

Articles by Adam McLean

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Kabbalistic Cosmology and its parallels in the 'Big-Bang' of Modern Physics

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In earlier articles I have tried to point out the links between hermetic and alchemical ideas and the developing current of thought in modern physics and cosmology. In this present piece I would like to pursue the strange parallels between the late 16th century reformation of kabbalistic cosmology that arose through the insights of Isaac Luria, and the recent reformulation of the 'big-bang' into the so-called 'inflationary model' of cosmic creation. Although the formulation of these two cosmologies was separated by some 400 years, we can recognise that they addressed the same problem, that of the emanation of the cosmos out of nothing.

Before Luria the main stream of kabbalistic ideas arose from the centres in Spain. From the Gerona school emerged the main statement of ideas on the sephiroth, while Moses de Leon put together the Zoharatic writings. This stream of mystical cosmology arose out of intuitive perceptions, and the writings of this period tend to be obscure and clouded in allusion rather than being deeply argued philosophical works. They derived their authority by appealing to interpretation of hidden wisdom in the canonical books of the Jewish tradition, the Pentateuch and Torah, rather than consistent argument. Thus, during this period it was assumed that the sephiroth and the layers, strata or worlds that made up the cosmos, emanated in some way directly from the Ein-Sof – the limitless being of the deity. There were, however, certain philosophical and theological contradictions in this simplistic emanation that were glossed over by the earlier kabbalists until Luria faced up to these problems, restructured the cosmology and resolved many of these paradoxes.

Similarly, the earliest formulation of the 'big-bang' theory (first named in this way by astronomer Fred Hoyle in 1950) which pictured the universe as emerging or emanating from a single cosmic event, was flawed. If one followed its mathematical descriptions fully through to their conclusions it described states of affairs that did not correspond to reality. In particular it could not adequately account for the uniformity of the cosmos, the formation of galaxies, or the fact that the universe seems to be composed of matter rather than anti-matter. Cosmologists, however, clung to this model out of conviction, pushing its paradoxes to the back of their minds, and hoping that its problems would eventually be sorted out. Much of these contradictions were resolved by the 'inflationary scenario' devised by Alan Guth in 1979.

I am not here suggesting that Luria foresaw the problems of twentieth century physics, or that cosmologists and fundamental physicists are secretly adept in obscure areas of kabbalah, however, it seems that the Lurianic kabbalists and the modern-day researchers of Creation were approaching the same cosmological problem, though using different sets of ideas. What these parallels do reveal is the way in which the human mind formulates and pictures an event as vast and awesome as the creation of the cosmos. The simplistic archetype of the cosmos emerging from a single source or event, in a straightforward way, does not satisfy the patterning of our minds and both these cosmologies found ways of introducing a 'falling into matter' which harmoniously touches some archetype within our being.

Let us look at both of these cosmic pictures, beginning with the kabbalistic cosmology of Isaac Luria.

Lurianic Cosmology

Luria's cosmos is not an abstract static one, but the world for him emanated out of a dynamic interplay of archetypal forces. In this way he departs from the cold rigidity of the earlier kabbalistic schemes. Our present world has arisen out of three great dramatic cosmic events—the Simsum, or contraction of God, the Shebirah, or breaking of the vessels, and the Tikkun, the reconstruction or rectification.

Before the Simsum, the various powers of the Ein-Sof or Infinite God, were harmoniously balanced and could not be separated from one another. These aspects were the opposing forces of Compassion (Rahamim) and Stern Judgement (Din), bound together in light. At the beginning of existence, the Ein-Sof withdrew into itself, creating an empty space (the Tehiru or vacuum), within which the forces of Din began to take on an independent life. This deeper concealment, or contraction of the Ein-Sof, thus resulted in a purging of the harsh dross which contained all elements of potential evil from the being of God. The empty space thus contained the forces of Din and a remnant, the Reshimu, or impression of the the Divine Light.

At this point the Ein-Sof emanated a ray, the kab ha-middah or "cosmic measure", which is represented in the first letter of the Tetragrammaton, Yod. This ray penetrated the tehiru and worked to organise the opposing forces that now filled this space, and brought into manifestation the Primordial Man, the Adam Kadmon. This is the first and highest of the Partzufim or Archetypal Persons that appear in Luria's scheme. At this point the four Worlds (Atziluth, Beriah, Yetzirah and Assiah) had yet to be emanated, thus Adam Kadmon essentially lives in a fifth and higher spiritual realm of existence. However, this fifth world contained four levels, which were described by the four expansions of the Tetragrammaton (AB=72, SG=63, MH=45 and BG=52), which appear often in kabbalistic numerology.

Initially Adam Kadmon did not have the form of a man, but appears as a set of ten concentric circles, the outer circle remaining in close contact with the Ein-Sof. These ten Sephiroth eventually reorganised themselves into the linear form of the human body. From the head and eyes of this Primordial figure bright light poured forth. This light was gathered and held by the vessels (Kelim) of the Sephiroth. These vessels, the primitive ten Sephiroth, could only receive God, they could not in any sense resemble the giving, creating power of the Ein-Sof. In this sense the vessels were incomplete and could not hold the light.

The vessels of the upper three Sephiroth Kether, Hokmah and Binah at first performed well in the task of holding the light, but when the light poured down through the lower vessels, from Hesed through Yesod, these six lower vessels shattered and were dispersed into the chaotic void of the tehiru. This was the Shebirat-ha-kelim, "the breaking of the vessels". The original vessels were in what is now the world of Atziluth, but when the light from above penetrated the Sephira Malkuth, this shattered into 288 sparks which failed to return to the primordial source but instead fell through the worlds, and became attached and trapped in the broken fragments of the vessels which formed the kelipoth, the "shells" or "husks". These husks became the evil forces of the Sitra Ahra, the "other" or "under" world, preventing the return of the sparks of divine light to its source. Thus the light or energy of creation "fell into matter". The next stage in the cosmic process, and the one in which we are ourselves living, is that of the Tikkun, the period in which processes of restoration and repair must be undertaken. The primary medium for this restoration is the light that continued to emanate from the eyes of Adam Kadmon. This light now became refashioned into a series of emanations known as the Partzufim or Archetypal Persons which restore order to the chaos of the Shebirah.

The Sephira Kether is reshaped into the Arikh Anpin, the "long-face" or Greater Countenance of the Ein-Sof, also named Attik Kaddisha (or Attik Anpin), "The Holy Ancient One". Hokmah and Binah form the two archetypal figures, the Partzufim Abba ("Father") and Imma ("Mother"), respectively. A fourth Partzuf is formed from the six lower Sephiroth, from Hesed to Yesod, and is known as Zeir Anpin ("the Lesser Countenance or face of the Divine"). A final Partzuf is formed round Malkuth, the Nukba de-Zeir ("the female companion to Zeir"), also known as Rachel-Leah.

Abba and Imma remain in a constant state of union (like the Shakti and Shakta in Hindu cosmology), and from this union is born Zeir. Similarly Zeir Anpin and the Rachel-Leah Partzuf, are joined in an eternal state of married union.

In Luria's scheme the Biblical Adam had the task of reintegrating the divine sparks as his being contained all of the various worlds, his body being a perfect microcosm of Adam Kadmon. Adam should have separated the divine sparks from the husks and restored them to the light of the divine. Adam of course failed in his cosmic task, and this responsibility has now been passed on to all humanity. It is the task of humanity to find the sparks of the spirit buried in the husks of the material world and and raise these sparks to their divine source. How this is achieved through spiritual exercises is a major part of Luria's Kabbalistic practice, but it takes us beyond the scope of this article.

Luria thus images creation as an exile of the sparks of light, and a parallel is drawn with the diaspora of the Jewish people. The Partzufim Abba and Imma in the world of Atziluth are the source of Israel Sabha, "The Ancient Primordial Israel", that exists on a spiritual level.

The core problem of the pre-Lurianic emanationist cosmology was that if God the Ein-Sof was perfect and limitless in his being, then what emanated from Him had to be itself perfect, and in a sense such an emanation was merely God revealing Himself rather than an act of creating a universe from which he could stand outside and apart. One of the central ideas of Judaism was that God stood outside and apart from the created world, a 'hidden God'. If God directly emanated the universe then clearly He was in the Universe and bounded by the universe. In order that something non-divine and finite should come about, it was necessary that there was a radical break in the process of emanation, a dilug or Kefitzah ("leap" or "jump"). Thus to address this philosophical problem there arose the Lurianic doctrine of the Simsum, the withdrawal, concentration, or concealment of the Ein-Sof. Luria even describes a state of being before the act of creation, in which the Ein-Sof manifested to Himself the Ein-Sof Or (the "light of the Ein-Sof"). There is a parallel here with the earliest state of the cosmos that can be envisaged by modern cosmology, which we will look at later. At the beginning of creation the Ein-Sof withdrew into Himself through the Simsum, thus creating an empty space, a vacuum or void (called the chalah or tehiru). Next, the ray (the kav) from the Ein-Sof Or beamed into this primaeval vacuum and so proceeded the emanations as described above. Effectively, this distances God from the Creation even before anything has come into manifestation, it allows for a cosmos created ex nihilo, literally "out of nothing". We will see that the central idea of modern cosmology is the emergence of the universe out of the vacuum state.

The Inflationary Universe

Present day cosmologists picture the universe beginning around 15 billion years ago in the "big-bang". The energies involved in this explosion of space-time, matter and energy out of nothing were enormous, however, in the past two decades particle accelerators have allowed scientists to explore some of these energy densities in their laboratories (corresponding to the state of the universe after one thousand billionth of a second), so the theories that have emerged about the big-bang are to some extent supported by experimental evidence and not merely upon speculation.

The universe emerged out of this point event and the space it occupied rapidly expanded until it filled up the vast tracts of space explored by astronomers. When we try to picture epochs close to the big-bang, all the energy and matter of the universe must therefore have been packed into a much smaller space, and therefore the universe had a much denser energy level. The earlier we go back in time, closer to the event of creation – to 1 second after the big-bang, to 10^{-3} or one thousandth of a second, to 10^{-9} a billionth of a second, and so on – the smaller a volume of space it occupies, and consequently the higher its temperature and energy density. The simplest of big-bang models thus assumed that at the instant of creation the universe had infinite density and temperature. The idea was that the universe emerged out of a naked space-time singularity, a kind of knot in space-time, like a black hole in reverse. This model of an explosive expansion from a point of nothingness (which had infinite density), raised more questions than it answered. In particular it proved difficult to see how the various physical constants and relationships between different particles had adopted the values they have. For example, the ratio of matter to photons of light (the so-called baryon number), or the relative strengths of the four fundamental forces of nature – gravity, electromagnetism, weak interactions, and strong nuclear force. If the value of some of these constants had differed by a fractional amount the universe would have taken a radically different course. On the macro scale, stars and planets would not have come into being, while on the smaller scale even the long-chained carbon based molecules that are the building blocks of living cells could not have come about unless the physical constants which constrain the nature of chemical bonding had adopted the values they have. Some philosophers and theologians saw the possibility of evoking the hand of God acting to adjust these various values to create the particular special conditions that gave rise to the universe we know today.

This period of theorising about the big-bang in the 60's and 70's is to some extent akin to the earlier kabbalistic cosmology, in which God had to play an active formative role in structuring the chain of events. Further there was the problem of what was before the big-bang singularity, and what caused it to happen. God could again be called upon for assistance.

Isaac Luria had realised that if God played a formative role in the structuring of the cosmos then the cosmos would be a direct manifestation of Him. God would not have been able to separate Himself from his creation, and therefore our created world would in fact be part of God's body.

In a similar way present day cosmologists did not feel inwardly happy with creation theories in which some factor, outside the equations and mechanics of creation, set the critical values of the constants of nature that determined the shape and form of our universe as we know it.

In 1979 Allan Guth, an American physicist, devised a theory which seems to have solved many of the problems inherent in the simplistic big-bang theory. He looked at a very early stage in the development of the universe from about 10^{-32} to 10^{-43} of a second after the initial creation. [10^{-36} for example, is a billion billion billion billionth of a second.] At around 10^{-43} , the 'Planck' moment when the strength of the gravitational force comes to equal that of the other fundamental forces, quantum gravitational events dominated the emerging universe, its minute bubble of space-time being subject to quantum fluctuations. The universe could indeed be described at that early epoch as a quantum fluctuation in the vacuum. The energy that the universe contained was bound up in special fields of force, (the Higgs fields named after the physicist who first described them) which were essentially unstable.

Above a temperature of 10^{27} degrees centigrade which occurred during this early period of the universe, the Higgs fields were in equilibrium, however, once the environment fell below this they could release their energy through a process known as "spontaneous symmetry breaking". While the symmetry conditions are maintained the Higgs fields can hold considerable amounts of energy, without this energy having a mass. Only when the symmetry is broken does the energy bound up in the Higgs fields attain a mass. This breaking of the unified symmetry between the four fundamental forces results in the separation of gravity from the other forces and consequently the emergence of particles of matter.

In the inflationary model the Higgs fields are able to remain in equilibrium for an extended period in a special state known as the "false vacuum", a quantum vacuum state which can be described mathematically. During this period the false vacuum exerts an expansive force, a negative pressure, on the universe, which impells the cosmos to expand exponentially. In each minute fraction of time, 10^{-34} of a second, the diameter of the universe doubled, and this continued until the universe had expanded by a factor of 10^{50} times its original size. This extreme exponential stretching of the fabric of space, faster than the speed of light, stored up masses of energy in the Higgs fields. After this period of inflation the Higgs fields can no longer remain in equilibrium and they spontaneously break their symmetries and release the energies trapped within them, filling the rapidly expanding universe with an intense dense fire of particles and photons.

We can see a parallel here between the Higgs fields and the vessels (Kelim) of the sephiroth, which were unable to hold the light energy that poured through them. The matter in the universe arose out of the breaking of the symmetries of the Higgs fields, which Lurianic kaballah parallels with the Shebirah, or "breaking of the vessels", and the falling down through the worlds of the husks or shells (Kelipoth).

In the inflationary model, the Higgs fields have energy pumped into them from the intense gravitational curvature of spacetime while they exist in a false vacuum state. When the universe eventually falls into a true vacuum state, its light energies and particles of matter come into being. The theory can account for the creation of the universe as a quantum fluctuation in this false vacuum of sufficient energy to allow the inflation process to get under way. Thus it provides a creation ex nihilo.

The inflationary model also resolves various problems with the naive big-bang from an singularity of infinite density and pressure; especially the problem of the large scale uniformity of the universe, the fixing of the parameters of the constants of nature, the existence of obscure particles called magnetic monopoles and other difficult and paradoxical aspects of the earlier theory.

As I indicated above, the inflationary model allows speculation about even earlier periods in the life of the universe before the inflationary period, in which the universe was a bubble of spacetime emerging out of quantum fluctuations in the false vacuum state. One speculation which has received some credence recently is that the universe began as a quantum fluctuation in an eleventh dimensional space. This resulted in four of the dimensions

expanding (these being the three dimensions of space and one of time), while the other seven became wrapped up into a seventh dimensional sphere of extremely small size. These seven dimensions remain hidden from our universe on the macro scale which only knows the four outer space-time dimensions, though they do participate in the inner structure of particles of matter.

This idea is strangely paralleled in the Lurianic doctrine of the Ein-Sof contracting into itself and forming a tehiru or vacuum while its Ein-Sof Or expands outwards. The Simsum of the kabbalists and the folding up of seven of the eleven dimensions of spacetime are obviously related. Both of these cosmologies place this contraction before the formation of the false vacuum out of which the matter and electromagnetic or light energies of the universe was later to emerge.

In a strange way the physicists of today have come to retrace the philosophical and theosophical steps taken by kabbalists 400 years ago.

The Alchemical Drama of Goethe's Faust

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Goethe's Faust is rarely performed in the English theatre. The work is too arcane and often disturbs and confuses its audiences, also the stage effects, particularly the transformation scenes in Part II, are so difficult to stage convincingly, that it is no surprise that directors and theatrical managers steer clear of this classic work. However, the recent production of the two parts of Goethe's Faust at the Lyric Theatre in Hammersmith tackled the work energetically and did not shy away from stressing its alchemical facets.

The alchemy in Goethe's Faust is central to its dramatic conception, and is not merely added for effect. For Goethe's working of the Faust story differs from other dramas based on the archetypal legend of a conjuror who sells his soul to the devil, sealing his pact with a drop of blood, ultimately to suffer the fires of Hell, in that Goethe reveals through his drama various transformational processes working in the human soul, personified in Faust. Goethe struggles to weave the personal inner journey of Faust towards some enlightenment, together with the collective social forces that are undergoing transformation through the historical process, so here Faust is also a representative of Northern European humanity striving for evolution from the limitations and strictures of the 16th century Reformation to the new aspirations of humanity that Goethe saw developing during the 18th century Enlightenment era.

The work is too complex and multi-faceted for me to do more here than point to some alchemical themes in the play. In my Commentary to Goethe's Fairy Tale , I showed something of how Goethe, who had early in his life extensively studied alchemical literature, was able to fashion an elaborate alchemical allegory. The Fairy Tale (Marchen) is an allegory of inner transmutation of the soul, in which various polarities emerge and are brought together again. In the Fairy Tale the two lands separated by a river are brought together through the alchemical transmutation taking place in an underground temple. In his Faust Goethe again presents the separation of polarities that are brought together in a new transformation. Part One of Faust follows the structure of the Faust myth quite closely, though in the details of the action Goethe introduces broader themes that are developed further in the second part of the play.

Part One opens with Mephistopheles entering into a bargain with God for the soul of Faust. Faust has struggled long for enlightenment, has studied deep, and thirsts after knowledge and understanding. God indicates that Faust serves His plan uncomprehendingly and that he will eventually be led towards the light, but He grants Mephistopheles the freedom to lead Faust astray. Thus Goethe subtly alters the Faust story at its outset by paralleling it with the testing of Job.

In the first part of the play, Faust is tricked into the pact with Mephisto and casting off his scholar's gown leaves his study and his mean scholar's cell behind, to immerse himself in the action of life. His lofty pursuit of knowledge and study of Philosophy, Law, Medicine, Theology and the Sciences had repressed his experience of human feelings, and when Mephistopheles allows free rein to his emotions then it is not altogether surprising that these emerge in an adolescent and unintegrated form. With Mephisto's guile and cunning, Faust pursues the young virgin Gretchen and ultimately corrupts her and destroys her life. As is presented in his Fairy Tale , for Goethe the initial problem of humanity lay in its inability to relate to the feminine component of its nature. For Goethe, the proper development of the human soul lay in its forming a proper relationship between its feminine and masculine facets. Thus Part One of Faust sets before us the central problem of Faust's soul, his difficulties in relating to the feminine side of his being.

Part Two of the work is a truly alchemical drama whose five acts weave together a complex net of themes. Goethe wrote Faust over a period of nearly sixty years, and the struggle he had with this material shows in the seeming incoherence of the second part of the drama. If one reads the play as an hermetic allegory, the inconsistencies of the drama dissolve away as one senses the structure that underpins the various disparate scenes.

