped to develop must be allied with precise imagination, to achieve a fuller understanding of reality.

The present ecological crisis and our growing concern about environmental issues are perhaps both the most obvious and the most urgent reminders that such a development is not only desirable but absolutely necessary for the survival of man and nature. However, first signs of such a change in consciousness are already visible today. There is, for instance, an increasing awareness, both inside and outside of scientific circles, that the earth is a living organism, a 'biosphere' as it is termed with a word borrowed from the Greek. Yet to understand the laws and rhythms of this biosphere we need new methods of observation and thinking that are capable of grasping qualities rather than quantities, and formative rather than material causation. We have to aim for what has been called "a transformation and redemption of the senses" and "a new science of life". Goethe's and Rudolf Steiner's approach to natural phenomena has laid the foundations for such a science, and some of the articles in this issue of the *Golden Blade* are examples of the research work carried out in that direction.

This new perspective, together with the spreading re-cognition of the goddess Gaia - the living being of the Earth - mark a new step in man's developing relationship with this planet and the cosmos as a whole. If we think and observe further along these lines we may sooner or later discover that above and beyond the Earth the Universe at large is alive. And then perhaps a renewed understanding of its soul and spiritual qualities may arise as well.

Planets and Trees

SEVEN TREES AND SEVEN PLANETS

Johannes Hemleben

Illustrations by Helene Aurell

"You should know that every star in the sky is nothing other than a herb grown in the spirit, which some earthly herb or other resembles. ...And the stars might be likened to the casting-mould, which is the model from which the finished cast is formed. ...Thus every star begets through its formative power a kindred herb on the earth. ...And so every herb is an earthly star, and looks upwards towards the heavens, and every star is a celestial herb. ...And the celestial herbs look down upon the earth to the herbs which they have begotten. If you only knew the link, you would say: This star is called *Stella rosmarini* (the Star of Rosemary). This one is called *Stella absynthii* (the Star of Absinth*). ..."

- Theophrastus Paracelsus

Theophrastus Paracelsus was one of the last men to carry within him as a natural conviction the ancient view that the plants not only receive life from the Sun, but that they are affected by the Moon and the planets. Quite apart from the question, whether all such influences can already be substantiated today with hard scientific proofs, the ancient symbolism of the stars and their connection with the kingdoms of nature is expressed in profound, yet easily accessible imagery, which unites to an organic whole phenomena which may seem at first to lie far apart. If we say that the birch is the tree of Venus, the goddess of grace and beauty, and the oak belongs to the war-god Mars, we have characterized these trees more exactly than the modern botanist who informs us that the birch or *Betula alba* belongs to the family *Betulaceae*, and the oak, or *Quercus robur*, to the family *Fagaceae*, etc.

When Rudolf Steiner was faced with the task of designing columns for the first Goetheanum, which was later burned down at the end of 1922, he recognized the spiritual necessity that there should be seven columns, and chose for each one a different kind of wood**. Old traditions, which associated each tree or groups of trees with a certain planet were re-awakened to a new life and significance by the eye of the seer and the hand of the artist. We shall attempt, with the help of these seven trees, to discover a path which will lead us from the Moon over Mercury and Venus to the Sun, and from there over Mars and Jupiter to Saturn. For reasons which cannot be set out here in detail, the sequence of columns in the First Goetheanum was a different one. We shall be following the ancient description of the seven "planetary spheres", which were imagined enveloping the earth in concentric arrangement. The visible planet, the Sun or the Moon was only regarded as the outer sign of the living totality of its sphere.

* Wormwood *Artemisia absinthia*

** See the article by Gertraud Goodwin "Seven Planets - Seven Woods", in this issue.

The Moon

As a faithful satellite and companion the Moon encircles the Earth, gliding across the night sky like a silver barque. Although its power may seem small when compared to the Sun, it was venerated throughout the ancient world for its special virtues.

The Greeks looked up to the goddess Artemis (the Diana of the Romans) as the deity of the Moon. In an ancient Orphic hymn we find the following lines addressed to Artemis:

Hear me, O Queen,
Much entreated daughter of Zeus, ...
Helper in the pangs of birth, ...
Well disposed to thy consecrated servants,
Send plentiful fruits to the Earth,
Peace, and Health with golden tresses,
Drive forth illness and woe
To the far mountain peaks.

Birth and childcare, fertility and health are the forces through which the Moon goddess is felt to be working. She succours women in the pains of labour. As a guardian she protects the youth, especially girls. Each year a Festival of Midwives was celebrated in Sparta, at which the midwives brought their infants into the Temple of Artemis. In Ephesus she was portrayed as the mother whose body is adorned by innumerable breasts, the high symbol of fertility. Home and hearth are sacred to her. She is the guardian of wild and domesticated animals, and of agriculture. She was worshipped as the embodiment and essence of fertility.

In recent years experiments, carried out primarily by anthroposophical scientists, farmers and gardeners, have helped confirm the validity of old peasants' proverbs about the significance of the Moon for all growth and decay in the plant world. Numerous plants, for instance, germinate and grow much more strongly when planted a few days before Full Moon, than when entrusted to the earth just before New Moon. Further, the historical experiments of Lili Kolisko have shown that the ancient association of silver with the Moon is fully justified. These experiments demonstrate that the waxing and waning light of the Moon works formatively into silver solutions even in the darkroom.

There can be no doubt left today that the Moon does not only live in the ebb and flow of the tides, but works into the lives of plants and animals, and even affects metals. The ancient picture of the Moon as regulator of the processes of fertility and reproduction assumes a new and modern relevance. And so it is no longer surprising that the cherry should be named as the tree of the Moon. One can experience this kinship most strongly when the Full Moon in May glides over the silvery ocean of cherry blossoms. One feels clearly how in these warm spring nights a gentle life is stirring in the crowns of the fruit-trees, for which the presence of the Moon is absolutely necessary. Once the flowers have been pollinated, the fruit slowly begins to swell. As in the bulging grapes on the vine, the water which is drawn up out of the earth through the stem and branches, and is normally evaporated through the leaves and flowers, is now held back in the fruit. The cherry tree overlaid with its ripe fruits is a perfect symbol of the fertility forces of the Moon and its goddess Artemis. To be sure, the Sun also plays an essential rôle in the ripening process, helping in the magical transformation of the green into the ripe red. But in the refreshing, cool taste of a sweet or sour cherry a fine aroma can be discerned, which seems more akin to the Moon element.

In the inner life of man the forces of fertility and reproduction pose a danger when they are not allied with purity of soul. For this reason, Artemis is also the goddess of chastity and purity. She protects the region entrusted to her from abuse and contamination. The cherry tree speaks words of clear admonition to man: "O Man, transform like the plant the lower into the upper, purify thy desires. Ripen and gather the fruits of life".

Mercury

The elm is the tree of Mercury, the winged and agile messenger, whose task it was to mediate between gods and men. The Greeks called him Hermes, and honoured in him the patron of physicians, merchants and thieves - and indeed of all human activities which demand quick and mobile intelligence.

A physician must never become dogmatic if he would be true to his calling. No two illnesses are alike, and if two people suffer from the same malady, their doctor must have the mobility of thinking to assess what is individual in each case, and never to tire on the quest for new means of healing. The symbol of Mercury is the caduceus, a staff entwined by two serpents. This is the emblem of the power which enables the human soul to place even the forces of the adversary, the serpent, into the service of his intelligence. A true physician is able to understand and make use of the most deadly poisons for the healing of the sick.

The merchant, too, stands in the service of Mercury, and works with the living forces of this god. It is his task to mediate between people in the exchange of goods, and his vocation demands continual wakefulness and quickness of thought. Like the physician, he must learn to see every situation as something quite new, and must never be tempted to fall back into habitual judgments. His mind surveys whole regions and continents, and the arrangements he makes must take account of all eventualities. Still today we find Mercury portrayed in many cities and centres of trade.

Even the thief is inspired by the divine messenger. If we try to understand his "trade" without regard for questions of good and evil, it is quite clear that he has particular need of the gift of a nimble mind. Of all men, he least of all may allow himself any form of dogmatism; he must be prepared for every possibility, and must meet each new and unforeseen turn of events with lightning speed. Modern criminal experts can render astonishing accounts of the cunning intelligence which is often applied in sophisticated burglaries. The thief abuses through impure motives the same soul faculties which the true physician uses for healing, and the genuine merchant for "service to the customer".

The metal of Mercury is quicksilver (or mercury). It alone of all metals remains in a fluid state at room temperature. Its symbolic power is so apparent that we call people of volatile temperament "mercurial" or "quicksilvery". Also the fact that all compounds of Mercury are fugitive and volatile, reveals the active principle of this element, which the ancients simply called "Mercury". In the measurement of warmth and air pressure, Mercury renders service in thermometers and barometers by virtue of its sensitive response to external influences.

The same quality appears in the plant kingdom, and notably among the trees, as the elm. Close observation shows us that the leaves of the elm are extraordinarily variable in size and shape. No leaf is like the next. To be sure, this could be said of every tree. In a whole forest no two leaves are alike. But this power to create manifold forms reaches its peak among our native trees in the elm. It is the same mercurial principle, now on the level of the plant. This impression is re-inforced by the fact that the seeds of the elm are winged. The god Mercury, as pictured in ancient vase paintings, is often shown with winged sandals. As divine messenger, he must speed through the world with swift flight

to fulfil his tasks. Similarly, the seeds of the elm, lifted on the wings of the wind, carry their germinal power far abroad through the world. The exceptionally fast growth of elm saplings, and the strong tendency to sprout fresh shoots from runners, testify equally to the vitality of Mercury.

For a number of years a mysterious sickness has stricken the elms, decimating countless trees. One cannot help wonder whether there might be a hidden thread connecting the widespread ossification of human intelligence to the tragic disappearance of the beautiful elms? Or are the side-effects of our intellectual culture, such as machines and generators of electrical current, co-responsible for this puzzling epidemic?

If we as human beings try to activate in ourselves the forces which are at work in the elm, we will hear the call to imbue our lives with the living, vitalizing order which is a gift of Mercury. What makes the "bourgeois" life of today so deadly tedious and god-forsaken is the fact that all events, insofar as they are the result of human intentions, are repetitive and stereotyped. But if we enliven the power of Mercury within us, we will begin to approach each new event, even the most everyday situation, as something new and unique. As long as what is new remains novel and sensational, it has the power to stimulate, and is felt to be more or less alive. But to make eternally new and individual our encounters with the things and people we meet every day, this is the call which comes to us from Mercury through quicksilver and the elm: "O man, be active, be alert, lively and quick".

Venus

From Mercury let us turn to the graceful evening and morning star, the goddess Venus. Her metal is the malleable copper, her tree the birch. Ancient myths tell of her miraculous birth from the foam of the sea. When the sunlight is broken and mirrored a thousandfold by the foam and spray of the ocean waves, we marvel at the wondrous play of colours which arises where the dark water is lifted up into the realm of air and light. In every manifestation of beauty, in every passing grace in the realm of appearances, the virginal goddess Venus, the Aphrodite of the Greeks, is born. Flowers, their petals still glistening with dewdrops, and visited by butterflies in sunlight, these are the natural altars of the goddess. When the rising and sinking sunlight embosses the clouds of evening and morning with gold, and makes them glow in all colours, she seems to soar through the atmosphere, and we feel a breath of her being, bathed in beauty. In all that is delicate and fragrant in nature, in the fine, virginal soul qualities of all beings, Venus is lovingly at work.

The birch, with its radiant white bark, its fine, hair-like, hanging branches, and the delicate green of its foliage, is her sacred tree. From a purely biological point of view, we know that of all our forest trees the birch has the shallowest roots and the greatest craving for light. Like a token from a higher, nobler world, the birch takes its place in our bleak northern landscapes, and reminds the wanderer that beyond storm, mist and rain there are spheres which are woven out of pure delicacy. Of the birch Friedrich Doldinger wrote the lines:

In den engelweissen Birken
Klagt des Zeiteckschicksals Wind.
Durch die engelweissen Birken
Schwebt Sixtina mit dem Kind.

In the angel-white birches
The wind bemoans our fateful times.
Through the angel-white birches
Wafts Sixtina with the child.

The dangers of Venus are obvious. Voluptuous delight in beauty for its own sake, sentimentality and a resulting irresoluteness in the life of soul. One cannot only wish to be surrounded by birches and flowers. Whoever does so will lose sight of his earthly

tasks and fall into rapturous dreaming. These are the opposite perils to those of Mercury. Too much mobility in the thinking can easily bind one too deeply to the earth. How easy it is to go astray in one of the mercurial professions! A single step may turn the honest merchant to a thief. Venus does not seduce the intellect, but the feeling soul, therefore the dangers of mons *Veneris* (the hill of Venus) in the Tannhäuser legend. - And yet it would not be right to exclude the realm of Venus from our lives. The life of feelings would be deprived and impoverished. The pure sphere of Venus in the human world is that of the fine arts and poetry. Whoever resists the gifts of this sphere will become coarse and dull in his inner life, even beneath the cloak of manly dignity and detachment. Coarse hands are good for chopping wood. There they are in their right place. But woe betide the age in which the hands of artists are compelled to be idle!

The call of the birch admonishes: "O Man, work on thy soul. With tenderness marvel at the beauty of the world".

The Sun

All trees, indeed all plants are children of the Sun. And yet there are some, like the fungi and many shade-loving plants, that are more remote from its influence, while others betray a strong kinship. In this sense the ash can be regarded as the tree of the Sun.

In Apollo the Greeks worshipped the spirit of the Sun. He bore the appellation Phoebos, the pure and radiant. With golden lance and golden arrows he overcomes his adversaries, the powers of darkness. His being is light-filled and harmonious, his abilities universal. He is master in music, and heals what is afflicted by the powers of darkness. The male youth enjoys his special protection, and together with his sister, the Moon goddess Artemis, he is guardian over flocks and herds.

The traveller who visits the temples of Apollo in Greece can receive a strong impression of the spiritual in nature, to which the Greeks were so particularly sensitive. The myth tells that the Sun god Apollo and the Moon goddess Artemis were born on the island of Delos. The small, rocky island is crowned by a mountain. Standing on its summit, one can experience the daily birth of the Sun and Moon from the depths of the ocean in exceptional beauty.

At Bassae on the Peloponnesos one can still visit a relatively well-preserved temple of Apollo. Bathed in the clear sunlight of the high mountains, it rests in quiet solitude. Here one is alone beneath the blue ether and the golden ray of the Sun. We feel the presence of its spirit.

The Sun tree of the south is the palm, that of the north, the ash. From its slender trunk the Teutons carved their elastic spears. Growing in the open, the trees develop broad, noble crowns of light-filled foliage, spread out above the high, straight trunks. Just as all life on earth has its source in the Sun, the Nordic peoples saw in the World-Ash Yggdrasil the foundation and origin of all created things.

The spirit of the Sun and of its metal gold is darkened and obscured today, as though by ominous clouds. The sombre fact that near big cities and centres of industry everything is coated with a layer of grime and soot, that the atmosphere is pervaded by the fumes of chemical plants - this has become an image which could be applied no less to the plight of many human souls. The burdens of modern life lie over them like an ashen grey incrustation. With apathetic faces and weary eyes, people gaze into the drab monotony of a world ruled by technology. What is most disturbing is not the fact that people should live in poverty and deprivation, but that they should learn to feel at home in the morass of disgrace and depravity. Whoever has an ear for the speech of the sacred tree of the Sun, the ash, perceives its challenge to strive for inner nobility in the conduct

of life. The ash admonishes us with the words: "O Man, be upright and noble. Waste not thyself on what is unworthy; be mindful of thy human dignity".

Mars

In Greek mythology we learn that Mars was detested by all the other gods for his coarseness and brutality. The art-loving Greeks could not muster up much reverence for a god of battle. Only the wild, unruly Thracians, and the austere Spartans, show a closer affinity to him. But the Romans are a true nation of Mars. The rôle which they played in world history always rested on their strength of arms. "Roma Immortalis" is a true city of dominion, which even today retains the iron fasces* as its emblem. Under the patronage of Mars the Roman legions conquered the world empire of the Caesars.

When John the Evangelist, the Seer on Patmos, had his mighty vision of the Risen One, he beheld Him shining like the Sun, holding seven stars in his hand, but from his mouth there extended a double-edged sword. John experiences the being of Christ uniting the power of the seven planets as though in one hand. In Christ dwells the fullness and universality of the godhead: love and sternness, joy and earnestness, life and beauty. Whoever perceives but one side of His being misjudges Him and misrepresents Christianity. Even the power of the sword and of Mars must live in Him. In the attitude of a true warrior, unwilling to tolerate injustice, ready to protect the weak and to endure hardships, the ancient war god of the pagan peoples is resurrected in Him. "And from His mouth there came a sharp, two-edged sword!".

A challenging Mars-tone rings out to us from the oak tree, which roots firmly and solidly in the earth, its craggy bark and tough wood defying the power of storm, and its gnarled branches stretching upwards to the heavens: "O Man, take root in the depths, and reach to the heights. Be stalwart and strong. Be a fighter, knight and protector".

Jupiter

The sphere of Jupiter is that of life imbued with wisdom. Still today we call an older person who is benevolent and good-humoured a "jovial" or Jupiter person.

The ancients experienced the god of wisdom - Zeus is his Greek name - as the supreme god, who directs the course of human destiny from the lofty heights of Olympus. It is not easy for us to understand the feelings aroused in Greece by the mention of the name of Zeus. We live today in the age of insurance. Whatever cruel blow of destiny may strike, modern man is insured against it. Insured against death and fire, against lightning and hailstorms, against accident and theft. He looks upon the weather with distrust. She is a coquette, who acts on whimsical impulse. The Greek had a different relation to the wholeness of nature. In the passage of clouds, in the roll of thunder and the flash of lightning he felt the revelations of sublime wisdom. It is Zeus who presides over wind and weather, and all the powers of nature bow to his rulership. If it is not his will, not even the Sun can reach the earth with its rays. His attendants are the goddesses of the Hours, who serve the weather and the seasons. Growth and decay, life and death, blessing and prosperity, lie in the hands of the god of wisdom. He who guides the clouds holds sway over all life with an almighty hand. This is why the thought of Zeus was reassuring and calming to the Greek mind; he acts out of wisdom. This is why so many modern people are nervous and anxious - despite all our insurance policies - for they believe in the god of chance in nature and destiny.

The tree of Jupiter is the maple, his metal is tin. This association seems more

* This was written in 1931. The fasces was a bundle of small iron axes, bound together, and carried by the lictor, a servant of the magistrate. It is the origin of the modern word "fascism". - Translator's note.

difficult to grasp than that of the trees already mentioned. Perhaps there is a clue for us in the fact that the maple is a favourite choice for planting along tree-lined avenues in the richer quarters of our cities. With its broad, shady crown and the spreading, hand-like leaves with their five lobes, it gives the streets a soothing, restful quality, for which the hectic city-dweller consciously or unconsciously longs. To learn from the maple, we must first become calm. The bustling, fussy mentality of those who do not allow themselves a minute of stillness, because they would not know how to fill it, has no place under the maple. But to those who are ready to hear, this tree proclaims:

"O Man, overcome haste and hurry within thee. Seek for hours of quiet, in which goodness and wisdom can be born".

Saturn

According to old tradition the beech and needle forests* stand under the rulership of dusky Saturn, the most distant of all the planets known to the ancient world. If, after walking over a sunny wildflower meadow, or through a windswept, ripening cornfield, we enter the sombre shade of the forest, we will discern at once a dramatic change of mood. The forest makes us earnest and silent. People who live for long in the forest become taciturn. They take on the qualities of Saturn: inwardness and seriousness.

The metal of Saturn is lead. Our civilization has taught us all too well the symptoms of lead poisoning. Therefore the adage: "My limbs feel like lead". One could equally well say: "My limbs feel like Saturn", for heaviness takes hold of the human soul when the influence of Saturn becomes too dominant. But if the soul can bear it in strength, the virtue of Saturn is one of the noblest we can attain.

Saturn has always been shown as an old man. The privilege of youth is frivolity, but the fruit of age is genuine earnestness. The caricature of earnestness is deliberate solemnity and an artificial dignity of bearing. The truly earnest person will seek to avoid both. Whoever has learned to penetrate beyond surface appearances, knows that true life can only be attained through bitter experience and death. Optimism without regard for the deep tragedy which resides in all human and earthly destiny, is superficial. Uncompromising strictness with oneself and full understanding for all earthly suffering are the demands of Saturn. Therefore the hourglass and sickle which are the symbols of this planet. Of his sphere Rudolf Steiner wrote the words:

Es werden Fehler gerichtet,
Es werden Herzen gesichtet.

Here faults find their judgment,
Here hearts are read.

Thus sounds the admonition which the trees of the dark forests, the firs, cypresses and beeches, direct to man:

"O Man, feel responsibility for the need of the times. Take up with fervour and in earnestness the task which life has given thee".

- Translated by John Mecks

On the following pages appears the complete set of speeches, which might be entitled: "Of the Seven Trees, the Seven Planets, and their Speech to Man". Each verse is accompanied by a drawing of the tree and a sprouting twig in spring by Helene Aurell.

* The choice of the beech and the needle trees as representatives of Saturn is the only departure from the series of trees chosen by Rudolf Steiner for the seven columns in the First Goetheanum. The Saturn column was shaped from the wood of the hornbeam (*Carpinus betulus*), a tree not very typical of the "dark forest". The qualities of Saturn may be more clearly revealed in the hornbeam's hard, inelastic wood than in its outer form.



Es spricht der silberne Mond zur Maienzeit durch den blühenden Kirschbaum, dessen Blüten in Sommer zu Früchten reifen:

"O Mensch, verwandle gleich der Pflanze das Untere in das Obere, läutere die Triebe. Werde reif und ernte Lebensfrüchte".

Thus speaks the silvery Moon in May through the flowering cherry tree, whose blossoms ripen to fruit in summer:

"O Man, transform like the plant the lower into the upper, purify thy desires. Ripen, and gather the fruits of life".



Es spricht der quecksilberne Merkur durch das lebendige Wachstum der Ulme und deren geflügelte Samen:

"O Mensch, bewege dich, sei regsam, lebendig und schnell".

Thus speaks quicksilvery Mercury through the living growth of the elm:

"O Man, bestir thyself! Be alert, lively and swift".

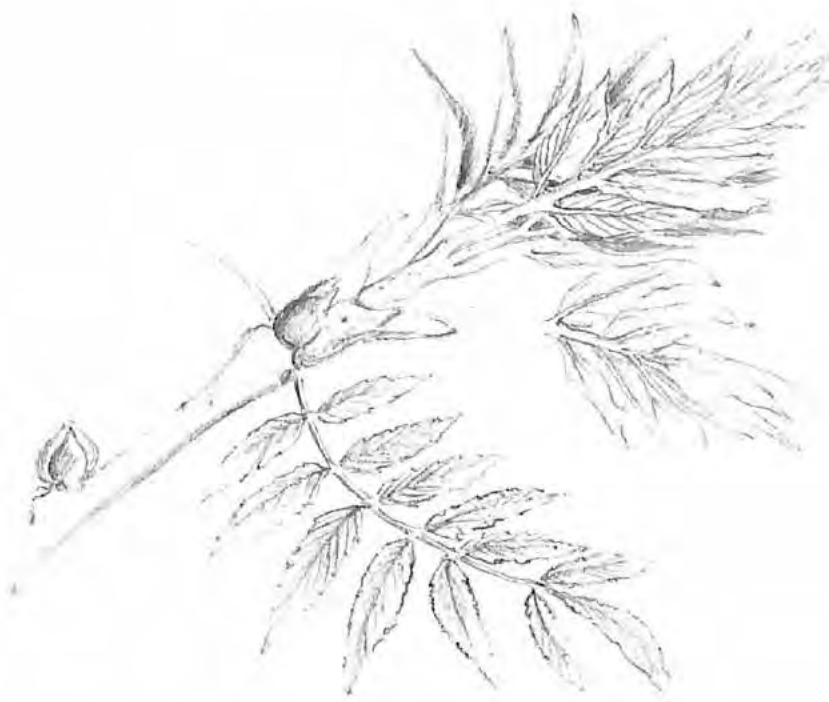


Es spricht die kupferne Venus durch die jungfräuliche, weiss-schimmernde Birke, die schwach wurzelt, und viel Licht trinkt:

"O Mensch, bilde an deiner Seele. In Zartheit bewundere liebend die Schönheit aller Welt".

Thus speaks coppery Venus through the virginal, white-shimmering birch, which has shallow roots and drinks much light:

"O Man, work on thy soul. With tenderness marvel at the beauty of the world".



Es spricht die durchlichtete, hochragende Esche, der Baum der goldenen Sonne:
 "O Mensch, sei aufrecht und vornehm. Vergeude dich nicht an Unwürdiges. Sei dir
 deines Menschenadels wohl bewusst".

Thus speaks the light-filled, high towering ash, tree of the golden Sun:
 "O Man, be upright and noble. Waste not thyself on what is unworthy; be mindful
 of thy human dignity".



Es spricht der knorrige Eichbaum, der Diener des eisernen Mars:
 "O Mensch, wurzele in Tiefen und rage in Höhen. Sei kraftvoll und stark. Sei
 Kämpfer, Ritter und Schützer".

Thus speaks the gnarled oak tree, servant of iron Mars:
 "O Man, take root in the depths, and reach to the heights. Be stalwart and strong.
 Be a fighter, knight and protector".



Es spricht der Ahorn mit seinen gespreiteten Blättern, der Baum des Jupiter, dem das Zinn heilig ist:

"O Mensch, überwinde die Hast und die Hetze in dir. Suche Stunden der Ruhe, in denen Güte und Weisheit geboren werden können".

Thus speaks the maple with its wide-spreading leaves, the tree of Jupiter, to whom tin is sacred:

"O Man, overcome haste and hurry within thee. Seek for hours of quiet, in which goodness and wisdom can be born".



Es spricht der bleierne Saturn durch die Bäume des dunklen Waldes, durch Tanne, Buchen und Zypressen:

"O Mensch, fühle die Verantwortung für die Not deiner Zeit und der ganzen Menschheit. Ergreife mit Innigkeit und Ernst die Aufgabe, die dir das Leben stellt".

Thus speaks leaden Saturn through the trees of the dark forest - through fir, cypress and beech:

"O Man, feel responsibility for the need of the times. Take up with fervour and in earnestness the task which life has given thee".

SEVEN PLANETS - SEVEN WOODS

An Artist's Impressions

Gertraud Goodwin

Illustrations by Axel Ewald

The following contribution offers an account of a sculptor's experiences in working with the seven woods prescribed by Rudolf Steiner for the "planetary columns" in the First Goetheanum. These columns supported the large painted cupola of the auditorium. Because the floor slanted downwards to the stage, the two rows of columns - seven on each side - gradually increased in size from the back to the front of the auditorium. The base and capital of each column was carved in characteristic forms, which in their sequence could be experienced as a metamorphosis. The forms of the columns on either side of the auditorium were similar, as were the seven woods from which they were fashioned. Entering the hall from the west, the visitor could descend towards the stage, either down a central aisle between the seats, or following the circular curve of the northern or southern wall, passing between the columns and four groups of coloured windows, which were the main source of illumination. In so doing, he could experience how the wood of each column, with its own characteristic colour-nuance, reflected the intensely-coloured light of one or more of the windows. On the south side, in particular, the intensity and play of colour varied considerably during the course of a day as the sun moved from east to west, in the counter-direction to that of the metamorphosis of the columns. The first, or Saturn column, was situated near the green window, but could also be illuminated by the red of the great west window when the doorway to the vestibule was open. The second, or Sun column, stood between the green and blue windows, the third, or Moon column, between the blue and the violet, and the fourth, or Mars column, between the violet and the peach-blossom. The Mercury column stood to the other side of the peach-blossom window, and the remaining columns (Jupiter and Venus), which did not stand immediately beside one of the windows, received a more diffuse illumination. Hilde Raske describes the over-all impression in these words:

"Entering the building in the late afternoon of a sunny day, and ascending the staircase to the vestibule, one saw the west window glowing in the sunlight, and filling the space with a radiant ruby red, heightened by the reddish tinge of the beechwood, from which the walls were fashioned.

The red of the vestibule was answered in the large hall by the green of the first pair of windows. This was followed by blue, violet and the enhancement to peach-blossom, which spread out as far as the speaker's podium. The light of each window shone onto the woods of different colours, and filled the hall. The brown oak or the light, shimmering birch answered differently when the peach-blossom or the violet light fell on them".*

- Editor's note

* Hilde Raske, *Das Farbenwort*, Verlag Freies Geistesleben, Stuttgart, 1983. p. 41.

The strong colours of the columns and architraves, illuminated by the light of the windows, must have made a breathtaking impression. Those who have seen it have described the experience in glowing, impressive words. Today we do not have this experience, and must make a special effort to imagine what it was like. Otherwise it will stay an "open secret". It seems that we are called upon to do it all, not merely to read and study about it. This means observing nature in its manifold and ever-changing rhythms, studying and living with the forms of the First Goetheanum, and re-creating their sculptural forms.

The wood of a tree is but the last, crystallized result of a living process. It is the end product of the whole life of the tree through its various manifestations in roots, trunk, bark, leaves, blossoms, buds - and indeed, the whole gesture with which it expresses itself in space.

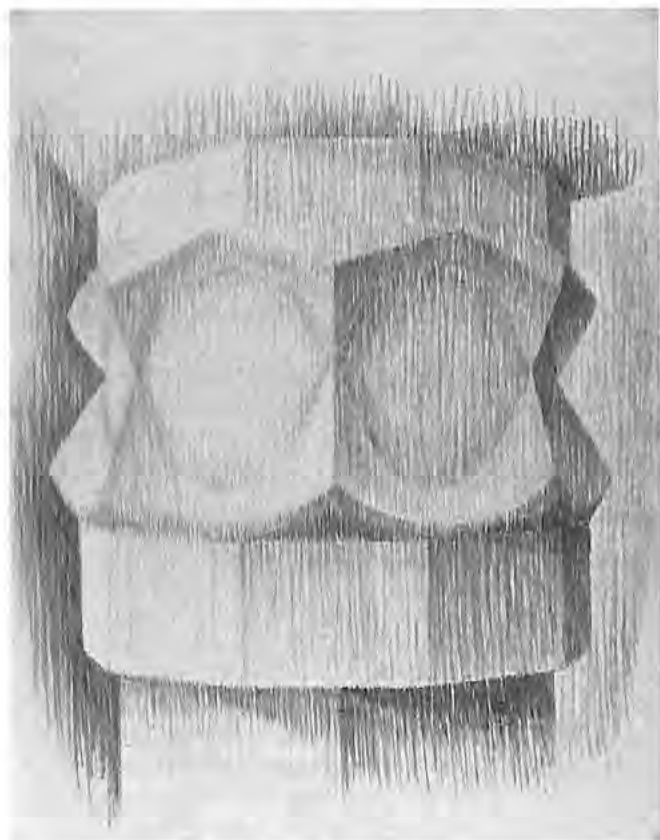
When we look at the woods alone, removed from their living context, it is often difficult to re-discover the wholeness. Only by working with them, by feeling how each one asks for a different quality of activity from the woodcarver, can we begin to restore to them a certain fullness of experience.

Colour Sequence of the Woods

The seven columns of the auditorium were made of the following woods:

Saturn	-	hornbeam
Sun	-	ash
Moon	-	cherry
Mars	-	oak
Mercury	-	elm
Jupiter	-	maple (sycamore)
Venus	-	birch.

When the woods have darkened over a number of years through exposure to the light, one can notice a progressive deepening of tone from the hornbeam to the oak. Hornbeam is a white wood, with a slight greenish tinge. Its almost total lack of grain makes it appear rather inorganic. The ash takes on a warm, golden colour; its grain is long, and suggests a weaving movement. Cherry can have a number of different colours flowing together, from rose to olive green, but the main colour of its core-wood is a deep, warm brownish-red, enlivened by a vivid grain. The oak is quite dark, a deep brown; the grain is short, and gives the impression of a hardly perceptible, quick rhythmical movement. With the elm a new and dramatic quality of movement enters. Its reddish-brown colour is enlivened by the most twisted of all the grains. This is perhaps even more evident to the woodcarver than to the observer, for one has to learn great mobility in handling the chisel, to follow the ever-changing direction of the grain. The maple wood is again very light, with relatively little grain texture. The birch is a warm, golden yellow with a silvery sheen of waves which create an impression of translucency and depth. In German this sheen is known as "angels' hair".



Saturn and Hornbeam The wood of the hornbeam is exceptionally hard and unyielding. It is used for making pulleys and other tool parts which must withstand unusual stress. Carving it is difficult not only because of the physical resistance; its self-contained nature does not allow easy access. This I experienced throughout the whole carving process to such an extent that I never felt I was within the form or wood, but always remained outside. Yet there is a depth, *intensity* and inner warmth which only revealed itself after I had lived my way into the work. The arising form actually was the most self-contained, quiet and also the warmest of all the seven forms I carved. It was as though I were touching at a beginning and at an end, at a birth and a dying process.

The continuous theme which underlies the metamorphic sequence of the capitals is that of a polarity and interaction of forces from above and below. We can recognise these forces in ourselves and in all we do as an ever-present element: a more earthly side, related to matter, open and receptive to what may come from above; and a more spiritual side, related to imagination and creative thinking, inspiring and moving the forces below.

In the first capital, this meeting of the two forces takes place in its simplest form: two pointed triangles approach and confront one another. In this first manifestation of the polarity of forces, those which descend from above are less dominant than those which rise towards them from below. It is as though the cosmic impulse which inaugurates the development were holding back, to allow the answer from the earth a space to unfold. Between the meetings of forces we see a great, slightly convex plane, like a primeval eye looking at us from eternity. The meeting seems to take place instinctively, as in a deep, dreamless sleep.



Sun and Ash The extremely hard, but pliable wood of the ash has found its use in making weapons (Homer), ploughs, oars and other articles which require strength and elasticity. Although again a very hard wood, it is quite a different toughness than that of the hornbeam: it makes a very strong demand that the carver shape it in a full way. It splinters easily and needs intense guidance: the form arises almost out of a duel in a very positive sense. In carving this tough, golden wood, the flame-like texture of the grain speaks strongly, asking for a full, upward gesture - out of the darkness towards the light.

In the next stage the two forces experience a very different destiny together. We must imagine everything in constant movement and transformation, and then allow the force from above to become filled with substance, and with an urge to strive downwards to endow the forces below. These give way to the sides, and grow upwards in an unfolding gesture. The initial impulse is from above, bringing life, movement, response - the first beginnings of an awakening, towards dreaming. The simple, pure meeting of forms has become a dynamic interplay, and as the forces interpenetrate, they no longer appear in opposition, but side by side.



Moon and Cherry The colourful and relatively soft wood of the cherry invites one to carve it, to explore its depths. I felt asked to really carve into it, to create an inner space. The softness of the wood needs a good listening ear, in order not to hollow it out but to grasp that quality of receptiveness, which I felt so typical of the cherry: open but not hollow and the quality of receptivity very delicately chosen between being formed from outside and opening itself to that which comes "into it" from outside. It is often used for musical instruments, which underlines its inner resounding structure. In this it is comparable to silver, the metal of the Moon, with its malleable, yet musical qualities.

In this third stage of development a new quality is added to the previous ones. Again, the impulse is from above, opening in a threefold, spreading gesture, and imparting a new intensity to the relationship between above and below. The call resounds from above, and the force from below responds. It seems to gather its strength and to hold its breath in order to meet the challenge. Thus it forms itself into a chalice, or an altar-like formation. Standing, waiting, ready to receive.

We have now come to a very intimate meeting of these two forces, to a moment of inwardness. One can have the feeling that something mighty is happening, like the moment just before a process of fructification. I am strongly reminded of the Annunciation when the angel approaches Mary in just this gesture, with a challenge, and yet with encouragement and love. Mary, anxious at first, is receptive, she is ready.

This fructification is not to be seen, it unfolds within the protecting womb of the spiritual world, and all the qualities gained thus far are intensified.



Mars and Oak The wood in its deep dark brown is heavy and dense. Its high content of tannic acid renders it extremely water-resistant. At the end of the last century the remains of an old Roman bridge were raised out of the Rhein near Mainz. The oak beams were so well preserved that a piano factory in Berlin was able to make four grand pianos from them, which are said to have had an exceptionally fine tone.

Its short grain makes it an ideal carving wood, despite its hardness: it can be carved in almost any direction. The chisel seems to meet the stalwart resistance of cosmic forces condensed into the tough wood, asking for clear and defined forms. I came to experience a certain quality of isolation in the wood - a process which is coming to an end. This can be seen clearly in the Mars capital. The newly arising form is cut off from its neighbour and from the space above and below, enclosed in an almost square shape - alone.

A grand and powerful gesture has conquered the inner space. Its fullness is convincing, but its form still bud-like. It presents itself with a strong quality of independence, it can stand alone. In fact, it must do so, for the forces from above have withdrawn. No further development can be inaugurated from that source. It must arise from below, out of the forces which have been acquired and intensified during the previous stages. This is where we stand today, each of us being challenged to recall our past, and to fashion out of it a strong, personal relationship to the world of our spiritual origin. Herein lies the seed of the future. And so we feel today as this form feels: isolated, alone, abandoned by the gods - powerless. But it is just this feeling of powerlessness which can help us awaken to the spirit within, and to our own future potential. But we must take this step ourselves, without outer help. In so doing, we can proceed slowly towards the next stage.



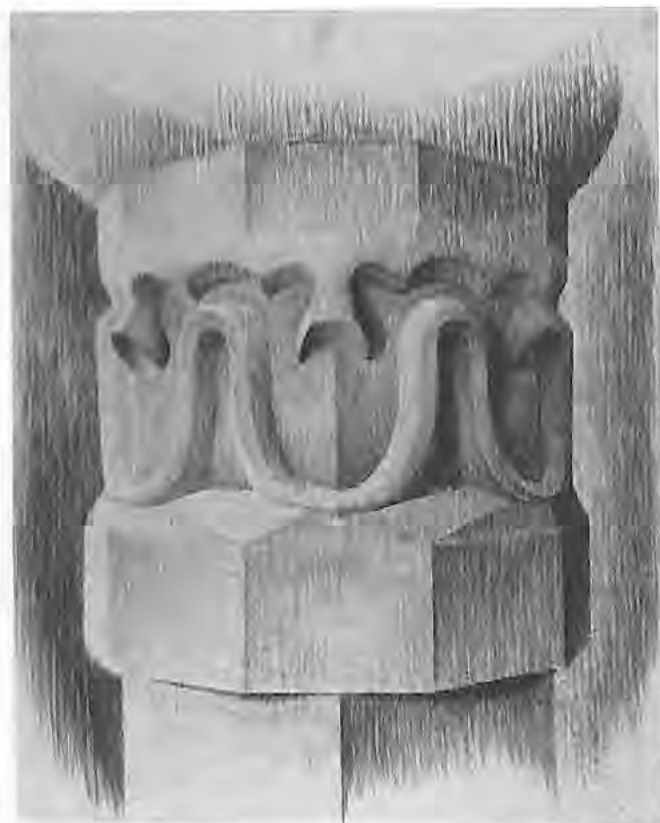
Mercury and Elm The wood of the elm is a deep, reddish brown, with a strong, weaving grain. The cross section clearly shows meandering lines between the annual rings, and many minute vessels, which make the wood very light and airy. Carving it requires great mobility. One has to summon up all one's powers of concentration to keep pace with the quick movements and counter-movements of the grain. The capricious growth-pattern and the airiness of the wood speak eloquently of its mercurial nature. While the work with cherry calls for a certain inwardness, the elm engenders wakefulness, and a certain quality of extroversion.

If the Mars capital could be described as the final stage of a process, the Mercury capital is a new departure, the beginning of a new phase of development. This development speaks of a new, inner source of strength. An inner ripening has taken place, and the motif assumes a grand and majestic verticality. A quality has been achieved which is able to order the forces around us - not to be overwhelmed. The motif shows the courage and the wish to carry further the evolutionary development, to co-operate freely with the spiritual worlds.



Jupiter and Maple The wood of the maple, or sycamore, is very tough, with a long, golden-white, flame-like grain. There is something regal about this wood, which can fill one with awe and respect. It is not too much to say that I felt most challenged, both physically and inwardly, to do justice to the grandeur of this wood. One might venture to describe it as a concentration, on the one hand, and an openness to the cosmos on the other.

In the Jupiter capital we see a strong, concentrated uprightness, alternating with an open, sweeping curve which creates a wide, open space for something new to unfold from above. In this way the straight and the curved, the open and the closed, are intimately united. The forces from below are being prepared to collaborate with those from above to work in unison to bring something new into the world. Clarity and uprightness, centre and circumference, swing together in a majestic rhythm.



Venus and Birch The birch-wood is light, with a golden, silvery sheen and a subtle, flowing grain. It is very pliable, and keeps only when stored dry: a felled trunk, left outside during autumn and winter, will decay within a few months - quite in contrast to the oak! It is the softest to carve of the seven trees, and one has to be on one's guard not to gouge too deeply. One has to learn to listen to its tender, graceful, ever-moving message of utter harmony between inner and outer, above and below, back and forth.

Here one can feel how the forces from above are positively accompanying what is inaugurated from below. A graceful interchange of giving and receiving is taking place in an atmosphere of harmony, understanding and mutual support.

It is also possible to recognise in this, as also in the previous stage, the essence of all we long for most dearly in our hearts, and yet are still far from attaining. But living and working with this process of metamorphosis, we can begin to awaken the courage "to live with an unconditional trust in the spiritual world, without any security from our earthly existence..." (Rudolf Steiner).

TO NEST AMONG THE TREES

Mark Riegner

Illustrations by the Author

"Trees seem the noblest of plants because their countless leaves and flowers depend only indirectly on the soil and are already almost plants upon plants".

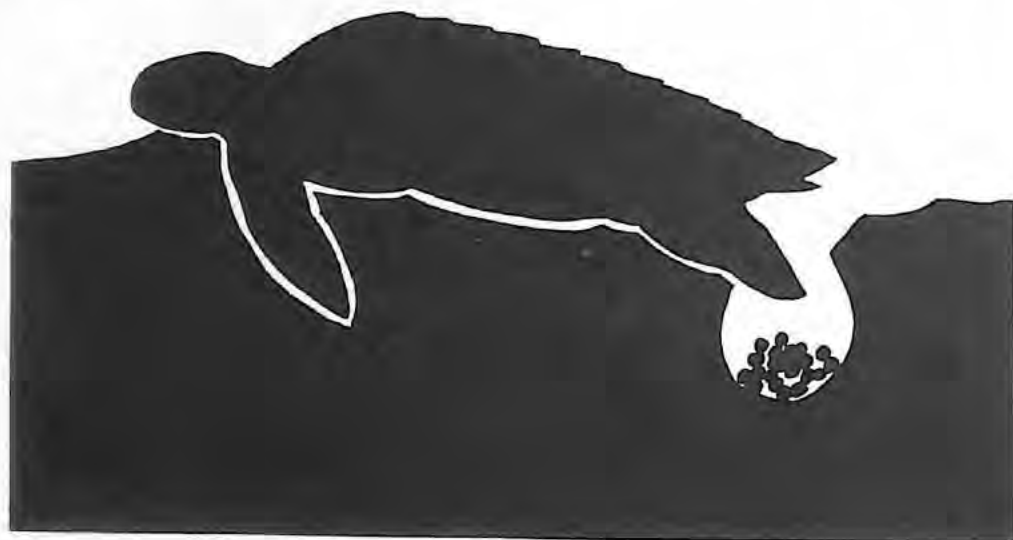
- Novalis

The most notable feature of trees is their towering, upright form. Their gesture of reaching towards the heavens, away from the earth, is especially apparent in winter when the deciduous trees stand unadorned. When seen within the context of a landscape, trees appear as independent forms differentiated from, yet intimately interwoven with, their surroundings. In his agricultural lectures, Rudolf Steiner described the tree as a living "mound of earth" from which grow leaves and flowers in a manner similar to herbaceous plants rooted in the soil. The trunk, however, is not simply piled up soil, but "transformed earth substance". By growing out of this "transmuted soil", fully formed leaves and flowers can appear abruptly. Consequently, the leaves of a tree need not "lift" themselves through a metamorphosis to reach the flower stage, as is necessary for many soil-dwelling herbaceous plants. Furthermore, the upright bole and outstretched limbs bear a special relationship to living processes, due to their position above the earth's surface. Steiner indicated that whenever something is raised even slightly above the surrounding ground level - be it a tree, garden bed or compost heap - it will show an enhanced "tendency to life". Thus the tree stands as a form differentiated from, and elevated above, its surroundings, and permeated with exceptional life-sustaining qualities.

When examining the relationship of trees to their environment, with the above ideas in mind, one may ask: How can these subtle, life-sustaining qualities of trees become evident? Do they correspond to any observable phenomena? An answer may perhaps be found in those animals that spend a crucial part of their lives inhabiting trees: birds. In early spring, as the earth begins to reawaken, many birds are conspicuously active searching for nest sites, gathering nesting material and constructing their homes in trees. The dependence of many birds on trees for nest placement is well known, but what is actually speaking through this relationship? Do the subtle qualities of trees express themselves through birds? To answer these questions, birds and trees must be viewed within a broader context of animal nest placement so that a holistic picture can be created by interrelating various examples. Accordingly, we begin our inquiry by directing our gaze not to the tree crowns above, but to the earth below.

Our attention is drawn first to the reptiles, most of which lay eggs in a variety of nests. Typically, turtles, lizards and snakes excavate a pit or shallow depression in the earth, sometimes beneath a stone or log, deposit a clutch of hard- or leathery-shelled eggs, cover up the hole, and depart, never to see the results of their maternal efforts. This behaviour is exemplified in the magnificent sea turtles in which the female, after mating offshore, hauls herself out of the water onto an isolated tropical beach, laboriously drags her massive bulk upshore, excavates a pit with her hind limbs, lays a large clutch of eggs,

kicks sand over the white spheres, and returns to the mysterious seas from whence she came, her parental duties fulfilled.

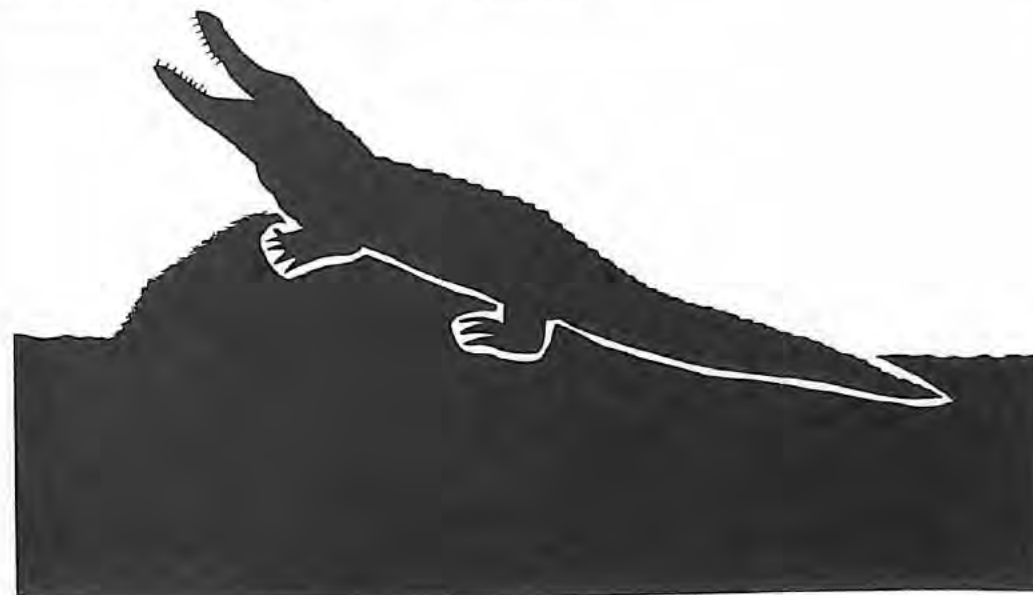


Leatherback sea turtle

Most lizards and many snakes dig similar simple nests, and likewise invest no further effort in the care of their progeny. Crocodilians, however, are different. These formidable reptiles typically do not excavate a simple pit in which their eggs are deposited, but construct a raised nest of decomposing vegetation, and mud or sand. American alligators, for example, build nests that can be two metres in diameter and almost one metre high. The construction of such a mound can be seen as an *act of differentiation*, a transformation of a portion of the earth into an independent, yet integrated, form. Recalling Rudolf Steiner's indications regarding the enhanced qualities of a raised earth formation, can we discover an "enhancement" within the crocodilians? Indeed we can, for not only do crocodilians build incubation mounds, they also perform a certain amount of parental care: the mother often guards the nest, assists the hatchlings to exit the nest, and, in some species, escorts the young to the water, where she casts a watchful eye over them during their first months of life. Thus, from an evolutionary perspective, a new quality of consciousness comes to expression in the crocodilians, which is in agreement with their habit of building raised earth formations.

Next, we return our gaze to the phenomena to discover what patterns, if any, they themselves reveal. As mentioned earlier, most turtles, lizards and snakes scrape pits for their eggs, or lay them beneath stones or logs; some, however, in like manner to crocodilians, form raised structures differentiated from the surroundings. The king cobra, for instance, is extreme among snakes in that the female will exert an inordinate effort in nest construction, which she does by gathering and forming into a mound foliage and twigs. When the nest is completed, she lays from twenty to fifty eggs, and then guards them until they hatch. Unique among tortoises is the Burmese brown tortoise, which is the only member of its group to construct an incubation mound. And, not surprisingly,

it is the only tortoise that defends the nest until the eggs hatch. Apparently, at least among the reptiles we have thus far examined, there is a correspondence between the construction of a raised nest and parental effort in protection of the incubating eggs and, in the case of crocodilians, the young as well. (Note: Some lizards and snakes do not lay eggs, but retain them in their bodies until hatching; a discussion of this interesting behaviour would fall outside the scope of this article).



American alligator

The amphibians, which include frogs, toads and salamanders, constitute a group whose appearance on earth preceded that of the reptiles. As a general rule, amphibians must return to an aquatic environment in order to lay their eggs. The eggs are characteristically deposited in clusters or in strings; no nest is built and parental care is absent, although there are exceptions. In the Puerto Rican coqui frog, for example, the male defends the egg mass until the miniature frogs (not tadpoles) hatch. This unusual behaviour is associated with an equally unusual placement of the egg cluster: not submerged, as is typical, but on an elevated leaf. Thus, although the coqui does not go so far as to construct a raised nest, the eggs are still deposited in an elevated position. And associated with the raised location of the eggs is an enhanced consciousness evident in the adult's parental behaviour.

At this point, we pause briefly to identify a "hidden" gesture, which is gradually becoming apparent through our examples: when an animal makes an effort to *raise* its eggs above the general surroundings, a *higher level of consciousness* emerges in the form of parental care. Can we find a parallel situation regarding nest placement and parental care among birds?

On the island continent of Australia, and on neighbouring Indo-Pacific landmasses, is found a group of peculiar birds whose nesting behaviour is perhaps equivalent to the most sophisticated of reptiles: the megapodes, which includes the mound-builders.

Several species of these pheasant-like fowl pile up decaying vegetation in an act of differentiation not unlike that of crocodilians. Into these mounds they lay their eggs. Their incubation, unique among birds, is accomplished not by a brooding adult, but by one or both parents carefully regulating the mound's heat - generated by organic decay - by removing or replenishing portions of vegetation. When the eggs hatch, parental care terminates. The extremely precocial chicks can run and fend for themselves immediately after hatching and, again unique among birds, can fly within twenty-four hours of leaving their nest!

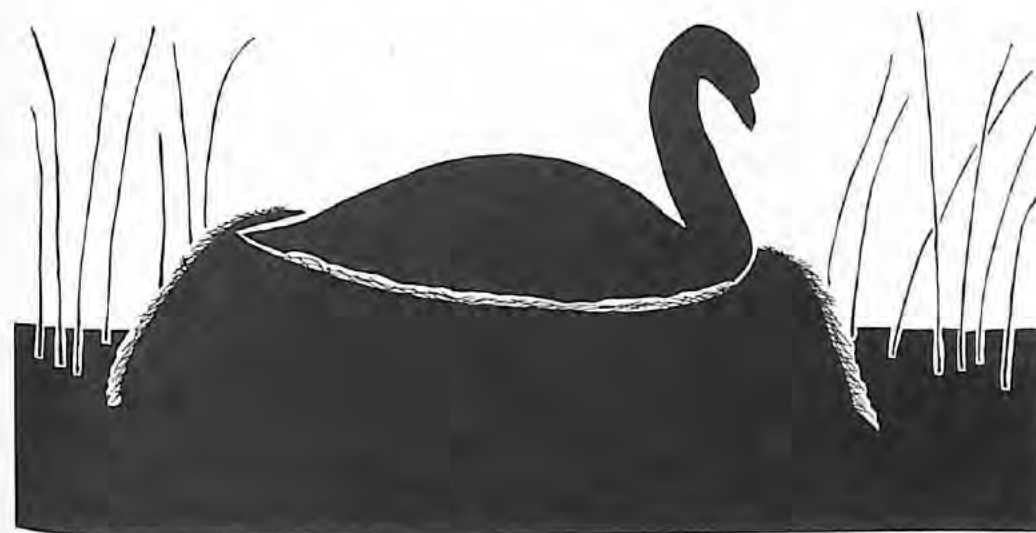


Brush Turkey (megapode)

Interestingly, there are several coral island-dwelling megapodes that lay their eggs into pits dug in sandy beaches. No mounds are erected. After the eggs are buried, the female departs, entrusting incubation to the sun, as in sea turtles. The obvious parallel with sea turtle breeding is further underscored when occasionally these marine reptiles emerge from the surf to lay their eggs coincidentally when megapodes are depositing their eggs. Side by side, the respective mothers excavate pits, lay their eggs, bury their future offspring, and then abandon them. Thus, nest type and associated parental behaviour (or lack of it) in megapodes parallels the sequence observed in reptiles ranging from sea turtles to crocodilians. Excluding megapodes, all other birds incubate their eggs (or have others incubate them) by brooding, show some degree of parental care, and most fashion at least a rudimentary nest.