Part Two begins with Faust recovering through the power of Nature from the emotional buffeting he has undergone in the disastrous episode with Gretchen. With his constant companion Mephistopheles, Faust attends the Emperor's court. The empire is in financial ruin through the extravagance of the court, but Mephisto and Faust offer a solution to these problems. Till now the currency of the empire has been Gold, but there is not enough to support the extravagant spending. Mephisto suggests an easy answer - since there is undoubtedly much gold as yet undiscovered beneath the land, which belongs to the Emperor, then surely a promissory note can be made for the value of such gold. He showers the Court with the new paper money. The foundation of the empire has been moved through Mephisto's cunning from the solidity of metallic gold to insubstantial promises on paper. Faust acting the role of magus is asked by the Emperor to conjure up the spirit of Helen of Troy. Goethe is here drawing upon the story about Johannes Trithemius conjuring spirits before Emperor Maximilian. (This scene was also included by Marlowe in his *Tragicall History of the Life and Death of Doctor Faustus* (1593). Interestingly, Trithemius seems to have met, and had scant regard for, the historical personality Georgius Sabellicus, a conjuror adventurer who acquired the name and reputation of Faust in the early 16th century.)

Again Faust seeks to make some contact with the feminine, this time in the idealised form of the beautiful heroine of Greek legend. To achieve this he must enter the realm of the Mothers, deep within the earth and outside of space and time. The spirits of Paris and Helen are summoned, and the court witnesses their encounter as a kind of tableaux. Faust, besmitten with the beauty of Helen becomes jealous of Paris embracing her, and forgetting himself leaps into the magic circle with the spirits and tries to seize Paris. Faust falls unconscious.

The second act takes place in Faust's old laboratory, where his pupil, Wagner, following up his master's studies, has just completed the alchemical work and produced an homunculus, a little man living in the flask. Wagner has produced this homunculus outside of the normal natural means of conception. This little man in the flask lies outside of the domain of Nature, a soul and spirit without a proper material body. Homunculus takes Mephisto and the still unconscious Faust to the classical world of Ancient Greece, where he seeks to become a full human being outside of his retort. Homunculus is a being of fire, his flask glows with a strange light, and through a discussion with two ancient Philosophers he decides he must seek union with the water element in order to attain to a full birth, and become a real being outside the enclosed world of his flask. He meets Proteus, the shape-shifting God of metamorphosis who constantly transforms himself from one form to another, and they approach the ocean. With the encouragement of Proteus, Homunculus enters the waves in his flask and seeks to unite with Galatea, the sea-nymph, or Goddess of the Ocean. The light of his retort illumines the waves and beneath the feet of Galatea his flask breaks and his fiery essence enters the water. The four elements are brought into a new harmony through this kind of mystic sexual union. This voluntary submission of Homunculus to the Ocean, here pictured as the feminine element, is contrasted later in the play with Faust's own attempt in Act four to contain and bind up the Ocean's elemental forces, a kind of act of rape committed against the natural order that directly leads to his downfall.

Through the figure of Homunculus, central to the play, Goethe illustrates that the path of humanity seeking a rebirth of enlightenment in their being, lies within themselves - the recognition and acceptance of the feminine component of the soul. It is Faust's avoidance of his feminine side that leads him into all his difficulties, for he chooses always to be guided by Mephistopheles. If we think of Mephisto as a part of Faust's soul, an alter-ego, it is significant that this trickster figure has a very masculine, even chauvinistic, perspective. Faust always projects the feminine outside himself.

The next part of the action has Faust pursuing Helen into the underworld on the back of the centaur Chiron, and with the help of Manto the Prophetess.

Mephisto, assuming a disguise as Phorkys, deceives and persuades Helen to go to live with Faust at his castle in the North. Helen here represents classical beauty but also the unrepressed sensuality of the Greek world - a world which Mephisto finds uncomfortable as it lacks a decent sense of sin, and without such dualism he has nothing to work his deceptions upon. Faust lives with Helen and they bear a boy-child, Euphorion. Euphorion is impetuous, he seeks like Faust to rise above the earthly world, to soar into the heights and take heaven by storm. Faust now lives in harmonious happy union with Helen, there is no sense now of his former tortured struggles within himself. This has been projected upon Euphorion. After trying to force himself upon a woman, Euphorion dies like Icarus, trying to fly high in the sky. The union of Faust and Helen is broken, and Helen returns to Persephone's underworld realm with the soul of their child.

The next act takes us back to the Emperor who is now at war. Faust, with the ever helpful Mephistopheles, assists the Emperor and enables him to triumph over his enemy, in return for the rights of the coastline of his realm. Faust's great plan now is to extend the land out to sea, by damming up the ocean.

The last act finds Faust having accomplished most of his grand design of pushing back the primal energies of the Ocean, and establishing his own land, attempting to redesign the natural environment. He is frustrated by an old couple, Baucis and Philemon, who hold a cottage and chapel on strategic high ground which Faust wants to mould to his design. Goethe weaves into his play, the classical myth of Baucis and Philemon. (These were an old couple in Phrygia who provided shelter for Zeus and Hermes while they were wandering incognito through that land. Everyone else had refused the travellers hospitality, so they sent a great flood upon the land. Only Baucis and Philemon were saved and rewarded by having their cottage changed into a temple where they held priestly office). In the last act of Goethe's play, Faust wishes them to move from their sacred spot and Mephisto sends his henchmen to evict them, however, the old couple die in the struggle and the house is burned to the ground. Through this tragedy Faust loses his sight.

In his final hours he tries to press on with his great scheme to drain the marshes and establish a great paradise on Earth won from the ocean bed, where he believes humanity through struggling against the forces of nature will become free. Ironically, Mephistopheles leads the blind Faust to believe his workmen are completing his life's work, when they are actually digging his grave. Faust dies believing that his plan was nearing fruition.

Goethe brings the play to a close with a scene which is difficult to grasp. Mephistopheles comes forward at the burial to seek the soul of Faust to which he has every claim. However, Angels come down from on high, and while some of them distract Mephisto by flirting with him, others raise the soul of Faust heavenwards. The spirit of Faust is led by the Angels through a chorus of anchorites and blessed souls into the presence of Mary, Mater Gloriosa. The spirit of Gretchen now appears and intercedes for him and the Divine Mother says his spirit can pass on to the highest sphere. The final words of the play echo the importance of the feminine to this process of redemption.

All that shall pass away is but reflection.
All insufficiency here finds perfection.
All that's mysterious here finds the day.
Woman in all of us show us our way.

The closing scene in Goethe's Faust had always been, to me, unsatisfactory, leaving many energies of the drama unresolved. Seeing the production did not entirely remove my doubts, though it seemed to work well enough dramatically, providing a resolution or release after the climax of Faust being raised to Heaven. Later, after meditating on the experience, I came to see more clearly what Goethe intended.

Faust was written over many years and one can see that Goethe was trying to rework the dualistic Reformation myth of Doctor Faustus selling his soul to the devil, into a new alchemical conception of the transformation of Faust through his harsh experiences of the polarities within his being. On an initial viewing or reading of the play, the closing scene does not present us with a Faust who has effected the inner transformation of his being that he should be allowed to escape the pact with Mephistopheles - instead Mephisto is deceived by the Angels by a trick worthy of himself. Gretchen appears as the penitent soul interceding with the Mother of God and offering to act as a guide to Faust's soul in the spiritual realm. But this is initially disconcerting, for our perception of the true alchemical path must surely be that we attempt to achieve this inner meeting with the feminine facet of our soul within our incarnation, and not postpone such inner development to a life after death in the spirit world.

Faust's ascension into the spirit comes quite unexpectedly in the drama. It resolves various polarities - the Father God at the beginning of the play puts Faust into his difficulties, whereas the Mother Goddess releases him from his bonds and allows him enter the spirit world. It is easy to view this resolution as rather stylised and imposed on the flow of the drama. Goethe, of course, was a deeper soul, and would not have stooped to tacking on a happy ending in Hollywood style.

It seems to me that if we focus on Faust as the main character in the allegory then we will not find the transmutation or interior development that satisfactorily resolves the allegorical drama. If we follow the interpretation I advanced of Goethe's Fairy Tale , where I showed how all the individual characters underwent some transformation, and

further that in a sense all these individual characters could be seen as part of our own soul, then perhaps Goethe's Faust will begin to cohere.

We have to come to see Faust and Mephistopheles as two parts of the human soul. Mephisto is not the archetypal devil, but a part of Faust which has been repressed by his immersion in a Philosophy and Theology which stressed the Patriarchal God. The Mephisto aspect bargains with this Patriarchal figure at the outset of the play for an opportunity to reveal himself and influence Faust's life. Faust's early attempts at conjuring in the first scenes of Part One are failures because he attempts to dominate and impose his will on the elemental spirits from his book learning, but when Faust meets his repressed facet Mephisto then he abandons his earlier work. If Faust had remained true to his alchemical philosophic work (as was undertaken and continued by his pupil Wagner) then he would have fashioned the Homunculus, a being of soul and spirit but without embodiment. Homunculus must also be seen as an aspect of Faust a facet which is able to make a submissive relationship with the feminine. Gretchen again can be perceived as an aspect of Faust, which emerges after his meeting with the Mephistopheles facet. The Faust figure at this stage is still unable to recognise the feminine in himself so he uses the Gretchen figure selfishly and ultimately she is executed for his actions.

The killing of the Gretchen aspect at the close of Part One is a powerful event in the play. In the Second Part, Faust instead of looking deeper within his being for the feminine, turns to the idealised and mythical feminine figure of Helen.

Mephisto also undergoes some transformation, for under the prompting of Homunculus all three go off to classical times in pursuit of Helen. Interestingly, in all the scenes where Homunculus appears Faust is unconscious or absent from the scene. We must therefore see in the character of Faust, a failed alchemist, as one who has neglected to work upon himself in the interior retort to pursue the hermaphrodite in the soul. However, in Goethe's drama, the alchemical transformation continues in the wider context of the human soul of which Faust, Gretchen, Mephistopheles, Helen and Homunculus are but parts.

During the visit to the Classic Greek Walpurgis Night of the Witches, Mephisto shows his 'human' weaknesses in this unfamiliar territory where the Northern European Protestant sense of sin does not work so strongly. He discovers that he is powerless against those who do not have a sense of sin founded upon dualism. Mephisto is changed inwardly by his experiences and later in the closing scene, his flirting with the angels loses him the soul of Faust. The dynamic relationship of the Faust and Mephisto facets which has energised the play from the beginning, is then severed by Mephisto's dalliance with the angels. The Mephisto character at the beginning of the play would have been too cynical ever to fall for this trick, indeed through the action of the play, by the end of Part Two Mephisto seems to have absorbed something of the Faust character's weaknesses.

The main characters in the play are thus polarised facets of the one human soul, whose journey to enlightenment is demonstrated in the drama.

Helen

Homunculus - Faust - Mephistopheles

Gretchen

We can see Faust as the core of a complex being living within a net of polarities. Helen the ideal archetypal feminine, and Gretchen the earthly female from which he cuts himself off. Homunculus a potential inner hermaphroditic soul guide, whom he could have developed in his being had he stuck to his alchemical work, however, he turns to the Mephisto facet for guidance. At the end of the play he has been stripped of all these polarities and lies open and vulnerable in death.

If we see Faust in this way, then the difficulties posed by the final scene dissolve and the alchemical allegory reveals itself clearly. Goethe wanted us to read the entire drama and not to identify with the Faust character, but with the wider web of characters which are parts of the whole figure he wished to put before us. Goethe always tried purposively to mystify his audiences and readers, as he wanted to lead them beyond intellectual appraisal of his

ideas. To grasp the allegorical riddles in Faust requires no mere intellectual analysis of the drama and characters but an encounter with the Mephisto, Gretchen, Helen, Homunculus as well as the Faust within ourselves.

Animal Symbolism in the Alchemical Tradition

Adam McLean

Alchemy, as I perceive it, is a spiritual tradition, a means for exploring our inner space and the layers which clothe the precious essence of our innermost soul. It is a path, a way, a practical method for investigating the substance of our being, by meditating upon chemical processes. The alchemists worked with their retorts, heating, calcining, subliming, distilling substances, watching all the while the transformations within their experiments. They used events in their experiments as seed images for meditations, forming visual mantras from chemical changes. The alchemists reflected and mirrored these outward events into their interior world. They saw the processes in their flasks as an interaction and linking of the spiritual and the material. The spirit rose up, separating from the substance at the bottom of their flasks and descended again to spiritualise the material into an essence or tincture. As the alchemists reworked these experiments over in their souls, they further drew parallels with the greater laboratory of Nature. They saw the work within their flasks as a kind of microcosm of macrocosmic Nature. The living energies and beings in Nature were metaphorically drawn into their retorts, as they began to picture the living alchemical processes through animal symbols. For example, a black toad was a good image for the seething black mass of substance digesting in the flask, while a white eagle was a beautiful way of describing the white steam or fumes which rose up into the neck of the flask from the substance being heated below.

I would just like us to consider some of the more important of these animal symbols. Alchemists were, of course, individualists who worked alone, rather than being members of sodalities or secret orders, yet despite their writings being a result of their own experiences, the animal metaphors rapidly developed into a universal language. In the centuries before the invention of printing, key alchemical manuscripts, often with beautiful illuminated illustrations, circulated quite widely. Works like the *Aurora Consurgens* (attributed to Thomas Aquinas), the *Buch der Heiligen Dreigaltigkeit*, the works of Ramon Lull, Roger Bacon, Arnold of Villa Nova, exist in many manuscript collections from this period, and with this exchange of ideas a quite coherent set of metaphors emerged in the European Alchemical tradition. It was the coherence and universality of this set of alchemical symbols that lead Carl Jung to the concept of the collective unconscious. The alchemists though pursuing their inner work independently as individuals, nevertheless found in their interior descent a coherent language of symbols.

At the core of this was a vision of an alchemical process occurring through a cycle of colour changes, from an initial blackness to the perfection of the quintessence.

The alchemist envisaged each stage of the process being heralded by a colour change and a meeting with certain animals.

Blackening - Black Crow, Raven, Toad, Massa Confusa.

Whitening - White Swan, White Eagle, skeleton.

Greening - Green Lion.

Rapid cycling through iridescent colours - Peacock's Tail.

White Stone - Unicorn.

Reddening - Pelican feeding young with its own blood, cockerel.

Final transmutation - Phoenix reborn from the fire.

The phase of Blackening which usually marked the beginning of the work, was brought about either by heating the prima materia in the process of Calcination (the 'dry way' of the alchemists), or by the process of Putrefaction, a slow rotting or digestion over a period of weeks or months (the so-called 'wet way'). The Black Crow or Raven was often associated with this Calcination, for on vigorous heating the calcined material would usually carbonise and layers would flake off and move like a crow's wings in the flask. The Toad was a better symbol of the Putrefaction, the decaying mass slowly pulsating and shifting as gasses were given off, while the substance rotted down to a black mass. Another symbol of this stage was the dragon, a familiar inhabitant of the alchemists flasks. The dragon is however a more complex symbol and is also used when winged as a symbol for the spiritualising of the earthly substance. Thus to the alchemists the dragon appeared at the beginning and at the end of the work.

The alchemists paralleled these experiences in their souls as a withdrawal into the darkness of their interior space, a darkness pregnant with possibility. We have to a great extent lost the sense that still lived in the medieval and renaissance alchemists, that this darkness contained all potentialities. Like children we fear the dark, and for twentieth century humanity darkness often holds only an existential dread - philosophers of science have in the last decade brought us this terrible image of the 'Black Hole' which swallows up and annihilates everything that comes into its orbit. Perhaps we do not gaze enough at the blackness of the heavens. For if we look deep into the blackness of space on a clear night, we will sense more stars hidden between the known visible stars, especially in the vast star fields of the Milky Way. Cosmic space is pregnant with the possibility of other worlds as yet unseen. It is this image of blackness we must try to recover if we are to become alchemists. An echo of this perhaps remains in the often used phrase "a profound darkness". In alchemy, to meet with the black crow is a good omen. Thus in the Chymical Wedding of Christian Rosenkreutz, as our hero sets out on his journey of transformation, he meets with a Crow which by a turn of fate decides which among the various paths open to him is the one that will lead him to the Castle of the King.

The temporary phase of whitening which followed on the black stage was symbolised by the white eagle or white swan. As the black mass of the calcination was reacted with other substances and heated, it took on a white crust or dusty layer which sometimes puffed up and flew in a cloud in the flask, as heat exploded bubbles of gas out of the black substance below. This was the White Eagle of the dry way. In the wet way, the dark putrefying matter sometimes began to form white patches, often fungal growths floating on the surface, or white crystals growing out of the mass. This could be pictured as the White Swan, which was at home upon the surface of the water yet fed off of the dark mud at the bottom of the stream or lake. Its whiteness contrasting with the mud on which it is observed to feed, made it a fine symbol of how spiritual purity could be gained from the unpromising primal material.

The whitening is a phase when we sense or have a prevision of the end of the work. It is a polar swing from out of the blackening - the appearance of seeds of the future development of the work. It is that stage of catharsis after some intense experience of being consumed in the crucible, when we glimpse the appearance, however fragmentary, of a new possibility - a flickering light in our souls which draws us towards its promise of change. We all experience these alchemical phases in our inner life, though nowadays, immersed as we are in twentieth century images which often lack a spiritual core, we often fail to recognise these to be of any value, but if we are able to use the alchemical view of inner transformation, which we might need to mould and shape to suite our present consciousness, we can gain much inner perception and growth. For our blackness becomes a pregnant space, and a mere fleeting show of the whiteness, is a significant step towards our goal of integration of the spiritual and the material in our beings.

Thus in alchemy these two phases so fundamentally linked, were sometimes seen as the chaining of a toad and an eagle. The eagle of the spirit is held down by the earthly weight of the toad, while the earthly part of our being (the toad symbol) is lifted up towards the spirit. The hermetic philosopher Michael Maier incorporated this symbol into his coat of arms. The image of the earthly dragon bearing wings was sometimes used to express this same idea. If we can sense within our souls the need to link the spirit and the material, the spiritualising of the material and the materialising of the spirit, then we truly have made progress through the blackening to the stage of the whitening.

At this point the alchemists would often encounter the Peacock's Tail, a sudden appearance of a rush of colours, an iridescence on the surface of the material in the flask, which made some think they had achieved their goal. This could arise through the formation of a layer of oil on the surface of the watery mass (in the wet way) or some oxidation-reduction reactions, say on the surface of liquid metal (in the dry way). It was a fleeting show of colour changes, that pointed to the fact that one was on the right path, and reabsorbed the energies released in initial emergence of the polarities. It was a midway point of the process, which could be seen as a false conclusion. Many people who have this experience in their inner life often falsely assume they have reached the end of the work, and attained inner transformation and enlightenment. The inner vision of the Peacock's Tail, beautiful though it may be, is merely a digestion of the polarities of the black and white stage. These must be transformed further into spiritual tinctures, if we hope to have any permanent transformation within the soul.