We will next examine the familiar group of ducks, geese and swans. These mainly aquatic birds typically build simple nests of locally gathered vegetation, which rest on the surface of the ground as slightly differentiated forms, or are situated in tree hollows and therefore remain relatively undifferentiated from the environment. When the brooded eggs hatch, a parent leads the precocial chicks (ducklings, goslings or cygnets) to water, or to its species' respective foraging area, but does not feed the young; the chicks feed themselves and, in this respect, the amount of parental care is minimal. There is, however, an exception. The Australian Magpie Goose is the only waterfowl that actually

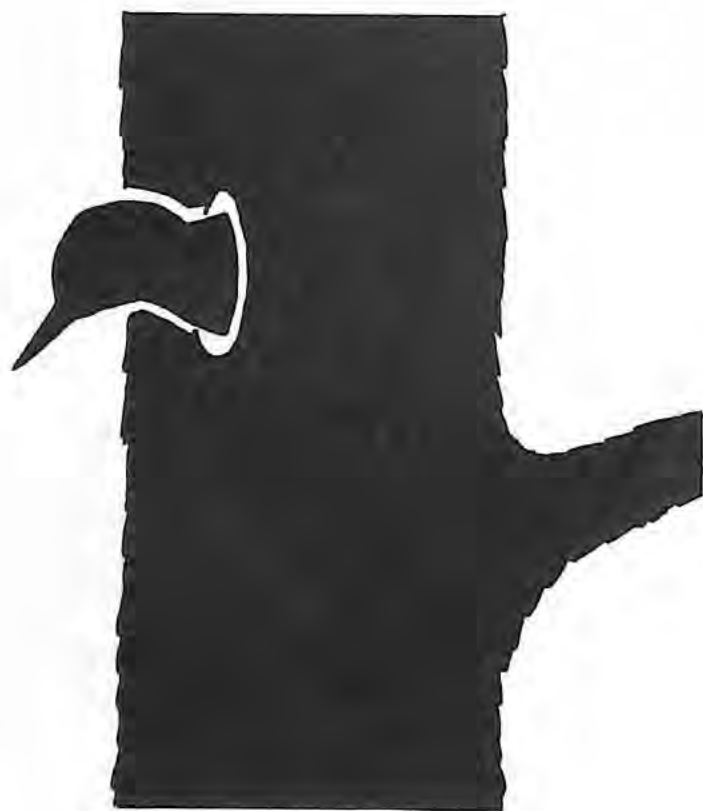
collects food and brings it to the goslings for direct feeding. Moreover, it is unusual in that it perches in trees - a somewhat incongruous behaviour for such a large bird. Thus, although the Magpie Goose nests on the ground, it exhibits an affinity to elevated heights in its perching behaviour, which corresponds with its exceptional parental activities.



Mute Swan

Regarding the remaining waterfowl...Is the position of a nest relative to the ground related to the expression of consciousness in the various species? As mentioned earlier, some ducks (e.g. North American Wood Duck, Mandarin Duck, Bufflehead, various whistling ducks) have elevated nests, but, like typical waterfowl, do not feed their young directly. These ducks, however, locate their nests in tree cavities. Here, we recall Rudolf Steiner's remarks that a tree can be seen as a "mound of earth". Accordingly, having a nest *in* a tree cavity would be similar to having a nest *in* the ground, but the earth substance is transformed and raised up in the tree. Therefore, nesting *in* a tree cavity, although elevated, is equivalent to nesting *on* the ground. In other words, there is little difference in behavioural development between ground-nesting and tree-nesting waterfowl; the enhancement that would have accompanied nesting in an elevated position is compromised by nesting inside the trunk.

If the expression of consciousness in waterfowl stands above that of megapodes, the mound-builders, which in turn parallels that of reptiles, how does it manifest in our familiar British garden and countryside birds? After a moment of thought, it becomes obvious that a further behavioural enhancement is expressed in our small, feathered neighbours, for unlike waterfowl, these birds provide the ultimate service to their nestlings by feeding them directly and catering to their offsprings' every need. In addition, many of these birds construct elaborate nests - an act of marked differentiation - often situated at varying heights in trees or shrubs. Trees, therefore, typically provide a dwelling place for our familiar birds.

*Great Spotted Woodpecker*

There is, however, an apparent discrepancy. Some birds, such as Blackbirds, Chaffinches, Robins and Song Thrushes, fashion open, cup-shaped nests of fine materials, often secured to branches or placed in hedges, while others, such as Nuthatches, Great Spotted Woodpeckers and Starlings, inhabit tree holes, yet all show a similar degree of parental care. Based on our previous observations, we would expect an augmented behavioural development in the cup-nest architects, which create a well differentiated form, compared with the tree cavity nesters, which do not differentiate a structure from the environment. But on closer scrutiny, the phenomena do indeed exhibit a difference. Those birds that typically build complex, well differentiated nests also produce the most beautiful song in the animal kingdom, while the hole-nesters characteristically emit only twittering, chattering or simple whistling vocalisations. The songbirds not only occupy the crown of avian behavioural development, they also often occupy the crowns of trees from which they broadcast the arrival of spring and a renewed impulse for growth, reproduction and regeneration. Apparently, the enhanced "tendency to life" associated with forms elevated above their surroundings is announced in song from the treetops. The songbird expresses in sound the tree's enhanced relationship to life.

*Chaffinch*

By re-examining and interrelating our observations, a gesture becomes evident. From sea turtle to alligator to megapode to waterfowl to tree-dwelling songbird, there is a sequential positioning of one's nest ever nearer the heavens. And with each further impulse to approach the cosmos, a new expression of consciousness is born, as seen in the sequence: no parental care - care of eggs, no care of young - care of eggs, minimal care of young - care of eggs, maximum care of young - care of eggs, maximum care of young, well developed song. Just as trees are rooted in the earth and reach towards the cosmos, so too are some members of the animal kingdom "rooted" in the earth while others "reach" towards the heavens. And it is through the songbirds, and their intimate relationship to the skyward-stretching limbs of trees, that the cosmos becomes audible to human ears.

THE EVOLUTION OF TREES

A Cosmological Approach

John Meeks

"Not the cause, but an ever novel effect, nature descends always from above. It is unbroken obedience. The beauty of these fair objects is imported into them from a metaphysical and eternal spring".

- Ralph Waldo Emerson
The Method of Nature

If we survey the evolution of life on earth, it is possible to recognize two great phases. The first, which is all too often considered in isolation, is the development from the simple and "primitive" to the diverse and complex. It appears as a vast panorama of evolving life forms and life communities which the fossil record helps us to visualize. It could also be described as a path of "descent", though in a broader sense than that which connotes physical ancestry alone. It is comparable to the gradual descent or realization of an idea in the physical world. Such an idea can live at first as a guiding light in human consciousness. Only stage by stage can we overcome the hindrances of matter which prevent us from immediately embodying what we have ideally conceived. In physical evolution this incarnating phase, as we might call it, is accompanied by a gradual process of densification.

As it nears its completion, there is a considerable loss of physical vitality. The starfish can regenerate lost limbs, and even a lizard can grow a new tail. The birds and mammals cannot do this. But they have been richly compensated for this loss by a degree of ensoulment which the lower animals cannot approach. With the emergence of a warm inner life of feeling, which comes to expression in the voice and in parental care for the young, the body loses its plasticity, its ability to adapt and evolve. This development reaches its peak in the human being. So perfect a vehicle has the human physical body become, that not only a life of feeling can unfold, but a spiritual self-consciousness can arise which is the source of new and unlimited possibilities of creation. At the very moment when physical evolution seems to be approaching a standstill, a new impulse enters, an impulse which can only be realized through the free will of man.

In words spoken at the laying of the foundation stone at the model building of Malsch - a forerunner of the First Goetheanum - Rudolf Steiner characterized our human task to initiate this second phase of evolution: "The body of our Mother Earth has hardened in pain. It is our mission to redeem it, transforming it by the skill of our hands to a work of art, imbued with spirit. May this stone be a foundation stone for the redemption and transformation of our planet, and may the power of this stone be multiplied a thousandfold" ¹.

Some years later, when the First Goetheanum was built, Steiner spoke repeatedly of how its forms were created out of the laws of the living, organic world. In the large auditorium a great painted dome or cupola was supported by seven symmetrical pairs of wooden columns. The painted motifs depicted the great stages of world and human evolution. The forms of the columns, carved in the woods of seven trees, brought to expression in their sequence something like an essence of the evolutionary process in seven archetypal stages.

Each capital embodies a certain formative process, and is related to one of the planets. The fourth capital, that of Mars, is carved in the wood of the oak, and represents the mid-point of evolution. It is the only motif whose forms are completely divided from each other by a series of rigid boundaries. A certain isolation appears as the consequence of the densification processes which dominate the first phase of development. The next capital, that of Mercury, was carved in elm. Its forms represent a radical and dramatic metamorphosis from the austere strength of the Mars forms to a fluid movement and vitality which creates, as it were from within, a new cosmic openness. In the words of Carl Kemper: "The Mars column is the 'I' column. In the Mercury column the 'I' takes on life. Man breaks out of his isolation, experiences the awakening of the individual forces within himself...and directs his activity outwards in freedom" ².

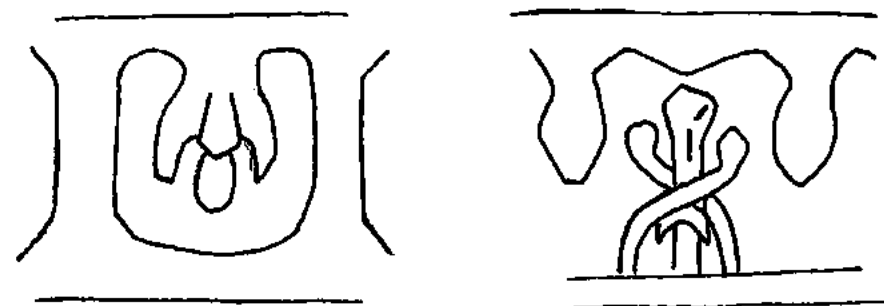


Figure 1. Motifs of the Mars capital (left) and Mercury capital in the First Goetheanum.

(After Kemper in Raske, *Das Farbenwort*, Stuttgart, 1983. Redrawn.)

If we consider the course of physical evolution in the light of this turning-point, we are given a key to the workings of cosmic influences which is well worth exploration. If Mars and Mercury stand at the threshold of two worlds, they can be taken in a still broader sense as the representatives of these phases as a whole.

In a series of lectures on the Apocalypse of John (1908), Rudolf Steiner describes Mars as the regent of the first half of Earth evolution. As such he is the *planet of strength*. The second half is ruled by Mercury as the *planet of wisdom*. In the phase of descent, a certain isolation of living forms takes place, which is exemplified by what Darwin referred to as the struggle to survive. Increasingly, however, as evolution progresses, organisms enter into relationships of mutual benefit and support. As a single example we may think of the development of insects and plants. In the ancient coal forests, the most notable insects were the dragonfly and the cockroach. They existed, one

might say, in the same outer environment as the plants, but the plants did not assume a very prominent place in the "inner" world of the insects. Only when the flower began to develop towards its perfection did the insects respond by entering into new relationships as pollinators. The modern science of ecology is discovering many other, hitherto unsuspected interdependences in plant and animal communities. Many of these are so delicate, that the destruction of a single link in the chain may lead to a whole series of losses of habitat and even extinctions. Such habitats, where complex social relationships are held in a fine but vulnerable equilibrium, almost always represent a late or advanced stage in the evolutionary process. This is the case, for instance, in our tropical rain-forests, where the variety of life-forms seems inexhaustible, and yet the powers of regeneration are far less than the luxuriant growth would suggest.

While the naturalists of the nineteenth century directed much of their attention to competition and aggression in the living world, which they saw as driving forces in the evolutionary process, many biologists today are equally impressed by what they perceive as the web of harmonious relationships permeating the natural world with life-sustaining wisdom. Thus in the evolutionary process - but no less in our scientific understanding of this process - we can follow a gradual transition from the dominance of Mars to that of Mercury.

In the following pages we shall attempt to discover how this cosmic polarity has worked in the evolution of trees, and how both principles can still be recognized in modern forest communities. We shall consider their influences not only through purely biological phenomena, but also through certain moods of soul which belong to the "sensible-moral" experience of nature. We shall take our beginning in a distant age of the earth's prehistory, an age which should rightly lay claim to a place in our awareness, as we owe to it many of the material benefits of our modern life.

The Age of the Coal Forests

The great coal deposits, which are being exploited in our times for raw materials, represent the partially decayed remains of some of the most luxuriant forests the earth has ever known. During this period, known as the Carboniferous Age, the earth was subjected to repeated inundations, and the continents were covered by vast areas of swampland. Both the "earth" and the air may well be imagined as saturated with moisture, and it is quite possible that the forests were steeped in an almost eternal mist. The land, such as it was, presumably had a consistency like waterlogged peat, for the process of decay, as in acid bogs today, could only proceed so far before being extinguished through lack of oxygen. Thus the roots of the trees did not encounter the resistance of the mineral kingdom to the same extent as they do today. They did not have to struggle to delve into the depths, to "feel" their way past rocks, searching for minerals and nutrients wherever they could be found, sacrificing regular form to an empirical function.

The great scale trees were anchored in the swamps by means of a regular, horizontal system of underground branches, from which the roots sprouted in a dense spiral growth. Such root-bearing systems, or *rhizophores*, have been found in beautifully preserved fossilized casts, the most renowned of which can be seen at Victoria Park in Glasgow. Their "dichotomous" branching - a continual forking into two equal parts - gives them a quality of elegance and symmetry which we would seek in vain in the roots of modern trees. The crowns of these trees branched in the same way, and all parts of the fossilized stems and branches are marked by the spiral scars of the leaves or roots. It would appear that the plant has hardly begun to be polarized into above and below. Are earth and atmosphere still so similar in quality that the same formative processes can prevail in both?

This discovery may lead us to enquire further into the nature of these growth patterns. What comes to expression in the dichotomous branching of the main axis? What does the spiralling growth of the leaves and roots tell us?

We find dichotomous branching today in situations where plants do not have to struggle to overcome an outer resistance to their growth. It is characteristic for many algae, which have evolved in a condition of weightless suspension in a watery medium. It is relatively rare among land plants which, in their effort to achieve strength and stability, emphasize a central supporting axis with side branches.

Indeed, one of the few land plants to display a beautiful and regular system of dichotomous branching is the mistletoe, a kind of modified tree which has sacrificed its root system, left the earth's surface and ascended to the treetops, where it forms spherical "crowns", seemingly suspended in a weightless, hovering position. A young mistletoe cluster, 3 or 4 years of age, as it is beginning to spread out of its original more vertical orientation and form a sphere, can bear a striking resemblance to the reconstructed crown of an ancient *Lepidodendron* [Plate I, left].

The spiral disposition of leaves and shoots along the stem represents a fundamentally different relationship of the plant to the space around it. The leaves strive outwards from a central axis towards the periphery, following a regular spiral pattern which can be expressed mathematically. Goethe, directing his attention especially to small herbaceous plants with a single central stem, spoke of two fundamental tendencies in the growth of the shoot: the vertical growth of the stem and the peripheral, and often spiral, growth of the leaves. As the stem grows upwards, as though drawn out of the earth by the sun's seasonal ascent in the sky, the leaf-organs ascend in a spiralling plane, thus seeming to mirror the slowly spiralling course of the sun's daily arcs around the earth - or indeed, those of the moon and planets. Although by no means synchronous with these movements, we may nevertheless regard them as belonging to the same realm of form and quality. On several occasions Rudolf Steiner referred to the spiralling growth movements of the plant in connection with the planetary world, saying that the empirical investigation of such relationships would form the necessary basis for a "true botany" of the future.³

Such a picture may indeed apply to the spiral leaf arrangements of many higher plants, where the leaves ascend what Goethe once called a "spiritual ladder" from node to node along the stem, often undergoing a transformation of shape as they do so. If one imagines such a process musically, the notes of a melody are separated by an interval, represented in the plant by the *internodium*, the space between the nodes. Just as the sensitive listener can feel that the interval carries him through an inner movement towards the next note, so too the observer of the plant can come to the experience that the actual *process* of metamorphosis from leaf to leaf takes place in the realm of the invisible, only outwardly represented by the *internodium*.

Returning to the trees of the coal forests, we discover that however obvious the spiralling growth patterns may be, this interval is totally lacking. The leaf-scars on the trunks are closely packed as in a honeycomb, and consequently there is no room for metamorphosis from leaf to leaf, but only the eternal repetition of an unchanging motif. The only group of trees to attain nodes along the stem, the *Calamites* [Plate I, centre], related to our present-day horsetails (*Equisetum*), have sacrificed the spiralling principle altogether. Each node bears a complete whorl of leaves, and each new whorl is similar to the last. One gains the impression that in such an environment the laws of the cosmic planetary world cannot penetrate, guide and modify the burgeoning vegetative forces. The spiral of life reigns supreme, and even the reproductive organs seem to be added on from without, rather than to arise organically out of the whole.

Add to this the impression of hovering which results from the regular spherical branching system. It is as though the trees were suspended and supported by the surrounding elements. Moreover, the regularity of the forms, and the lack of annual growth-rings indicate that any seasonal variations in temperature must have been very slight. This mingling and interpenetration of the elements was a condition we might describe today as an approach to "chaos", by which not confusion is meant, but rather a lack of differentiation.

Such conditions can still be found to a limited extent today in tropical landscapes where almost continual clouds and mist nestle along the middle altitudes of the mountain slopes. There the rain or cloud forests, steeped in a melancholy twilight of monotonous green, preserve a living memory of past conditions of the earth. Only in such a continually moist environment can the tropical tree-ferns flourish, those closest living reminders of the ancient coal forests. The grove illustrated by Ernst Haeckel in *Art Forms in Nature* [Plate II] was nourished by the continuous gentle spray of a great waterfall in the mountains of Java. In such environments the plant achieves the most beautiful and delicate expressions of its organ of the middle: the leaf. But it cannot rise out of the shrouds of mist into the purity of light and colour where the flower can appear. Its reproductive life is bound to the moisture of the earth, and its spore-bearing organs, which appear on the underside of the fronds, are turned away from the heavens.

Only when the elements which nourish and sustain the plant have sufficiently separated, can each one attain its full expression. And this in turn gives the plant a new orientation between an earthly and a cosmic principle. Metamorphosis can ensue, the organs of the plant no longer eternally repeat the same forms, but ascend the "spiritual ladder", at whose summit the flower and fruit appear as the expression and embodiment of qualities of the soul. Nature's green cloak becomes adorned with beauty and grace, the insects and birds enter into new relationships with the plants as pollinators of the flowers, and so a meeting and marriage takes place between the kingdoms of nature.

The separation of the elements which makes this process possible is described in a poetical, half mythological form in the writings of the School of Chartres. In his Latin poem on the *Macrocosm and the Microcosm* (mid 12th century) Bernardus Silvestris tells how Silva, a being representing the yet undifferentiated world-substance, is ennobled and enriched by the parting of the four elements from their primordial unity:

"From the turbid Chaos there first arises the power of Fire, and pierces through the primal darkness with sudden, darting flames. Then Earth appears, not in such lightness, not in full radiance, but sinking downwards in her ponderous bodily nature, as though she, who brings forth the seeds of all things, wished to receive them back into her womb after each completed cycle. The flowing water's clear substance emerged, whose smooth and even surface mirrors all forms when it is touched by their semblances. The zones of the air were formed, light and mutable, receptive now to the darkness, now to the radiant light, ready to give itself now to the shrivelling forces of frost, now to the dissolving breath of warmth. Thus every element assumed the place most naturally suited to its particular virtues. Earth settled below, fire sparkled in the heights. Air and water filled the middle realm". (From the German translation by Wilhelm Rath).

The philosopher-poet describes further how above the elements towered the world of the stars, whose cosmic laws were mediated to living beings through the working of rhythm. Thus a Mercurial weaving united the extremes which, when no longer mingled, might well have become antagonistic. And so the elements in their natural hierarchy become the foundation for the "spiritual ladder" of enhancement to which Goethe referred.

This development, however, is not achieved in a single leap. It is a gradual process, extending over vast epochs, which might be compared to the movements of a great

cosmic symphony. At present we shall be concerned with three of these movements, bearing in mind that a long development has gone before. The first we have already named: the Carboniferous, which is but a part of a much longer period known as the Paleozoic*, the early history of life on earth. It is followed by the Mesozoic, or "middle ages", and by the Cenozoic, which reaches to the present. Each of these ages has left not only fossil remains, but a few living descendants which preserve something of a memory and mood of the past.

The Age of Gymnosperms

We can imagine the coal forests not in the very beginning, when the elements were utterly undifferentiated, but somewhere along the way, before the separation was complete. The watery earth and the misty atmosphere are already becoming distinct, and the plant is striving vertically upwards towards the light of the cosmos. Globally speaking, the later Carboniferous Age is marked by the gradual drying up of the swamps, as the earth element separates increasingly from the water.

As the swamp forests recede, the plants seek emancipation from their dependence on the water. The age of the wind-pollinated *gymnosperms* begins, the earliest plants to develop true seeds, and a root system comparable to that of modern trees. They are accompanied in their conquest of the dry land by the reptiles, which flourish beside them, assuming not only gigantic size, but also a great variety of forms.

But this emancipation is accompanied by a process of hardening which is clearly reflected both in the animal and plant life of the period. This could be described as an encounter with the forces of death and sclerosis. The great dinosaurs of the Mesozoic Age exemplify this in their own way. Many of these creatures not only assume gigantic physical proportions, but armour themselves with horns, plates and shields, which take on fantastic and bizarre forms. The plants exhibit this hardening in a more measured form. We find it today among the conifers, the main relics of the Mesozoic flora, which have carried the conquest of the land to the most adverse conditions. They have penetrated to the far north and south of our globe, where they form the last forests before the treeless tundra; they ascend to the highest altitudes, asserting themselves successfully even on bare crags, exposed to the lashing force of gales and blizzards (Fig. 2). The often fantastically-contorted weather-pines seem embattled by the forces of death, while the trees of the coal-forests were threatened rather by the very vitality around them, which could smother and choke in its own excess. Shelley depicts such a tree in his poem "Two Spirits: An Allegory":

Some say there is a precipice
Where one vast pine is frozen to ruin
O'er piles of snow and chasms of ice
Mid Alpine mountains;
And that the languid storm pursuing
That wingèd shape, for ever flies
Round those hoar branches, aye renewing
Its æry fountains.

* With specific reference to the evolution of plants, the terms "Paleophytic", "Mesophytic" and "Neophytic" are occasionally used, but their chronology varies slightly from the designations given above.



Figure 2. Carl Gustav Carus, Chasm in "Saxon Switzerland", Charcoal drawing, undated. Reproduced from Meffert, *Carus*.⁴

The plant, once carried and protected, as it were, in the womb of the elements, must now be able to meet them from without, clinging onto life by virtue of what it has made its own, and sealed off from an often hostile environment. In the conifers, the leaf has contracted and hardened - often to a stiff, slender needle, while the resinous sap concentrates and condenses within the plant the forces of warmth and light which it has absorbed from the cosmos. Carried to the extreme, the life processes become so slow that the tree seems to have emancipated itself from the normal time-scale which rules over growth and decay. Thus the giant sequoias of the Sierra Nevada, towering high over the other forest trees, may attain an age of several thousand years. "Embalmed" as it were in their own sap, they are all but impervious to the forces of decay. Insects and fungi can find no foothold, and even the dead wood of broken stumps, exposed to the elements, may remain intact for centuries.

In this process of hardening and isolation it is not difficult to recognize the workings of Mars as the guiding influence over the initial contracting and incarnating phase of evolution. Even where this principle has worked to an extreme, and has not yet been released from its isolation by the activity of Mercury, we can experience something grandiose, which is accompanied by a kind of awakening experience. Something of this mood can be felt in the austere beauty of a high mountain landscape, where ice and bare boulders tower under the intense blue of the cold, thin atmosphere. In a milder form, it can be felt in the majesty and solemnity of a natural needle forest, permeated by the enlivening and awakening scent of aromatic resin. Indeed, some needle trees have become at once the symbol of outer death and inner life, or rebirth. The yew, traditionally planted in cemeteries, is the tree of the recluse. In Wolfram's *Parzival* it is described growing before the cave of the hermit Trevrezen. For the hero of the story it stands at the threshold of his awakening from a dull and dreamlike condition through the powers of inwardness, prayer, and the clarity of a thinking supported by spiritual wisdom. The particular mood of this tree is perhaps nowhere better described than in the verses in which Wordsworth paid tribute to the "fraternal four" yews of Borrowdale:

Huge trunks! and each particular trunk a growth
Of intertwined fibres serpentine
Up-coiling, and inveterately convolved;
Nor uninformed with Phantasy, and looks
That threaten the profane; a pillared shade,
Upon whose grassless floor of red-brown hue,
By sheddings from the pining umbrage tinged
Perennially - beneath whose sable roof
Of boughs, as if for festal purpose decked
With unrejoicing berries - ghostly Shapes
May meet at noontide; Fear and trembling Hope,
Silence and Foresight: Death the Skeleton
And Time the Shadow; - there to celebrate,
As in a natural temple scattered o'er
With altars undisturbed of mossy stone,
United worship; or in mute repose
To lie, and listen to the mountain flood
Murmuring from Glaramara's inmost caves.

A similar experience is offered by the ancient yew groves of Kingley Vale near Chichester, which comprise one of the most venerable, and perhaps the oldest yew forest in Europe [Plate III]. The gnarled trunks give each tree a strongly individual character, and their dark canopies create an enclosed space more reminiscent of a crypt than a cathedral.

Almost no other plants are able to grow in their shade; only here and there a dark green clump of butcher's broom *Ruscus aculeatus* standing stiffly upright with its hard, dagger-like leaves, fits perfectly into the mood of this tenebrous world.

The Age of Angiosperms

The next great stage in the evolution of plants is marked by the sudden appearance and proliferation of the *angiosperms* towards the end of the Mesozoic Age. The reptiles and the *gymnosperms* recede as dominant life-forms. Whether the great waves of extinction which took place at this time were the result of outer cataclysms, or a consequence of the extreme hardening tendencies of the age, need not be decided here. We shall rather direct our attention to the new impulse which entered evolution, an impulse which involved yet a further step of emancipation from the surroundings.

The birds and the mammals represent stages in this development. The bird has emancipated its warmth-organism; warm-bloodedness means that the animal does not depend on outer warmth to become active, and does not fall into a torpid state in colder weather, but is able to function continuously in conditions of fluctuating temperature. In addition, the mammals achieve a further step towards the internalizing of the reproductive life. Their embryonic development takes place in the greatest possible isolation from the outer world; the developing organism remains in continual communication with the organism of the mother. These organic steps are accompanied by the emergence of a rich inner life, which comes to expression in the voice. This can take the form of communication, or of the sheer jubilant - or woeful - expression of inner experience.

At the same time the *angiosperms* begin to produce flowers whose colour, form and scent draw forth an inner response from the world of the animals. Specific relationships are entered into. In many cases these develop into a state of mutual support and dependence. This too is accompanied by a kind of internalization, or emancipation. The embryonic development of the flower takes place in a closed inner space, a placenta. It is surrounded by a "vessel" (*angeion*), whereas the seeds of the *gymnosperms* were exposed, or "naked" (*gymnos*). Within the flower warmth-processes take place which often give it a temperature considerably higher than that of the surroundings.

The most perfect expression of the flower is achieved among the small herbaceous plants. It is here that Goethe looked for the purest manifestations of the archetype (*Urpflanze*) in its development through metamorphosis and enhancement. The trees, in concentrating on the development of a powerful system of stem and branches, have often done so at the cost of the flower. Thus the flowers of many of our forest trees, however prolific in numbers, are unassuming, and the flowering impulse does not induce a metamorphosis of the foliage.

In another respect, however, the tree attains a higher stage of development. Its overall form can assume an expression of individuality which makes certain trees unique, especially when growing in the open, with a strong exposure to the elements. The English countryside, with its many free-standing oaks and beeches, can remind us that the trees which become most individual are usually growing in landscapes shaped by man. It is as though the collaboration between man and nature were able to call forth a certain "personal" quality in the tree as well, lifting it beyond the typical characteristics of the species, and colouring it with an almost human quality. To be sure, what we meet here may remind us of the twisted weather-pines, whose "biographies" are no less eloquent, and yet show no evidence of human influence. The new step taken by the *angiosperm* trees might be described by saying that they begin to attain a certain "personality" without becoming cut off within themselves. If the conifers showed us a quality of noble isolation, the deciduous trees remain open to influences and relationships of the most manifold kinds.

From Mars to Mercury The Ecology of the Oak Forest

In a remarkable way the oak exemplifies this principle. The first thing which usually strikes us in a free-standing mature oak is the angularity of its branches, the repeated change of direction which gives the crown an expression of congested energy. This gesture is largely the result of a continual dying process which is characteristic of the tree. Its buds are neither so frost resistant as those of the birch, nor so well-protected from insect attack as those of the ash. When the terminal bud dies a lateral bud has to take over, striking out in a new direction. The resulting silhouette is the signature of a tree which is constantly overcoming death [Plate IV].

Moreover, the oak shows a certain propensity to grow over underground water-veins, which many other kinds of trees (for instance, the beech, the birch and the cherry) diligently avoid. This fact seems largely responsible for the frequency with which oaks are struck by lightning, and it has earned them the reputation in folk tradition that they should be shunned by those seeking shelter in a thunderstorm ("Der Eiche sollst du weichen, die Buche sollst du suchen" - "Avoid the oak seek the beech"). Many an ancient blasted, tree, which may yet cling onto life for generations, appears like an old battle-scarred warrior. This may seem a natural association with Mars, yet in mythology it was Thor or Jupiter (Zeus) who wielded the thunderbolt. This, together with its undeniably regal quality, led to the oak being held sacred to Jupiter.

Thus the Greek oracle at Dodona in Epirus was located in an oak forest, where the utterances of Zeus were revealed through the rustling of the wind in the crowns of the trees. The oak, with its strong cosmic openness, and its mighty struggle with the forces of the earth, could well be experienced as a mediator between the earth and the heavens, between man and the will of the gods. But as the civilizations of Greece and Rome emerged increasingly from the twilight of the mysteries, a new form of consciousness supplanted the old, natural clairvoyance. As the perception of the spirit in nature faded, the inner life of the individual began to assume new significance. And so we can follow a remarkable historical metamorphosis from the sacred oak groves of the temples to the wreath of oak-leaves which became the crown and symbol of the Roman citizen. Just as the oak draws earthwards the Jovian thunderbolt, just as it had, in the mysteries, made audible the word of Zeus in the whispering of its branches, it now becomes the symbol of a power which leads the soul-spiritual nature of man into a deeper connection with the physical, giving birth to the earthly personality. And what better image could nature offer for the autonomy of the individual whose cares and tasks are directed to the physical world around him, than the oak, whose struggles with the adversities of life create ever more impressive and individual forms? In this historical moment a quality of strength through inner presence is achieved, which comes to expression in the forms of the Mars-capital of the First Goetheanum.

When the Roman armies penetrated to the north and west of Europe on their expeditions of conquest, they entered a world which must have seemed in some respects reminiscent of their own more distant past. Here they found peoples still dreaming the dream of the gods through the elements in nature; but in the holy groves of Thor, which only the initiated were allowed to enter, the twilight of the past seemed to deepen to an awesome gloom. The destruction by the Romans of these holy oaks allowed a cold and sober daylight to pierce the shade of millenia, severing in a single moment the ancient bond of a people to its gods.

But not only the strongholds of religious life seemed forbidding; vast areas of the land were covered by ancient and nearly impenetrable oak forests which seemed to face the

Roman troops like hostile armies, inspiring terror. The elder Pliny describes forests of oaks "as old as the world, unbelievably thick, and of almost eternal life". Whole divisions of cavalry were able to pass beneath the arched roots of upturned trees, as though through great gates. The Roman fleet, arrived at the mouth of the river Ems, encountered a floating forest of oaks, upturned by the river, and so intertwined that a kind of sea-battle had to be waged to open up a passage.

Just as the thunderbolt might be seen as a Martial aspect of Zeus-Jupiter, this historic rôle played by the oak in the destiny of Europe seems ruled and dominated by the planet of war. The felling by the victorious Romans of the holy trees is just as symbolic of this as their struggle to open up a passage through the virgin forests. Not the wisdom and embracing tolerance of Jupiter, but the belligerence and eternal conflict of Mars ruled the day.

When we look around us today at the increasing devastation of our natural forest landscapes, it appears as a second great wave of conquest, led by the same unholy alliance of sobriety and aggressiveness which filled the Roman legions two millenia ago. To be sure, there are many "voices in the wilderness", calling with the greatest urgency for the need to save, conserve and restore our natural landscapes. But outer measures alone are not enough. A revolution of consciousness is needed if they are to have a lasting impact on the illness which has stricken our planet. For it would not be too much to say that Mars in his fallen aspect has taken hold of much of the thinking of modern science, and from there wages his senseless battle against the wholeness of life. It is a striking phenomenon that even much of the literature dedicated to awakening the public conscience with regard to the threatened environment, is still shot through with terminology borrowed from the vocabulary of war. Animals and plants, we learn, "battling" to survive in a hostile world, resort to one or another "strategy", such as "camouflage" or "mimicry" to outwit potential enemies. The possibility that to blend in with the colours of the surroundings may be largely a gesture of sympathy rather than a cunning strategy, has seldom been considered.⁵

Yet the science of ecology, even with its often all too academic methods, is gathering more and more evidence for a view of nature quite different from that of Darwin with his emphasis on the "struggle to survive". We have already spoken of the complex web of relationships in natural communities which are based on mutual dependence and support. These are often so subtle and so difficult to discover, that a certain sobriety seems an absolute requirement if we are to approach them at all. But it is no longer a cold and analytical attitude of soul that is needed, but one filled with the warmth of selfless interest and devotion to all forms of life, even those which are of no apparent "use". The world of phenomena can begin to speak, and even the most unassuming of plants and animals may prove to be the keepers of the profoundest secrets of nature.

If we enter a relatively natural and healthy oak forest with a certain openness and lack of belligerence, quite new "planetary" aspects than those of Mars may begin to reveal themselves. Having overcome in ourselves the one-sided influences of a masculine spirit, intent on bending nature to our will, we will begin to recognize new qualities in the oak as well. We will discover, for instance, that while its struggle with the outer surroundings certainly does produce individual forms, this does not result in isolation, in aloofness. Quite on the contrary, the oak is unique in its exceptional willingness to enter into complex relationships with other plants and animals.

An oak forest never produces the profound shade of a beechwood in summer, and thus invites a rich community of smaller trees, shrubs and herbaceous plants to take their place beneath its canopy. Its leaves and acorns provide nourishment for a host of animals,

squirrels and deer that forage the woods for acorns, and that master forester, the Jay, who can take much of the credit for the rapid spread of the oakwoods in Europe and North America after the last Ice Age. Several hundred species of insects find their livelihood on the oak, and their adaptations are so manifold that only a very few can be mentioned here. There are, for instance, the caterpillars of the tiny footman moths, which feed, not on the oak's leaves, but on the evergreen lichens which grow on its bark. They may be active throughout the winter. Another caterpillar, that of a small, brilliant green moth, the Blotched Emerald *Comibaena bajularia* weaves for itself a rugged cloak of oak bud scales, attaching them to the bristles on its body. The reddish-brown insect can be all but invisible beneath its camouflage, and its presence can often first be discovered when a dense cluster of oak bracts suddenly appears to take life and move. The Purple Hairstreak Butterfly *Quercusia quercus* seeks its nourishment from the "honeydew" deposited on the oak leaves by aphids. Because these small, dark butterflies spend most of their lives high up in the crowns of the trees, they are seldom seen. But in August, at the edge of forests, they may swarm in greater numbers, the males ascending in "festooning" chains of 10 or 15 individuals, their iridescent purplish-blue wing-stripes glittering in the sunlight.

Perhaps the most remarkable of all the oakwood insects are the tiny gall wasps, better known for the fruit-like growths they produce on the trees than for themselves. Although galls are also produced on other plants, about 90% of all gall wasps are specialized on the oak. In Central Europe alone there are nearly a hundred species, each with its distinct life-cycle and gall type. Only in fairly recent years, after the lives of these unassuming wasps have been subjected to close scrutiny, has it been discovered that they usually alternate generations, each one having a different appearance and producing a different type of gall (see Fig. 3).



Figure 3. "Oak apples" and root galls produced by the wasp *Biorrhiza pallida* (Oliver). This wasp, like many others, has alternating generations. The many-chambered oak apples are produced when the asexual generation of wasps deposits its eggs in the axial buds in midwinter. These in turn give rise to the sexual generation. After mating, the females burrow into the earth and lay their eggs into the roots. The resulting galls bear a resemblance to miniature potatoes. (After Chinery⁶, redrawn).

Until relatively recent times, oak galls, especially those from the Levantine coasts, were an important item of trade. Because they contain a higher proportion of tannic acid than any other part of the tree, they were used as a main resource by the tanning industry. Rudolf Steiner characterized tannic acid as a substance which induces the astral or animated world to connect itself more deeply with the life processes of the plant. Although it is produced throughout the oak, rendering its wood almost impervious to decay, it appears most intensively where the gall wasp, as a representative of the astral world, injects its eggs into the tissues of the tree, whose life processes respond by surrounding the egg with a fruit-like organ.

This meeting between two levels of existence, which manifests in such countless ways in an oak forest, reveals something of its true quality in the galls; they are the keepers of one of nature's open secrets. In quite another way, the same lesson has been taught by bees since ancient times. The beekeeper, if he is still familiar with old and well-tested practices, knows that a large slab of fresh oak bark has an almost magnetic attraction for swarming bees. Or again, in preparing a hive for a new colony of bees, he may rub it vigorously with fresh oak leaves. "The oak holds the bees at home", assures a medieval saying.

The discovery, or re-discovery of this affinity of the bees for the oak can lead us to ask if the bee does not perhaps have an integral place in a natural oak forest? An old German beekeepers' verse offers a part of the answer:

I hollowed the pine, I hollowed the spruce,
I heeded not the oak,
Which powerfully holds the hive.

The tendency of old oaks to become hollow seems to invite wild bees to build their hives there. But the honeycombs deep in the hollow of the oak are by no means the only source of forest honey. High in the crowns, hosts of aphids, several species of which are special to the oak, suck the sap of the twigs. So rich is their harvest that their tiny bloated bodies are literally overflowing with the sticky, sweet nectar, which they spray around them, thereby coating the nearby leaves. When the Roman poet Virgil in his bucolic poem *Georgics* referred to shaking the honey from the oak leaves, there can be little doubt that he was speaking of honeydew of aphid colonies. Functionally, the aphids could be described as "animal flowers", for the phloem sap of the trees undergoes a similar transformation and enrichment in their bodies, as it would in the nectaries of flowers. These delicate, vulnerable insects are "shepherded" by forest ants. Their relationship is of mutual benefit, for the ants protect the aphids, and at the same time feed on the honeydew. Because this miracle of natural husbandry is taking place in the high crowns of the trees, it is by no means easy to observe directly. But in an oak forest where ants are present, it is often possible to find trees where the ants are ascending and descending in large numbers. A close examination will usually show that the abdomens of the descending ants are swollen with their feast of nectar. One may also observe that some of the ants are dragging small moths or caterpillars with them on their way down. Thus the oak is ridged of many natural enemies in years when it is the home of an aphid colony.

Bees are also attracted into the forest by the honeydew, which they harvest in their search for pollen and nectar. In the body of the bee, and later in the fermentation process in the honeycomb, the transformation of substance is carried still further. The resulting oak forest honey is renowned for its somewhat earthy aromatic fragrance. Like the ants, the bees are not only consumers of the fruits of the forest; they are of enormous benefit to the wider plant community as pollinators of the plants, shrubs and trees that accompany the oak. Many of these plants depend on the bee and the ant in equal measure:

on the bee for fertilization, and on the ant for the distribution of their seeds, as well as the control of harmful insects and slugs. Thus the bees and ants complement each other in the most remarkable ways, and play an integral rôle in the natural forest ecology. Their relative absence from so many of our present-day forests can largely be attributed to human interference with the balance of nature.

Under the aspect of its rich ecology, we could well regard the oak as a gregarious, social tree, mediating between living beings in countless ways, a kind of Mercurial spirit, which unites opposites and reconciles antagonists. It is this quality of the oak which brings light and colour into the forest, fills it with the scent of flowers, the flight of insects, and the song of birds. As though inspired by the divine messenger, it ensouls the forest, weaving it through with wisdom-filled relationships. In such a forest the human being can also feel at home, for there is much that seems akin to the life of feeling in its many hues and shades. Perhaps it is just this quality of interpenetration and rhythmical alternation of many voices in the planetary chorus which inspired Shakespeare to choose the forest as a setting better suited to the inner transformation of the soul than the artificial world of the court.

Just this aspect of the oak seems to be asking for our particular attention today, now that the Mercurial elm, once so vital a part of the English countryside, has all but disappeared. Their haggard, disease-ridden corpses, which can still be seen standing in many parts of the country, seem a grim admonition to an age which has so far lost touch with the healing and mediating impulse of Mercury, allowing the landscape to be chopped into unrelated fragments, or its age-old structure to be lost and dissolved into a monotonous "green desert". Indeed, the qualities of Mercury, as the very essence of what we have described as the interpenetration of influences, may be regarded as a key which can open or shut the door to the cosmos. This key is in our hands today. Physical evolution has reached its culmination in the marriage of the cosmic and earthly principles in the plant. If we are able to recognize this for the mystery and wonder it is, there may yet be a promise and hope for the healing of our threatened planet.

Footnotes

- 1 Rudolf Steiner, *Bilder okkultur Siegel und Säulen*, GA 284/85. Rudolf Steiner Verlag, Dornach, 5th edition, 1977.
- 2 Carl Kemper, *Der Bau*, Verlag Freies Geistesleben, Stuttgart, 1966. Page 85.
- 3 For instance in: Rudolf Steiner, *Pastoral-Medizinischer Kurs*, GA 318. Rudolf Steiner Verlag, Dornach, 1973. 8th Lecture, 15th September, 1924. Among others, Ernst Michael Kranich has taken up this challenge in his books *Planetary Influences on Plants - a Cosmological Botany* (published by Biodynamic Literature, Wyoming, Rhode Island, 1985), and *Bäume und Planeten* (Stuttgart, Verlag Freies Geistesleben, 1986), written in collaboration with Frits Julius, in which he attempts to establish the relationship between planetary movements and the geometry of plant growth.
- 4 Ekkehard Meffert, *Carl Gustav Carus - Sein Leben - Seine Anschauung von der Erde* Stuttgart, Verlag Freies Geistesleben, 1986.
- 5 A notable exception can be found in the works of Andreas Suchantke, for instance in *Der Kontinent der Kolibris*, Stuttgart, Verlag Freies Geistesleben, 1982, where an original approach is offered to the question of "mimicry" among the butterflies of the tropical rain forest.
- 6 Michael Chinery, *A Field Guide to the Insects of Britain and Northern Europe*, London, Collins, 1982.

Plates

I Trees of the Ancient Coal Swamps.

The large tree at the left is a Scale Tree, or *Lepidodendron*. Its branching rhizophore system is shown exposed. It is flanked by a tree fern and by a liana fern growing on a falling *Lepidodendron* trunk. In the centre the herbaceous *Sphenophyllum* is growing out of the water, and behind it stands a dense cluster of *Calamites*, or tree horsetails. At the far right a *Sigillaria*, or Seal Tree. To its left several *Cordaites*, early gymnosperms.

Painted by Hans Eichhorn (from Otto Warburg, *Die Pflanzenwelt*, Leipzig, 1913).

II Fern Forest by the Waterfalls of Tjiburum, Java.

The whole atmosphere is filled with the spray of the waterfalls. The centre is dominated by the tree fern *Alsophila*. To its right a bird's nest fern *Asplenium nidus* has established itself on the broken stem of a tree fern. In the funnel formed by its young fronds rainwater and fallen leaves collect to form a rich humus. Here insects, spiders and centipedes find a home, as well as giant foot-long earthworms of light violet hue. Beneath the crowns of leaves hang tangles of dead leaves and leaf veins. At the left a climbing fern *Polypodium* completely conceals a dead trunk. The ground is covered by a rich carpet of smaller ferns, which may resemble grasses and mosses.

Ernst Haeckel, *Kunstformen der Natur*, 1904.

III Ancient Yew Grove at Kingley Vale, West Sussex. (Photo: J. Meeks).

IV Ancient pollarded oak at Windsor Great Park, Berkshire.

Although the trunk is completely hollow, the tree is alive and continues to grow from the periphery. (Photo: J. Meeks).

V Oaks by the Sea. Vilm Island, Baltic Sea. Carl Gustav Carus 1835.⁴



Plate II



Plate III

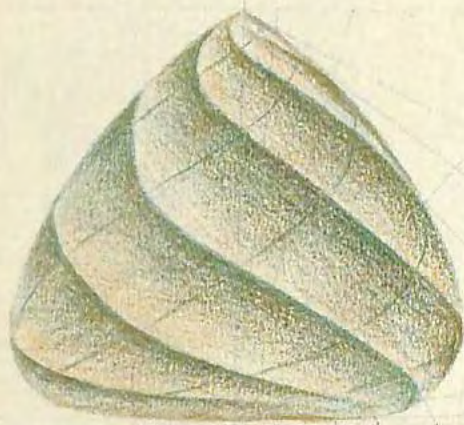


View W

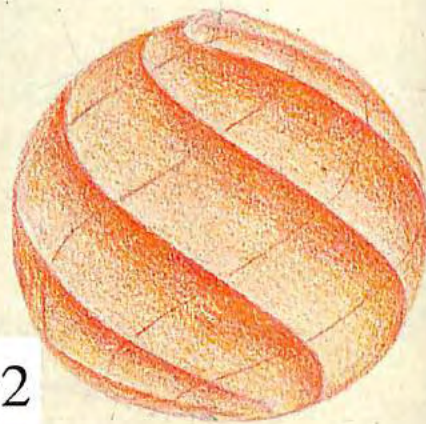


Plate V

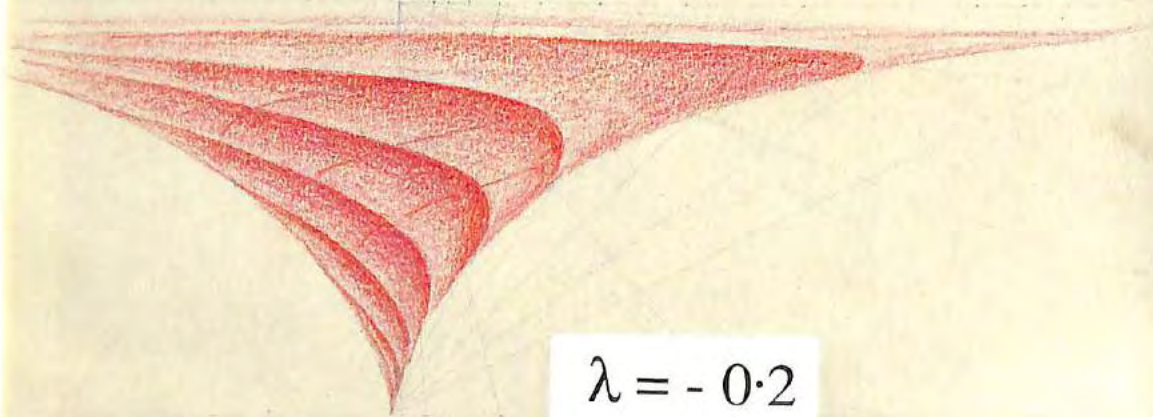
DIAGRAM 1



$$\lambda = 3.3$$



$$\lambda = 1.2$$



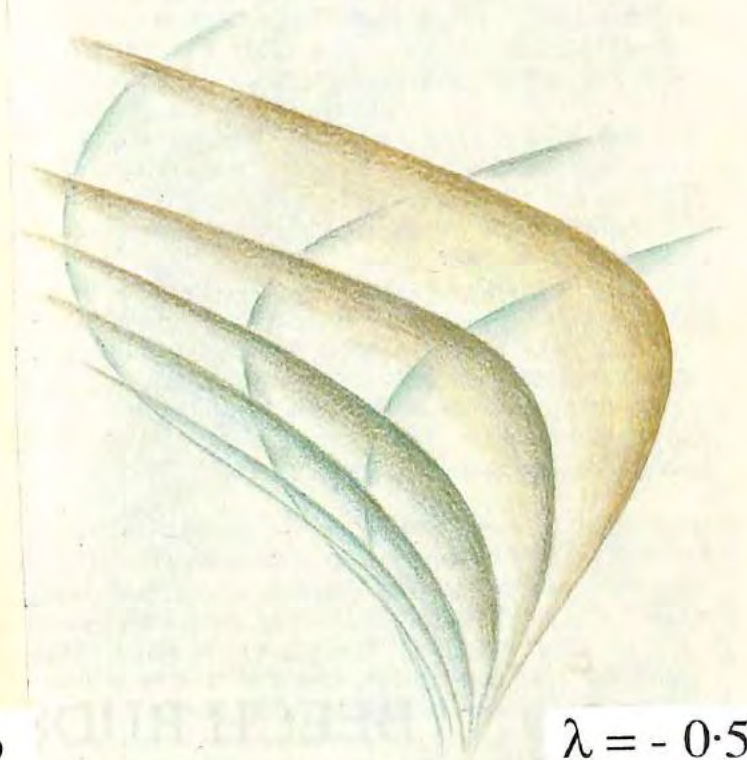
$$\lambda = -0.2$$

DIAGRAM 2



$$\lambda = 2.2$$

ARCHETYPE



$$\lambda = -0.5$$

FORM AND GESTURE IN TREE BUDS

Lawrence Edwards

DIAGRAM 3

PHENOMENON



MARCH

BEECH BUDS



MAY

The study of classical projective geometry in the nineteenth century led mathematicians to a set of ideas concerning the most fundamental transformations of space that are possible. Working with knowledge thus made available to him, the mathematician today can plot on his drawing board beautiful sets of curves which represent in a certain way the simplest and most basic patterns which flowing forms can assume. Their nineteenth century discoverers called these "W-curves". George Adams, who had developed the mathematical formulation of Rudolf Steiner's conception of cosmic forces, turned to this long-forgotten realm of mathematics because the transformations which produce these curves and surfaces are in perfect balance between point and plane. He called them *Wegkurven* or Path Curves. One can think of these as being the typical kinds of paths followed by forms flowing according to the most basic physical-ethereal spatial transformations which we can conceive.

A detailed study of these path curves would fill a large volume in itself; here we will have to confine ourselves to a description of a few of the most important results. These path curves present themselves in a great range of different forms, but on close examination it becomes clear that they are always variations on one or other of a small number of basic themes. And amongst these themes, in one form or another, the fundamental form of the Egg thrusts itself upon our attention again and again. The egg form, sharper at one end and blunter at the other, and covered all over with a family of spiralling curves, begins to assert itself in our studies as one of the most primeval and elementary spatial forms possible, anterior even to the sphere itself (the latter can be seen as a special case of the egg, where the sharpening and blunting have been reduced to zero). It is significant to note that when a seer such as Rudolf Steiner describes the genesis of our world, it is just such a form which he "sees" as first arising out of the formless at the beginning of all things.

In order to continue with our considerations we need to bear one or two things in mind. Firstly, the path curves, with all their variability, cannot produce just any kind of oval. In the true mathematical form, the degree of sharpening at one end always exactly balances the amount of "blunting" at the other. One can never find a path curve form which is very sharp at one end, and slightly blunt at the other, or slightly sharp and very blunt, or sharp at both ends, or blunt at both. In fact, with all their variability, the things which the path curves cannot do are much more numerous than the ones which they can. And in the course of one's working one comes across one parameter, i.e. a number, which controls, and gives one information about, the exact degree of sharpening and "blunting" which any particular form displays. Traditionally this parameter is called by the name Lambda (λ , the Greek letter L); and when λ is high the form is very sharp and very blunt; it gives the impression of being tense, and inbreathed. As λ decreases a certain relaxation is seen, the form becoming rounder and more gentle in appearance. As λ approaches Unity the sharpening and "blunting" die away and the form becomes ellipsoidal (in a very special case, spherical). As λ decreases below Unity, a further relaxation takes place, until when λ becomes less than zero, i.e. a negative number, the form unwinds into a beautiful chalice-like vortex. Diagram 1 shows three stages in an infinite spectrum of form, from a high to a low λ .

As one works with these things one cannot help being reminded vividly of many forms in living nature which resemble these path curve forms; actual eggs, and pine

cones, are two obvious examples, but many others appear to be possible. And the question quickly arises: - "Are these just chance resemblances, or is something of the path curve process really at work in the field of living nature?"

In order to answer this we need to remember one or two further facts. Firstly, if we are given any such form from nature, it is not difficult, by photographing and enlarging it, to make suitable measurements which, when followed by the relevant calculations, will tell us the exact λ -value of this form. Now it is obvious that no form from living nature will follow a mathematical archetype exactly; in a form which has grown subject to all the accidents of "wind and weather" some deviation from the exact form is inevitable. So, secondly, we must remember that given this λ -value we can calculate exactly what the radius of the form ought to be, all along its length, if it is to be a perfect mathematical form. By comparing this with the actual measurements it is possible to calculate the mean percentage deviation of any given form from the true mathematical form. And this places a powerful tool into our hands for determining whether the path curves are significantly at work in any particular case. For experience shows us that if this deviation is less than about 4%, the actual form is sufficiently close to the path curve model to give us good reassurance that this geometry is significantly at work, but that if the deviation grows much more than this figure, the case becomes a very doubtful one.