Not all alchemists used the symbolism of the Peacock's Tail, and another stage often met at this point in the cycle was the meeting with the Green Lion. Physically the Green Lion was usually a name for vitriol, or the sulphuric acid created by distilling the green crystals of iron sulphate in a flask. Iron sulphate was formed when iron ores rich in sulphides were left to oxidise in the air, so was readily available to medieval alchemists. The sharp penetrating

sulphuric acid could create major chemical changes in many materials even to the extent of dissolving metals like iron, and copper. The Green Lion could also be the nitric acid formed from heating saltpeter or nitre and iron sulphate. Nitric acid when mixed with the acid derived from common salt, hydrochloric acid, produced aqua regia, a greenish tinged liquid that could dissolve even the noble metal gold. The Green Lion devouring the sun is a famous image in alchemy being depicted in many manuscripts and engravings, and can be thought of as aqua regia dissolving the solar gold and forming a solution which could readily tinge metals with gold.

To other alchemists who worked primarily with vegetable matter and processes, rather than the mineral work, the Green Lion was an image of the green raw energy of nature, "the green fuse which drives the flower" as Dylan Thomas elegantly expressed it in one of his poems. Here the Green Lion which devours the sun is the green pigment chlorophyll. The green leaves of the plant are formed out of the energy of sunlight. Alchemists often attempted to create living processes in their flasks and looked especially for precipitates or crystallisations which resembled leaves or plant forms. The Green Lion here could be a plant sap extract which was often the prima materia for their alchemical work. The Gryphon, half-eagle and half-lion, was sometimes associated with the end of this stage. The eagle nature of the Gryphon gave this hybrid being an ability to ascend in the flask, so it marked, in a sense, the spiritualisation of the Green Lion.

In the work with minerals, the metal antimony was referred to as the Grey Wolf, because when molten it greedily swallowed up many other metals, such as copper, tin and lead, by forming alloys. In this sense it behaved like metallic mercury which also readily amalgamated with metals. The Grey Wolf of antimony became especially important in early 17th century alchemy - its curative properties being popularised through the writings published under the name of Basil Valentine. To an extent it became an analogue for the work with minerals of the Green Lion of the work with plant substance.

After the Peacock's Tail or the greening of the Lion, alchemists looked for the appearance of a stage of whitening then a reddening in their flasks marking a new integration of the polarities which had emerged in the initial blackening and whitening and then been digested.

The white stage was the formation of the white tincture or stone, and was derived from though not to be confused with the earlier whitening which followed the calcination or putrefaction, for to have proceeded to this stage meant one was on a higher level of spiritual attainment. This was often pictured as the appearance of a queen dressed in shining white robes in the flask. The white tincture marked a process of inner change when the alchemist was able to experience and bring into an integrated harmony the feminine component of the soul. Often this sexual element is stressed in alchemy. The Rosarium Philosophorum, a key work of the mid 16th century, shows the coupling of the male and female as a central facet of the process. Regrettably, some 20th century commentators have sought to link this symbolism with the practice of so called 'sex-magic', in which people seek to use the sexual act as a basis for magical working. The alchemical manuscripts and books do not seem to support such an interpretation at all. The male and female copulating in the flask were for the alchemists symbols for aspect of our inner being uniting together. They saw metals, plants and minerals as being masculine and feminine in some degree and projected the transformations of these in their retorts into their inner space, in order to explore their own masculine and feminine natures. Acids, for example, which could penetrate and dissolve metal ores, were seen as masculine. Substances exhibited a femininity when they were connected with the forces of growth and nourishment of processes in the flask and the melding of substances together into a new unity. Metallic Mercury was seen as hermaphrodite as it both dissolved and brought together other metals into an amalgam.

The White Stone was sometimes symbolised by the Unicorn, partly because of its white horn, but also because the Unicorn could only be tamed by the touch of a pure woman. Thus the White Tincture can only be experienced by purifying the feminine forces within our beings.

The reddening or formation of the Red Stone was pictured through the symbol of the Pelican. The white pelican bird with its long bill reaching down over its breast, was in medieval times mistakenly observed piercing its breast with its bill and feeding its young on its own blood. What actually happens is that the bird regurgitates food it has caught earlier and its young feed on this ground up fish, bits of which fall onto the breast of the pelican and it appears as if its breast is bleeding. This myth of the sacrificial act of the Pelican in feeding its young on its own blood, was more powerful than the prosaic reality and during medieval times the Pelican became a symbol for Christ's sacrifice of his blood. Alchemists also took this symbol aboard and readily incorporated it into their symbolic menagerie.

The reddening marked the formation of the Red Tincture, which transformed the masculine forces of the soul, ennobled them, and brought them into a new harmony and was often symbolised by the appearance of a Red King in the flask. In our inner work, we begin to possess the red tincture when we have entered on the task of transforming the raw energies of the masculine component of our souls, sometimes pictured by the alchemists as a knight brandishing a sword, into a more creative force.

The tinctures in alchemy relate also to the substances of the Mass, the red wine, the blood, and the white wafer, the body of Christ. Administration of the Sacraments was seen as spiritualising the souls of the partakers. In alchemical terms these white and red stones or tinctures served much the same purpose, though the alchemists achieved this, not through the intermediacy of a priest but by their own inner work of transmutation. Here alchemy links directly with the Grail stories which use similar parallels between the Grail and the Sacraments. The red tincture was occasionally symbolised by a stag bearing antlers. The stag being seen as a noble masculine animal. This links in with the Unicorn as a symbol of the white or feminine tincture. In some alchemical illustrations, such as that of the late 16th century Book of Lambspring, the Stag and Unicorn meet in the forest of the soul as part of the process of inner transformation.

The final stage of the work was often symbolised by the Phoenix rising from the flames. This goes back to the Greek myth of the Phoenix bird which renewed itself every 500 years by immolating itself on a pyre. This is thus a kind of resurrection and was paralleled with the symbol of Christ rising from the tomb. In interior terms it marks the rebirth of the personality from out of the crucible of transformation. The alchemists in meditating on processes in their flasks threw themselves into a sea of strange experiences, and as they worked these within their meditations and sought to grasp the inner parallels and significance of each of the stages of the process they had embarked upon, in a sense they experienced an inner death and rebirth in attaining the Philosophers' Stone. This stone was actually experienced as the formation of a solid ground within the shifting sea of their inner world. Once this solid ground in the soul was found, the alchemists were able to take hold of their lives in a creative way, they could root their personality on a solid foundation or ground of inner experience.

One symbol of the stone was that of the Ouroboros, the snake holding its tail. As we begin the work, we are all rather unformed (the 'Massa Confusa' or confused mass is a good image) and often victims at the mercy of the sway of polarities in the soul, psychic energies that constantly shift from one pole to another, from joy to despair, from overbearing positivity to deep melancholy and negativity, from light to dark, energy to inertia. Our consciousness naturally follows the cycle of wakefulness and sleep, reflecting the cycle of day and night and the Seasons in Nature. This duality becomes reflected in many of our inner experiences. The snake often was used as a symbol for duality - its long drawn out body separating the polarities of head and tail. Sometimes the figure of a winged dragon was used here in place of the snake, in order to close the circle with the dragon at the beginning of the work. When the snake or dragon seized its tail it united the polarities into a circle, a symbol to the alchemists for achieving solidity amongst the dualistic energies of the soul forces. The creation of the Philosophers' stone, was the formation of solid inner ground upon which the alchemical philosophers could build their personalities, and experience the full potentiality of being human.

Thus alchemists could pursue their cycle of inner transformation as embarking on a journey in which they met with archetypal animal figures. The steps on their journey were paralleled in their experiments in their flasks, and the detailed images of processes of change were worked together with the animal archetypes of that stage into a mandala-like picture which they used as the basis for their meditations.

Quantum Consciousness

Adam McLean ©

The hermetic tradition has long been concerned with the relationship between the inner world of our consciousness and the outer world of nature, between the microcosm and the macrocosm, the below and the above, the material and the spiritual, the centric and the peripheral. The hermetic world view held by such as Robert Fludd, pictured a great chain of being linking our inner spark of consciousness with all the facets of the Great World. There was a grand platonic metaphysical clockwork, as it were, through which our inner world was linked by means of a hierarchy of beings and planes to the highest unity of the Divine.

This view though comforting is philosophically unsound, and the developments in thought since the early 17th century have made such a hermetic world view untenable and philosophically naive. It is impossible to try to argue the case for such an hermetic metaphysics with anyone who has had a philosophical training, for they will quickly and mercilessly reveal deep philosophical contradictions in this world view.

So do we now have to abandon such a beautiful and spiritual world view and adopt the prevailing reductionist materialist conception of the world which has become accepted in the intellectual tradition of the West ?

I am not so sure. There still remains the problem of our consciousness and its relationship to our material form - the Mind / Brain problem. Behavioural psychologists such as Skinner tried to reduce this to one level - the material brain - by viewing the mental or consciousness events from the outside as being merely stimulus-response loops. This simplistic view works fine for basic reflex actions - "I itch therefore I scratch" - but dissolves into absurdity when applied to any real act of the creative intellect or artistic imagination. Skinner's determinism collapses when confronted with trying to explain the creative source of our consciousness revealing itself in an artist at work or a mathematician discovering through his thinking a new property of an abstract mathematical system. The psychologists' attempts to reduce the mind/brain problem to a merely material one of neurophysiology obviously failed. The idea that consciousness is merely a secretion or manifestation of a complex net of electrical impulses working within the mass of cells in our brain, is now discredited. The advocates of this view are strongly motivated by a desire to reduce the world to one level, to get rid of the necessity for "consciousness", "mind" or "spirit" as a real facet of the world.

This materialistic determinism in which everything in the world (including the phenomenon of consciousness) can be reduced to simple interactions on a physical/chemical level, belongs really to the nineteenth century scientific landscape. Nineteenth century science was founded upon a "Newtonian Absolute Physics" which provided a description of the world as an interplay of forces obeying immutable laws and following a predetermined pattern. This is the "billiard ball" view of the world - one in which, provided we are given the initial state of the system (the layout of the balls on the table, and the exact trajectory, momentum and other parameters of the cue ball, etc.) then theoretically the exact layout after each interaction can be precisely calculated to absolute precision. All could be reduced to the determinate interplay of matter obeying the immutable laws of physics. The concept of the "spiritual" was unnecessary, even "mind" was dispensable, and "God" of course had no place in this scheme of things.

This comfortably solid "Newtonian" world view of the materialists has however been entirely undermined by the new physics of the twentieth century, and in particular through Quantum Theory. Physicists investigating the properties of sub-atomic matter, found that the deterministic Newtonian absolutism broke down at the foundation level of matter. An element of probability had to be introduced into the physicists' calculations, and each sub-atomic event was in itself inherently unpredictable - one could only ascribe a probability to the outcome. The simple billiard ball model collapsed at the sub-atomic level. For if the billiard table was intended as a picture of a small region of space on the atomic scale and each ball was to be a particle (an electron, proton, or neutron, etc.), then physicists came to realise that this model could not represent reality on that level. For in Quantum theory one could not define the position and momentum of a particle both at the same moment. As soon as we establish the parameters of motion of a body its position is uncertain and can only be described mathematically as a wave of probability. Our billiard table dissolved into a fluid ever-moving undulating surface, with each ball at one moment focussed to a point then at

another dissolving and spreading itself out over an area of the space of the table. Trying to play billiards at this sub-atomic level was rather difficult.

In the Quantum picture of the world, each individual event cannot be determined exactly, but has to be described by a wave of probability. There is a kind of polarity between the position and energy of any particle in which they cannot be simultaneously determined. This was not a failing of experimental method but a property of the kinds of mathematical structures that physicists have to use to describe this realm of the world. The famous equation of Quantum theory embodying Heisenberg's Uncertainty Principle is :

Planck's constant = (uncertainty in energy) x (uncertainty in position)

Thus if we try to fix the position of the particle (i.e. reduce the uncertainty in its position to a small factor) then as a consequence of this equation the uncertainty in the energy must increase to balance this, and therefore we cannot find a value for the energy of the particle simultaneous with fixing its position. Planck's constant being very small means that these factors only become dominant on the extremely small scale, that is within the realm of the atom.

So we see that the Quantum picture of reality has at its foundation a non-deterministic view of the fundamental building blocks of matter. Of course, when dealing with large masses of particles these quantum indeterminacies effectively cancel each other out, and physicists can determine and predict the state of large systems. Obviously planets, suns, galaxies being composed of large numbers of particles do not exhibit any uncertainty in their position and energies, for when we look at such large aggregates as a totality, the total quantum uncertainties of the system reduces to zero, and in respect to their large scale properties can effectively be treated as deterministic systems.

Thus on the large scale we can effectively apply a deterministic physics, but when we wish to look in detail at the properties of the sub-atomic realm, lying at the root and foundation of our world, we must enter a domain of quantum uncertainties and find the neat ordered picture dissolving into a sea of ever flowing forces that we cannot tie down or set into fixed patterns.

Some people when faced with this picture of reality find comfort in dismissing the quantum world as having little to do with the "real world" of appearances. We do not live within the sub-atomic level after all. However, it does spill out into our outer world. Most of the various electronic devices of the past decades rely on the quantum tunnelling effect in transistors and silicon chips. The revolution in quantum physics has begun to influence the life sciences, and biologists and botanists are beginning to come up against quantum events as the basis of living systems, in the structure of complex molecules in the living tissues and membranes of cells for example. When we look at the blue of the sky we are looking at a phenomenon only recently understood through quantum theory.

Although the Quantum picture of reality might seem strange indeed, I believe the picture it presents of the foundations of the material world, the ever flowing sea of forces metamorphosing and interacting through the medium of "virtual" or quantum messenger particles, has certain parallels with with nature of our consciousness.

I believe that if we try to examine the nature of our consciousness we will find at its basis it exhibits "quantum" like qualities. Seen from a distant, large scale and external perspective, we seem to be able to structure our consciousness in an exact and precise way, articulating thoughts and linking them together into long chains of arguments and intricate structures. Our consciousness can build complex images through its activity and seems to have all the qualities of predictability and solidity. The consciousness of a talented architect is capable of designing and holding within itself an image of large solid structures such as great cathedrals or public buildings. A mathematician is capable of inwardly picturing an abstract mathematical system, deriving its properties from a set of axioms. A solo cellist is able to hold the whole musical structure of a Elgar's Cello Concerto or Bach's Cello Suites in his or her consciousness when preparing for a performance.

In this sense our consciousness might appear as an ordered and deterministic structure, capable of behaving like and being explicable in the same terms as other large scale structures in the world. However, this is not so. For if we through introspection try to examine the way in which we are conscious, in a sense to look at the atoms of our consciousness, this regular structure disappears. Our consciousness does not actually work in such an ordered way. We only nurture an illusion if we try to hold to the view that our consciousness is at root an ordered deterministic structure. True, we can create the large scale designs of the architect, the abstract mathematical systems, a cello

concerto, but anyone who has built such structures within their consciousness knows that this is not achieved by a linear deterministic route.

Our consciousness is at its root a maverick, ever moving, jumping from one perception, feeling, thought, to another. We can never hold it still or focus it at a point for long. Like the quantum nature of matter, the more we try to hold our consciousness to a fixed point, the greater the uncertainty in its energy will become. So when we focus and narrow our consciousness to a fixed centre, it is all the more likely to suddenly jump with a great rush of energy to some seemingly unrelated aspect of our inner life. We all have such experiences each moment of the day. As in our daily work we try to focus our mind upon some problem only to suddenly experience a shift to some other domain in ourselves, another image or emotional current intrudes then vanishes again, like an ephemeral virtual particle in quantum theory.

Those who begin to work upon their consciousness through some kinds of meditative exercises will experience these quantum uncertainties in the field of consciousness in a strong way.

In treating our consciousness as if it were a digital computer or deterministic machine after the model of 19th century science, I believe we foster a limited and false view of our inner world. We must now take the step towards a quantum view of consciousness, recognising that at its base and root our consciousness behaves like the ever flowing sea of the sub-atomic world. The ancient hermeticists pictured consciousness as the "Inner Mercury". Those who have experienced the paradoxical way in which the metal Mercury is both dense and metallic and yet so elusive, flowing and breaking up into small globules, and just as easily coming together again, will see how perceptive the alchemists were of the inner nature of consciousness, in choosing this analogy. Educators who treat the consciousness of children as if it were a filing cabinet to be filled with ordered arrays of knowledge are hopelessly wrong.

We can I believe go a step further than this recognition of the quantum nature of consciousness, and see just how this overlays and links with the mind/brain problem. The great difficulties in developing a theory of the way in which consciousness/mind is embodied in the activity of the brain, has I believe arisen out of the erroneous attempt to press a deterministic view onto our brain activity. Skinner and the behaviourist psychologists attempted to picture the activity of the brain as a computer where each cell behaved as an input/output device or a complex flip/flop. They saw nerve cells with their axons (output fibres) and dendrites (input fibres) being linked together into complex networks. An electrical impulse travelling onto a dendrite made a cell 'fire' and send an impulse out along its axon so setting some other nerve cell into action. The resulting patterns of nerve impulses constituted a reflex action, an impulse to move a muscle, a thought, a feeling, an intuitive experience. All could be reduced to the behaviour of this web of axons and dendrites of the nerve cells.

This simplistic picture, of course, was insufficient to explain even the behaviour of creatures like worms with primitive nervous systems, and in recent years this approach has largely been abandoned as it is becoming recognised that these events on the membranes of nerve cells are often triggered by shifts in the energy levels of sub-atomic particles such as electrons. In fact, at the root of such interactions lie quantum events, and the activity of the brain must now be seen as reflecting these quantum events.

The brain can no longer be seen as a vast piece of organic clockwork, but as a subtle device amplifying quantum events. If we trace a nerve impulse down to its root, there lies a quantum uncertainty, a sea of probability. So just how is it that this sea of probability can cast up such ordered structures and systems as the conception of a cello concerto or abstract mathematical entities ? Perhaps here we may glimpse a way in which "spirit" can return into our physics.

The inner sea of quantum effects in our brain is in some way coupled to our ever flowing consciousness. When our consciousness focusses to a point, and we concentrate on some abstract problem or outer phenomenon, the physical events in our brain, the pattern of impulses, shifts in some ordered way. In a sense, the probability waves of a number of quantum systems in different parts of the brain, are brought into resonance, and our consciousness is able momentarily to create an ordered pattern that manifests physically through the brain. The thought, feeling, perception is momentarily earthed in physical reality, brought from the realm of the spiritually potential into outer actuality. This focussed ordering of the probability waves of many quantum systems requires an enormous amount of energy, but this can be borrowed in the quantum sense for a short instant of time. Thus we have through this

quantum borrowing a virtual quantum state which is the physical embodiment of a thought, feeling, etc. However, as this can only be held for a short time, the quantum debt must be paid and the point of our consciousness is forced to jump to some other quantum state, perhaps in another region of the brain. Thus our thoughts are jumbled up with emotions, perceptions, fantasy images.