These methods have been used, over the past 25 years, in many thousands of cases, with most interesting results, but obviously there is not space to describe this in detail here. Just two examples may be quoted. The forms of ovaries in the plant kingdom often have an oval form like this, with one end sharper than the other, and a superficial examination might well lead one to suppose that the path curve forms are at work here. But careful analysis over many years has shown that in a large number of cases the deviations are far and away beyond the stipulated 4%; and indeed further research has shown that there are much more complicated and sophisticated processes at work here. On the other hand, the eggs of 250 different species of birds have been analysed, and shown to be almost all remarkably accurate path curve forms. And similar results have been obtained with numerous types of pine cone.

But perhaps one of the widest fields of application of this form has been found to be in the realm of the opening buds in the plant kingdom. This is not universally the case; some species form their buds on other, and probably more sophisticated, lines; but in a very wide number of species, the buds are formed in this way with such, almost uncanny, accuracy, that one is left with little doubt that this kind of form is really and significantly at work. This is particularly the case when one considers the actual shape, the silhouette, of the bud; the spiralling curves upon it, usually shown by the petal or leaf edges, are sometimes less precise, but usually accurate enough to give good reassurance.

One of the most remarkable realms in which these things find application is that of the leaf buds of our great deciduous trees, beech, oak, elm, etc., and we will confine our further remarks to such buds. They display a very remarkable phenomenon. The first signs of such new buds appear around mid-summer, and during the next two or three months they gradually develop. By the end of September they are fully grown, and thereafter they hang on their branch, apparently unchanged and unchanging, dormant as the biologist puts it, for something like six months, until they are ready to start the opening process in the next spring. During this period they have a rather hard and woody appearance, and are perfectly adapted for exact measurement. It is a remarkable experience to stand in front of such a tree in autumn or winter, covered, not with thousands, but with millions of buds, and to find that they are all path curve forms of almost

unbelievable accuracy. In the case of the oak, the deviations are usually between $1\frac{1}{2}\%$ to 2%, and the beech, between a quarter and three quarters of one percent. In the latter case it means that the actual deviations are of the order of about one thousandth part of an inch - in fact barely detectable even with a high degree of magnification. This is particularly the case during the dormant period; once the bud starts to open the form becomes much more loose, and not susceptible to precise measurement; but its general appearance leaves one in little doubt that the path curve form, in its vortex variation, is still at work.

Diagram 2 shows a typical path curve transformation, as λ decreases from a value of 2.2 to one of - 0.5; and Diagram 3 shows accurate drawings of a beech leaf bud, taken at the end of March of this year, and again, a similar bud about five weeks later. These diagrams were made in the following way: first the buds were picked and measured, Diagram 3 was made, and the λ -s were calculated. Then, using these parameters, Diagram 2 was made, using purely mathematical methods and without any further reference to the actual phenomenon. This is to test how closely the phenomenon actually follows the mathematical archetype.

It is important to feel the qualitative difference between the first and second forms of these two diagrams. The first, with the positive λ , is a *space-filling form*; it is as though it is saying "You cannot be here, because I have filled all this space". The second, with the negative λ , is a *space-enveloping form*; it is as though it is saying "You can be here because I have fashioned this space for you". This Easter mystery, the miracle of the transformation of Egg into Cup, is enacted before our eyes each Spring.

The general things described in this article so far have been known to me for a long time, and have been the subject of much observation. But in recent years it has become apparent that there is much more to it than that. I had always supposed that these leaf buds, in their dormant form, were quite invariant in shape, from one week to another. Their hard woody appearance certainly gave credence to this view. But in the Spring of 1982, in the course of an investigation into a different branch of this research, I had occasion to photograph several hundreds of leaf buds from a large beech tree, and afterwards, looking through my figures of their λ -s, I became aware that I had some evidence that these λ -s had been varying, very slightly, but steadily, during that period. Dormant they might be, but they seemed to be twisting slightly in their sleep! So I decided that when the next autumn should come, I must make it my task to find out just what these buds are doing (if anything!), during the winter.

The ensuing investigation presented many difficulties, but it is still proceeding. In fact, five years later, I am beginning to see that it is only just starting! The work is very time-consuming, involving the photographing of several thousand buds each year; I am never able to do more than a small proportion of the work that is actually needed. I have therefore had to confine myself to establishing the principle of what is happening, with comparatively few species, chiefly the oak and the beech, whose buds are so perfectly adapted for such precise measurements, with side-glances at the ash, elm and cherry, and also much work with certain species of flower buds, which seem to be behaving in a parallel sort of way.

It soon became apparent that the λ -values of these buds were undergoing a slight but definite rhythmic variation with a period of about a fortnight. Once every fourteen days, or thereabouts, the λ -value suffers a little fall for a day or so, and then recovers to its usual level. But the period is not exactly fourteen days, and it varies a little from one species to another. For the beech it is about $13\frac{1}{2}$ days, for the oak, $14\frac{1}{4}$ days, while for the ash, and some flower buds also, it is nearly 15 days. As soon as one finds a 2- or 4-weekly rhythm it immediately suggests a correlation with lunar movements. But how could the same Moon be linked with such different rhythms? The answer seemed to be

that it was not just the Moon, but the Moon linked with one or other of the planets. For instance, every now and then the Moon draws into a straight line with Saturn and the earth (I call this an alignment of Moon and Saturn; it is when we, from the earth, see these two heavenly bodies in conjunction or in opposition). This is something which happens every $13\frac{1}{2}$ days, and in those early years of the work, these were the times when the beech buds suffered a decrease in their λ . With the Moon and Mars such alignments happen approximately every $14\frac{1}{4}$ days, and these were the moments when the oak buds found their λ decrease. The reality of this phenomenon has been tested for some five years now; the change in the buds has come, and been measured, unerringly fortnight by fortnight during some five winters. With less thoroughness there is some evidence that the ash varies similarly with the movements of Moon and Sun, and the elm with those of Moon and Mercury.

Now this little dip in the value of λ , - what does it mean in terms of form, which the imagination can grasp? Look again at Diagram 1 which pictures three forms in a continuous spectrum of possible forms, from tight closed (high λ) to fully open (low λ). When we measure a bud, and determine its λ , we are fixing its position on this spectrum. For instance the beech bud of Diagrams 2 and 3 has a λ of about 2.2, i.e. it comes somewhere between the top and middle forms of Diagram 1 (notice that λ has nothing to do with the width of the bud; it only informs us about the *quality* of its form, that is its sharpness and bluntness, its closed-ness and open-ness; two buds with the same λ may be, the one wide and the other narrow). The dip in λ signifies that the form has moved just a tiny step towards the open cup form, and then a day or so later, retreated to its original condition. Maybe one is dealing with a great beech one winter, covered with buds. As the slow ritual of the heavens proceeds, the time approaches when the Moon draws into alignment with Saturn and the earth; and we see this moment greeted by a myriad of buds all over the tree, each making a little gesture of opening, in acknowledgement. Imagine a million pairs of tiny hands, clasped in prayer, and as the appropriate moment arrives, each unfolding a very little, in a gesture - of what? Of receiving? Of gratitude, maybe? I feel that the Grail motif, of nourishment, is important here. We are reminded of Rudolf Steiner's words "In our coming to grips with nature we develop forms wherein nature herself worships divinity...In reality, every plant, every tree has the desire to look up in prayer to the divine. This can be seen in a plant's or a tree's physiognomy".

From near the beginning of this phase of the research, some four years or so ago, it became evident that something very big is involved here. We must understand that an alignment of Moon and Saturn, or Moon and Mars, with the earth, holds good simultaneously for the whole of our planet. If such an alignment is seen from the west coast of Scotland, where I live, it is so, at the same time, for the whole earth. If what I have been saying is to be taken seriously, then this wave of relaxation, of the tendency toward opening, observed by me, should in fact spread far and wide; it should girdle the earth, simultaneously, in millions of buds on millions of trees. And one has to ask oneself in all seriousness whether one can believe this. Such statements should not be made without a solid foundation of evidence to back them. Here the only touchstone that counts is that of truth. However beautiful or appropriate an idea may seem, if it is not true, it means nothing - nothing at all. And when the general shape of these things began to emerge some four years ago I realised that it must be tested, and tested again. What seems to be true to-day, must be seen to be true tomorrow, and next year, and the year after. Much of the time it is less a search for inspiring ideas, than a long slow slog with measurement, numbers piling on numbers, in file after file, as the evidence slowly accumulates. Fortunately the computer, gifted to me by the Margaret Wilkinson Fund,

looks after the actual calculations, but the photographing and measuring of several thousand buds per year is time-consuming enough. We must keep our feet on the firm ground of precise observation.

Diagram 4 is part of the graph of the λ -values of an oak bud, taken during the Autumn of 1982. The arrows show the moments when Mars was aligned with the Moon, and the graph shows clearly the corresponding decrease in λ at those moments. And we now have several score of such graphs, taken between then and now, for study, each one representing weeks, or in some cases months, of work.

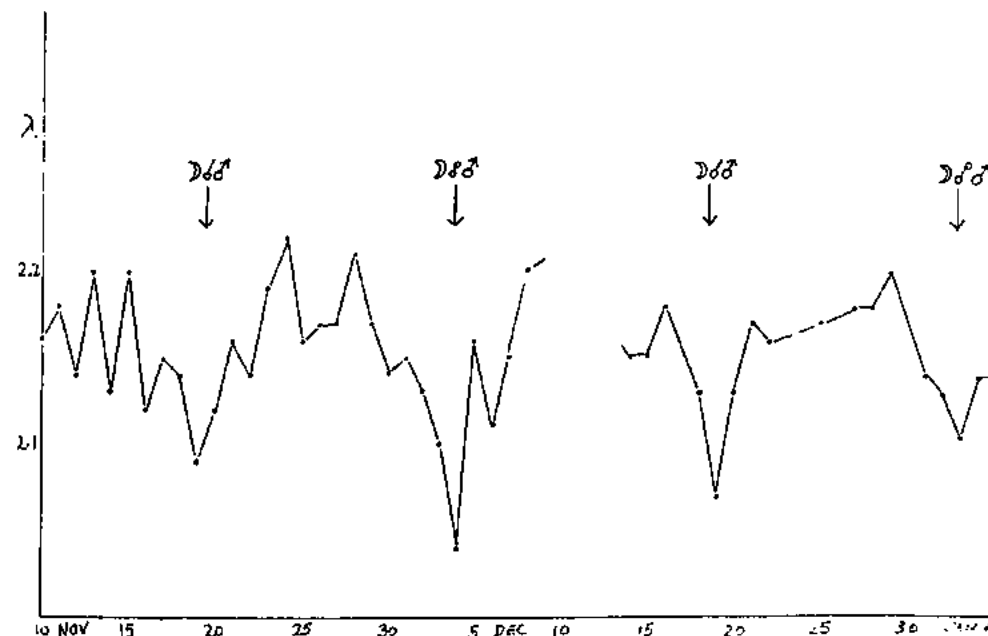


Diagram 4. Leaf bud of oak, 1982

Now what are the results of all this further study? In the first place it can be stated that the general principles which are stated in the earlier part of this article have been vindicated over and over again - but not altogether in the way I had expected. The world turns out to be a more complex and wonderful place than the simple thoughts which I had been able to bring to meet it. What looked like the closing of a chapter reveals itself as the beginning of a new one, whose end is not even remotely in sight. As I worked, plotting the little fortnightly rhythms month by month, certain small, apparent anomalies began to present themselves. At first it seemed as though I - or the buds - (probably the former!) were working inaccurately. But as the work continued these anomalies showed themselves as continuing, and consistent, and cumulative. It became gradually clear that we are here dealing not with one rhythm, but with two, at the very least. On the original, fortnightly, rhythm, a second one is impinging, one of much longer period; and there is maybe a hint now, of even a third.

the Moon, they could equally be said to be dampened or weakened whenever it is aligned in so-called conjunction with the Sun, the Moon, or another planet (as seen from the earth), or when passing through the orbital plane of the sun (the ecliptic) - in a lunar or planetary node.

How can these astronomical factors be applied practically for all plant regeneration? When is the plant particularly receptive to the renewing impulses of the cosmos?

Planetary Rhythms of Seed and Fruit Formation

Before the influences of civilization and technology began to interfere with the growth processes, the rhythms of seed production in many trees still bore a direct correspondence to the movements of the outer planets Mars, Jupiter and Saturn. On the basis of exact records kept by various forestry departments in Germany over the last century and a half, it was possible to relate years of high or low seed development to the ascending or descending movements of these planets through the zodiac. Since the 1970's, however, more and more trees over large areas have experienced heavy seed production for several years in succession. This normally occurs only when the lives of the trees are endangered.

This is accompanied by another disturbing phenomenon. Certain tree species which normally do not begin to produce flowers and seeds for several decades, are now beginning to do so after only 10 or 15 years. In this area, too, we must resort to the experiences of earlier times to determine what is normal. For present and future investigations, however, the sowing times still offer the possibility to continue research into specific planetary influences.

Seed Chaos and Cosmic Fructification

After the seed has made contact with the soil, a radical change ensues, beginning in the formative forces of the seed and leading ultimately to the breakdown of its complex physical protein structure. This process, known as "seed-chaos", opens the organism of the seed to all influences of the surrounding earth and cosmos, including human activities.

It thus depends on the given or prepared external conditions (e.g. seed-bed, sowing time, and other human factors), whether in the moment of soil-contact renewing, healing and regenerating forces from the cosmic periphery can enter into the development of the new plant. In this process the soil as "mother earth" assumes the rôle of the female principle, with which the male element of cosmic renewal unites.

The sensitivity of these processes around the time of sowing and germination would strongly suggest that our task is not only to allow access to the cosmic forces, but also to protect and shield the plants against detrimental influences.

Regeneration Experiments with Endangered Forest Trees

Since 1970 sowing experiments have been carried out with forest trees, in which the following conditions have been maintained:

In comparable, uniform and well-prepared soil, seeds of similar origin were planted in equal numbers by the same co-worker in each series of experiments. The only variable lay in the use of "Planet Full-Moon days", in contrast to those with "Planet New-Moon" and other disturbing aspects, like the lunar nodes. The differences in sowing time varied between 3 and 14 days. The transfer to a tree nursery or an experimental forest plantation

took place simultaneously for all saplings, regardless of when they had been sown. The time of transfer was chosen according to known beneficial factors.

Certain trees, among them oak (sessile oak and red oak), ash, cherry, alder, maple and elm showed striking differences in their pattern of growth according to these planetary aspects. The effects can be summarized as follows:

- The rate of germination varied according to the sowing time. The number of seeds which germinated among an equal number sown varied between 99 and 14 for the ash, 80 and 3 for the alder, and 54 and 26 for the wild cherry.
- Root formation. During the period spent in the seed-bed and tree nursery, the one group displayed an underdevelopment of tap roots, root branching system, and hair roots, while the other showed a corresponding enhancement of root development.
- Above the ground great differences were also found, the one group achieving up to 2 or 3 times greater trunk height and total wood-mass than the other.
- The form and colour of branches and leaves could easily be distinguished.
- Great differences were found between the two groups in their resistance to environmental factors such as frost, fungus and insect pests.

The comparative insensitivity of needle trees to these cosmic factors, which we discovered in a similar series of experiments, could possibly be related to the descending path of Saturn in the zodiac from the Twins to the Scorpion. Further series of experiments are now being planned for 1988 onwards, when Saturn begins its 15-year ascent from the Archer to the Twins. It is hoped that the results of these experiments will help to clarify this phenomenon.

An Experimental Tree Nursery

In 1983 an experimental tree nursery was established on the basis of these preliminary results. This allowed the numbers of trees in each series to be increased from a maximum of 80 to several hundred or even thousand. At the same time, a neutral sowing time was added to each of the times previously investigated (Planet New-Moon and Planet Full-Moon), the times being chosen as close as possible to these cosmically significant moments.

An experiment with pedunculate oaks sown in autumn, 1984, failed to show any differences in growth during the seed-bed period. After a year they were transplanted at greater distances. In the second and third year of growth the oaks planted at Mars-Full Moon showed an increase in length, as compared to those planted at Mars-New Moon and on the neutral day. However, the Mars-Full Moon oaks were more susceptible to mildew.

For many other tree species, the planetary relationships must still be discovered. Experiments with beech, for instance, which were carried out at Saturn-Full Moon and Mars-Full Moon, revealed clearly the qualities of these two planets. The "Mars beeches" showed dense, luxuriant growth with large leaves, strong branching and bushy roots. Their frost sensitivity was evident in the slow maturation of the mid-summer shoots. The "Saturn beeches" on the other hand, developed into saplings with sparse branching, small leaves with strong veins, and tap roots with few side branches. Their frost resistance helped the mid-summer growth to a strong development.

Through similar investigations, it should be possible to gain more detailed insights over the years into the modifying influences of the planets on different species of trees.

Man as Experimenter

In the course of our work we began to ask fundamental questions about the rôle of the human being in the experiment. What inner attitudes and what social forms are most conducive to the task of mediating the healing forces of the cosmos to the plants, and yet not interfering with the course of the experiments? No personal wishes or preconceived ideas should be allowed to detract from the objectivity which we strive for.

At the same time, it is not enough to work blindly, without direction. Inner work towards the understanding of cosmic phenomena seems as necessary a pre-requisite to our task as the exact command of terrestrial laws. Only so can we hope to mediate between these two realms. The effects of human thoughts and feelings on all life processes around us can be observed directly in the experiments. The recognition of this fact can lead to the awakening of a heightened sense of responsibility. Each co-worker must work daily to achieve inner equanimity in the life of feelings, and control over all aspects of the inner life.

But also the awakening which comes through working together with others in a community can help uncover unconscious and uncontrolled aspects of one's own being. In the often painful process of awakening through one another, we can recognize essential elements of community building. In this way the community becomes a receptive vessel. It forms the milieu in which the work with cosmic rhythms can become eminently practical and down to earth. And so it also becomes possible to define the further direction of research out of the experiences in the present.

Conclusion and Outlook

Until well into the last century both wild and cultivated plants were able to draw on the almost unlimited life forces of the earth and the surrounding cosmos. The world-wide decline in soil fertility and the weakening of the hereditary forces of plants and animals alike make visible not only the loss of vitality *within* the organisms, but equally their disturbed relationship to the surrounding cosmos.

Man is thus called upon to make strenuous efforts to bring healing, where nature no longer seems to have the resources to do so. To begin with, this could mean working to enhance the natural rhythms in selected areas within threatened landscapes.

Although the *Association for Plant Breeding* is able to look back over about 35 years of experimental work with wild and cultivated plants, the research into the effects of cosmic rhythms is only in its first beginnings. It is to be hoped that many young people will recognize this need of our times, and take up the work, thus giving our threatened plants, animals and landscapes a genuine help towards the uncertain future.

THE ALCHEMICAL TREE
AND THE PLANETARY METALS

John L. Lash

"See, see, where Christ's blood streams in the firmament!"

- Christopher Marlowe,

The Tragical History of Doctor Faustus

Though its origins are uncertain, the demise of alchemy can be historically located in a precise way. With the foundation of the Academia del Cimento in Florence in 1667, the final phase of the alchemical tradition came to an end.¹ Since the earliest remaining manuscripts date back only to around 250 AD, the total life-span of alchemy amounts to about 1400 years, according to the evidence of the historical record.

Of course, there is a long tradition of alchemical wisdom preceding the period of textual evidence - for instance, the secret arts of Hiram, the Master Builder, tracing back to the "Cain Stream" in Atlantean times - but what unfolds within the historical era is especially significant for us today, because it set the right conditions for the rise of natural science.

Historically, the highpoint of alchemy in the West seems to have been reached around 1250 AD, contemporary with the School of Chartres where "Natura" was still revered and inculcated. In such a figure as Ramon Lull (1232 - 1315) can be found the true alchemical adept who has fully mastered *both* the secrets of metallic transmutation and the art of spiritual metamorphosis. After Lull's time there is a steep decline, and even corruption of "the Art", as it was known to its practitioners. More and more its spiritual aspects are eroded and it degenerates into a muddle which then affords the occasion for a great deal of spiritual fraud - rather like what is to be found today in many circles of "New Age Wisdom".

As the story is conventionally told, alchemy gave way to modern chemistry through a series of revolutionary "discoveries" from the 17th Century onward.² By modern sights, alchemy is viewed as obscure nonsense trumped up in ridiculous symbolism, a useless pastime for fanciful minds who must be forgiven for not knowing any better. In a few cases, we are told, alchemical pursuits led over to genuine findings that came to be codified into the hard, reliable "data" of empirical science - Hennig Brand's discovery of phosphorus, for example. Thus the "Great Work" is discounted as feeble pseudo-science or, at best, the fumbling forerunner of chemistry. Even C. G. Jung, who was involved in alchemical studies all his life and did so much to revive it for modern thinking, frequently took this derogatory view of the alchemists, calling them frauds and delusionaries who made impossible claims and even fudged their results.³

So it goes: through the 17th Century, alchemy, "natural philosophy" and other types of imagistic knowledge that were able to apprehend the spiritual content of nature were gradually displaced by new concepts of materialistic chemistry. But in the usual telling of this story, one significant point is completely ignored. In more cases than not, it was the last of the genuine alchemists themselves who achieved the "discoveries" from which the natural laws and substances of modern chemistry came to be defined and codified. Upon close research into the matter, it even appears as if certain alchemists turned over their secret knowledge intentionally to have it converted into the lifeless formulas of a profane, materialistic art. Rudolf Steiner once indicated how the Rosicrucian

Schools of the 15th Century performed an actual sacrifice of the ancient star-wisdom they had been safekeeping for centuries: they *intentionally* surrendered something from the past so that something for the future could ultimately arise to replace it.⁴ It appears that an analogous sacrifice occurred among the genuine alchemists of the 17th Century.

Given this was the case, the alchemists must have possessed a very exact knowledge of natural processes - otherwise, what they knew could not have been converted into the consistent "data" of chemistry. Yet it is difficult to appreciate this exactitude, due to the peculiarities of their language. Like their Rosicrucian brothers, the alchemists - many of whom were Rosicrucians themselves - preferred to work in secrecy, partially for protection and partially out of a profound spiritual modesty. Often at risk of persecution, they undertook difficult experiments in esoteric training and preserved the results in small handwritten notebooks which they privately circulated among themselves. These notebooks are full of marvellous drawings, ciphers and emblems which, if carefully decoded, can reveal how the alchemists possessed exact cognition that could be converted into the "hard data" of chemical science.

Fortunately, certain consistencies in their language and imagery show up in the way they used recurrent symbols, and especially by the presence of the four-fold paradigm - Ego, astral, etheric, physical - which is clearly evident when their intentional obscurities are sifted through. (This four-fold paradigm, by the way, appears to be the ancient inheritance held in common by the "occult brotherhoods", deriving from the mystery schools of antiquity). Here are some correlations of a few recurrent features:

Egoic	...	conscious, human proper images of Rex and Regina, Hermaphrodite, Homunculus * Hydrogen: Fire element, Spirit
Astral	...	sentient, human as creature, animal realm images of Animals, Birds, Reptiles * Carbon Dioxide: Water element, Soul, Anima
Etheric	...	vital, vegetative, plant realm images of Flowers, Plants, the Tree * Oxygen: Air element, atmosphere
Physical	...	sensory, mineral realm images of Metals, the Stone ⁵ * Nitrogen: Earth element, senses, cognition

From this short summary of their symbolic "code", a great many obscurities found in the arcane language of the alchemists can be shown to translate into exact scientific concepts, especially in reference to the atmospheric components (indicated by an *).

For instance, the organic processes of the life-organs in the human body were held to operate in the astral or astral-animal realm. So the Lion was used as a symbol for the human circulatory system; the Uroboros, or Serpent eating its own tail, for the metabolic system. By these systems the human form was astrally moulded and "animated", organically. A great deal of speculative nonsense has been written about the Uroboros. Although the ability of gastric juices to dissolve meat was first observed by Spallanzani in 1765, consistent studies of human metabolism did not really get under way until the isolation of the enzyme by Wilhelm Kühne in 1878. Of course, it was assumed that before all this came about there was no knowledge of what happened in the dark recesses of the human bowels when food was digested. But in their own way the alchemists were well aware that katabolic action reduces food to its most inorganic state, thus to allow for it to be rebuilt into the body: matter consuming and reconstituting itself, Serpent eating its own tail.

For the etheric realm they used plant images consistently, especially the Tree. As C. G. Jung has shown, the Alchemical Tree was one of the two or three central motifs of the Art.⁶ Certainly, for in this symbol they condensed the quintessence and summation of their wisdom. Complementary to this image of etheric activity, in the *physical* world the alchemists *considered all sensorial impressions to belong to the Mineral Realm*. In describing this they used the language and imagery of Metals and, in a special manner, the Stone, Elixir, Alkahest.

In some instances, the language combined the symbols of Tree and Metals into a synthetic image of comprehensive meaning. In itself, the Tree was their supreme uniting symbol, appearing in countless variations. It was used as what must rightfully be called a functional symbol, or naturalistic image - that is to say, it described something actually working in nature, perceptible to the senses, *as well as* something supersensible, beyond the given senses. The actual tree was meant, and something else besides, something in which the tree was involved but on a grand scale, all-pervasive and invisible. In short, *the Tree was used as a symbol of the entire terrestrial atmosphere, the planetary envelope*.



The Alchemical Tree. Mylius, *Philosophia reformata* (1622).

Incredible as it may now seem, the alchemists appear to have been fully aware of certain atmospheric processes such as photosynthesis and nitrogen fixation - and beyond that, even aware of how human physiology was vitally and intimately integrated with these all-encompassing cycles of nature.

Today we are totally lacking such knowledge, though in the environmental movement we are making some feeble attempts to rediscover it.

Uniting the Tree and the Metals restores yet another dimension of their visionary cognition. Gerhard Dorn, one of the truly great late Christian alchemists, refers to "the tree of the planets and metals" (*Theatrum Chemicum*, 1659), indicating with complete accuracy how the Tree (that is, the Terrestrial Atmosphere) is a network or tree-like web, a breathing envelope-web, that incorporates both etheric (Plant) and sensory (Metal) processes, growth-processes and sense-impressions. Once it is seen that all references to Metals indicate sensory activity, sensory impressions, then a great deal becomes clear and explicit.

Sometimes the Tree is used to picture the terrestrial atmosphere as it opens and includes the entire planetary system: thus, Dorn in the same source describes "a golden tree with seven branches, that encloses in its seed the seven metals". And he says, "Nature has planted the root of the metallic tree in the midst of her womb".

Now, translating Metallic as "sensory", we begin with a certain awe to see nature as the alchemists themselves saw it. The "metallic tree" is a field of sensory impulses, streaming into the terrestrial envelope from the planets. By a process of osmosis, similar to inter-cellular circulation in the human body, the earth's atmospheric sheath constantly absorbs the effluences from its neighbouring planets: *effluences*, not *influences*. All seven planets of the solar system - imagistically, Dorn's "golden (i.e., solar) tree with seven branches" - have their particular effluvia or etheric emanations, and these are osmotically circulated through the planetary spheres to be absorbed as nutriment by the terrestrial atmosphere. This is certainly a magnificent and "holistic" picture of the planetary organism in the full scope of its organic beauty.

But there is more, for the exact use of the language reveals how the Metals are "rooted" in the womb of nature, that is, in physical nature as we perceive it on Earth, "Mother Nature" with her full range of progeny and wonders. This rooting indicates coming to ground, assuming tangibility. It suggests how the alchemists perceived that the planetary effluvia, though plant-like and ethereal in character, *came to be converted into sense-impressions*. Where, then, do we look for the "planetary effluences"? They are literally secreted in our own sense-impressions.⁷

The exact correlations for these secret Metals or "planetary secretions" are elsewhere given in the "Tetrasomia" and other alchemical formulas. Mercury-effluvia are secreted in the sense-impressions of touch, Saturn-effluvia in sense-impressions of sight, and so on. This momentous disclosure gives new force to Wilhelm Reich's startling comment: "Sensation is the greatest mystery of natural science".⁸ It also accords brilliantly with Rudolf Steiner's assertion that "man perceives the things of the world through his own senses but with his ordinary consciousness he does not perceive what takes place *within* the senses themselves"⁹ - that is, the *infrasensory* surge of the planetary effluvia.

Jan Baptiste van Helmont (1577 - 1644), who claimed to have achieved the Stone, was one of those alchemical adepts who turned over his knowledge for conversion into the materialistic formulas of chemical science. By the accepted account, van Helmont is credited with the "discovery" of carbon dioxide. This he called "gas sylvestre" in reference to the alchemical Tree, and in specific scientific accuracy as well, for carbon dioxide, as we now know, is actually absorbed by plants and trees. It is the human effluvium taken up by them and recycled for us.

In the standard code of van Helmont and others, oxygen was called the "first matter", and nitrogen, "Azoth". The exactitude of their knowledge - though obscured in an arcane, idiosyncratic language - is undeniable, when studied at length. For this to be so, they must have experienced a conscious and vital interplay with the atmosphere around them. The atmospheric sheath of the planet was alive to them, and they felt themselves to be agents in its transmutational cycles. This recalls a time when the atmosphere was more "ensouled" than it is at present¹⁰, but their "atmospheric clair-sentience" (as it might be called) nevertheless did not arise spontaneously. Their sensorial and participatory awareness of the Tree and its effluvium of living Metals was attained through certain practices in heightening the sense-faculties, artificially preserving into a later time the natural clairvoyance of earlier centuries. This special cognition of theirs served as a bridge between the natural clairvoyance of the Elements that had faded out by the 3rd Century after Christ and the new, barely emergent Christ-inspired etheric vision of the present and future.

Finally, it must be acknowledged that the genuine alchemists of the high period and even, in some cases, as late as van Helmont, possessed not only a rare *infrasensory* clairvoyance of the natural elements, but also the higher faculties for perceiving the etheric emanations of the Christ, released at Golgotha when the Buddhakaya was poured into the atmosphere. In his *Von hylealischen Chaos*, Henry Khunrath (1560 - 1605), who lived right on the cusp of the great decline, describes the Outpouring at Golgotha as an atmospheric diffusion of "costly Catholic Rosy-coloured Blood and Aetheric Water that flows forth Azothically from the side of the innate Son of the Great World when opened by the power of the Art". As usual, both an explicit and a veiled truth is communicated here. By the adverb "Azothically" Khunrath intends to say that the atmospheric effects of the Outpouring can be seen clair-sentiently, *infrasensorially*, as explained above. "Azoth", known to us as Nitrogen, is the most preponderant gas in the atmospheric ensemble. To the alchemists, it served as the physical medium for the Divine Blood, so that in Nitrogen they contacted the divine effluvia as a mystical sensation. (Note in the table given above that Nitrogen correlates to the Earth Element and the physical senses). But Khunrath adds that this clair-sentient vision is only accessible "when opened by the power of the Art".

Paracelsus (1493 - 1541) also knew of the Christ Infusion, which he called the *Iliaster*, a made-up word from *ilios* - matter, and *astra* - star: hence, "star matter". He seems to have viewed it as a kind of tissue-fluid, like blood-plasma, and in some works he describes in great detail the formation of a mesh of Infusion-threads, or *Iliastri*, throughout the atmosphere, as if the Blood were developing into a vast, earth-ensheathing tissue. "In the whole Ides there is but One Man, the same is extracted from the *Iliastrum* and is the *Protoplast*".¹¹ Here, in vivid yet enigmatic language, Paracelsus points to the indwelling Christ as Spirit of the Earth and vital, mediumistic Presence in the atmosphere ("Protoplast").

It is indeed wonderful to understand how the alchemists in their unique sensory illumination were able to cultivate the highest spiritual content: not the vision of the Etheric Christ, but of the Christ Aura, the plasmatic streaming of the Divine Blood in the terrestrial atmosphere. Through their vision of the Tree and the streaming Metals they gained an inceptive contact with the living, radiant Spirit of the Earth.

A thorough, open-minded and in-depth study of their legacy shows that the genuine alchemical masters of the past had an empathetic and imagistic knowledge of the atmosphere that was detailed and exact both in its material and mystical, sensory and supersensory, aspects. For them Nature was a mystery-experience in which they were engaged as self-initiating agents who aimed to take up its processes and advance them by concentrating them in the crucible of the human form. Today it is quite impossible to

appreciate their work unless we attempt at least to re-create the mystery they experienced - which might be done by a conscious spiritualization of the dead information contained in atmospheric and ecological science. Such a task also poses the opportunity for a synthesis of Goethean science with the "nature mysticism" of the Romantics. Like so many other creative challenges of the present age, this one awaits its equals.

Footnotes

1. Rudolf Steiner, "Heat Course", March 1 - 14, 1920, Stuttgart, Lecture II.
2. One thorough and exemplary study is *The Story of Alchemy and Early Chemistry* by John Maxson Stillman, Dover Books.
3. See Jung, *Alchemical Studies*, p. 276, 299 - 300; and *Mysterium Coniunctionis*, p. 543, where he says of the alchemical Work that "the procedure did not take place in the real object at all but was a fruitless projection". In these passages and elsewhere, Jung appears not only to dismiss the possibility that some of the alchemists did achieve actual metallic transmutation, but also to discount their visionary wisdom as a mere erratic groping in the dark.
4. Rudolf Steiner, lecture of January 4, 1926, Domach. Appears as Lecture III in "Rosicrucians and Modern Initiation".
5. I am aware that in one instance, at least, Rudolf Steiner identifies the "Philosopher's Stone" as carbon, which aptly demonstrates how the alchemists possessed an exact knowledge of the physical elements of nature before they were scientifically named as such. However, all alchemical symbols are polyvalent and the "Stone" is reported by Don Pernety in the *Dictionnaire Mythohermetique* (1787) as having over 600 names, so a certain latitude may be allowed in its interpretation.
6. See especially *Alchemical Studies*, Part V.
7. Within the limits of this essay, it is of course impossible to substantiate this finding in a full and adequate way. The case for a purely phenomenological slant on the "Great Work" is set out thoroughly in "Course One - A Re-creation of the Alchemical Mystery", available from the Institute for Creative Mythology, Santa Fe, New Mexico.
8. In *Ether, God and Devil / Cosmic Superimposition*, Noonday Books, Farrar, Straus and Giroux, 1979, p. 96.
9. In *Man and the World of Stars*, Lecture VII.
10. See Rudolf Steiner, *The Mission of the Archangel Michael*, Lecture VI.
11. See Jung, *Alchemical Studies*, for numerous references to the Christ Infusion as understood by Paracelsus.



Friedrich Rittelmeyer (1935)

Artists in Speech and Colour

FRIEDRICH RITTELMAYER **As Forerunner of a Christianity of the Future**

Adam Bittleston

On the 23 March, 1988, fifty years will have passed since Friedrich Rittelmeyer died in Hamburg at the age of 65. Among those who became pupils of Rudolf Steiner, and active defenders and developers of his work, Rittelmeyer was an outstanding personality.

Among the few of his many books which has been published in English, "Meditation" has been of practical help to many, particularly in recent years.

His autobiography, not published in English, is full of warmth and humour, and comfort for those who have to struggle with their destiny. It describes many events in his life which prepared him for his meeting with Rudolf Steiner when he was nearly 39, and the patient efforts he made to study a teaching which at first seemed very alien to him. (The meeting itself is vividly described in "Rudolf Steiner Enters My Life", published in English). Here I shall draw mainly on the autobiography, and sometimes on personal memories.

At several times in his life, beginning very early, events entered his experience which showed that the human being does not depend only upon the familiar physical senses for his encounter with reality. His earliest memory was an example of this.

"A small, friendly room. Two windows, looking out on a green place. At the right-hand window a woman is sitting bent busily over her sewing. Opposite was the door. On the left of the door was a stove and in front of it a child was playing on the floor".

During his boyhood this memory came up in his mind, and he asked his mother about it. "That is our living-room in Dillingen" she replied. "I am the woman, you are the child". He was born on 5th October 1872, and his parents left Dillingen (not far from the Danube) when he was about sixteen months old, and he had never seen the house since. This memory later was for him an illustration of Rudolf Steiner's statement that the "I" of a small child works on the body from outside.

Friedrich's parents were very devout, very orthodox Lutherans; his father was a minister and his wife had been a teacher. Both parents had reliable dreams and visions, which were discussed in the family, though they never seem to have prompted his father to unorthodox reading.

When Friedrich was a small child a sister became very ill with scarlet fever. "I had a dream, which was more than a dream. Through the window an angel came into the room. He took no notice of me. But he came to the little bed of my sleeping sister, took her carefully into his arms, and flew away upwards with her...The form appeared of more than human stature, filled with light, without definite features, his being utterly certain and noble, - I was violently awakened by the cries of my mother, who had fallen asleep,

completely exhausted, and woke to find the child dead...I began at once to speak joyfully about my dream. I did not yet know what death is - or at least, what it is for human beings on earth". What he said brought his mother comfort. Many years later he told Rudolf Steiner of this experience, who commented "So you know, how these things are".

He had himself in earthly childhood more than one dangerous illness. One was caused by vaccination with an infected syringe; he was ill for months, and carried through life as a consequence a slight lameness of the right side of his body. His son-in-law Dr. Erwin Schühle wrote of this: "In a way that corresponded to his destiny, his individuality came to have a decided emphasis on the left side. The spiritual qualities which have their physical basis in the left side, the heart side of the body, were specially enhanced. Bodily hindrances can lead to a strengthening of the soul and spirit. This 'one-sidedness' was favourable for the fulfilment of his life task. The powers of heart and feeling were specially developed. These were so far-reachingly spiritualised by him, that he could bring about a fully effective balance with the ever-growing tendencies towards intellectualism in his time". In the course of his life he had trouble with his right eye, and broke his right arm and his right foot.

When he was about eleven, he read on his own a three-volume history of the world. There was no-one with whom he could talk about the feelings this awakened in him. "Faint memories awoke in my soul. A period, two periods in the past history of mankind I recognised as *my* periods, in which I had been present...My own personal taste would have chosen other times and people. But the impressions remained. And though it did not fit in, in the least, with the Lutheranism I studied, from different sides it was confirmed". And a further impression came later in his time as a student, "All my love arose again, for what I had once loved". But after he was twenty-one all these impressions sank into forgetfulness, to be recalled later.

At about fourteen, he fell deeply and lastingly in love. Another lasting love which had begun quite early was for Greek civilisation. He heard about a young man, like himself the son of a Protestant minister, who had developed a burning interest in ancient Greece, and was able to impart this to others. He had looked at Christianity with Greek eyes, and at Greece with Christian eyes. With quite exceptional promise, he died at the age of fifteen. Without feeling himself worthy, Rittelmeyer longed to receive something of his mantle. So he started to read Greek literature in the original, quite independently of his work at school - all Homer, passages of Pindar and Thucydides, Plato's "Symposium". This last made the most enduring impression of all, only transcended later on by the Gospel of St. John.

Quite early, he had formed an ideal of friendship, and longed for its fulfilment. This was denied him, both at school and during his university years. He suffered very bitter disappointments - which he did not show - and resolved that if he could not *find* friends, he would try to *be* a friend, where this was wanted. Externally, his life as a student was very sociable indeed; he was chosen as "First Speaker" of a student society, with more than a hundred members; and with a small band of musically inclined students he wandered over the country (though the time of widespread enthusiasm for wandering had not yet come) singing in the villages wherever they found listeners, and spending very little indeed. In later life he drew strength for an arduous life from remembering the happiness of these expeditions.

At the universities, only a handful of professors anywhere seemed to have a glowing enthusiasm for their subject. He felt sure that it was his vocation to become a Lutheran minister, and for Luther himself he felt respect. But where were the present-day theologians who could meet the needs of the time?

Neither to his teachers nor to his fellow-students did he speak about his own

religious problems. He was not even sure that he believed in God, in a way definite enough to help anyone else. When he asked himself about the relationship between God and man, he encountered a yawning emptiness.

Outwardly, he could always more than satisfy his examiners, without committing himself to anything that rang false to him. But he saw a moment approaching, when this would become appallingly difficult - when he sought ordination. He would then be asked to make very definite statements about his beliefs, and promises that he would conform in his teaching to the traditional Lutheran doctrines. He felt that he needed time before he could face this critical moment.

And time brought help. Around his twenty-first birthday, inner and outer events brought about a great change. He found the reality of his "I"; and in this "I" the presence and guidance of God. Much later on he saw how definitely, in his own life, what Rudolf Steiner taught about the course of human individual lives through the influence of planetary spheres was confirmed. In his autobiography, written when he was approaching the age of 63, he wrote:

"Much as the human being after death passes spiritually through the entire sequence of planetary realms, thereby going through a purification; in a more hidden way the spiritual path through the forces of our planetary system is taken during life on earth. This is sometimes plainly visible in an earthly biography".

What Rittelmeyer describes here is to be found in Rudolf Steiner's work in lectures given in 1924 at Torquay. For this purpose the planetary spheres have to be thought of geocentrically, with periods of orbit increasing as we go outwards.

Planets	Periods of Earthly Life		
Moon	birth to seven		
Mercury	seven to fourteen		
Venus	fourteen to twenty-one		
Sun	21	-	28 (sentient soul)
	28	-	35 (mind-soul)
	35	-	42 (spiritual soul)
Mars	42	-	49
Jupiter	49	-	56
Saturn	56	-	63

(The relationship between the stages of soul-development and the seven-year periods were given on a number of occasions prior to 1924).

In his own life Friedrich Rittelmeyer could not trace any marked development at the age of 7. But later on the seven-year periods appeared to him more and more evident.

Between the ages of 7 and 14 he saw the living impulse towards movement, brought by Mercury, in his awakening interest in world history, and then for maps, and then for wanderings among the great writers. In the Venus time came not only a profound and long-lasting unspoken attachment, but also the encounter with Ludwig Stählin as a soul, enkindling his love for Greek poetry and for Plato's "Symposium".

At 21 there dawned for him, in the clear and gentle light of the spiritual Sun, the divine significance of the "I". He recognised that the everyday "I" is called to serve the great "I". Two writers helped him dramatically in this: Fichte in his philosophic writings, and Carlyle in "Sartor Resartus", which he received for his twenty-first birthday. Now he could trust that his long-standing intention to become a Lutheran minister could be worthily fulfilled. It would really be a "calling" though his everyday I had to suffer many agonies of self-questioning - and also enjoy some remarkable pieces of luck, in *not* being asked to do or say things he would have found impossible.

His first appointment within the ministry was as a "vicar" (not in the English sense, but a kind of subordinate minister) in Würzburg. He held this position for seven years, most of them in the sentient soul period of his life, and most of them very unhappy indeed. Later on, his nightmares were always about this period, and indeed about a particular aspect of it - the hours of religious instruction he had to give. For five days a week he had to give four successive hour-long lessons - and sometimes a further hour after lunch. "The first hour went well. And the second one, in its way. The third hour only with the greatest effort. The fourth was uniformly bad. And if there was a fifth lesson, it was thoroughly bad". It was a deep misery for him to feel that he was giving these boys, perhaps as the only religious instruction they ever had, something thoroughly inadequate. The physical limitations he carried from his childhood were inexorable - and remained so throughout his life. He had to find ways of reconciling his physical capacities and the demands of his calling as well as he could. Under the conditions imposed by his position in Würzburg this was impossible.

Nevertheless he worked very steadily to fulfil at least one of these demands - his Sunday sermon. He did not regard himself as naturally talented as a speaker; he had in fact to struggle with shyness. But his very first sermons in Nürnberg brought him a notable friend. A philosophy professor at Würzburg university came, through quite exceptional circumstances, into the church where Rittelmeyer was preaching. Through this a lasting friendship began between the young theologian and a noble philosopher who was in his depths a deeply troubled agnostic. Külpe died relatively young, before Rittelmeyer could introduce him to Rudolf Steiner, as he hoped to do. But it was not only the learned, - people of every class and age found their way into Rittelmeyer's church. And he tried to help all of them.

"Once in the school holidays I shut myself up in the church for three days, leaving it only for meal times and to sleep. There, utterly alone in the deathly stillness of the church, I studied every sentence of the coming Sunday sermon. I went into the pulpit and spoke it from there. I went down and heard it from below. I shaped the same thought for a countryman, for a university professor, for a young girl. I addressed it spiritually to the most diverse people I knew; and then I heard it again with their ears".

Many years later, if one heard Rittelmeyer speak in Stuttgart or other German towns before hundreds or sometimes thousands of people, it was possible for each one to feel: he is speaking to me! It is as if we were sitting together in some quiet room, talking calmly with mutual confidence about the deepest things. It was far away from the mood of a crowd swayed by mass emotions.

At that time Friedrich Rittelmeyer himself needed to have conversations in an atmosphere of mutual trust - about his sermons. Not to receive either praise or blame - but to speak with someone on a comparable inner path, able to understand where in his faith he was certain and confident and where he was beset by doubts. Someone who understood how even a beloved vocation could become a hell if one was utterly overburdened physically. But there was no-one yet who could understand. "I could not become I". And yet - he could sum up his experience of Würzburg, many years later, almost reluctantly: "I owe more strength to the happy hours, more insight to the hard ones".

After four years in Würzburg, he made strenuous efforts to get away. First, an application to the Bavarian authorities for a transfer. Answer: no, not yet. After a time, however, he heard that these authorities had recommended him in response to an enquiry from the minister of the German congregation in London for a suitable assistant, who might become his successor. "No captive, before whom the world opens, could feel his heart beat more happily than mine did then". Then after weeks, the news that the position had been given to someone else. Munich had simply failed to respond to a further,

decisive, letter of enquiry from London. This was the first of a whole series of catastrophic disappointments, spread over about three years. Each time he was promised that a splendid opportunity would be given to him; each time, after months of expectation, entirely without any failure or omission on his part, through factors which had nothing to do with him, the opportunity vanished. He was promised the directorship of a minister's training college in Prussia, the leadership of the German congregation in Rome, with the opportunity to build a new church there, and the position of evangelical minister in Vienna, where he was given a specially warm welcome from those most closely concerned. Great hopes - each, in turn, demolished.

One day his mother said, "Why do you want to go so far away? Why not apply for something here in Bavaria?". Not long afterwards he applied for a position in Nürnberg. The visits he dutifully made there were as discouraging as possible. And yet in the end - the city council offered him the position of afternoon preacher at a relatively unimportant church; and he accepted it. Almost at the same time Christian Geyer, who was to become a second true friend and ally, came to one of Nürnberg's chief churches; and in Nürnberg was another future friend of great significance, Michael Bauer.

And before he left a change in his personal life happened, which was to bring lasting happiness and support. He met a 16-year old girl in a friend's house, who very early in their acquaintance asked questions which led into the realm of his deepest, almost entirely unspoken, religious concerns. Three years later she became his wife, and was to accompany him with valiant selflessness through all the changes and stresses life was to bring him. She was very small, and always looked as if she would rather like to disappear; but she bore him many children, and never shrank from the consequences his decisions would bring for her and their family. And she listened with faithful, not uncritical attention to his sermons.

The task that met him in Nürnberg was very different from that in Würzburg; what happened depended very much upon his own initiative. Sunday afternoon sermons - these were his chief, almost his only obligation. That he had a great deal to do, before long, was due to two things; to the fact that people learned of his exceptional ability to help in the most difficult personal problems - and to his wonderful brotherhood in arms with Christian Geyer. It was not long before the two of them and their wives were meeting to prepare together a collection of their sermons for publication. They had been warned that no-one wanted to read sermons any more. But the event disproved this. Two such books by them were read and loved all over Germany.

Christian Geyer shared as well in many turbulent meetings in Nürnberg. Ten years older than Friedrich Rittelmeyer, he was a man of gentle and kindly humour, immensely learned but never showing off his learning; he was also a man of great courage. It was a time when anti-religious lectures, given in mass meetings, were very popular; and the two of them would attend such meetings, and in the discussion answer quietly but strongly in defence of Christian belief. They won respect and attention among the most bitterly atheistic working people of Nürnberg, most of whom would never have dreamed of entering a church.

Before he left Würzburg, on the threshold of his thirtieth year, he made a plan for the next decade. He hoped at forty to bring out a book about Jesus. To prepare himself for this he would also study the greatest opponent of Jesus, the greatest living Christian, the greatest founder of a non-Christian religion, and a great Christian of the past. And though this plan was often half forgotten, it was in the main carried out to the letter. He scandalised his superiors, and others in Nürnberg, by lecturing on Nietzsche, as a great but in many ways noble opponent. He studied, and spoke and wrote about, Tolstoy; and he was deeply touched to find that Tolstoy, not long before his death, had spoken about his

book as the most understanding work that had appeared from a German writer. As a great Christian of earlier times he chose Meister Eckhart. But he found himself defeated in his attempt to understand Buddha, though he penetrated far into the mysteries and seeming contradictions he encountered. Later he was to help Hermann Beckh, one of the most learned exponents of Oriental religion in Germany at the time, into closer contact with Rudolf Steiner - and later into the priesthood of the Christian Community.

And, sure enough, there appeared in 1912 his book on Jesus. When he had made the decision that he would try to write such a book, he had no idea at all what he would do with the rest of his life. Something new must come, and it was after finishing the book, and before its publication, that he first met Rudolf Steiner, the man who was to help him on so decisively in his journey from the understanding of Jesus to the recognition of Christ.

But first he had to meet Michael Bauer, of whom he was later to write "There are human beings who are great as statesmen, or in their learning, or as poets. But there are those too who are great, outstandingly great, simply as human beings...Such a human being was Michael Bauer".

Though their homes were quite near, they did not meet until Rittelmeyer was asked to give a lecture in another town about modern tendencies in religious life. He felt that he ought to mention the theosophical movement, to which he had never been attracted, and of which he knew hardly anything. His conscience told him that he should not say anything without more first-hand knowledge. So he wrote to the various theosophical groups in Nürnberg asking for information. What he read seemed to him to have little value. But when Michael Bauer sat before him, he could not be taken lightly. A school-teacher, not at all prominent in Nürnberg - but thoroughly at home in the world's literature, especially in philosophy and poetry. Above all, a man of profound seriousness and sincerity, of whom Rittelmeyer soon discovered that he had gone further in the meditative life than he had himself. They were the same age; otherwise Rittelmeyer's nearest friends were either considerably older or younger than himself. The delicate son of poor, stalwart country people, as a boy he had set himself difficult physical tasks to test himself, for instance jumping on the back of an angry, charging bull and holding on until he brought him to a standstill. And he wandered with gypsies westwards and eastwards beyond Germany, playing his violin. Circumstances prevented him from completing a university degree. He was boundlessly happy with children, animals, especially birds, and flowers. "When he looked at a flower, he was there with his whole being. No other duty disturbed him. The flower lived in his full love. In it he met the Creator of the world. Not behind it, but in it he sought the eye of God. And so he seemed to speak with every flower as with a personal friend". He had a small, carefully tended garden, for which people who knew him sent seeds from many countries.

Though he had had a short period of agnosticism under the influence of Haeckel, the spiritual world was generally so close to him that his meeting with Rudolf Steiner's work seems to have been something very natural, not bringing any marked change of direction, but a boundless enrichment. With Rittelmeyer it was very different. Without Michael Bauer, he might have dismissed such books as "Knowledge of the Higher Worlds" and "Occult Science" as too remote from the needs of ordinary people, and too alien to the habits of his own mind. He had to struggle for years to understand *how* these strange descriptions of spiritual things were to be taken. But he could see that Michael Bauer, who did not accept anything blindly, and tested everything, had developed great confidence in Rudolf Steiner both as an initiate and as a man. So he struggled on, feeling that if Rudolf Steiner was right, he must be one of the most significant *facts* of his time, and indeed of human history; a man who had taken a great step forward in the development of

human consciousness, far ahead of his contemporaries. Gradually this feeling became a conviction.

Between Rittelmeyer and Rudolf Steiner there also grew up a true friendship. Christian Geyer did not at once follow Rittelmeyer into the study of Anthroposophy. Always before, at the faintest sign of a disagreement between them about their work together, they had been able to cross over at once into the other's position. But after some years Geyer too became convinced of the value of Anthroposophical teaching; and supported Rittelmeyer publicly in this sense.

Rittelmeyer's meeting with Rudolf Steiner came in the middle of his "spiritual soul" period, when he was nearly 39. A few weeks before he entered his Mars period, at 42, the first World War broke out. He became absorbed to the limit of his powers in meeting the needs of those at the Front and those at home, especially the bereaved. What he said did not at first show any direct effects of his Anthroposophical study. But more and more he was sustained by what he was learning, and by the meditative practices suggested by Rudolf Steiner. His hearers might only notice that they were listening to a man with unusual certainty and conviction about the life of the human soul after death. For his own inner life it was increasingly precious to him that Rudolf Steiner had described in such detail the stages of experience through which we pass after death, and how we can be helped by the thoughts of those still living on earth.

In 1916 Rittelmeyer was called to Berlin, to preach regularly at a church in the centre of the city. It was not easy for him to leave his work in Nürnberg and the companionship of Christian Geyer. And he had to make his growing support for Rudolf Steiner and Anthroposophy absolutely clear to the authorities in Berlin. But as with Nürnberg thirteen years before, he felt the inner certainty - this is my next task. Berlin, as he knew very well, was not a religiously minded city. The clergy were for funerals; as one of his new parishioners remarked "We always have such nice Pastors at our church; thank God I have never needed any of them". Soon after arrival Rittelmeyer was warned that he would not have the same success as in Nürnberg. But in fact an overwhelming response was there almost at once, and before long the great church was filled to the last inch. Many who attended came from considerable distances, and as they began to recognise and know one another formed a warm community. The war had caused these souls pain and anxiety beyond measure; here they found new courage and the light of hope.