The central point within our consciousness, our "spirit" in the hermetic sense, can now be seen as an entity that can work to control quantum probabilities. To our "spirits" our brain is a quantum sea providing a rich realm in which it can incarnate and manifest patterns down into the electrical/chemical impulses of the nervous system. (It has been calculated that the number of interconnections existing in our brains far exceeds the number of atoms in the whole universe - so in this sense the microcosm truly mirrors the macrocosm!). Our "spirit" can through quantum borrowing momentarily press a certain order into this sea and this manifests as a thought, emotion, etc. Such an ordered state can only exist momentarily, before our spirit or point of consciousness is forced to jump and move to other regions of the brain, where at that moment the pattern of probability waves for the particles in these nerve cells, can reflect the form that our spirit is trying to work with.

This quantum borrowing to create regular patterns of probability waves is bought for a high price in that a degree of disorder must inevitably arise whenever the spirit tries to focus and reflect a linked sequential chain of patterns into the brain (such as we would experience as a logical train of thought or inward picture of some elaborate structure). Thus it is not surprising that our consciousness sometimes drifts and jumps about in a seemingly chaotic way. The quantum borrowing might also be behind our need for sleep and dream, allowing the physical brain to rid itself of the shadowy echos of these patterns pressed into it during waking consciousness. Dreaming may be that point in a cycle where consciousness and its vehicle interpenetrate and flow together, allowing the patterns and waves of probability to appear without any attempt to focus them to a point. In dream and sleep we experience our point of consciousness dissolving, decoupling and defocussing.

The central point of our consciousness when actively thinking or feeling, must of necessity jump around the sea of patterns in our brain. (It is well known through neurophysiology that function cannot be located at a certain point in the brain, but that different areas and groups of nerve cells can take on a variety of different functions.) We all experience this when in meditation we merely let our consciousness move as it will. Then we come to sense the elusive mercurial eternal movement of the point of our consciousness within our inner space. You will find it to be a powerful and convincing experience if you try in meditation to follow the point of your consciousness moving within the space of your skull. Many religious traditions teach methods for experiencing this inner point of spirit.

I believe the movement of this point of consciousness, which appears as a pattern of probability waves in the quantum sea, must occur in extremely short segments of time, of necessity shorter than the time an electron takes to move from one state to another within the molecular structure of the nerve cell membranes. We are thus dealing in time scales significantly less than 10^{-16} of a second and possibly down to 10^{-43} of a second. During such short periods of time, the Heisenberg Uncertainty Principle which lies at the basis of quantum theory, means that this central spark of consciousness can borrow a large amount of energy, which explains how it can bring a large degree of ordering into a pattern. Although our point of consciousness lives at this enormously fast speed, our brain which transforms this into a pattern of electro/chemical activity runs at a much slower rate. Between creating each pattern our spark of consciousness must wait almost a eternity for this to be manifested on the physical level. Perhaps this may account for the sense we all have sometimes of taking an enormous leap in consciousness, or travelling though vast realms of ideas, or flashes of images, in what is only a fleeting moment.

At around 10^{-43} of a second, time itself becomes quantised, that is it appears as discontinuous particles of time, for there is no way in which time can manifest in quantities less than 10^{-43} (the so called Planck time). For here the borrowed quantum energies distort the fabric of space turning it back upon itself. There time must have a stop. At such short intervals the energies available are enormous enough to create virtual black holes and wormholes in space-time, and at this level we have only a sea of quantum probabilities - the so called Quantum Foam. Contemporary physics suggests that through these virtual wormholes in space-time there are links with all time past and future, and through the virtual black holes even with parallel universes.

It must be somewhat above this level that our consciousness works, weaving probability waves into patterns and incarnating them in the receptive structure of our brains. Our being or spirit lives in this Quantum Foam, which is thus the Eternal Now, infinite in extent and a plenum of all possibilities. The patterns of everything that has been,

that is now, and will come to be, exists latent in this quantum foam. Perhaps this is the realm though which the mystics stepped into timelessness, the eternal present, and sensed the omnipotence and omniscience of the spirit.

I believe that these exciting discoveries of modern physics could be the basis for a new view of consciousness and the way it is coupled to our physical nature in the brain. (Indeed, one of the fascinating aspects of Quantum theory which puzzles and mystifies contemporary physicists is the way in which their quantum description of matter requires that they recognise the consciousness of the observer as a factor in certain experiments. This enigma has caused not a few physicists to take an interest in spirituality especially inclining them to eastern traditions like Taoism or Buddhism, and in time I hope that perhaps even the hermetic traditions might prove worthy of their interest).

An important experiment carried out as recently as summer 1982 by the French physicist, Aspect, has unequivocally demonstrated the fact that physicists cannot get round the Uncertainty Principle and simultaneously determine the quantum states of particles, and confirmed that physicists cannot divorce the consciousness of the observer from the events observed. This experiment (in disproving the separability of quantum measurements) has confirmed what Einstein, Bohr and Heisenberg were only able to philosophically debate over - that with quantum theory we have to leave behind our naive picture of reality as an intricate clockwork. We are challenged by quantum theory to build new ways in which to picture reality, a physics, moreover, in which consciousness plays a central role, in which the observer is inextricably interwoven in the fabric of reality.

In a sense it may now be possible to build a new model of quantum consciousness, compatible with contemporary physics and which allows a space for the inclusion of the hermetic idea of the spirit. It may well be that science has taken a long roundabout route through the reductionist determinism of the 19th century and returned to a more hermetic conception of our inner world.

In this short essay, incompletely argued though it may be, I hope I have at least presented some of the challenging ideas that lie behind the seeming negativity of our present age. For behind the hopelessness and despair of our times we stand on the brink of a great breakthrough to a new recognition of the vast spiritual depths which live within us all as human beings.

A Threefold Alchemical Journey Through the Book of Lambspring

Adam McLean ©

The Book of Lambspring is well known as one of the gems from the *Musaeum Hermeticum* published in 1625 by Lucas Jennis in Frankfurt, especially for its series of fifteen emblematic plates. It seems that this little book was first published, under the title *De Lapide Philosophico Triga Chemicum* (Prague 1599) compiled by the Frenchman Nicolas Barnaud prominent in the alchemical circles around Rudolf II. However, this tract and its emblematic drawings circulated in manuscript during the last two decades of the 16th century, as is attested by a number of copies dated to this period which still survive in libraries and special collections today. [Of these we might mention Ms 16752 in the National Museum in Nurnberg, and the manuscript copy in the University of Leiden.]

The Book of Lambspring is a short work with an introductory section in verse and an emblem showing a threefold furnace. Following the tradition of emblem books of the period its series of fifteen emblems each bears a motto or title with a verse on the facing page. The Book of Lambspring is a work of spiritual alchemy, has few references to physical alchemical processes, and it seems unlikely that it could ever have provided any clues that might help someone engaged upon physical experimentation. Instead, it is a clear, powerful and extremely useful statement of the inner work of the spiritual alchemist. Its verses point to the soul and spirit involved in the alchemical transformation and its fifteen emblems are evocative symbols of these inner processes.

Unlike some other series of alchemical emblems (say the Mylius *Philosophia Reformata*, or even the *Twelve Keys of Basil Valentine*), the Book of Lambspring avoids complex layers of symbols, or paradoxical 'surrealistic' images, and presents its message instead through direct simplicity of imagery. It is perhaps this delightful simplicity, joined with the archetypal power of its symbolism that keeps this work approachable by present day consciousness, and ensures the continued use of these emblems as illustrations in popular works on 'occult' and 'mystical' symbolism. Although individual emblems from the Book of Lambspring still seem to touch our souls through the clean lines of their archetypal symbolism, there does not seem to have been any serious attempt made to reveal the structure of its sequence as a whole and of how to work through the process of inner development sketched by 'Lambspring'.

One way of looking at these emblems, which I believe we will find useful as a basis for our inner work, is to see the sequence as forming three groups of five emblems 1-5, 6-10, 11-15.





A clue to this is given in the title page illustration which shows a threefold furnace,



and this is hinted at further by the fact that Emblems 1-5, and 6-10 have short epigrams placed under each emblem, while the sequence 11-15 does not have this feature.

Once we look at the emblems in this way distinct patterns can be seen. The first layer of five emblems deal with the different facets of polarities in our inner world.



Emblem 1 shows us two fish swimming in opposite directions in our inner sea ("The sea is the body, the two fish are Soul and Spirit" states the epigram). These two polarities coexist though work in different ways.



The second emblem shows a different aspect to polarities in the fight between the inner dragon and an armed knight (a St George figure) in the Forest of the Soul. In this emblem there is a sense that the polarities must struggle to overcome each other.



Next in Emblem 3 we have the beautiful picture of the meeting in a clearing in the forest of a magnificent Stag and a graceful Unicorn. The Stag as a symbol is often associated with the Sun and the Unicorn is usually linked with the Moon. These polarities are to be coupled together through the alchemist's work.



Next, in Emblem 4, the polarities are seen in their manifestation as masculine and feminine, pictured here in the meeting of Lion and Lioness. We note how they raise their opposite paws (Lion - right, Lioness - left) mirroring the posture of the Stag and Unicorn in the previous emblem.



The fifth emblem, which completes this part of the sequence shows the wild Wolf and the tamed Dog fighting for supremacy. These polarities are further linked in the verse with the directions West (Dog) and East (Wolf).

Thus we can see that the first five emblems show us different ways in which the polarities appear in our inner world. The dynamically opposed though balanced way of the two fishes, the battling of the Dragon and Knight elements, or Wolf and Dog, and the meeting and relationship indicated in the Stag-Unicorn and Lion-Lioness emblems.

The next five emblems seem to indicate different ways in which we must inwardly work to unite these polarities in our beings.



Emblem 6 is a clear statement of the Ouroboros, the serpent dragon that siezes its own tail and unites these polarities in forming its circle in the Soul.



Emblem 7 shows us two birds - one sits on the nest and cannot move, tied to its earthly task, while its partner attempts to soar into the heavens. As the associated verse states "The one that is below holds the one that is above" echoing the opening lines of the Emerald Tablet of Hermes.



The next emblem, number 8, the central emblem of the whole sequence, pictures two birds, a red and a white, fighting each other - one above, the other below. The verse indicates that these become transformed into white doves and becomes a Phoenix. Thus at this stage, the polarities fight, absorb each other and are reborn in a new form.



The ninth emblem shows us the King of the Forest seated on his throne with his feet set upon the Dragon he has overcome. This marks the inner stage which completes the integration of the polarities revealed in Emblem 2. Now, no struggle with the Dragon is necessary, for the King has emerged in the Soul as ruler of the dark realm of the Forest. His throne also bears fish upon its arms, echoing the symbolism of Emblem 1. Significantly, seven steps mount up to his throne.



This second sequence ends in Emblem 10 with the image of an alchemical adept roasting a Salamander in the fire. Here the inner fire works upon the Salamander or spiritual remnant of the Dragon, purifying and elevating it, and investing it with a new spiritual energy, till it becomes the glowing living interior source of the Philosophers' Stone, or inner foundation for the solidity of the Soul. This contrasts with the picture of the inner sea of the initial emblem 1, with its implication of the lack of solidity in the flowing soul forces.

We can therefore recognise in this second grouping of emblems some indication of ways in which the polarities must be woven together and brought into a relationship through the inner work of the soul alchemist. The first group shows the ways in which these polarities appear in the soul, the second points to ways of working with them towards an integration.

We note some cross correspondences between these two groups :-

[1] Water - [10] Fire element.

[2] Dragon/Knight - [9] Dragon/King relationship.

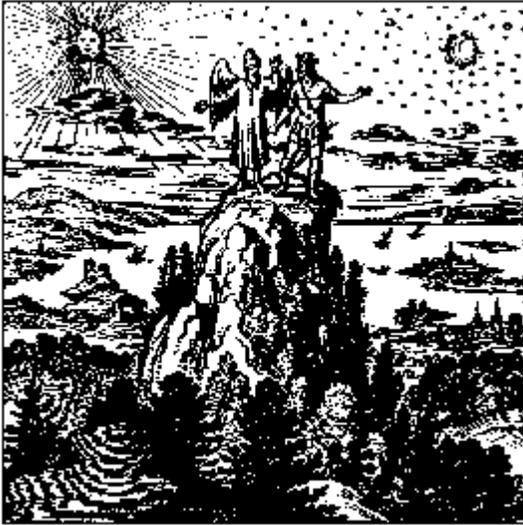
[4] Lion/Lioness - [7] Two birds 'married' together.

[5] Wolf/Dog of East and West - [6] Ouroboros uniting two directions.

The last grouping of emblems introduce a new set of characters - an old King, young Prince, and winged spiritual guide - and show in sequence the stages an alchemist must go through to complete the work begun in the earliest stages of his inner work. This sequence is rather strange and we will here consider it as a whole.



In Emblem 11, the old King gives his son into the charge of an ancient spiritual guide, who leads him up a high mountain in order to give him a glimpse of the heavenly throne. The young Prince delights in this vision but realises the great sorrow of his father who was not not able to undertake this journey, and decides to return to the old King.



In Emblem 12, we see the guide with his charge high upon the mountain standing on the threshold of the spiritual world, the archetypes of the Sun, Moon and Stars around them.



The old King was as dead without his son and when the young Prince returns with his guide, his father is so pleased to see him that he swallows his son. This is pictured in the thirteenth emblem.



Emblem 14 shows the old King lying sweating in his bed, while a gentle dew descends from above softening the father's body so that his son may be reborn from him. The final emblem shows the rebirth of the son from his father, and the verse states "The Son ever remains in the Father, and the Father in the Son", which echoes Christian sentiments.

One interpretation is of the old King or father as the earthly part of the alchemist's soul, or that aspect turned to the body and outer senses - the young Prince or son as that part of the soul that is free to rise to the spirit - and the Guide as the spiritual part of the alchemist. Strangely, this sequence seems to indicate a path of spiritual development which is almost an inversion or mirroring of the christian path. In the tradition of the christian mystical path, there is a sense of the incarnation of spirit in matter, as a sacrifice of the spirit descending from the Heavenly Father to become involved and incarnated in matter as the Christ, to suffer in the body, and to become resurrected and return to the spirit. In the alchemical path outlined here, the father is the earthly King, rather than Heavenly Father, the son is given an opportunity of rising into the spirit to leave the material realm behind, and kneel at the heavenly Throne, but elects to return to the material world and become reabsorbed by his earthly father, who is the suffering one. (We don't have here a picture of the spirit suffering in matter, but of the matter suffering without the spiritual).



The father undergoes a strange process of transformation through the dew that descends, and the sweat that rises out of his body. Eventually the son is emanated again and yet they remain inseparable, and as the text has it "they perish no more and laugh at death". This is not so much a resurrection from death as a transcendence of death. Thus this is a process of excarnation and suffering then incarnation, rather than a picture of incarnation then resurrection through suffering. In some ways this alchemical work is paralleled with the christian idea of the incarnation and resurrection, but here we seem to have a mirror image of the process.

The Book of Lambspring is an important work that points us especially to the inner aspect of the alchemical process. The indications I have presented here are only hints at one possible way of entering into the Lambspring process. However, as with all such hermetic systems of inner exercises, we cannot entirely grasp it through our thinking and if we wish to work this process we must take an inner journey into the strange landscape of Lambspring's work. By studying the text and meditatively penetrating each emblem in sequence we will be able to experience the symbols working within our souls. The indications I have presented here, hopefully might be a useful map for exploring this process.

The Alchemical Vessel as Symbol of the Soul

Adam McLean ©

As students of the hermetic tradition we all recognise that the alchemical work takes place on many different levels - the physical work with substances, the experience and manipulation of etheric forces, the interior work on the soul, as well as the spiritual and planetary/cosmic aspects of alchemy. These different facets of the work interpenetrate and overlap each other. Indeed, in a sense, if we are to make any progress in alchemy, we must pursue the different facets concurrently, paralleling interior development with experience of the outer work. One symbol that belongs to all these different realms of this work is that of the alchemical vessel. In this article I would like to outline some ways in which we can use this symbol in our inner exercises.

The tradition of interior development in alchemy, is pursued by mirroring the transformations and processes of alchemy within our soul. As with any esoteric practice, this internalising of alchemical operations can produce disturbing patterns in the powerful psychic energies that we evoke through inner work, unless we find some means of containing these energies. In the tradition of ritual ceremonial magic the operators normally use an opening and closing ritual that acts as a structure to contain and safely dissipate the energies raised through their work. Similarly, in many traditions of meditation, an opening and closing exercise (sometimes based on breathing rhythms) helps to anchor and reconnect the meditators with their normal state of consciousness, so as not to leave them rather dissociated and dangling somewhere in between the outer and interior worlds. In our inner work with alchemical processes we will find the symbol of the alchemical vessel an invaluable means for containing the interior energies and allowing them to unfold within us in a controlled and positive manner. So in a sense, the alchemical vessel can be a protective interior symbol, just like the circle of the ceremonial magician, or the astral temple of a working esoteric lodge, or the breathing exercises of a meditation tradition.

The energies evoked by working with alchemical processes, as I have said, can be powerful and disruptive forces in the psyche, and a direct inner encounter with these transformative energies is not to be had instantaneously. Only through long and repeated interior work do we come to directly experience these energies in their primal and most fundamental form. The initial encounters are usually ephemeral and overlain with emotional currents. Only if we have the patience of alchemists tirelessly repeating interior experiments, brooding over our inner flask, will we attain even a glimpse of the goal of alchemical transmutation. It is therefore important that we understand the nature of the alchemical vessel so that we have some indication of how to use this in our inner work.

We should come to see that symbols are actually patterns of energy. In an exoteric sense this is so, for obviously any symbol held in our consciousness is manifested as an electro-chemical plexus in the neuron net in our brain. However, esoterically on the deepest level, a symbol is the pattern of etheric energy underlying its various different forms. When we meditate on a symbol we will find it shape-shifting and manifesting its different appearances, and through this can come to grasp that the true nature of the symbol is its energy pattern.

There are many different forms of vessel described and depicted in the alchemical literature and emblematic engravings. There are a seeming multiplicity of forms of retort, pelicans, water baths, alembics, cucurbites, stills, etc. However, in the interior work we will find that all these different outer manifestations of the apparatus reduce to three archetypal forms - which we can call the CRUCIBLE, the RETORT and the STILL.

The Crucible is essentially an open vessel, a dish, a mortar, or a cauldron, open to the outside world yet capable of containing material. Substances and energy patterns can be put into the crucible and be acted upon by some agent, and some part of this substance can also be drawn off or removed so enacting a kind of purification. This is often pictured as taking place through the application of heat. In outer terms, an ore is placed in the crucible, which is then heated, the metal forms itself out of the ore and various impurities are given off into the air, or a slag is skimmed off the surface of the metal. Thus the primal substance, the ore, is transformed into new pure metal. The essence, however, of this type of vessel and the inner operations undertaken in it, is that it is open. A transformation can be undertaken because certain energies (or impurities) are allowed to escape or dissipate. Heating is not essential to this

archetypal alchemical process. Acting on a salt with an acid to produce an effervescence or release of gases, is another outer example of this process, or the slow precipitation or crystallisation of a solid out of a mother liquor.

When we internalise the crucible in our souls we picture a vessel within our being which is open, allowing impurities or unwanted facets of the work to pass out or to dissipate away, as well as substances and forces to enter in from the universal spiritual. In this sense the crucible in our souls is a chalice, the lower part of which contains and holds a substance or constellation of forces while its upper part is open to universal spiritual influences. Unwanted energies can be allowed to safely flow out of our crucible and dissolve in the universal flow, and in the other direction energies can be gathered from the spiritual and allowed to descend to the bottom of our interior vessel.

This process can be a gentle and slow flowing one, or alternatively one can heat up our inner crucible through generating powerful currents of emotional energy, forcing and pressing for some transformation to occur. Indeed, once we become experienced in using these techniques, we can readily consciously evoke both of these phases, the active fiery phase and the gentle cooling, precipitation or crystallisation, and in a particular working these can be applied alternatively to create a polarity within the interior experience, that greatly helps the work to come to some conclusion.

Thus we normally undertake such exercises by placing some pattern of symbolic energy into our inner crucible, then opening ourselves to the particular transformations that can be evolved by this exercise - calcinations, purifications, crystallisations, dissolvings, etc. I hope to write further on the inner nature of these alchemical processes in a later issue of the Journal.

The Retort in this archetypal case is a sealed flask. In this interior work we picture our soul as entirely sealed off from both the outer world and the universal spiritual realm. When we undertake this exercise we must have everything we need within the sphere of our inner retort, and for the duration of this work we are entirely self-contained and rely on inner change to take place within the components or forces we have within our being at that time. We have to work to bring about a transformation in these inner patterns, without relying on external forces. It is thus very important if we are to undertake such interior exercises in a positive way with any hope of any satisfactory results, to prepare ourselves and place in our inner retort all the energies and symbols that are necessary for the process. Thus working this particular exercise requires some degree of preparation.

The retort exercise is especially valuable for working towards the interior synthesis of polarities. We place the polarised patterns of energy bound up, say, in some particular set of symbols, into our interior flask, seal it up, and allow them to fully unfold, interpenetrate, and come to a new synthesis. The most common symbol of this in alchemical writings is the man and woman in a flask, uniting and giving birth to a child. So the obvious forces to work with through this exercise are our masculine and feminine components. Through putting these patterns of symbolic energies into our inner retort and calling up the manner in which they manifest and resonate within our beings we can bring about an encounter with these psychic components and make them meet in a positive way. Other polarities we might try to work with are our logical thinking and emotional intuitive facets, or body and spirit, even our awe of the spiritual light and our fear of the deep darkness of matter, or the processes of life and death, and growth and decay.

We should try to experience the retort as a womb or matrix in which the process of gestation or new birth arising out of primal components, can safely take place in us. If we work with this retort exercise over a period of time, we will begin to feel the importance of this space in our souls, and value it as a creative interior workplace. The alchemical processes that go on in this retort usually involve the meeting of polarities, such as Separation and Conjunction, or of Dissolving and Coagulation. Sometimes we find our inner retort will go black, and nothing seems to happen for an extended period, but if we persevere some change will eventually be seen - perhaps at first merely a glimmer - which over a number of repetitions of the exercise might give rise to some new inner experience. At other times the retort will be full of movement and iridescent play of colours and ever changing forms, and here we must wait for some solid and substantial ground to arise in the shifting patterns, upon which our inner experience can grow. A symbol or pattern of energy often experienced at this stage is the tree or flowering plant within the space of the interior retort. Another symbol structure is that of the bird rising and falling in our inner world.

The final interior vessel I would like us to consider is that of the Still. When we try to experience our inner world through this symbol, we should have a sense of extracting an essence out of one of the interior processes, purifying and gathering it within our being so that it becomes an inner source we can touch upon at will. This alchemical operation to some extent corresponds in our everyday outer consciousness to the way in which an experience of coming to an understanding of some aspect of our world can entirely transform our way of interacting with it. For example, our initial reaction to a new piece of technology or an unfamiliar task, is tentative and fraught with difficulties we project upon this device or task. If we can eventually understand just how the device works or gain a picture of the movements needed to accomplish the task, then our way of using the device or of undertaking the task becomes entirely transformed.

Similar processes take place in respect to our interior life through the exercises of inner distillation, though this works on a more subtle plane. Here we take some particular positive quality of our being, such as our creativity, or our sensitivity to others, or our ability to think deeply and clearly, and we find some symbols that capture (or at least envelope) the essence of this quality. We then place these into our interior Still and in our meditation begin to allow these symbol patterns to flow together. At some point in the inner work, we should sense some essence of this process begin to rise out of and separate itself from the specific symbols and feelings connected with this quality. If we encourage this process we can have the inner experience of elevating this essence and allowing it to collect in the upper part of our soul. It then becomes a Tincture.

If, say, we choose to work upon our creativity through this exercise, we place into our interior Still, our understandings of the source of our creativity, picturings of our previous creations or our work in progress, memories of the emotional currents associated with our creative experiences, more universal symbols of creativity, and so on. In a meditative work on this facet, which will take many sessions to bring to fruition, we evoke all this material in our interior Still and attend closely to the processes and changes taking place there. For example, at one point we will experience the 'polarity flipping' of various symbols. We might, say, initially believe our creative impulse lies entirely in the quest for some ideal form, and experience this ideal image flipping (instantaneously interchanging) with its antithesis, some ugly shapelessness, or cycle of metamorphoses, producing disturbing patterns within our being. This stage will eventually resolve and we will find some symbol or feeling-perception that captures the essence of our creativity (or whatever we have chosen to work with) emerging out of the meditative material. If we nurture and sustain this essence, then we can allow it to rise up within our soul and we will feel it remaining as a kind of tincture in our inner world. If this tincture becomes fixed within our being then we can later draw upon it at will. What we find then is that a part of our inner forces retains an echo of all the meditative work we undertook at that time, and we can reconnect with this reservoir whenever we wish. So in the case of creativity, once we possess this inner tincture, then if we have some difficulties (or a block) over some particular piece of creative work, we will find that evoking the inner tincture of this experience, will put us deeply in touch with the ground of our creativity and may enable us to resolve our present problem.

Of course, such exercises are never entirely completed, as we ourselves are changing all the time in response to ongoing experiences, but working with our interior Still will be found invaluable in putting us in touch with the sources of our positive qualities. In alchemical terms the processes associated with the Still include those of Distillation, Exaltation, Fixation, Projection, Multiplication, Quintessence, etc.

I hope these few indications might help us to see how the philosophy and symbolism of the ancient alchemists can still be effectively used today, as a vital living force for the inner spiritual transformation of our souls. The 'open secret' of alchemy is that we must, like the alchemists of old, experience our inner world as these alchemical vessels. Then our inner life will be tinged and transformed with a new richness of spiritual experience.

Emblematic Meditation

by Adam McLean ©

The stream of mystery wisdom we know as the hermetic tradition, embraces many facets. It has a coherent set of metaphysical ideas that continue to make sense even within the currents of present day scientific thought, a spiritual psychology which recognises the importance of the process of change and transmutation very relevant to the present condition of the human soul, and an elaborate system of symbols which can still speak directly to us, and seem to be a map of archetypes etched into our innermost being.

When we begin to look at the material of the hermetic tradition we are quickly struck by the elaborate and beautiful emblematic engravings especially from the late 16th and early 17th centuries, such as those of De Bry, Merian and others, illustrating the works of Robert Fludd, Michael Maier, Mylius, Khunrath, etc, which now seem almost mandatory for inclusion in today's popular books on the 'occult' and related themes.

Only rarely in such present day popular books are the symbolic contents of these emblems addressed by any meaningful or sensitive commentary, and they are all too often used merely as a form of decoration, or to pad out an otherwise inadequate text. Although these emblems have within the last decade or so been rescued from neglect becoming recognised as some of the finest examples of the engravers art, I hope that they will not become too overexposed and familiar as to have their impact on the soul diluted. In my work with the Hermetic Journal and Magnum Opus books, I have focussed especially on these emblems and tried to provide meaningful commentaries rather than using them in a decorative way.

I believe these emblems are too important to be dismissed merely as fine examples of symbolic engravings. Indeed, if we work with them with any sensitivity, we will come to recognise that they possess a kind of inner life, a numinous quality. They are not merely symbolic keys to unlock the mysteries of hermeticism, but can be experienced as bearing a kind of living spiritual force that can still work in our souls today if we are prepared to contemplate them in the right way. In this short article I would like to suggest some ways in which we can work sensitively with this material.

Some Suggestions for working with Emblematic Meditation.

First of all it is important to get good examples of these emblems as so often small details in the symbolism will be found to be important. I prefer to work with them as individual emblems each on separate sheets of paper rather than bound up in a book as they are then free of any context or implication of hierarchy or sequence, and can begin to reveal their own internal architecture. The hermetic emblems are often found forming series as with Michelspacher (4), Rosarium (20), Pandora (20), Splendor Solis (22), Mylius (28), Maier Atalanta (50), Stolcius Hermetic Garden (160).

To begin with we should merely familiarise ourselves with the symbolism of the emblems we have decided to work with, rather than immediately trying to analyse their structure. For until we have fully breathed their complex net of symbols into our souls, initial intellectual analysis usually results merely in our unconsciously projecting our own ideas and preconceptions onto the symbols, rather than allowing them to unfold their being to us. There are quite a few writers who, rushing headlong into an interpretation, reveal their own preconceptions and philosophical outlook rather than truly encountering the inner ground of the emblems they seek to grasp. (A prime example of this is Johannes Fabricius in his book *Alchemy : The Medieval Alchemists and their Royal Art*, in which many hermetic emblems are beautifully illustrated, but are interpreted only through the authors attachment to a Freudian psychological model, and his text often seems to overwhelm and ignore the essence of the emblems.) If we are to work with the emblems we should initially be aware that we have to guard ourselves against such projections.

The sheer density, enigmatic, and at times almost surrealistic nature of the symbols on the emblems allows them to echo back almost anything we care to project upon them. However, I believe we have to recognise that they are not merely mirrors in which we can narcissistically reflect our own philosophy and view of the world, but in fact they

possess a living spirit that transcends such projections.

So with these points in mind, we must begin by trying to build up in ourselves an inner version of the emblem. Beautiful as it may be as fine lines etched on a copper plate and pressed into paper, the essence of an emblem stands outside its particular depiction. Our initial work then involves freeing the content of the emblem from the paper and dissolving it in our soul. Some of us will find copying or redrawing the emblem, and even colouring in its symbols a useful exercise at this stage. As we work in the right way with some series of emblems, we find we are developing a kind of dialogue with the symbols and that slowly they seem to be becoming a part of our inner life. In a sense we are breathing in their essence.

This process is best undertaken sporadically in response to our feelings and inspiration, rather than pushed too hard with the kind of discipline we might apply to learning a mass of facts about a subject, in order to write about it or pass some exam. I find that if I place the particular set of emblems I currently wish to work with, on the wall of my study, or just carry them around as a set of cards that I can bring out whenever I want and spread them on a table or on the floor, then after a few weeks of living with them in this way, even the most elaborate sequences unconsciously, without any stress or pressure, have become woven into my inner world. Indeed, only at the point where we hold its entire complex of symbolism within ourselves, can we begin to work in a creative experiential way with an emblem sequence.

Emblems are flat plates, usually square, rectangular or sometimes circular windows through which we glimpse an elaborate world of symbols. As such we are forced by the format to adopt initially the role of observers at a peep show. It is this format that in fact makes the emblems so powerful. In a sense they are esoterically protected. Profound esoteric exercises have been compressed into these emblems in such a way that they remain entirely harmless to those who are unable to find in themselves the inner resources to work with them and bring them to life, and resurrect them in the activity of their souls. This is not so true of some other methods of transmitting esoteric exercises, such as ritual or group meditations, which can often have an unsettling effect upon the unprepared soul. Rituals used in any public context, outside of a working group of esotericists, should be carefully designed and balanced so as not to unduly disturb any of the participants.

The esoteric content of the hermetic emblems are not so restricted because people initially view them from the outside as observers, and consequently intense and powerful esoteric material is found openly displayed and yet simultaneously hidden in these emblems. An emblem only comes alive, or active esoterically, when one steps through the frame of the picture and becomes a participant and not merely an observer of the symbolic peep show.

Just as the emblem steps towards us, freeing itself from the printed page and rebuilding itself in the imaginative pictures of our inner world, so if we are to truly make relationship with it, we in our turn must step into the sphere of action of the emblem.

[At this point I would like perhaps to expand somewhat the concept of an emblem. Although we can identify them as engravings, woodcuts or coloured drawings in manuscripts, in a sense the hermetic allegories found in various texts should be seen as paralleling emblematic material. Indeed, if we contemplate such an allegory in something of the same way suggested for the emblems, then we arrive at the same point where we bear the emblem or allegory living within our being and have to step into the symbolic action to give it life.]

We have to transform our emblem from a flat plate into a three-dimensional landscape of symbols within which we can stand. At this stage it will be found useful to begin meditating on the symbolic content of the emblem. Say we have chosen to work with a particular series of emblems and have reached the point where we have their symbolic content living within us. Occasionally, without necessarily any great preparation or ritual, we can slip into a visualisation of the emblems as windows upon a landscape of symbols, one after another in the order in which they were originally depicted. The first few occasions we might fail to get through the sequence without tiring, however, this doesn't matter and we should just repeat this short exercise say once a day for a week or so.

After a few sessions, this exercise should become more and more tedious as we are able to easily recall before our inner gaze each emblem in turn, and a point will be reached when we find our seeming good progress is disturbed (in a way in which it wasn't earlier) by symbols shifting around and getting muddled, even though we know quite well where each of the symbols ought to be the tableau. Unless we have had any indication in the meantime through

warning dreams or intuitions, this is the point where we step decisively into the space of the emblem. Now our meditations should become perhaps less casual as we begin to explore this inner landscape of symbols.

At this stage I find it useful to provide a structure within which the emblem is free to unfold and yet is bounded and contained in the soul. For this purpose one can build the image of an inner walled garden say, or a mystical island bound by a calm sea, or a strong fortified castle or palace, an alchemical retort or vessel, or the enclosed sanctuary of a temple. The purpose of such a meditative container is to provide a space within which the emblem can unfold its symbols and allow us to explore them with a sense of inner security, in that we can at any moment in our meditation return into our inner garden, vessel, or sanctuary. If we chose not to use such a technique it is not really a problem for the experienced meditator, but some people find that the symbols in an emblem occasionally lead them off on trains of associations which leave them feeling uncomfortable or disoriented. Although this is not especially troublesome and will wear off in a few hours it can interfere with our everyday work and responsibilities, and such experiences in fact usually lead to people giving up their inner work rather than continuing to feel dissociated. This feeling is in fact a positive one, a sign that psychic energy is being developed by polarities being exchanged between archetypes. The discomfiting aspect arises from it being initially misplaced and unintegrated within the existing patterns of our inner life.

It is not possible to go into great detail on meditative techniques and experiences in such a short article, but I hope given time to be able to write at length on these matters. We will find that there are four different levels of working with emblematic meditation.

Spiritual existential level - pure consciousness of being

Astral - energetic flow of psychic energy, drama

Etheric - weaving into life forces

Physical - encountering the emblem outside ourselves

In the first level we encounter the emblem in its physical manifestation as a pictorial image outside ourselves. We have to take this through our eyes and imprint it in our physical brain so it becomes in a sense a physical pattern within ourselves. However, when we build up an inner picture of an esoteric emblem we find something different occurs from the common process which we do all day long with mundane things we have to remember for our work or everyday life. The emblems contain carefully polarised and balanced symbols that stimulate and resonate with archetypal structures in us. In a sense they begin to send out roots and grow into our being, and at this stage we can say that they have come to life within us released from the dead outer image on paper. In present day esoteric parlance we can say that the emblems have permeated through into our etheric body. Those more attached to physiologically based models of the psyche could well describe this as the fact that the emblem has been transferred from a initial mere mapping of its physical characteristics onto visual memory in the brain, to a less localised pattern of energy ramified throughout our being, free to make associations on different levels. It could be pictured as the movement of the image from the localised receptors in the visual cortex till it becomes non-localised over the two hemispheres analogous to the way all the information borne in a hologram can be found at every point in its two dimensional plate.

It does not really matter just how we chose to describe this process to ourselves intellectually, the experience of the emblems coming to life within us remains the same. The next stage of stepping into the frame of the action, can be described in esoteric language, as experiencing the substance of the emblem working in our astral body. It involves relating to the symbols and letting them communicate with us, and at this stage the symbols can dramatically metamorphose, weaving around themselves emotional currents. The emblem often temporarily takes the form of an inner dramatic action, and we will sometimes have the sense of receiving communications or messages from some deep underlying part of ourselves. The symbols begin to speak to us. This process can be disturbing to inexperienced meditators, and it is best if the exercise is pursued with certain safeguards or techniques (for example the meditative container of the safe inner sanctuary). I will be describing some of these methods in a later article.

The best safeguard is to have a kind of map or model of the process we are undertaking. This gives us an inner vantage point or centre from which we can temporarily withdraw to consider the significance of some inner event experienced in emblematic meditation. Some present day esoteric exercises use a technique of "pathworking" which is underpinned by the kabbalistic Tree of Life system, so that at almost any point one can gain some understanding of what is happening in an inner experience by mapping this onto the Tree of Life and looking at the correspondences.

Of course the Tree of Life system does bear within it certain underlying philosophic and religious structures which may make it unsuited to those individuals who do not wish to work within this Kabbalistic current, and it is not in itself essential for such pathworking or inner journeys. There are other systems for understanding inner polarities and archetypal forces which arise out of the hermetic alchemical tradition and are equally valid. In the longer term I hope to be able to articulate and describe such a map of inner work which can be used to find our way easily through the experiences gained in meditation on hermetic emblems.

This stage of moving the emblem from the etheric to the astral realm within us can give rise to dramatic and exciting experiences, and perhaps the biggest danger here is that we cannot readily digest these experiences, and that they rattle around inside our souls making us feel quite uncomfortable. Such imaginative experiences are inevitable in this kind of inner work, indeed this stage involves the development of just this inner ability of being able to inwardly digest polarised astral energy thrown out by the archetypal symbols. If we persevere then eventually we will come to gain this inner ability, and can then become more inwardly free of the emotional currents generated by the archetypes living within us, which are stimulated by resonances from such emblems.

We are then free to move to a final stage of inner work with an emblem in which we encounter the spiritual being that resides there. Esoteric exercises are in essence merely vehicles for incarnating spiritual being. They are devised to have definite forms which reflect in outer physical symbol, etheric and astral substance, a spiritual principle which has a core or essence we can describe as having an immanence of 'being'. The emblems we are heirs to in the hermetic tradition were devised by people experienced and adept in a wisdom of the spiritual ground of consciousness. Each emblem sequence has had woven into its symbolic web a reflection of some spiritual essence, and it is only when we are able to touch upon this level that we can truly say we have encountered the being of an emblem.

Hermetic emblems thus bear within them seeds of being that can tinge and transform our innermost essence. When we are able to absorb them in our lower vehicles through such meditative work, like drops of quintessence they subtly transmute our souls and make us glow with inner spiritual life. The wise adepts of the hermetic tradition have left to us their most precious treasure, their tincture and philosophers' stone, revealed and yet still hidden from us until we resurrect them within our being through inner work.