But during the war and the immediate post-war years in Berlin, while his powers were called upon to the uttermost, Rittelmeyer met increasingly a problem he could not solve. Religious life could not depend solely upon sermons, and the personalities of preachers; and the Lutheran form of Holy Communion seemed to him incomplete, however great the devotion and earnestness brought to it.

A few months before the Armistice, Rittelmeyer began a short holiday with two of his children in south Germany. Rock-climbing in the mountains, he dislodged a heavy rock above him, and fell some eighteen feet, injuring his head and breaking his right leg. In the following year severe headaches set in, effects of the head injury, which eventually compelled him to withdraw for a year into almost complete solitude, in a remote castle in Silesia belonging to faithful friends. Here he completed, dictating a few sentences a day, his share in a book by various hands on the life-work of Rudolf Steiner, which was published to celebrate his sixtieth birthday in 1921. When Christmas came, Rittelmeyer had to remain completely alone through the twelve holy days and nights. He spent these dwelling on aspects of Christ's being on earth and in the cosmos. "It was, and remained, the most beautiful Christmas of my life."

His health returned, within the limits which were his for life, and he was able to return to full activity in Berlin. But among circles of people, some of whom he had

brought into connection with Rudolf Steiner, far-reaching questions were stirring. Could anything be done to reverse the decline in religious life generally? Would Rudolf Steiner be willing to advise them, if they approached him with their problems? To begin with, Friedrich Rittelmeyer was not directly involved in these discussions; most of the participants were students at various German universities. The groups drew together and received an introductory course for theologians in June 1921 at Stuttgart. Rudolf Steiner showed himself breathtakingly eager to help them and give them concrete advice, going much more into detail about the practice and the necessity of ritual than they had expected. Most of them were Protestants. Rudolf Steiner urged them to bring together a much larger number of interested people in the autumn. They did not find as many as they hoped. But in the autumn course at Dornach tremendously much was given, including the actions and main text of the Act of Consecration of Man. This was a communion service in many respects parallel to the western Catholic Mass (as it had been celebrated in Latin since medieval times until quite recently), but reborn for the present and future from the spiritual world.

Full notes from this course were brought to Friedrich Rittelmeyer, who was prevented by illness from attending. And three days after his 49th birthday, that is 8th October 1921, he made the decision to cast in his lot with those who undertook the great work this course had outlined. He made it his task through the months to come to meditate each day the words of the Act of Consecration.

In his autobiography he points quite specifically to the fact that this decision came at the transition from a Mars-period to a Jupiter period in his life. Between 42 and 49 he had to comfort those stricken by the great War; and he had to fight many battles in the realm of human words, for example for greater theological liberty in the Lutheran Church, and lately in defence of Rudolf Steiner's life-work. He had used his own personal spoken and written words very effectively, and met a warm response from many. Now "the necessity of this new foundation, the ritual, and the Gospel of St. John entered into the centre of my life". It was no longer words thought out by the human earthly mind, even in its noblest forms, but the word bestowed by the wisdom of the cosmos to which his chief service was now due. Rittelmeyer's hearers and readers would now usually be much fewer than in the past. But in meditating the words of the Act of Consecration he felt the immediate presence of Christ. And to reject the task now before him, he felt clearly, would be to fight against the Will of God.

Before the Christian Community could be founded in September 1922, Rittelmeyer suffered a grievous blow. Christian Geyer had decided to join Rittelmeyer; with Emil Bock, the two experienced men and the younger man showed the promise of a very effective and natural leading group for the new Community. Christian Geyer withdrew, at the last moment. Both outwardly and inwardly this was a very great loss. Christian Geyer's attitude to the Christian Community became a detached and even critical one. But another very close Nürnberg friend, Michael Bauer, accompanied the new birth in a different way. Before going to Dornach, the group of founder-priests met by the Ammersee, a beautiful lake among the mountains in Bavaria, at the home of Margareta Morgenstern, widow of the poet Christian Morgenstern who had died in 1914. Here she nursed Michael Bauer, severely ill with tuberculosis, but able to keep very much in touch with the founder-priests preparing for Dornach together, meeting in a barn nearby. For the rest of his life Bauer could accompany Rittelmeyer's work in the Christian Community spiritually; and when he died in 1929 neither felt it as a real parting.

On September 16 Friedrich Rittelmeyer held the first Act of Consecration of Man in the South Hall of the first Goetheanum, sustained by the close attention of Rudolf Steiner, and in the presence of his fellow founder-priests, forty-five men and women, who

all received their ordination during the following days. For all of them it was as if they had shared in an outpouring of the grace of the spiritual world; something which it would take all the rest of their lives, and more, fully to comprehend.

Very few Anthroposophists, even those near at hand in Dornach, knew what was happening. On a number of occasions, during the remaining two-and-a-half years of his life, Rudolf Steiner spoke or acted in ways which would help towards an understanding of the relationship between the two living beings concerned, a relationship which could not be explained in rigid conceptions or rules. Once he compared the relationship to that of a mother, Anthroposophy, to one of her daughters. Earlier, on Michaelmas Day 1922, he spoke of the elemental beings' need for true rituals to be fulfilled on earth. On the 30th December 1922, about 24 hours before the fire began which destroyed the first Goetheanum, Rudolf Steiner spoke of the great need to distinguish the tasks of the two movements, in a very earnest mood. Such words when they reached Rittelmeyer, the actions of Rudolf Steiner, and his words to the priests themselves - all brought very profound joys and sorrows to Rittelmeyer, culminating in the moment when it was his task to fulfil the ritual of the Christian Community at the funeral of Rudolf Steiner.

For the next thirteen years, up to his own death, he bore the ultimate responsibility for all decisions about the development of the Christian Community, without being able to consult Rudolf Steiner in the physical world. The founder-priests, and those who soon joined them, were a very varied group - powerful, gifted individuals, who seemed to bring with them the heritage of many spiritual streams from the past. Differences of view often arose among them, which called for much patience. But in the fulfilment of the sacraments they were deeply united.

Rittelmeyer had no illusions about the immediate future of humanity. Once, when he spoke in the great auditorium of the newly-built Goetheanum at Dornach, he thundered out again and again "Mankind is in danger!". He wanted everyone to widen their horizons, and see their need for unity. When the Nazis obtained power in Germany, it was for him as if a choking fog ascended from the ground - just when the time had come for many to have a renewed perception of the living Christ.

By then he was well on in the Saturn period of his life. He looked back through the halls of memory, and wrote "Rudolf Steiner Enters My Life" - a wonderfully revealing, honest portrait - and "Aus meinem Leben", his autobiography. He was spared from sharing on earth in the agonies of the second World War; he died at Hamburg on March 23, 1938, having become ill on a journey on which he was in full activity.

What had been granted him as insight never failed, and shone for him beyond the gathering darkness of the immediate coming years. He had come to know, not only through his own thinking, but also through immediate experience, that the human being possesses slumbering capacities which will awaken through patient spiritual and moral development, and will lead him to the perception of an infinitely rich spiritual world, from which Christ comes to meet us in complete humanity and in divine glory; and that this meeting is the foundation for all true human communities in the future.

The photograph on page 130 is reproduced from Erwin Schüle, "Entscheidung für das Christentum der Zukunft : Friedrich Rittelmeyer - Leben und Werk". Verlag Urachhaus, Stuttgart, 1969.

HERMANN KIRCHNER, TEACHER AND ARTIST

Sarah Wakefield

In his account of Rudolf Steiner's visit to the first home for children in need of special care at Lauenstein near Jena, Albrecht Strohschein, one of the pioneers of curative education, speaks of that day as one commemorated as a founding anniversary in the movement worldwide*. The date was June 18th 1924

Hermann Kirchner, artist and educator, who dedicated his life to working with handicapped children, was born almost exactly 25 years earlier, on June 19th 1899, in Breslau, then the capital of the German province of Silesia, a cathedral city on the river Oder (now Wroclaw in Poland). It was a busy trading city, but also one of religious tradition; the mystics Angelus Silesius and Jakob Böhme had lived here. Kirchner's father had a well-patronized bookbinding workshop in the old quarter near the cathedral, the churches and the river, and many cultured people came and went. One day the director of the renowned Breslau academy of art called as a customer and, struck by young Kirchner's exceptional talent for drawing, invited the 12-year-old boy to attend evening classes there as a special concession. His mother was a Swiss, from Basle, and he grew up in happy family surroundings.

After completing his education Kirchner followed in his father's footsteps and became a master craftsman in the art of bookbinding, ultimately setting up his own workshop in Breslau. He met the lively avant-garde artists and thinkers of his generation who were active in the city, where the beauty and peace of the cathedral environs made a lasting impression on him.

However, destiny ruled that this sensitive, gentle and discriminating man would, by virtue of his age, take part in all the ferocity and terrible suffering of two World Wars. These experiences were of the deepest significance for him, and it was of them that he chose to speak in his address to colleagues and friends gathered to celebrate his 70th birthday - not of his 50 years as an educator.** He painted a picture of those times in words, a picture of history.

His parents were free-thinkers, and he entered the First World War "an atheist". He volunteered for elite regiments and the flying corps, but because of his slight build was accepted only in an infantry regiment. At first he was sent to Brussels, where he had time to get to know the museums and deepen his knowledge of art. Then into the war proper - the inferno of the Western Front, the Battle of the Marne. In one attack, of forty men in his company, only four remained alive.

He returned home in 1919 full of deep questions about the meaning of these events. One day he saw a notice for a lecture by an old teacher of his: "Life after Death". The deaths of so many of his comrades awakened in him the need to read, to understand, to attend lectures, and thus he came to meet anthroposophy. Rudolf Steiner came to speak in Breslau and Kirchner, although not a member of the Anthroposophical Society, was nevertheless allowed by Steiner to attend. His friends, students, workmen, artists, who with him had joined the breakaway youth movements of the day such as the "Wandervogel", were all looking for something new. The new ideas and ideals which Steiner brought, especially for the young people, kindled a fire in the young man's soul which lit his life.

In 1926, following a lecture, Albrecht Strohschein, who had great intuition, invited Kirchner to join him at his home for handicapped children. "You don't need to do anything, you can paint and draw and later help, as and how you like". He must have accepted that evening, for a year later when he was 28, he gave up his workshop and became a co-worker at the home founded by Strohschein with Pickert and Löffler. Karl König, later to begin the Camphill movement in Scotland, was at that time the doctor. Ita Wegman visited often to foster the new venture. An old castle in magnificent grounds had been found - Pilgramshain, where the land could be farmed by the new bio-dynamic methods. There is a description of the long wall in the vast dining room* covered by a wonderful fresco painted by Kirchner of Goethe's fairy story "The Green Snake and the Beautiful Lily"; but as we shall see, this and all other pictures of that time are lost to us.

Although harassed by the Nazi government from 1933 on, the work at Pilgramshain could continue until the Second World War began.

Called up for the Army, Kirchner refused to become an officer as a protest against the shooting of Jews which he had witnessed. This time the war led him to Russia and he was taken prisoner. The eighteen months' captivity in the Russian steppes were almost unendurable: unspeakable privations, illness, hunger, death on every hand, man's inhumanity to man. He almost died, but sent by a Russian woman doctor to hospital, on the brink of starvation, he had a spiritual experience which returned him to the living.

Nine years of his life were spent as a soldier and these years for him were of the deepest import, enduring with comrades, creating a bond of suffering with his fellow-man. At Pilgramshain, the Gestapo arrested Strohschein and other colleagues, carted away all the books, and although sparing Frau Kirchner because her husband was serving at the front, made a huge bonfire of all his hundreds of paintings and drawings, condemning them as "decadent art". So all these early works disappeared for ever. Later the Russian army, in its advance across Europe, set fire to the castle and razed it to the ground. For twenty years a living centre of anthroposophical endeavour, nothing, not even ruins, remained.

The group began their work again in the Michaelshof, an old house in the Swabian Alps, in the region of Stuttgart. When Hermann Kirchner returned from Russia, at the age of 48, he re-dedicated his life, which he felt had been given back to him, to therapeutic education and the building up of that community - together with his wife Edith, a eurythmist, and their two young sons. Many gifted people were drawn to the Michaelshof and remained for life, able to unfold their gifts and make significant contributions in the realms of music, medicine and pedagogy. Hermann Kirchner worked both as a teacher and as an artist. As is usual in curative homes, he looked after a group of boys, caring for them from the moment they got up till bedtime, sharing meals with them in the communal dining room and seeing to all their daily needs. Their rooms adjoined those of the Kirchner family, where he painted in every spare moment, and the boys could enter freely and watch him at work at his easel whenever they wished. In his white painter's overall, pipe in hand, he knew how to joke gently with these boys with exactly the right touch, whilst supervising them washing or polishing their shoes.

As well as teaching woodwork, painting and drawing in wonderfully imaginative lessons, he developed the art of form-drawing now widely used in Waldorf schools. "Dynamic drawing", as he called it, was at once a therapy and an aid to diagnosis of the problems and illnesses of children in need of special care. How did he find time to paint so many pictures, and fill the buildings which gradually arose around the first house, with original works of art, sculptures, reliefs and frescoes, so that at every turn those who lived

* Golden Blade 1958. R. S. Recollections

** Hermann Kirchner zum Gedenken (Hans Höfle).

* Hermann Kirchner zum Gedenken (Ilse Rascher)

there were surrounded by beautiful and meaningful things, giving a very special quality to the home? He also worked closely with the architects who designed the new buildings through the years.

Thirty-three years ago I myself stepped over the threshold of the Michaelshof, quite by chance I thought, and through a fortunate chain of circumstances was allowed to remain and work there for a summer. Set high in the hills of Jurassic limestone, surrounded by unspoiled countryside where oxen were still used for ploughing and the fields and woods were full of wild flowers, it was a magical place. At that time there were two houses, the "old" and the "new"; both were welcoming. Hermann Kirchner was more introverted, quiet and with what one might call a Franciscan quality about him of unassuming service. I remember attending classes he gave in form drawing twice weekly at the nearby training seminar, and how in silence he would draw a perfect circle on the board, and then forms within that in total symmetry; it looked easy but how difficult it was to do oneself! This is a kind of key image of the man, who taught truth by example.

In those days in the Europe of the early fifties everyday life was simple, almost monastic - at the Michaelshof for instance there was hot water once a week, and a cup of coffee was a luxury. There was one car for the whole community. The spiritual life was strong and here the art of healing and the creation of art could flourish; here although times changed Kirchner worked without ceasing until his death in 1978 in his 80th year.

He once showed me his paintings on an afternoon specially set aside for me. Many were quite large, and reproductions cannot do justice to the purity of the layered colour and the dynamic tension in the forms. Through dynamic line he strove to express the archetypal "gesture" of plants or animals in a non-representational way. The subjects cover a wide range of themes, all painted in what for want of a better expression I call a "two-dimensional" way, and there are echoes of Klee, Feininger, Marc and others who influenced his youth, for Kirchner was a modern and deeply interested in the contemporary artistic scene. Lithographs, line drawings, humorous sketches, also found a place in his prolific output.

My abiding memory is of seeing him one Eastertime high up on scaffolding, painting a huge fresco on a new wall: "Entry into Jerusalem", utterly absorbed in the task which required uninterrupted concentration and for which he needed every day of the Easter holiday to complete. Anthroposophy infused all he did and many of his works depict the myths of Egypt and Greece, embracing deeply meditated Christian themes; the archangel Michael appears many times. But the term "anthroposophical artist" would not have been for him - rather, I believe, he would have preferred to be known as an anthroposophist who was an artist, and he lived both to the highest degree. He was reluctant to give exhibitions, because his works were totally intertwined and integrated with his life at the Michaelshof. There is an atelier there where one may see the unique contribution he has made to the spiritual and cultural life of the 20th century - work which deserves to be more widely known.

The other work, as a curative educator, lives on in the many people who encountered him. One image may sum this up. There was a "mongol" boy who came to the home in pre-war days and lived on there to become an elderly man. Kirchner became his guardian and gave him continuing companionship in what might have become a very lonely situation. Perhaps through his wartime experiences, he achieved true "brotherliness" for his fellow-man, whoever he might be. The paintings give us hope and strength - they gladden us because they are the signature of a profoundly moral spirit.

OBSERVATIONS ON ARTISTIC CREATIVITY

Hermann Kirchner

Only when we approach a work of art in pure contemplation, without beginning at once to criticize it, do we stand on the same ground as the artist and can comprehend his seeing and thinking.

Since through the creation and contemplation of works of art whole regions of the soul are brought into activity and nourished, lack of interest for art brings about an under-nourishment of the soul. Certainly a sense for the beauty of an automobile exists, but this depends upon its appropriateness for a function, in which a pure work of art naturally does not participate. Thus the artist is regarded in quite an external way by a humanity orientated towards technology, and the picture arises of two trains proceeding side by side in which people are moving in the same direction but enter into no communication with each other.

The contemporary artist who does not only attempt to represent visible nature knows that in the process of creation the intellect only connects him with banalities. He must develop creativity from another realm of consciousness. He has to put aside that part of his consciousness which is at work throughout the day as intellect in his relationship to the external world.

A time which is not able to recognize reality in ancient stories and legends produces the basis for unbridled fantasy.

Beauty that does not grow out from ugliness is Luciferic and does not participate in the true transformation of the earth. Many artists regard it as an interference with their freedom if they are held as bearing a responsibility. Since every action has its consequences, they are only to a limited extent free. The question as to whether for a conscious human being any actions exist which do not entail any responsibility is here unnecessary.

Inner activity, which in one who contemplates a work of art must be increased to a deepened power of interpretation, is often diverted by the artist, who may convey nothing that needs interpretation, into external activity. Thus there are exhibitions which reduce our everyday experience, in its lack of spirit, still further into banality. Much thus becomes a matter of psychological statement. This is what needs to be overcome if we are to preserve a justification for our spiritual existence - but it is often placed in the foreground with great ability.

Not inborn talent but the spiritual background from which a creative artist works will be decisive for the future.

The way into the future is not an art that expresses a conception of the world but creation from an extended consciousness for which every human being is predisposed.

Since the last third of the previous century the human being has gone through a great change. New possibilities arise within him which must be developed if they are not to bring disaster. Otherwise his technical achievements will turn against him. Modern man, whether he is an artist or a technician, must become conscious of this responsibility. Both art and technology transform the earth. The decisive question is whether this or that serves the evolution of mankind.

Without being a Christian in the esoteric sense it is impossible for modern man to achieve the transformation of substance in a positive sense. We are engaged in crossing a threshold and have become transparent. Our lower nature arises of itself, our higher being has to be achieved. The question stands before us; can the artist today say anything of value for humanity if he knows nothing about the future of mankind and of the earth?

Rudolf Steiner came as an Initiate with the experience of the spiritual world to art and found in artistic work a direct continuation, in that he took further the stream of Mystery Art which had been broken off before the time of Christ and had given form to all preceding cultures. He took this up and developed it in the sign of the Spiritual Soul.

The painter creates from the powers of the outer world, the musician from within. When a painter leaves behind the external objective colours and simply uses colours in themselves, one can speak of harmonies of colour. The genius of speech there indicates a reality, for the painter there approaches the realm from which the musician creates. The more a picture approaches in its forms and colours external nature the less musicality lives in it.

The colours of an environment continually influence the mood of our soul. An easel picture leaves me free to look at it or not. It should be a subject for meditation.

Cannot bread and wine go through transubstantiation through the word and action of a priest? But the same bread and the same wine can be part of some wild orgy. Is it not the human being who by his priestly or unpriestly bearing fulfills or does not fulfill the transubstantiation? I believe that when we speak of the transformation of substances it is a question of dematerialising natural substances so that matter becomes the servant who allows spirit to become manifest.

With synthetic materials the artist has to be conscious that the original product is more dead than the products of nature. If a transformation is to be achieved here the process is much more far-reaching. Every natural stone has a greater power to inspire than a block of cement, not only through its outer form but also by its inner structure. With cement I must have my theme further developed already than with stone and wood.

As fragments are cut away during the work intermediate forms continually come into being, which bring fresh inspiration, and I reach, if I have a meditative wakefulness, ever further from a preconceived plan to statements which are spiritually creative.

Substance must inspire and at the last withdraw, having made visible that spirituality which lives in the artist.

In the mutual permeation of forms, through which nothing more appears to be in the background or partially hidden, the observer is brought onto a level on which all things permeate one another, which is not possible for things on the physical plane. He is brought from the objective 3-dimensional plane on to the plane where all things permeate each other. But this is the home of all true art.

In our time the content of a picture must move and move into a musical interval.

The cube is symmetry and absolute rest. From the moment when we draw the diagonals we have enhancement...It has become clear to me ever and again: polarity and enhancement - nothing else has a future, even in art.

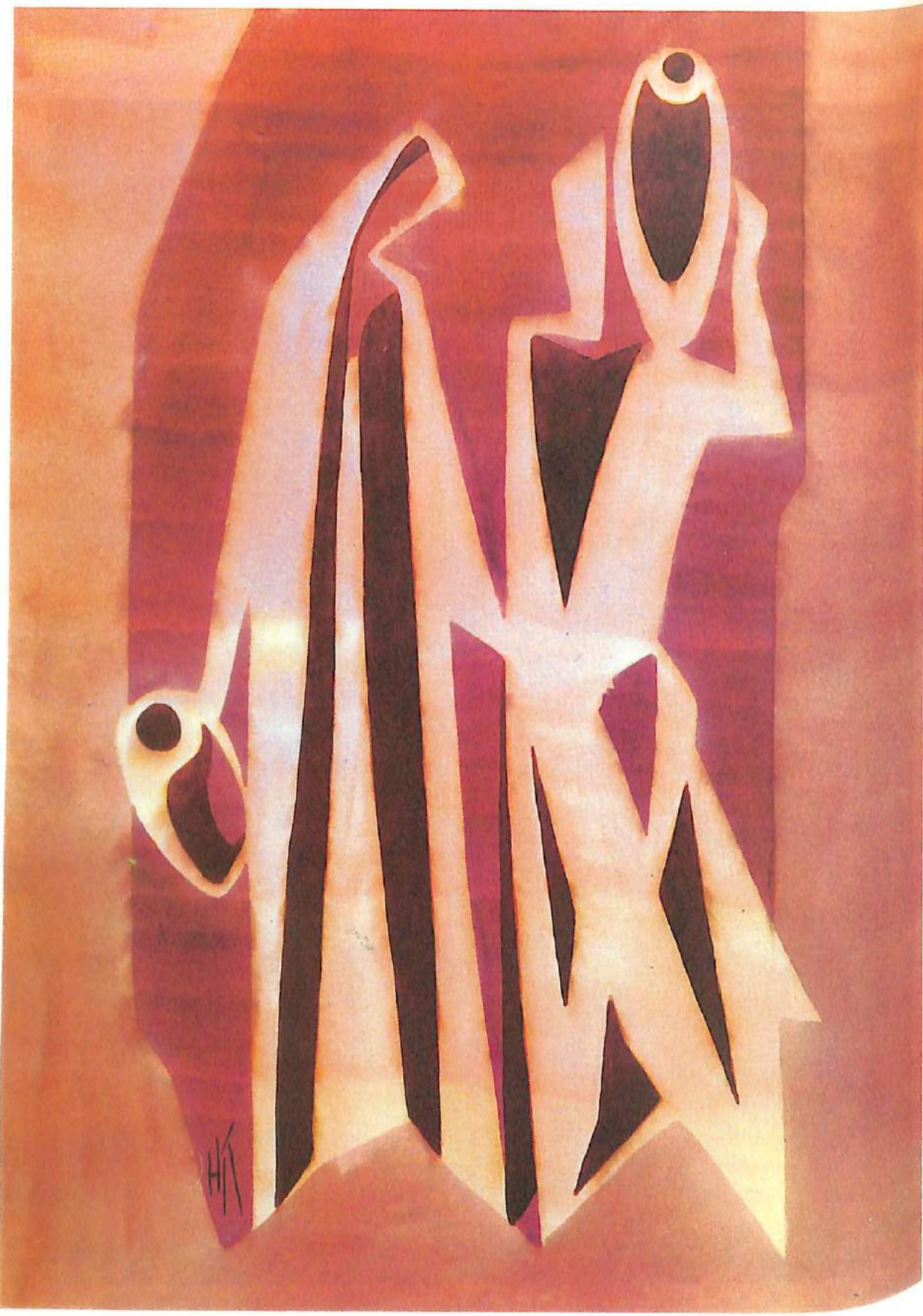




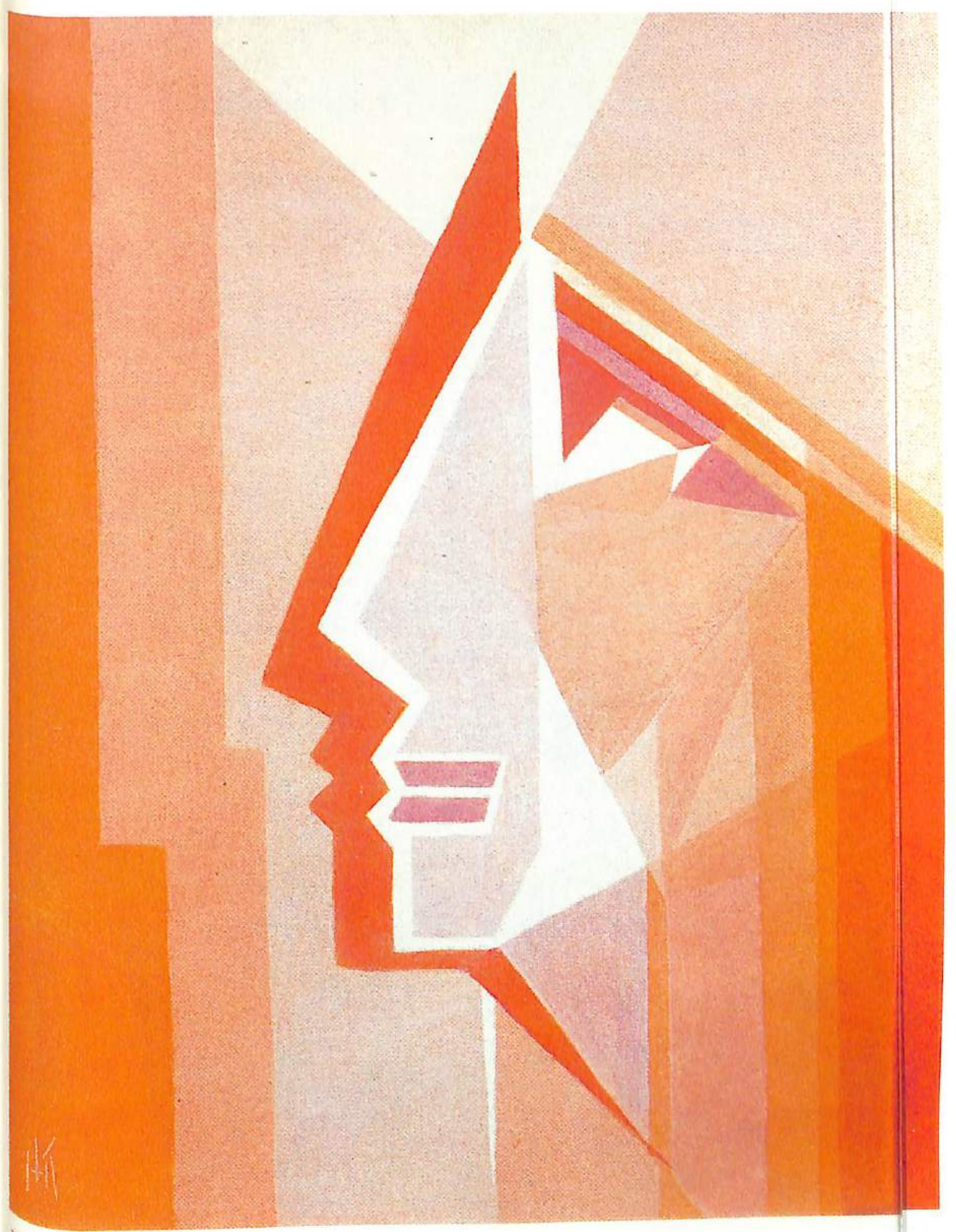
Tree in the Spring



Tree in the Mountains



Two Women with Water Vessels



Egyptian Head

BOOK REVIEWS

The Year Participated: Being Rudolf Steiner's Calendar of the Soul translated and paraphrased for an English ear by Owen Barfield. Rudolf Steiner Press, 1985.