The Birds in Alchemy by Adam McLean

This article written in 1979 was first published in the Hermetic Journal No. 5.

In alchemical writings we meet a seemingly bewildering multiplicity of animal symbols - red lions, white eagles, stags, unicorns, winged dragons and snakes. Although at first glance all this complex mass of symbolism seems tortured and confused there is an inner coherence to these symbols, which the ancient alchemists used in specific ways reflecting their esoteric content. In this article I wish to consider a particularly tight knit group of these animal symbols, the birds of alchemy - the Black Crow, White Swan, Peacock, Pelican, and Phoenix - which are descriptive of certain stages of the alchemical process. Of course it would be wrong to suggest that there are fixed rigid meanings with regard to these symbols. The alchemists always integrated the symbols they used, so that one has to look at the total context, the background against which they stand, but when the birds appear in this sequence it is almost certain that the following interpretation can be applied.

Firstly, let us look at the symbols in general. What did the alchemists wish to symbolise by birds? The essential thing about birds is that they, having as their domain the air element, mediate between the earthly realm and the heaven world. The alchemist in observing the flight of birds, recognised in them a picture of the human soul undergoing spiritual development. The soul, aspiring upwards, flying free of the restraints of the earth bound body seeking the heavenly light, only to have to return to the earthly consciousness again after the meditation, the alchemist symbolised by the bird. Thus the bird symbols, in alchemy, reflect the inner experiences of soul alchemy, the soaring of the soul free from the earth bound body and the physical senses. The soul, in the meditations of soul alchemy, touches upon the spiritual world, and brings something of this back into the outer life again. The birds as symbols mediate between the physical and spiritual worlds, they reflect certain archetypal experiences encountered by the soul in its development through the alchemical process.

These symbols were used in two ways. Firstly, as a description in a text of one aspect of the process. Thus the alchemist might indicate a certain process as the Pelican stage, and describe certain facets of this by using perhaps other symbols. Secondly, these bird symbols could be used as a subject matter for a meditation, and by inwardly building such a symbol, one connected in soul with the essential experience of the particular stage of the alchemical-soul process.

Now we will look at these in detail. I would like to consider them in the following sequence, one which occurs in various sources: Black Crow - White Swan - Peacock - Pelican - Phoenix - as these correspond to a developing inner experience which involves a progressively deepening encounter with the inner spiritual dimension of our being.



The Black Crow sometimes also the Raven is the beginning of the great work of soul alchemy. This indicates the initial stages of the alchemist's encounter with his inner space, through withdrawing from the outer world of the senses in meditation, and entering what is initially the dark inner world of the soul. Thus this stage is also described in alchemical texts as the blackening, the nigredo experience, and it is often pictured as a death process, as in the caput mortuum, the death's head, or as some alchemical illustrations show, the alchemist dying within a flask. Thus in the symbol of the Black Crow we have the stepping out in consciousness from the world of the physical senses

the restrictions that bind us to the physical body.



The next stage, is often shown as The White Swan. Now the alchemist begins to experience the inner world as being light filled - the initial inner brightness which is often erroneously mistaken for true illumination. This is merely a first conscious encounter with the etheric world, and in comparison with physical sense experience is for many souls so overpowering as to be pictured as bright white light. The alchemical tradition recognised this and symbolised this stage as the White Swan. The swan is a bird which is rarely seen in flight, but rather swimming upon lake or river, gracefully moving on the surface of water- in soul terms, on the soul's surface, its etheric interface with the physical.



With the Peacock stage, the alchemist has entered into the inner experience of the astral world, which initially appears as ever shifting patterns of colour. This experience is often symbolised in alchemy by the appropriate image of the peacock's tail with its splendid iridescence of colour. In terms of this series of five stages, the turning point is

reached with the Peacock. Up until this point the alchemist has experienced aspects of his being which he was formerly unconscious of - the etheric forces and the astral body. Essentially these experiences have happened to him, although he had to make himself open to the experiences through entering into the initial Black Crow state, however, in order to progress he must begin to work upon his inner being.



This active working with the soul forces is perfectly pictured in the Pelican. The Pelican is shown stabbing its breast with its beak and nourishing its young with its own blood. The alchemist must enter into a kind of sacrificial relationship with his inner being. He must nourish with his own soul forces, the developing spiritual embryo within. Anyone who has made true spiritual development will know well this experience. One's image of one's self must be changed, transformed, sacrificed to the developing spiritual self. This is almost invariably a deeply painful experience, which tests one's inner resources. Out of this will eventually emerge the spiritual self, transformed through the Pelican experience. The Pelican was in this spiritual sense a valid image of the Christ experience and was used as such by the early alchemists.



The Phoenix completes this process of soul development. The Phoenix bird builds its nest which at the same time is its funeral pyre, and then setting it alight cremates itself. But it arises anew from the ashes transformed. Here we have captured the alchemists experience of spiritualisation, He has integrated his being so much, that he is no longer dependent upon his physical body as a foundation for his being. He now stands upon the sureness of the spiritual - he has in this sense attained the Philosopher's Stone, the Spiritual core of his being.

Thus we can sketch shortly the process of Soul alchemy, the integration, purification and transmutation of the soul, as pictured in this series of bird symbols.

withdrawal from depend- ence on the Physical senses	BLACK CROW	PHOENIX	freeing of the spirit from the bounds of the physical
experience of the etheric body	WHITE SWAN	PELICAN	using consciously the forces of the etheric body
PEACOCK astral body consciousness			

inward immersion integration	point of transformation purification	outward expression transmutation
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The Peacock's Tail is the central experience to this process, the point of inner transformation, which arises from a true consciousness of the astral body. We note also that the other stages mirror each other. Thus the Black Crow and the Phoenix are related as beginning and end of the process, but in a deeper sense they are both connected with death-processes. The dying to the senses of the Black Crow stage is ultimately transformed into the triumph over the death process of the physical, that is pictured by the Phoenix. There is a further mirroring of the White Swan and Pelican stages. The White Swan is an experience of the etheric forces in one's being, and this is later transformed into a conscious mastery and outward expression of these life forces.

The Peacock's Tail stage - the conscious experience of the astral body - stands alone in this picturing of the process, though it was sometimes split into two facets, in the writings of some alchemists - an initial winged dragon phase which resolved into the Peacock's Tail. In the initial encounter with the astral body, the negative distorted aspects of one's being can dominate, and these can be pictured as the winged dragon, but through soul purification, ultimately the full beauty and splendour of the astral body are revealed in the Peacock's Tail.

In the early alchemical texts (and in particular the 'Rosarium philosophorum'), this picture of soul alchemy is developed in parallel with descriptions of what was a sore physical process. Thus it was that the soul development of the alchemist went hand in hand with an actual physical operation, and this operation, the details of which have not been wholly lost, involved colour and form changes within a sealed flask, isomorphic to the inner changes of soul alchemy, described by these bird symbols. Thus we had a physical process which involved a blackening, a whitening; a rapid iridescence of colours, a circular distillation stage, and a final sublimation. Part of the task of modern alchemy must be to rediscover this physical process, and explore its further ramifications.

A Commentary on the *Rosarium philosophorum*

by Adam McLean

For the purposes of this commentary I do not intend to work through a detailed analysis of the text, but rather to pursue an interpretation of the series of twenty woodcut illustrations, which have borne the reputation of the *Rosarium* in the absence of a translation. Some of these woodcuts are very well known and have been used as illustrations in many recent books on symbolism.

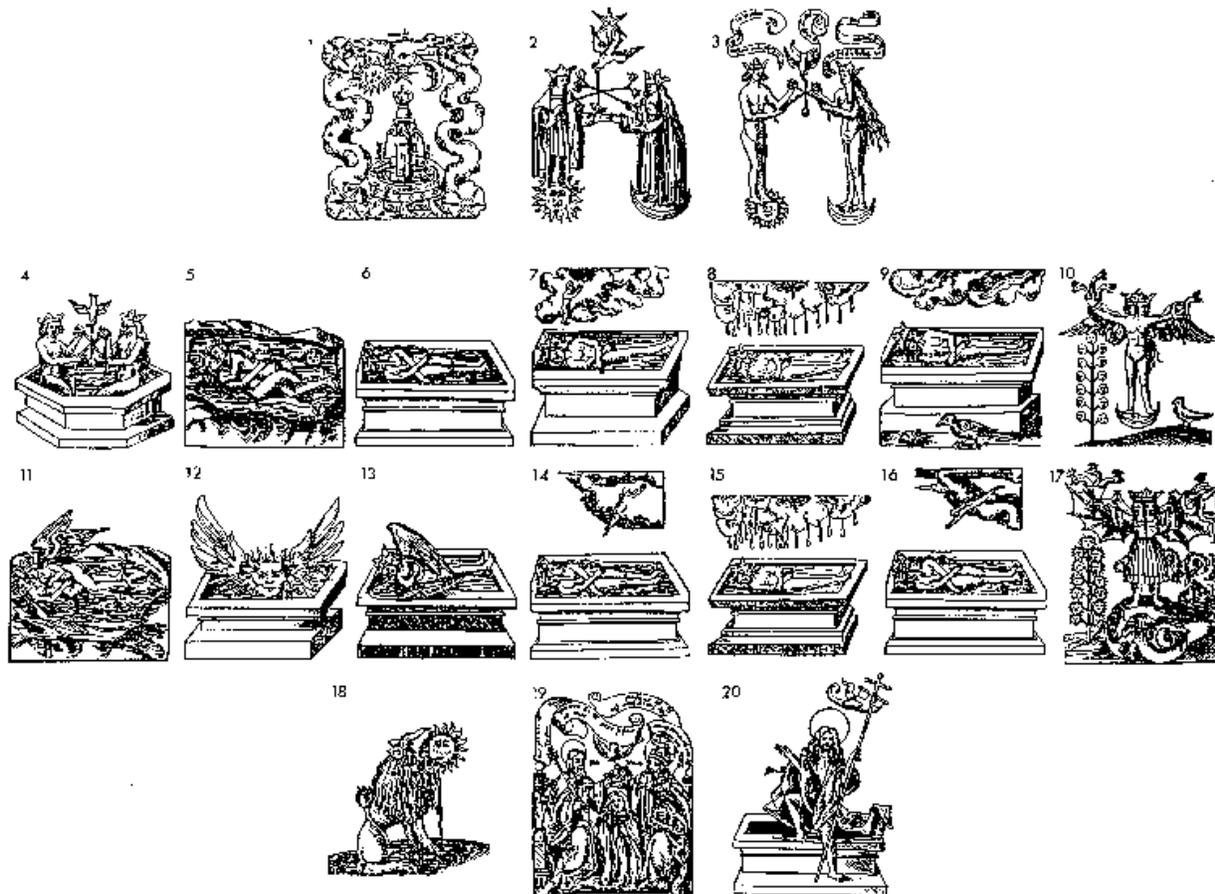
The text of the *Rosarium* is divided into sections associated with these twenty illustrations. These sections introduce ideas arising from the symbolic content of the woodcuts, and weave these remarks in with quotations from various well known alchemical authorities, often using quite lengthy extracts from other alchemical writers. So the *Rosarium* is a gathering of material within a certain framework, rather than being an entirely original textual statement of alchemical ideas. So, it is this framework, in which the essence of the *Rosarium* lies, that we shall be exploring in this commentary.

The text of the *Rosarium* is quite peculiar in that it seems almost to move in and out of focus. At one point in a section one seems to have a clear precisely drawn idea, which as it is developed in the text becomes more unfocused, more diffuse, and one finds oneself unclear as to what level the text then refers. Then, just as one's puzzlement is growing into irritation, the text moves sharply back into focus with another clear statement of an idea. This may be a quite conscious technique on the part of the anonymous writers rather than just a failing of the translation. At any rate, the text constantly shifts between physical alchemy, statements about experiments with substance, and the realm of soul alchemy, the task of the inner transmutation of forces within man's soul. In that it sought to unite these two alchemical realms, the *Rosarium* set a style for alchemical literature of the late sixteenth and early seventeenth centuries, in which the physical process became a mirror for soul development, and the inner content of soul experiences became projected upon outer processes in the laboratory or the natural world.

The *Rosarium* as a text is not a work of the kind of spiritual alchemy we find later in the early seventeenth century in the output of Mylius, Maier, Fludd, and the Rosicrucian alchemists. It does not deal directly with the spiritual principles of alchemy and state these as a coherent philosophy in the text, but rather this spiritual alchemy is incorporated into the series of illustrations. It was only in the later sixteenth century and particularly during the Rosicrucian period, that alchemists felt free to express the profound truths of their spiritual philosophy in the form of words. Until that time, in the alchemical tradition the spiritual principles were still only expressed in symbols. So, while the *Rosarium* in its text attempts a synthesis of physical and soul alchemy, we also find as a further layer, that the series of symbolic illustrations incorporates in pictorial form the principles of a spiritual alchemy.

The *Rosarium*, because of its interweaving of soul and physical alchemy, was of particular interest to the psychologist Carl G. Jung, who perhaps quoted from it in his writings upon Alchemy more than any other single text. Jung, indeed, wrote an essay on the *Rosarium* series of illustrations under the title 'Psychology of the Transference' which is included in Volume 16 of his collected works, and this provides us with a most valuable foundation upon which to construct an interpretation. Jung, however, only shows us 11 of the 20 illustrations. Furthermore, he suggests that figures he labels 5 and 5a (*Rosarium* illustrations 5 and 11) are alternative versions of the same figure, whereas on examining the full series of 20 illustrations we find this untenable. Perhaps Jung did not have access to a complete edition of the book, but that as often happens over the centuries, some of these illustrations had been removed from his copy. At any rate, Jung's interpretation is based upon seeing the illustrations as 10 stages, whereas as we have seen there are 20. Indeed, if we read again Jung's analysis of the *Rosarium*, with a consciousness of the existence of the extended series of 20 illustrations, we will find a further level of integration of the masculine and feminine facets of the soul, which does not contradict Jung's thesis, but amplifies and extends it.

For the purpose of interpreting these illustrations, I will follow a method I have used previously (in the commentaries to 'The Crowning of Nature' and 'The Rosicrucian Emblems of Daniel Cramer'), that of integrating the symbols into a complete pattern, rather than analyzing them as separate individual symbols. It must be emphasized that what is presented here is only one interpretation of the symbolism. This is by no means exclusive of other interpretations, which may be equally valid in that they look at the spiritual realities of the *Rosarium* series from a different perspective, and thus throw further light on the matter of the symbolism. Alchemy deals with flow and change and cannot be encompassed in the hard rigid fossils of intellectual formulae. Intellectualism only analyses and breaks down a subject into smaller units, but to grasp Alchemy we must develop a consciousness that is simultaneously capable of synthesis, of building up into a larger picture. Here we must see the individual unit as part of a whole.



So to our analysis and synthesis of the symbols of the *Rosarium*. The 20 illustrations are arranged for this interpretation as in the diagram above. Here we have a triad of illustrations 1-2-3 introducing us to the Prima Materia, the substance of the work of transformation, then in illustrations 4 - 10 we see the first process of transmutation leading to the creation of the White Stone, this being followed by the parallel transmutation of 11 - 17 which leads to the Red Stone. Then in 18-19-20 we have a final picture of the end of the Work.

THE PRIMA MATERIA

The opening three illustrations to this process, indicate the realm within which this transformation occurs and introduces the Prima Materia. We interpret this series as a process for the integration of the three facets of man - the Body, Soul and Spirit. In our present state of evolution these facets do not work together in harmony. There are polarities and vast gulfs between the different realms within our being. It is the task of alchemical transmutation to unite these facets in a new harmony, into a perfected state of being where Body, Soul and Spirit mutually interpenetrate and work together. Man's soul is thus the bridging element between the outer realm of the physical body and the spiritual world. This bridge must be built out of integrating the primal polarities of the soul, so that it becomes both a vehicle or vessel for the spirit and the master and moulder of the physical realm.

In illustration 1, we have a picture of man's inner soul world. In the lower part of the soul we see a triple fountain which pours forth the threefold soul-substance - the Virgin's Milk (the feminine receptive lunar forces in the soul), the Spring of Vinegar (the masculine sharp, penetrating solar forces in the soul) and the Aqua Vitae, the water of life (the inner source of soul energies). These three streams pour forth from the head of the fountain, at the central point of the soul, and stream down merging together in the basin at the lowest part of the soul. This vessel contains the primal substance of the soul forces, the Inner Mercury, the Mercury of the Philosophers, that is one and yet is composed of these three streams.

Thus we have here a picture of the unintegrated soul realm of man. The three streams pour down from the heart centre into the lower soul world, but are cut off from a balanced direct connection with the upper soul, the realm of the soul that can touch upon the spiritual. The only connection with this upper soul initially is through the unintegrated polarity of the lunar and solar streams within the soul.

The task of the alchemist working through this *Rosarium* process, is firstly to recognize the elements of the primal material, the lunar and solar streams, and the inner Mercury of the soul forces, then begin to work with these through meditations, bringing them into a new synthesis and making these inner forces a vehicle both for the experience of the Spirit and the mastery of the Physical world. Thus in illustration 2, there is pictured a personification as King and Queen of these solar and lunar forces. The Sun King and Moon Queen, have to be recognized by the alchemist as archetypal polarities within his soul and they must be brought into a new relationship. These polarities meet and touch, though at this initial stage, their encounter is very restrained and distant. As Jung points out in his commentary to these illustrations, they give each other their left hands in union. The left (sinister) being the dark or unconscious side of their being. Thus they are united in the unconscious aspect, in the depths of the lower soul. Their right hands, the more conscious side of their being, proffer two-blossomed flowers to each other, and this meeting in consciousness is thus more restrained and distant. However, from above, from the higher spiritual realm indicated by the Star, a bird descends bearing a further two-blossomed flower and brings a stronger unity into the picture. Thus even at the beginning of the work, the alchemist will have help from the spiritual world. As he tentatively begins the task of uniting the inner polarities, spiritual help will descend to him as a gift, a spiritual grace. For the individual alchemist this will possibly take the form of perceptions, perhaps inspirational dreams, and positive realizations that give him an inner security, a sureness that he is on the right path.

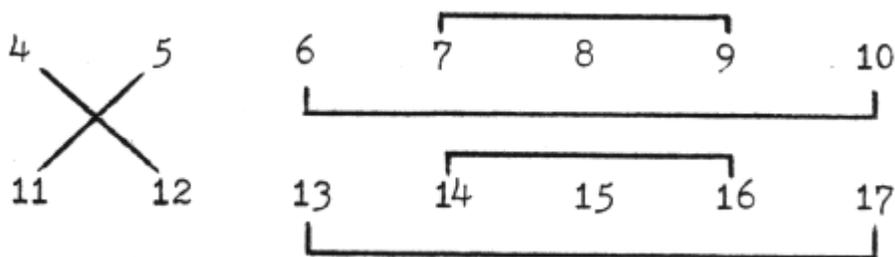
In illustration 3, the process moves one stage further. The court clothes of the King and the Queen, the veils of consciousness, have been taken off, and the two participating forces or archetypes in the soul (Jung called these the Animus and Anima) can for the first time see each other clearly. At this stage their gesture changes and they grasp each other's proffered branch (which now is single blossomed). The solar King holds out his branch in his right hand and this is grasped by the right hand of the Queen, while her branch proffered by her left hand is received by the left hand of the King, and from above the dove still bears its unifying branch. The scroll above the Sun King states, "O Luna, let me be thy husband", while Luna says, "O Sol, I must submit to thee", and the dove bears the inscription, "It is the Spirit which vivifies". The two archetypal facets of the soul are here proffering to each other, in the form of flowers, an aspect of their forces.

We have now reached the stage where the primal archetypal energies within the soul of the alchemist (the Animus - Anima) have been polarized then brought through his inner work into a kind of relationship necessary for the real task of the integration process to commence. We now see the beginning of the meeting and transmutation of these forces one into another. This takes place through two cycles of transformation involving seven stages (compare with 'The Crowning of Nature' and the 'Splendor Solis'). The first, pictured through illustrations 4 - 10 gives rise to the White Stone, the inner mastery of the lunar forces, while the second seen in illustrations 11 - 17, produces the inner mastery of the solar forces in the soul, in the preparation of the Red Stone.

Each of these processes has the same archetypal form, as is paralleled in the illustrations. These seven stages can be analyzed as follows : -

- 1 An entry into the vessel of transformation,
- 2 A conjunction of the two primal archetypal forces,
- 3 Their merging into an hermaphrodite in a death or nigredo stage,
- 4 The extraction or ascent of one facet of the soul into the Spiritual realm,
- 5 The descent of a spiritual dew or essence from above,
- 6 The return of the extracted soul forces,
- 7 The final formation of the Stone pictured as the resurrection of the hermaphrodite.

The opening two stages of each of these processes are preparations, and we see that there is a reversal of the order between that of the first cycle (illustration 4 being the descent into the vessel and 5 the Conjunction), and that of the second cycle (illustration 11 being the Conjunction and 12 the descent into the new rectangular vessel). The further five illustrations of each cycle pivot around the central experience of the descent of the spiritual dew from above (illustration 8 for the White Tincture, and 15 for the Red), and the other four illustrations in each cycle relate in form to each other as follows : -



Thus we have the skeleton framework of the process. Now we will look at each stage in some detail.

THE WHITE TINCTURE

In illustration 4, the King and Queen, still maintaining their mutual gesture of uniting their forces through the aid of the spirit, descend into the watery vessel. This is the realm of the unconscious, the inner ever-flowing Mercury of the soul, that we met in the first woodcut of the Mercurial Fountain. The higher archetypal forces within the soul have entered into the vast dark sea of the unconscious realm of the inner soul life. This vessel is here hexagonal, as the triplicity of Spirit, Sun and Moon is still working within this experience. In the following illustration, number 5, we see the first Conjunction, the Coitus or inner union of the male and the female forces of the soul. They merge together in sexual intercourse, the man uppermost. In this first cycle of transformation, the male forces are spiritually active working upon the passive female forces, however, as we shall see later, the opposite will be the case in the second transformation. This point was not noticed by Jung in his commentary.

The solar-masculine and lunar-feminine forces in the soul have now united together in the most intimate way possible. Through this union an hermaphrodite being is formed, as with the next figure, number 6, where the masculine and feminine soul forces fuse into one body with two heads. After this primal fusion and exchange of energies within the soul archetypes, an inner darkness, a nigredo or putrefaction occurs. This takes the form of a descent of the complex of interconnected male and female energies into the dark unconscious sphere of the soul. We note here that this union of the male and female energies produces the hermaphrodite, and does not give rise to the conception and birth of a separate 'soul-child' as in some other versions of the alchemical process. In the *Rosarium* process, the union of these two energies is entirely contained within the being of the operator, and does not produce an independent 'soul-child'.

In the next illustration, number 7, the Extraction or Impregnation of the Soul, a masculine soul element separates from the dying hermaphrodite, and rises upwards in the soul towards the realm of the Spirit, as indicated by the clouds above. Through this active penetration of the inner feminine by the masculine polarity of the soul, this aspect of the inner life has achieved a certain ability to ascend within the inner world to the realm of the Spirit. The hermaphrodite-body left below as the husk of the union of the male and female currents, and being abandoned by the masculine soul forces, is now in essence the vehicle for the naked female forces of the soul in an entirely unconscious passive form. This is the turning point of this sevenfold cycle of transformation.

In illustration number 8, a dew descends from the spiritual clouds upon the inert corpse of the female forces. This results in a spiritualization of the feminine lunar element of the soul, through a washing or purification of this aspect of the soul forces lying in the unconsciousness. The hermaphrodite needs to be cleansed both by the waters of the sea of the unconscious and by the higher conscious spiritual rain. This is the Ablution or Purification.

When this stage has taken place, the male facet of the soul returns from its sojourn in the higher spheres and reunites with the hermaphrodite husk. This process is also pictured at the base of the vessel, as we see a bird above ground meeting with a bird buried in the earth. This is the 'Ortus', the rising or dawning of new consciousness, the Jubilation or Sublimation of the soul forces. New life returns to the feminine lunar element of the soul, which having been through this inner death process, this descent into the primal darkness of the unconscious, has gained a kind of victory over the death forces working in the unstructured soul forces.

Thus the soul gains a mastery over the lunar element within its being. This is the inner experience of the White Stone, the inner foundation in the soul for consciousness of the potentialities working in this lunar- feminine element which lies within us all, and it is pictured in the last illustration from this sevenfold development, number 10, which shows us the hermaphrodite of the soul now reborn from its tomb, winged (indicating its spiritual development), and standing upon the crescent of the Moon (signifying mastery of the lunar forces) which is further emphasized by the appearance of the Moon Tree.

THE RED STONE

Now that the alchemist bears within his being the White Tincture, the mastery of the lunar forces, the time has come

for him to embark upon the preparation of the Red Stone. As the White Stone was prepared by an active working of the male solar forces upon the female forces in a state of passivity, in the tomb of the unconscious, so now it is the turn of the masculine side of the soul to enter the darkness, through the active work of the female lunar forces within the alchemist's being.

Thus it is in illustration 11, we see again the Conjunction - the Coitus of the two soul facets. This is called the Fermentation distinguishing it from the conjunction of the White phase. This time the female forces are active, and in their intercourse it is the woman who lies on top of the man. The figures are also winged, indicating the degree of spiritual development that has occurred during the first cycle of transformation which resulted with illustration 10 in the winged hermaphrodite.

The male solar forces of the soul enter now into the darkness of the unconscious realm within, as we see in the following illustration, number 12, the Illumination, in which a winged solar disc descends into the vessel of transformation that contains the living mercury, the ever mobile flowing energies of the unconscious. As the text indicates, "Here Sol dies again and is drowned with the Mercury of the Philosophers".

In illustration 13, the two facets of the soul have again fused into the hermaphrodite which is resting within the dark grave like realm of the unconscious. The hermaphrodite is winged, and thus still bears the spiritual development from the previous cycle of transmutations, however, this too must be cast off if the solar transmutation is to take place.

This we see in the following illustration 14, the turning point of this cycle, where the now wingless hermaphrodite also gives up the female side of its forces, which soars up into the spiritual world, leaving the male aspect bound to the husk of the hermaphrodite body. This is the Fixation of these forces in the unconscious realm.

Then, as with the previous cycle, a dew descends from the spiritual realm above upon the corpse-like hermaphrodite, in the Multiplication of illustration 15, and the male solar forces of the soul are purified and washed by this gentle rain of the spirit.

This done, the female soul element is free now to return from her journey to the higher spiritual realm of the soul, and rejoin and revivify the hermaphrodite figure in the lower soul, as is pictured in illustration 16.

Then the round of this second cycle of transformation is complete and the hermaphrodite arises in illustration 17, displaying the perfection of the Red Stone. On the left of the hermaphrodite we see the Sun Tree, while on the right, the Pelican in its piety gesture, nourishing its young on the blood from its own breast, is a symbol of the Red Tincture. Behind, is a Lion, another solar symbol, and the hermaphrodite stands upon a mound below which is a triple-headed serpent, each head of which is mutually feeding upon the others. This symbolizes that the Spirit, Soul and Body are becoming united and penetrate each other, though this being still polarized in the form of the serpent (the head and tail polarity), indicates that final harmonization of these realms is yet to be achieved.

THE END OF THE WORK

Thus the alchemist has gained inner mastery over the lunar and solar currents of his soul, the feminine and masculine forces within his being, the yin and the yang, the Ida and Pingala Nadi's of Tantricism, and is no longer unconsciously moved and swayed by the external archetypes of King and Queen, but now bears these within his being as a conscious resource of the soul, energies that he can tap and use as he wills.

With this stage, the alchemist has achieved an experience of the White Stone, the inner foundation for working consciously with the lunar forces of his being, and he has also gained the Red Stone, the inner ground upon which he can solidly begin to work with the solar forces of his being. He thus stands upon the threshold of a higher and deeper experience of his being. However, these two Soul Tinctures or Stones, foundations upon which he can solidly stand in his inner encounter with the two force streams of his soul, do not incorporate the inner Mercury, the living and flowing energies of the soul, that we picture today as the unconscious, the mysterious dark inner source of the soul forces. The being of the alchemist during the hermaphrodite stages has dipped into this well of his being, but has never entirely penetrated deep into its mystery. However, this experience is necessary for the complete inner development of the alchemist, and it is pictured in illustration 18 as the Green Lion devouring the Sun. The sun here represents all that the alchemist has so diligently won for his consciousness, through working this process of inner development. The Green Lion is the devouring, dissolving aspect of the unconsciousness. (The alchemists drew here an analogy with Aqua Regia, the greenish tinged acid that alone could dissolve metallic Gold.)

The alchemist must be prepared to make this sacrifice of his conscious achievements to the dark well of his unconscious being, if he is to further the process of integration, for only in this way can he fully encompass this realm and unite the three streams that pour from the fountain into the vessel of the lower soul (Illustration 1).

A similar inner task must be undertaken with regard to the upper soul realm, and this is portrayed in the penultimate illustration, where we see the being of the alchemist receiving a crown from the upper three streams of the Father aspect (body), the Son-Christ (soul) and the Holy Spirit. The alchemist must again make an ego sacrifice this time in

respect to his upper soul. He must be prepared here to receive the blessing of this spirit that pours into his upper soul and recognize that the source lies outside his being. If he were at this stage to identify his self with this stream of spirit, he would be overwhelmed with egoism. The alchemist thus experienced through the sacrificial gestures towards his lower and upper soul (figures 18 and 19), the true spiritual ego that resides within his being, and which receives its essential foundation from the uniting of the Body, Soul and Spirit facets in both the upper and lower soul realms.

So, with the final illustration, the alchemist is seen having achieved a kind of resurrection which is paralleled with that of Christ. In the Green Lion stage he descended deep into the dark inner mysteries of his soul, as Christ descended into Hell, but has returned with renewed energies in a resurrection body bearing the mystery of the upper trinity. This is the true transmutation. Those who have gone through this experience are fundamentally changed, having undergone a self initiation that parallels the inner experiences that were gained through initiation into the ancient Mysteries of Greece, Egypt or Britain.

The series of illustrations in the *Rosarium* outlines a process for the inner conscious encounter, separation, purification, re-conjunction and harmonization of the male and female facets of the soul, and working through such a process brings about an initiation of the alchemist. The various blocks to the free flow of these inner energies are thus removed and the alchemist is able to experience life more fully, having both a living perception of the spiritual and the ability to express his being creatively in his encounter with the physical realm.

I have described the process entirely using terms of a spiritual alchemy, from a perspective outside of the vessel of transformation. Such an overview is necessary for an understanding of this process by our present day consciousness, however, one must recognize that this is only one level of working with these symbols. At the time when the *Rosarium* was published, it would not be experienced in this way. Rather each illustration would be taken as an individual meditative exercise to be worked through in sequence. I have not chosen here to delineate such meditative exercises in detail, but I trust that enough indications have been given to allow the reader to work with them in this way. Building up a meditative working with such a series will take some months of sustained effort, but if this task is undertaken, the reader will truly encounter the essence of the *Rosarium*. As I indicated in my commentary to the 'Crowning of Nature', there would have been a definite physical alchemical process in which this soul development aspect was embodied. The 'Crowning of Nature' has an even more extended series of 67 illustrations, and it bears a definite relationship to the *Rosarium*, in that for example, there is the preparation of the White and the Red Stone through various cycles of transformation, although the 'Crowning of Nature' works through the Elements and the Ethers, while the *Rosarium* is founded upon the polarities of Sun and Moon, masculine and feminine.

This physical process would be undertaken by the alchemist and would act as an ongoing meditative exercise, each change within the flask relating to the inner transformation of the Soul. The transformations in the flask and those in the alchemist's inner life would be linked 'synchronistically', mirroring each other. The secrets of such alchemical experiments were of course closely guarded, and it is difficult to find definite clear instructions in many texts, however, I feel sure that in time and with patient work, it may be possible to uncover some of the secrets of these processes. The *Rosarium* certainly provides a key and a starting point for such investigations.

Bacstrom's Rosicrucian society

Adam McLean

Dr Sigismund Bacstrom was one of the most important scholars of alchemy in the last few centuries, being active at the end of the eighteenth and the beginning of the nineteenth century. Little is known of his life, except that he was probably of Scandinavian extraction, and that he spent a deal of his early life travelling around the world as a ship's surgeon. Later he was to settle in London and gather around him a small circle of contacts (including Ebenezer Sibley and General Rainsford), amongst whom he circulated a number of his own translations of alchemical texts from Latin, German, and French into English. This select group of people provided the vehicle for Bacstrom's impulse to reconnect people with the ancient wisdom of the alchemical tradition, and it seems that spiritually he sowed the seed for the rebirth of interest in alchemy later in the nineteenth century, which developed through Thomas South and his daughter Mary Anne Atwood, and later Frederick Hockley (1809-85) who seems to have had copies in his own library of some of the Bacstrom manuscripts. Hockley's scholarship and library was in turn passed on to Ayton, Westcott and Mathers, and must have provided some of the material that was worked into the Hermetic Order of the Golden Dawn. At much the same time, Madame Blavatsky also had access to Bacstrom material (particularly Bacstrom's translation of the 'Golden Chain of Homer', which she printed in 1891 in the theosophical journal *Lucifer*).

Many volumes of his manuscripts are still extant and some are in private hands at present. It would be of the greatest value if some of this material could be made available to the public once again.

It is important to realise that at the time when Bacstrom was collecting and translating alchemical material, there was little available in the outer world. Most of the great public collections and libraries only came into existence later in the nineteenth century. Bacstrom's material and his access to sources was of the greatest import, and he must have been one of the most knowledgeable men at that time in the alchemical tradition. It may be that he could not have achieved this without the aid of certain Rosicrucians with which he had definite connections.

On 12th September 1794, Dr Sigismund Bacstrom was initiated into a *Societas Roseae Crucis* by Comte Louis de Chazal, on the island of Mauritius. The Count, then a venerable old man of some 96 years, seemed to have recognised in Bacstrom, his greatness as an hermetic student, and offered to take him on as a pupil and teach him the great work, and during this period, Bacstrom was allowed to perform a transmutation under Chazal's guidance and using his substances. Chazal seems to have obtained his own alchemical knowledge while he was in Paris in 1740, and J.W. Hamilton Jones in his edition of *Bacstrom's Alchemical Anthology* (1960 Stuart and Watkins, London) even suggests that his teacher was the Comte de St Germain.

When Bacstrom settled in London, one of his more important pupils was the scotsman Alexander Tilloch, the editor of the *Philosophical Magazine*, which concentrated on papers and articles of early scientific research.

In 1980 I discovered Tilloch's own copy of his admission document to Bacstrom's Rosicrucian Society, which is signed by Bacstrom, in the Ferguson Collection at Glasgow University Library. I decided to print this admission document in its entirety as it gives a valuable insight into the type of organisation and principles which Bacstrom worked within. It is likely, considering the possible Comte de St Germain connection, that this was the kind of *Societas Roseae Crucis* which was operating throughout the eighteenth century. There is attached to this document in the Ferguson Collection a further item of Rosicrucian Aphorisms - the Process of creating the Stone, which I will publish subsequently.

When undertaking research for this article, I realised that A.E. Waite had in fact already reprinted this document in his *Real History of the Rosicrucians* (1887), as the submission of Bacstrom to join the *Societas Roseae Crucis* of Chazal, and which is signed by Chazal 1794, however, since this book of Waite's has been out of print for many years, and he does not give any reference as to sources, I have decided to go ahead and print the Tilloch version which is an exact copy of that which is found in Waite.

This initiation document consists of fourteen promises or obligations, most of which are quite straightforward. One important item is the fourth obligation, which has a long concluding paragraph on the equal rights of women in regard to membership of the *Societas Roseae Crucis*. This is very important when seen against the historical background. It seems to indicate that the Rosy Cross remained a separate stream from the Freemasons, which was (and still is) quite strongly patriarchal and would not allow woman as members. In article 9 there is an indication of a rather critical attitude towards the established Church of the time. However, the charity of the brotherhood in curing the sick is curious restricted in obligation 13.

Bacstrom translated many volumes of alchemical texts, and one wonders just where he obtained his source material. Perhaps we have in Bacstrom a direct connection through Chazal and the Comte de St Germain with a continuing

stream of Rosicrucian mystery wisdom. We should come to see that Bacstrom did not found his little alchemical school on his own resources, but that behind him lay this esoteric Order of the Rose Cross which provided him with the material and impulse to continue and develop the alchemical science. All students of alchemy in the twentieth century owe a profound debt of gratitude to the unseen work of this little-known man, Bacstrom, in gathering and translating alchemical material, and inspiring others to work with the wisdom he recognised in the ancient alchemical texts.

In the name of Jehovah Elohim

the true and only God manifested in Trinity

I do hereby promise, in the most sincere and solemn manner, faithfully to observe the following articles, during the whole course of my natural life, to the best of my knowledge and ability; which articles I hereby confirm by oath and by my proper signature hereunto annexed.

One of the worthy members of the August most ancient and most learned Society, the Investigators of Divine, Spiritual and Natural Truth (which Society, more than two centuries and a half ago, did separate themselves from the Freemasons, but were again united in one spirit amongst themselves under the denomination of Fratres Roseae Crucis Brethren of the Rosy Cross - that is the Brethren that believe in the grand atonement made by Jesus Christ on the Rosy Cross, stained and marked with his blood for the Redemption of Spiritual Nature *) having thought me worthy to be admitted into their august society, in quality of a Practical Member and Brother (one degree above a Member apprentice) and to partake of their sublime knowledge, I hereby engage in the most solemn manner.

[* Laying naked at the same time our universal microcosmical subject (ChADMH), the best magnet for continually attracting and preserving the Universal Fire of Nature, in the form of incorporeal spiritual Nitre, for the regeneration of matter.]