No other work of Rudolf Steiner has been translated into English as often as the *Seelenkalender*. Partly, this is due to the difficulty of the task, but even more to the importance of the work itself. For many the *Calendar* has been the entrance to Steiner's poetical work, to meditative practice, to a lifelong endeavour to regain a participatory consciousness. It is inexhaustible. Even after fifty years' acquaintance new treasures are found, both in the individual verses and in their intricate and significant relation to each other.

For years endeavours were made to translate these 52 verses as faithfully and literally as was compatible with the English language. Among those translations the present reviewer relied for many years gratefully on the co-operative work of Ernst Lehrs and Jesse Darrell. But did Steiner want literalness?

He wanted courage. He wanted to kindle us to become ourselves, creative and autonomous. George Adams heard him say that the proper way of translating was to dissolve the original sentence completely, go back to the moment before thought became verbalized and then articulate anew this thought out of the genius of the other language. This is consonant with the modern insight into the being of language that the smallest *natural* unit in the flow of language is the sentence, within which each word helps to define the meaning of all the others.

Cecil Harwood was the first who had the courage to publish such a re-creation of the *Calendar*. Owen Barfield, his lifelong friend, has now gone further in the same direction. He has re-created for an English ear Steiner's sensitivities and insights, dissolving completely the German word pattern and its musical values, and giving us instead in an entirely new garment, gem-like, crystalline, yet immensely alive, the totality of what Steiner wished to express, both conceptually and by implication. To test the degree of Barfield's achievement the present reviewer opened *The Year Participated* at random. His glance fell on verse 33. He recalled the German original word by word, emotion by emotion. Each concept, each image, each implication could be found again, not necessarily word by word, not even line by line. A new totality was found, equal to Steiner's and shedding new light on the original.

There is, however, one aspect where comparison is impossible, the musical impact of the words, English or German. Steiner was able to shape his verses so that they exercised a definite appeal to our subconsciousness. This constitutes the magical, mantric effect of these verses which in relation to Eastern mantras is, however, comparatively small. Barfield, of course, cannot re-create these values, but uses the imponderables of the English language so that we experience the shock which any true work of art exercises on the sensitive respondent. Such a shock awakens the reader or listener, propels him out of the 'given' every-day world and renders him open and sensitive to new possibilities, never imagined before. To achieve this end Barfield uses a most expressive vocabulary and unusual word patterns. The present reviewer felt particularly challenged by the unfashionable traces of rhyme, though on a smaller scale these are found in the original as well.

Those English speakers who cannot do their meditations in German are given by



Cathedral Precinct

Barfield an authentic and deeply stirring approach to the meditative year. Those who attempt to do their meditations in German will in their preparation continue to be helped by older, literal translations. But they too will be - as indeed some native German speakers are - filled with gratitude for Barfield not only for his spiritual courage and artistic creativity, but also for the many helpful intimations which this paraphrase provides. Equally we are indebted to him for his concise and very illuminating introduction.

It ought to be added that as printed verse 8 is meaningless and needs to be corrected. The fourth line should read: 'If Life divine would with my soul unite' and the following line should be deleted in its entirety.

R. Lissau

Joachim Schultz, *Movement and Rhythms of the Stars*. Guide to Naked-Eye Observation of Sun, Moon and Planets. Edited by Suso Vetter and John Meeks; translated by John Meeks. Floris Books, Anthroposophic Press, 1986. 239 p., £14.95.

Norman Davidson, *Astronomy and the Imagination*. A New Approach to Man's Experience of the Stars. Routledge & Kegan Paul, 1985. 237 p., £12.95; Paperback £5.95.

For many years teachers and students of astronomy have felt keenly the lack of a clear and non-theoretical book on those "appearances" in the sky which professional astronomers seem so intent on saving. It is a curious fact that astronomy today has become such a theoretical science, that one can no longer take for granted that an astronomer can point out the constellations, or tell where Mars is in the sky. This does not mean that an earth-centred approach must be simplistic. The lunar and planetary movements as seen from our "limited" earthly vantage point are certainly no less complex than those calculated for a heliocentric system. Indeed, anyone familiar with the dynamic symmetry of the planetary loops as seen from the earth, will feel a loss when they are reduced to the clockwork simplicity of a sun-centred system. This "organic" quality of the planetary phenomena may not appeal to a reductionistic approach. But the question invariably lingers, whether in abandoning our earthbound viewpoint we do not also sacrifice the most essential thing - namely the *life* of the cosmos.

It is quite natural that wherever a practical approach to the stars has been needed - as for instance in navigation, in astrology and in research into cosmic influences in the plant world - everything must be based on a geocentric approach. And yet we have been flooded with literature which soars into the loftiest realms of speculation on the birth and death of stars, the evolution of galaxies and the nature of quasars, while the intricate and beautiful subtleties of the homely "phenomena" have tended to be dismissed as unworthy of closer consideration. This has no doubt contributed greatly towards widening the gulf between "pure science" and practical life. It has also deprived those who wish to work with the stars in a practical way of an essential source of renewal.

Now, within about a year of each other, two superb books have appeared which help to close this gap. The long-expected and long-delayed translation of Schultz' *Movement and Rhythms of the Stars* is the more concentratedly scientific of the two. It is the work of a man who was equally at home with plants and with the stars, and who dedicated many

years to painstaking research on the influences of the constellations on plant growth. His lucid introduction to the phenomena of the sky seems especially suited as a companion for all those who wish to engage in similar research, or would simply like to apply a knowledge of the stars to gardening or some other practical activity. Each chapter is presented in great factual detail, and yet the reader may well feel that he is given more questions than answers - questions which lead beyond observation and thinking into the first flickerings of true imagination. One senses how discretely the author refrains from verbalizing in this realm, and leaves his reader free to explore it on his own.

This particular dimension of astronomy is taken up by Norman Davidson. In his lively, readable book we are led from the findings of naked-eye observation right up to the frontiers of imagination. At times there is even a fleeting glimpse of what lies immediately beyond this frontier. These glimpses are numerous, but so brief that the reader must be alert to catch and ponder them.

Throughout the text Davidson demands of his reader an agile sense of observation, imaginative visualization, and precise reflection on his description of phenomena we may all experience (weather and city lights permitting!). Leading us through a forest of facts, he hints at the grand mythology behind and within this awe-inspiring world of the stars. The numerous diagrams in his book are not quite so elegant and detailed as those of Schultz. But this is, perhaps, in keeping with his whole style, which would only just indicate and stimulate, rather than spell everything out.

Although they cover much common ground, these two books are so different that they seem to complement each other far more than to compete. Many will find themselves more at home in one than in the other, but it is greatly to be hoped that many others will solve the agony of decision by purchasing, reading and enjoying them both.

M.B. & J.M.

Jochen Bockemühl, *Dying Forests - A Crisis in Consciousness*. 46 colour illustrations by the author; introduced by Brian Goodwin. Social Ecology Series. £8.95.

The search for the causes of our dying forests is a long and arduous one. When the problem first received wide publicity, it still seemed possible to identify a single culprit, and so the hope could be sustained of finding a solution by advancing on a single front. But continued research has demonstrated that we are dealing with a whole web of causes which involve many aspects of our modern technology. It is becoming ever clearer that our whole way of life and our attitude to nature must change. Only so can our self-imposed restrictions have any lasting impact.

Jochen Bockemühl's contribution to this theme is unusual, in that he refrains from offering yet another analysis of the symptoms and their possible causes. Paradoxically, it is just this analytical tendency of modern science in which he sees the major and ultimate source of the problem. His book seeks to show how all destruction to the environment has its origin in a certain quality and gesture of human thinking. What unconscious thoughts and intentions come to expression in a landscape? What do we experience wandering through a fairly natural oak and beech woodland, the sunlight playing in the crowns and on the mottled floor with its rich carpet of herbs - when our path plunges us suddenly into the dismal shade of a monoculture spruce plantation, the trees all of the

same age, standing in rows, and with almost nothing growing beneath them? We do not have to look for the fatal symptoms of yellowing needles or premature seed-production to feel that the forest is sick, that a single part of the great organism of nature has been isolated and deprived of its living connection to the whole.

The author leads us pictorially through many landscapes, both damaged and intact, trying always to awaken a new way of seeing what is most familiar. This means to develop a new eye for what is healthy and beautiful around us, to learn to distinguish between the true diversity of a rich and ancient wildflower meadow and the green monotony of a modern pasture which many people *call* beautiful without quite knowing why there is still an underlying feeling of dissatisfaction.

The book - which was originally published as a catalogue to an exhibition at the Goetheanum in Dornach, Switzerland - is abundantly illustrated with the author's pastel impressions of landscapes. The texts and descriptions are brief and condensed, but they are well composed into a clear and consequent path through the subject. It is an attractive but not a comfortable book, for it challenges the whole way of life which has led inexorably to the ecological crisis. In a time when these problems are usually approached through the study of hidden or "occult" influences, such as radiation, acid rain or the effects of electromagnetic fields on atmospheric chemistry, Bockemühl offers a valuable "alternative" for the general reader by directing his attention to the visible world of phenomena. And so we are led back from the uncanny world of an "invisible evil" to the wholeness of nature. Here we discover new possibilities of engagement and new hope for the future. One can only wish this book particular success in England, where the problem of dying trees has not yet become quite so acute as in many parts of the continent, and correspondingly, is not yet such a burning issue for the general public.

FROM THE GERMAN BOOKSHELF

The following contribution is intended to give our readers a brief glimpse into the vast and rich world of German publications related to anthroposophy.

Hermann Ehret, *Immanuel Hermann Fichte. Ein Denker gegen seine Zeit*. 264 pp., with 35 illustrations. Verlag Freies Geistesleben, Stuttgart, 1987. Cloth, DM 58,-.

Ekkehard Meffert, *C. G. Carus. Sein Leben - seine Anschauung von der Erde. C. G. Carus, Zwölf Briefe über das Erdleben*. Verlag Freies Geistesleben, Stuttgart, 1986. 2 vols., with numerous illustrations, some in colour. Cloth, ca. 200 and 250 pp. Together, DM 68,-.

On numerous occasions Rudolf Steiner referred to philosophers, scientists and writers of the nineteenth century whose lives and work were undeservedly forgotten. Their writings, "discarded" by posterity, might have changed the course of history, had they received due recognition. For the most part, they felt themselves to be working in the spirit of Goethe or of the German idealistic philosophers Hegel, Schelling and Fichte. But the advance of materialistic science, and its impact on the whole of European civilization, made their work unfashionable. It was no longer in the mainstream of culture, and so was left behind, unnoticed and disregarded by those who carried forward the banner of "progress".

In recent years, many of these works have been rediscovered and met with a new appreciation within the anthroposophical movement. The two publications mentioned above deserve special mention in view of their attractive format, which is certain to give them a wide appeal.

Immanuel Hermann Fichte (1796 - 1879), the son of the well-known philosopher Johann Gottlieb Fichte, was the foremost representative of a philosophical movement known as "Speculative Theism". Because this name is likely to be rather off-putting today, it needs some clarification. In the words of the Fichte-scholar Hermann Ehret, "it was the conviction of the speculative theists that with the death of Hegel (1831) an epoch came to an end, which had begun in ancient Greece, perhaps even in ancient India. In Hegel philosophy had attained such an abstract, though historically necessary summit, that it could proceed no further. In the sphere of natural science, a similar end-point had been attained in materialism, which should not be carried further. The immediate task was to connect these two extremes and to bring them to mutual fruition, by studying nature from the perspective of the spirit, and the spirit from the perspective of nature. Thus the age-old gulf between the sciences and the humanities might be overcome. For this reason, I. H. Fichte wished to be regarded as a 'scientist of the spirit'".

Despite its undeniable roots in German Idealism, it is illuminating to learn that this movement was by no means confined to Germany. It was European in scope, and was well represented in the Slavic countries. Of the Czech philosopher Augustin Smetana, the author comments: "His representation of the universe extends to the three pre-earthly planetary conditions, and two post-earthly conditions".

The task of philosophy, as Fichte understands it, is to awaken the human being to an awareness of his spiritual calling, and to guide him through a schooling of the thinking, on a path of inner development. At the summit of this path lies not the security of knowledge, but the inner certainty of experience. The following passage from Fichte's *Psychologie* may give some impression of the character of this experience:

"As the poets of old proclaimed in exalted words, drawing their certainty from inner sources, the human spirit is of the lineage of the gods, and so is receptive to divine inspiration. And indeed, as thorough psychological research testifies, this is true not insofar as he belongs to a group, but insofar as he achieves the expression of what is concretely personal and unique, in short, what we call *genius*. This is the highest and at once the most inspiring insight which man can gain about himself, the deepest result of his self-knowledge. Whoever has become aware of this inner eternity, this participation in the divine, for him the riddle of life is solved, and he has done justice to the deep yearning which never left him in the midst of the life of the senses, in the stream of time. *He has overcome time, by awakening in its midst the sources of the eternal in himself.*" (p. 218).

Carl Gustav Carus (1789 - 1869) could be seen as one of the great forerunners of the science of ecology. One of the last men of universal talents, equally gifted as an artist and a scientist, Carus sought everywhere for parallels between the life of the earth and the life of the cosmos as a whole. He developed a new approach to landscape painting. Although many of his works are tinged with romantic melancholy in the tradition of his friend Caspar David Friedrich, in others he seems to forget the yearning of the human soul which feels estranged from nature and longs for re-union. In such pictures something of the inner gesture or physiognomy of the landscape comes to expression. Carus wanted them to be known as "earth-life paintings", rather than "landscape paintings". Two of

these are reproduced in this issue of the *Golden Blade* in the article on the "Evolution of Trees".

As a physician, Carus was able to give substance and subtlety to the concept of the earth as a living organism. Rudolf Steiner specifically recommended the study of his *Twelve Letters on the Life of the Earth* to Waldorf teachers, as a "spiritually orientated description of the inherent life of the earth and the cosmos". But it is not only their factual content - much of which is outdated - which gives these letters their value. They could well be read as a schooling in living, organic thinking. One notices that it is not enough to draw grandiose parallels between macrocosm and microcosm - the thinking itself must become alive if it is to penetrate the secrets of life. Like Goethe, Carus seeks to discover the working of polarities in nature, and their dynamic interpenetration in the phenomena. So, in the life of the surrounding cosmos, he refers to the fundamental polarity of the star or sun which radiates light, and the planet which receives and transforms it. Rather than think of the "void" of space uniformly filled with the invisible light of the Sun, he imagines our solar system permeated by "columns of light" which connect the Sun to the various planets.

"Thus the universe must be imagined as being transversed by limitless columns of light, which, like etheric nerves, become the bonds of a common, all-pervading life. And so we find that the pulsations of the celestial bodies in their infinite combinations, like the tones of a rich symphony, are always governed by regular and eternal laws. In the light of this discovery, the ancient legend of the harmony of the spheres takes on a higher significance, and no longer seems just a product of poetical fantasy." (p. 111).

In his article on "The Alchemical Tree" in this issue, John Lash speaks of the marriage between Goethean science and the "nature mysticism" of the Romantics as a task and a challenge to modern ecological science. For all who recognize the reality and the importance of this task, the life and work of Carus can be a guide and an inspiration.

J.M.

THE WEATHER PAINTINGS OF HELMUT SIBER

What will be their Future?

Helmut Siber's watercolour studies of clouds and weather phenomena will be familiar to many readers from the 1987 issue of *The Golden Blade*, which contains 8 colour reproductions and several relevant articles. These paintings seldom fail to make an impact on anyone meeting them for the first time. One recognises immediately that they are the works of a true master in the art of watercolour - yet they are at the same time works of science, permeated by a devotion and faithfulness to the phenomena of weather which has made them of great interest in circles of professional meteorologists. It would surely be true to say that they represent a unique contribution to the practise of Goetheanistic observation.

Siber himself shared this view. He did not only want his paintings to be looked at and "appreciated". He wanted them to stimulate others to look at the weather, and even try their hand at painting it. He saw its value as a means of re-connecting with the most powerful of natural forces, from which modern man has become almost completely alienated. Like Carl Gustav Carus with his "earth-life" paintings, Siber hoped that his weather studies would awaken a recognition of the earth as a living organism, whose life is dependent on the most delicate inter-relationships.

During Siber's lifetime his work remained very little known. Judging by the enthusiastic reception which the *Golden Blade* articles received, the time seems ripe for further publications and exhibitions. A first step has been taken by producing an attractive reprint of last years' articles in a limited edition of fewer than 400 copies. It is hoped that this will help prepare the way for a richly-illustrated book on Siber's life and work in the near future.

A second step involves the acquisition and framing of the major part of his surviving work which is not already in private hands. A few of our readers, whom we wish to thank very warmly, have already donated to the Helmut Siber Fund which has been set up for this purpose. At present, we are extremely hopeful that the donations already received will allow us to secure the entire collection, which will be divided up among different anthroposophical institutions in North America and Europe (including Britain), where they will be available for study and exhibition.

We will, however, be facing very considerable expenses in framing costs. Even assuming that we can have this work done at considerably less than the usual professional cost, while not sacrificing museum quality, we still need to collect around £5,000. Only if this second phase of our appeal succeeds, will it be possible for the pictures to be exhibited. We are fully aware of the difficulties we now face. It is far easier to appeal to "save the pictures" than to frame them. We are therefore exploring different ways of approaching this problem.

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One way of helping is to be "godparent" to a picture. This means that you pay to have one of the pictures framed, which entitles you to keep the picture in your home for a period of two years. After this, you can continue to keep it for a limited time by paying a small annual rent. This possibility is open both to individuals and to institutions.

Alternatively, you may simply wish to make a contribution to the Helmut Siber Fund, specifying its purpose. Donations for Great Britain are being collected by Hermes Trust. Cheques should be made payable to Hermes Trust and sent to:

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NOTES AND ACKNOWLEDGEMENTS

The lecture by Rudolf Steiner in this issue is reprinted from the *Golden Blade* 1967 where it appeared by kind permission of the Rudolf Steiner Nachlassverwaltung. The verses "Easter" and "Sun and Heart" are from *Wahrspruchworte* (Gesamtausgabe 40) pages 173 and 178. "Easter" describes how the pupils of the Ephesian Mysteries came to understand how the human gathers together, before the birth of the physical body, the elements which constitute the etheric body, the gifts of the planetary individualities. "Sun and Heart" was found in one of Rudolf Steiner's notebooks; it was written in November 1924, during his last illness, which lasted from September 29th to his death on March 30th, 1925.

Of the two kinds of translation described by Dr. Lissau in his review of "The Year Participated", those given here (by A.B.) belong to the more literal sort.

John Meeks has been on the teaching staff of Emerson College, Forest Row, since 1977, where he has special responsibility for the Foundation Year (general anthroposophical) Course, for Goethean scientific studies, and for astronomy. During this time, he and his wife, a eurythmist trained in Dornach, have made a number of substantial contributions to the *Golden Blade*, and he has been one of its editors since 1984.

Michael Brinch is a eurythmy student at Copenhagen.

Glenda Monasch is a teacher of eurythmy, trained in Dornach, now working in the vicinity of her home in Forest Row, having since 1984 until recently been an active member of a stage group, the Ashdown Eurythmy Group, touring in Europe and Britain.

Markus Wülfing is a philosophy student at Sussex University. Earlier he took the Foundation Year and Education Year at Emerson College, having previously studied at Heidelberg. His interest in Greek philosophy has been one of the strongest elements in his life since he was sixteen.

Johannes Hemleben spent the working years of his life as a priest of the Christian Community, writer and lecturer. In all these capacities he was outstandingly effective and influential. His work as a priest was particularly in Hamburg, and North Germany in general. His writings often concerned the meeting-ground of science and religion. His paper-back biography of Rudolf Steiner has sold more than 120,000 copies, and has been translated into English. "Seven Trees and Seven Planets" is taken from one of his early books *Symbole der Schöpfung* (1931).

Helene Aurell is completing her sculpture training at Emerson College.

Gertraud Goodwin teaches drawing and sculpture at the Tobias School of Art, East Grinstead.

Axel Ewald teaches sculpture at Emerson College.

Mark Riegner has a degree in ecology and works as a free-lance writer, living near New York. He is profoundly concerned with the protection of the bio-sphere, with the help of a Goethean vision of natural phenomena.

Lawrence Edwards taught mathematics for many years to the senior classes at the Rudolf Steiner School in Edinburgh; he is a pioneer in the use of projective geometry in the study of living forms, particularly in the plant and human being.

Iris Pfennig and Georg Wilhelm Schmidt are carrying further the work of the Association for Plant Breeding (Verein für Pflanzenzucht) founded in 1963 by Martin Schmidt. Like all true research, this work belongs to the free cultural life, and therefore cannot be supported solely from the sale of plants and seeds. The Association is financed by donations from its members and friends. The recent expansion of the work necessitated a move from Allgäu to Rittershain, Hessen, in 1986. This has meant that the work can no longer be carried out of the resources available up to now. Its continuation depends on finding a growing circle of supporters. Information on ways to contribute can be supplied by writing to the Verein für Pflanzenzucht, Rittershain, D-6441 Cornberg-Bebra, West Germany.

John Lash is the founder and director of the Institute for Creative Mythology in Santa Fe, New Mexico. The Institute is dedicated to "higher education" in esoteric disciplines and the dissemination of contemporary occult knowledge. Its purpose is to use Myth as a bridge from the consciousness soul to its successive stage, the spirit-self - following up indications originally given in the "magic idealism" of Novalis. Institute for Creative Mythology, 102 West San Francisco Street, Suite 7 - 10, Santa Fe, New Mexico, 87501 USA.

Adam Bittleston has worked as a priest since 1935, principally in Edinburgh, and came to Forest Row in 1969, to participate in the training of priests, and to share in Foundation Year teaching at Emerson College. Increasing disabilities have obliged him to be semi-retired in recent years. He has contributed many articles to the Golden Blade since its first issue, and has been one of its editors for some seventeen years. His books include "Meditative Prayers for Today", "Our Spiritual Companions", and "Loneliness".

Sarah Wakefield has been, for more years than she can precisely remember - about fifteen years - a member of the editorial board and secretary of the journal "Child and Man". During this time it has grown into far the most widely circulated anthroposophical journal in the English language. Her own experience as a teacher has been both with children needing special care and in non-specialist schools.

Hermann Kirchner's "Observations" and the reproductions of his paintings are taken from "Hermann Kirchner: Leben und Werk", Verlag Freies Geistesleben, by kind permission of the publishers.

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Maxene Hewitt

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Though she suffers, she does not dwell in a self-indulgent way on her suffering. On the contrary, we are aware of her love for life, her family, nature, and her growing consciousness of a spirit world apart. She paints a clear picture of her childhood, her career and how she must adapt to life.

In recurring dreams, a lion represents her fear of disaster, a giant her fear of death. In the last chapters of the book when her death is truly imminent, she finally conquers these fears, and the images leave her dreams.

Maxene's approaching death leads her thoughts to the life of Christ, and one of her last perceptions is of the archetypal pattern of the life of Christ

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Loneliness

Adam Bittleston

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Bittleston brings many examples from history, literature, mythology, and the Gospels, to show that in the struggle with loneliness universal experiences can be found. Ultimately our desire for a feeling of 'oneness' with others is a deep longing to be reunited with our spiritual origin, and to find a direct experience of Christ. Some present-day descriptions of such experiences are quoted.

The author concludes with suggestions of steps which can be taken by everyone to begin to transform loneliness.

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Caring for the Sick at Home

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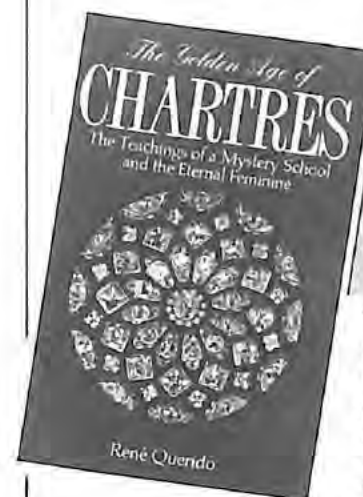
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René Querido

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Querido focusses on the best-known teachers, first on Fulbertus who built the cathedral, and on the placement and symbolism of the statues and images.

Bernardus Silvestris depicts the creation and unity of the world. John of Salisbury, friend of Thomas à Becket, brings his Seven Keys for the fusing of Christianity and Platonism. As interest in the outer world awakens by way of Aristotle, a modern path of fulfilment opens for western man between monastic seclusion and being overpowered by the material world. The working together of Platonist and Aristotelian influences concludes the book.

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The study of trees, wells and stones in the lives of the patriarchs Abraham, Isaac, and Jacob, shows Frieling's attention to details of the text, and brings the imagery of the stories alive. The book concludes with the transition from sabbath to Sunday.

Throughout, the movement towards Christ's incarnation and deed of redemption is never long out of sight, and the ancient texts are given relevance for modern life.

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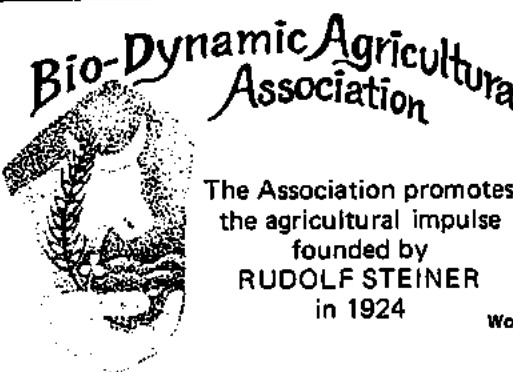
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