1. That I will always, to the utmost of my power, conduct myself, as becomes a worthy member, with sobriety and piety, and endeavour to Prove myself grateful to the Society for so distinguished a favour as I now receive, during the whole course of my natural life.
2. I will never openly publish that I am a member of this august Society, nor reveal the name or Persons of such members as I know at present or may know hereafter, to avoid derision, insult or persecution.
3. I solemnly promise that I will never during my whole life prostitute, that is publicly reveal, the secret knowledge I receive at present or may receive at a future Period from the Society or from one of its members, nor even privately, but will keep our secrets sacred.
4. I do hereby promise that I will instruct, for the benefit of good men, before I depart this life, one person, or two persons at most, in our secret knowledge, and initiate and receive such person (or persons) as a Member Apprentice into our Society, in the same manner as I have been initiated and received (in quality of a Practical member and brother); but such a person only as I believe to be truly worthy and of an upright well meaning mind, blameless conduct, sober life and desirous of knowledge.
And, as there is no distinction of sexes in the spiritual world, neither amongst the blessed Angels nor among the rational immortal spirits of the Human race; and as we have had a Semiramis, Queen of Egypt, a Myriam, the prophetess, a Peronella, the wife of Flamel, and lately a Leona Constantia, Abbess of Clermont, who was actually received as a practical Member and Master into our Society in the year 1796, which women are believed to have been all possessors of the Great Work, consequently Sorores Roseae Crucis and members of our Society by possession, as the possession of this our art is the key to the most hidden knowledge. And moreover as redemption was manifested to mankind by means of a woman (the Blessed Virgin), and as salvation, which is of infinitely more value than our whole Art, is granted to the female sex as well as to the male, our Society does not exclude a worthy woman from being initiated, God himself not having excluded women from partaking of every spiritual felicity in the next life. We will not hesitate to receive a worthy woman into our Society as a member apprentice, (and even as a practical member or master if she does possess our work practically and has herself accomplished it), provided she is found, like Peronella, Flamel's wife, to be sober, pious, discreet, prudent, not loquacious, but reserved, of an upright mind and blameless conduct, and withall desirous of knowledge.
5. I do hereby declare that I intend with the permission of God to recommence our Great Work with my own hands, as soon as circumstances, health, opportunity and time will permit, that I
first - I may do good therewith as a faithful steward
second - that I may merit the continued confidence which the Society has placed in me in quality of a practical member.

6. I do further most solemnly promise that (should I accomplish the Great Work) I will not abuse the great power entrusted to me by appearing great and exalted, or seeking to appear in a Public character in the world, by hunting after vain titles of Nobility and vain glory, which are all fleeting and vain; but will endeavour to live a sober and orderly life as becomes every Christian, though not possessed of so great a temporal blessing. I will devote a considerable part of my abundance and superfluity (Multipliable infinitely) to works of private charity, to aged and deeply distressed people, to poor children, and above all to such as love God and act uprightly, and will avoid encouraging laziness and the profession of public beggars.
7. I will communicate every new or useful discovery relating to our Work to the nearest member of our Society and hide nothing from him, seeing he cannot, as a worthy member, possibly abuse it or prejudice me thereby. On the other hand, I will hide these secret discoveries from the world.
8. I do moreover solemnly promise (should I become a Master and possessor) that I will not, on the one hand, assist, aid, or support with Gold or Silver, any Government, King, or Sovereign whatever, except by paying of taxes, nor, on the other, any populace, or particular set of men, to enable them to revolt against their Government. I will leave public affairs and arrangements to the Government of God, who will bring about the events foretold in the Revelations of St. John, which are fast accomplishing. I will not interfere with affairs of Government.
9. I will neither build churches, chapels, nor hospitals and such public charities, as there are already a sufficient number of such public buildings and institutions, if they were only properly applied and regulated. I will not give a Salary to a Priest or Churchman as such to make him more proud and indolent than he is already. If I relieve a distressed worthy clergyman, I will consider him in the light of a Private distressed individual only. I Will give no charity with the view of making my name known in the world, but Will give my alias privately
10. I hereby promise that I will never be ungrateful to the worthy friend and brother who initiated and received me, but respect and Oblige him as far as lies in my power, in the same manner as he has been obliged to promise to his friend who received him.
11. Should I travel either by sea or by land and meet with any person that may call himself a Brother of the Rosy Cross, I will try him whether he can give me a proper explanation of the universal fire of Nature and of our Magnet for attracting and manifesting the same under the form of a salt, whether he is well acquainted with our work, and whether he knows the universal dissolvent and its use. If I find him able to give satisfactory answers, I will acknowledge him as a member and a brother of our Society. Should I find him superior in knowledge and experience to myself, I Will honour and respect him as a Master above me.
12. If it should please God to Permit me to accomplish our Great Work With my own hands, I will Give praise and thanks to God in humble prays: and devote my time to the doing and promoting all the good that lies in my power and to the pursuit of true and useful knowledge.
13. I do hereby Solemnly promise that I will not encourage wickedness and debauchery, thereby offending God, administer the Medicine for the human body, nor the Aurum Potabile to a patient or patients infected with the venereal disease.
14. I do promise that I Will never give the fermented metallic medicine for transmutation, to any Person living, no not a single grain, unless the person is an initiated and received Member and Brother of the Society of the Rosy Cross.

To keep faithfully the above articles as I now receive them from a worthy member of our Society, as he received them himself in the Mauritius, I willingly agree and sign the above with my name and affix my seal to the same, so help me God. Amen.

In testimony that I have initiated and received Alexander Tilloch Esq. in quality of Practical Member and Brother, a degree above a Member Apprentice, on account of his practical knowledge and philosophical acquirements, I have hereunto set my hand and seal,

Sigismund Bacstrom

M.D. London April 5. 1797.

An Hermetic Origin of the Tarot Cards?

A Consideration of the Tarocchi of Mantegna

Adam McLean

First published in the Hermetic Journal 1983.

It has become almost universally accepted as the received wisdom of the Western esoteric tradition that the tarot card images embody a system derived from the Jewish Kabbalah. This view seems to derive from the mid-nineteenth century French Occult revival, and particularly was promulgated by Eliphas Levi and later incorporated through Westcott, Mathers and Waite in the teachings of the Hermetic Order of the Golden Dawn from which our twentieth century tradition of occultism has been derived. Other esotericists have even tried to link the tarot images back further into Egyptian iconography and suggest that the Jews may have received this esoteric system during the time of their stay in Egypt. In part this association of the tarot with Jewish esotericism lies in the fact that there are 22 major arcana cards in the modern tarot pack and this parallels the number of letters in the Hebrew alphabet, which lies at the heart of the Kabbalistic system.

I would, however, like us to pause and consider for a moment, before we return to the established view, the implications of the regrettably neglected early tarot pack, the Tarocchi of Mantegna. This is one of the earliest known tarot or Tarocchi packs, being dated to c.1465, contemporary with the Visconti-Sforza deck of the mid-fifteenth century which is recognised as the earliest tarot. (Some authorities suggest that the Tarocchi of Mantegna may be earlier than the Visconti-Sforza.)

Little is known of the Tarocchi of Mantegna and what we do know entirely contradicts its name. Most scholars are of the opinion that this Tarocchi has been wrongly attributed to Andreas Mantegna (1431-1506) the painter and printmaker of the School of Padua, and rather are to be seen as emanating from the School of Ferrara. They are not a 'Tarocchi' pack in the true sense of that technical term, and they are not cards but a set of prints. Kenneth Clark, the well known art historian of the Renaissance, attributes them to a Parrasio Michele, Master of the School of Ferrara. They consist of a set of 50 finely executed engravings divided into five decades, which could be characterised as:-

- 1 The archetypal social stations of humanity;
- 2 The nine Muses and Apollo;
- 3 The Liberal Arts;
- 4 The Cardinal Virtues;
- 5 The Heavenly Spheres.

The symbolism of these cards, or perhaps we should say 'emblematic figures', would seem to derive from the Hermetic tradition which is now recognised as underlying the Italian Renaissance of the mid-fifteenth century. It was during this period that the Platonic Academies of the Medici's were set up and Ficino and other scholars began translating texts such as the Corpus Hermeticum and the works of Plato, some of which were brought to the Court of Florence from Constantinople by Gemistus Plethon (c.1355-1450), a Greek scholar who was probably an initiate of a 'Platonic' Mystery School in the East. This reconstruction of hermetic and neoplatonic esotericism is reflected in such ideas as the Muses, the Liberal Arts, the Cardinal Virtues, and the Heavenly Spheres, and it is my view that the Tarocchi of Mantegna should be seen as an 'emblem book' of this hermetic current. The fact that its designs show parallels with the later tarot decks should therefore be of the greatest interest both to students of tarot and of Hermeticism.

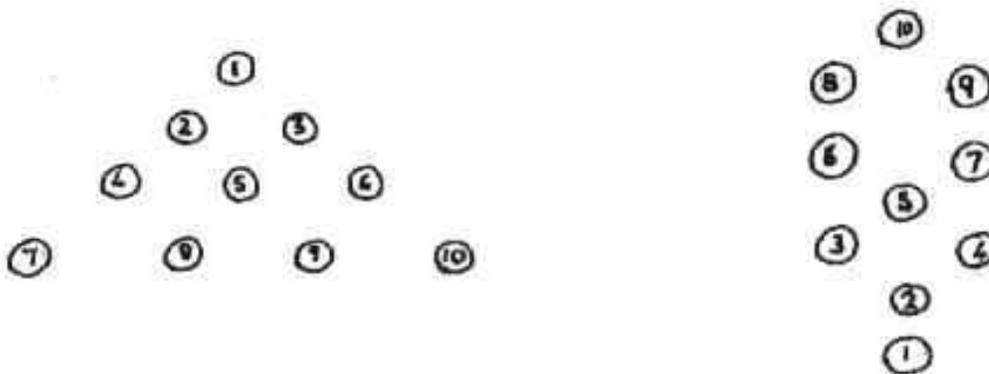


The first decade shows us a sequence reflecting the state or condition of humankind, from the lowly beggar to the Pope. These are :-

- | | |
|------------------------|-----------|
| 1 Beggar | 6 Knight |
| 2 Servant | 7 Duke |
| 3 Artisan or Craftsman | 8 King |
| 4 Merchant | 9 Emperor |
| 5 Gentleman or Squire | 10 Pope |

There is in this sequence both a reflection of the social conditions of humankind and also the stages of an inner development, from the lowly 'beggar' state of soul, to the fully spiritualised 'Pope' facet of the soul.

Interestingly, these fit well onto the tree of life diagram corresponding to the sephiroth quite tightly, but can also equally well be tied symbolically to the Pythagorean 'Tetractys' or pyramid.



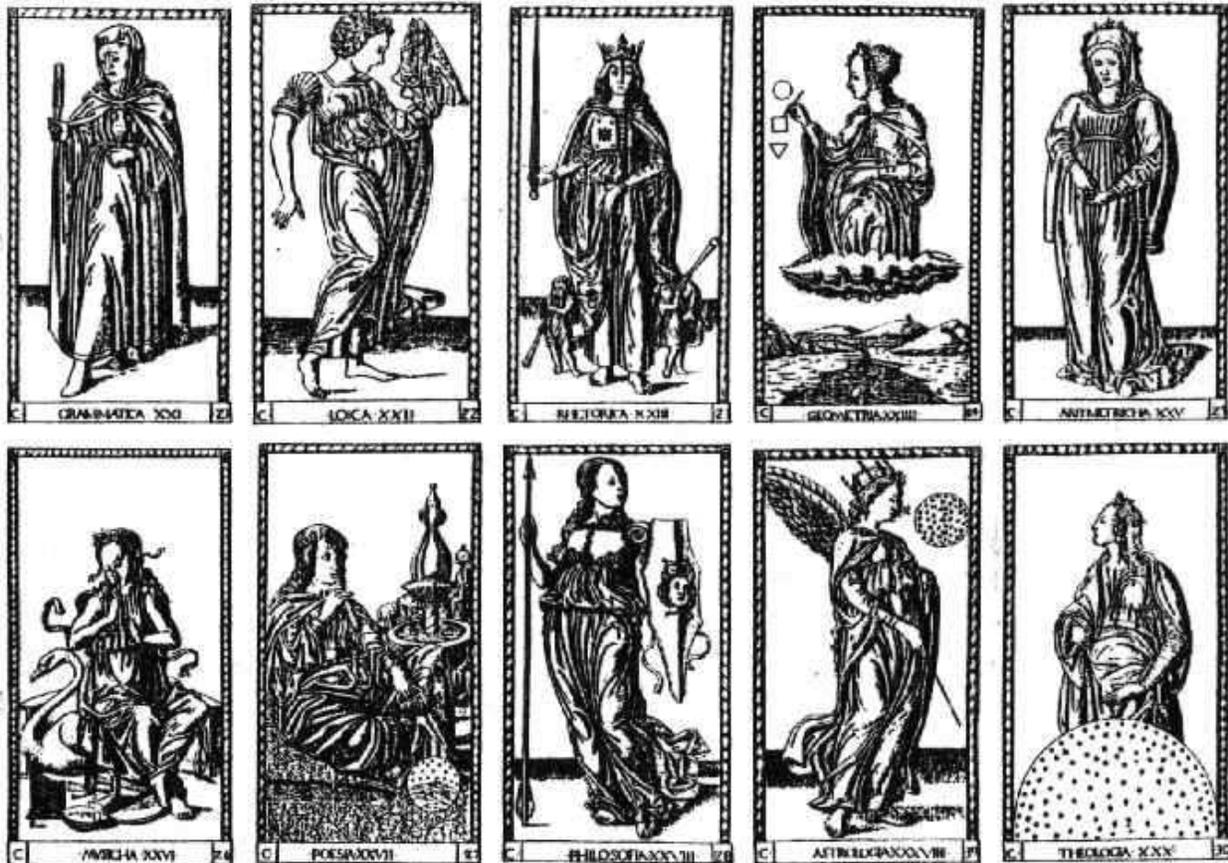


The second decade consists of images of the nine muses and Apollo. These muses preside over certain arts and instruments of these arts.

Calliope	'Beautiful voiced'	epic poetry and eloquence	Trumpet stylus
Urania	'Heavenly'	astrology	compass and celestial globe
Terpsichore	'she who loves dancing'	lyric poetry and dance	lyre or cithera
Erato	'arouser of desire'	erotic or love poetry	tambourine
Polihymnia	'many hymns'	heroic hymns mimic art	lyre or portative organ
Thelia	'the festive'	comedy and pastoral poetry	violin mask of comedy
Melpomene	'the singer'	tragedy	horn mask of tragedy
Euterpe	'giver of joy'	music and lyric poetry	double flute
Clio	'giver of fame'	history	scroll

Apollo

This group represents the archetypal sources of creative inspiration for the soul, and these muses work in the realm of the imagination. The soul can draw upon these ten different inner spiritual resources for its inspiration and transmutation.



The third group consist of the Seven Liberal Arts with the addition of Poetry, Philosophy and Theology to bring the number up to ten. The Liberal Arts lay at the basis of scholasticism and consist of the Trivium of Grammar, Rhetoric and Dialectic, which trained the mind in the use of language, and the Quadrivium of Geometry, Arithmetic, Music and Astronomy, which four constituted the domain of medieval science. Each of these bear a symbol

Grammar	File and Vase
Logic	Veiled Dragon
Rhetoric	Sword
Geometry	Circle, Square, Triangle
Arithmetic	Coins or counters
Music	Flute
Poetry	Flute and a Vase
Philosophy	Arrow and Shield (Athene figure)
Astrology	Sphere of Stars and pointer (Angelic figure)
Theology	Sphere of Heaven and Earth (Androgyne figure)

This group are the archetypes that work behind human thinking.



The fourth decade consist of the seven Cardinal Virtues appearing as female figures together with three Spirits (or Genius') of Life (or the Sun), Time and the Cosmos, these being shown as male Angels, each carrying a symbol. The seven Cardinal Virtues also have animal figures beside them.

Iliaco	Sun disc	
Chronico	Ouroboros Dragon	
Cosmico	Heavenly Globe	
Temperance	Two vases	Dog, Cat, weasel, or stoat/ermine
Prudence	Mirror	Dragon
Strength	Sceptre	Lion
Justice	Sword and scales	Crane
Charity	Wallet, offering charity	Pelican
Hope	in attitude of prayer	phoenix
Faith	Chalice and Host	Dog

These represent that which works in the higher soul of humanity as the virtues dwelling in the conscience. As the aspiring soul develops towards inward perfection, rising to an awareness of the spiritual genius behind the life force (the Sun), Time and Space, then there will inwardly develop from the seed of conscience rooted in the soul, the Virtues, which will unfold and grow from within to express themselves in ones outer actions.

The final decanate is that of the heavenly spheres - the seven planets and the three higher spheres each having a symbol.

Luna	Moon disc	
Mercury	Flute Caduceus with two intertwined dragons	Cock
Venus	Seashell	Ducks

Sun	Sun disc	Scorpion Crabs
Mars	Sword	Dogs (hunting)
Jupiter	Arrow (thunderbolt)	Eagle
Saturn	Scythe	Ouroboros
Eighth Sphere	Starry Disc	
Prime Mover	Empty Sphere	
First Cause	Cosmos	

This represents the highest spiritual principles working as the planetary forces behind all the aspects of the world.

To summarise:-

The First Decade	Stations of Humanity	Archetypal powers in the outer world of humanity externalised in social forms
The Second Decade	Muses	Archetypal powers of in the imagination of humanity, expressing themselves in artistic creation
The Third Decade	Liberal Arts	Archetypal powers in human thinking expressing themselves in the patterns of human thought
The Fourth Decade	Cardinal Virtues	Archetypal patterns in the conscience of humanity expressing themselves in the inner development and spiritual refinement of the soul
The Fifth Decade	Cosmic Spheres	Archetypal patterns in the Cosmic order expressing themselves in all facets of the universe

So we have here the cosmic spheres of the fifth decade representing the Macrocosm and the first decade being a kind of reflection of this in the Microcosm, while between these two polarities are found the Muses, Liberal Arts and Cardinal Virtues, the channels through which the soul experiences the archetypal powers lying behind its feeling, thinking and willing, and can thereby develop its imaginative, intellectual and spiritual gifts. This reflects the Renaissance ideal propounded in the Neoplatonic academies which inspired artists, writers and musicians, and brought great works of the creative human spirit into being which transformed the outer restrictive social forms of the medieval period and gave a new impulse of freedom to the spiritual seeking of humanity.

So it should be obvious that these cards and their symbolism arise out of a Neoplatonic and hermetic current, but they should not be seen as entirely limited symbolically to this period or set of ideas. For this very early Tarocchi of Mantegna designs, through reflecting this hermetic system of ideas also may have provided the archetypal forms for some of the later and more familiar tarot packs. We note certain obvious parallels.

Mantegna	Modern tarot	Mantegna	Modern tarot
1 BEGGAR	FOOL	36 FORTEZA	STRENGTH
3 ARTISAN	MAGUS	37 IUSTICIA	JUSTICE
B KING	HIEROPHANT	43 VENUS	THE LOVERS
9 EMPEROR	EMPEROR	44 THE SUN	THE SUN
10 POPE	PRIESTESS	45 MARTE	THE CHARIOT
(N.B.the Pope here appears female)		46 JUPITER	THE WORLD
27 POESIO	THE STAR	47 SATURNO	DEATH
34 TEMPERANCE	TEMPERANCE		

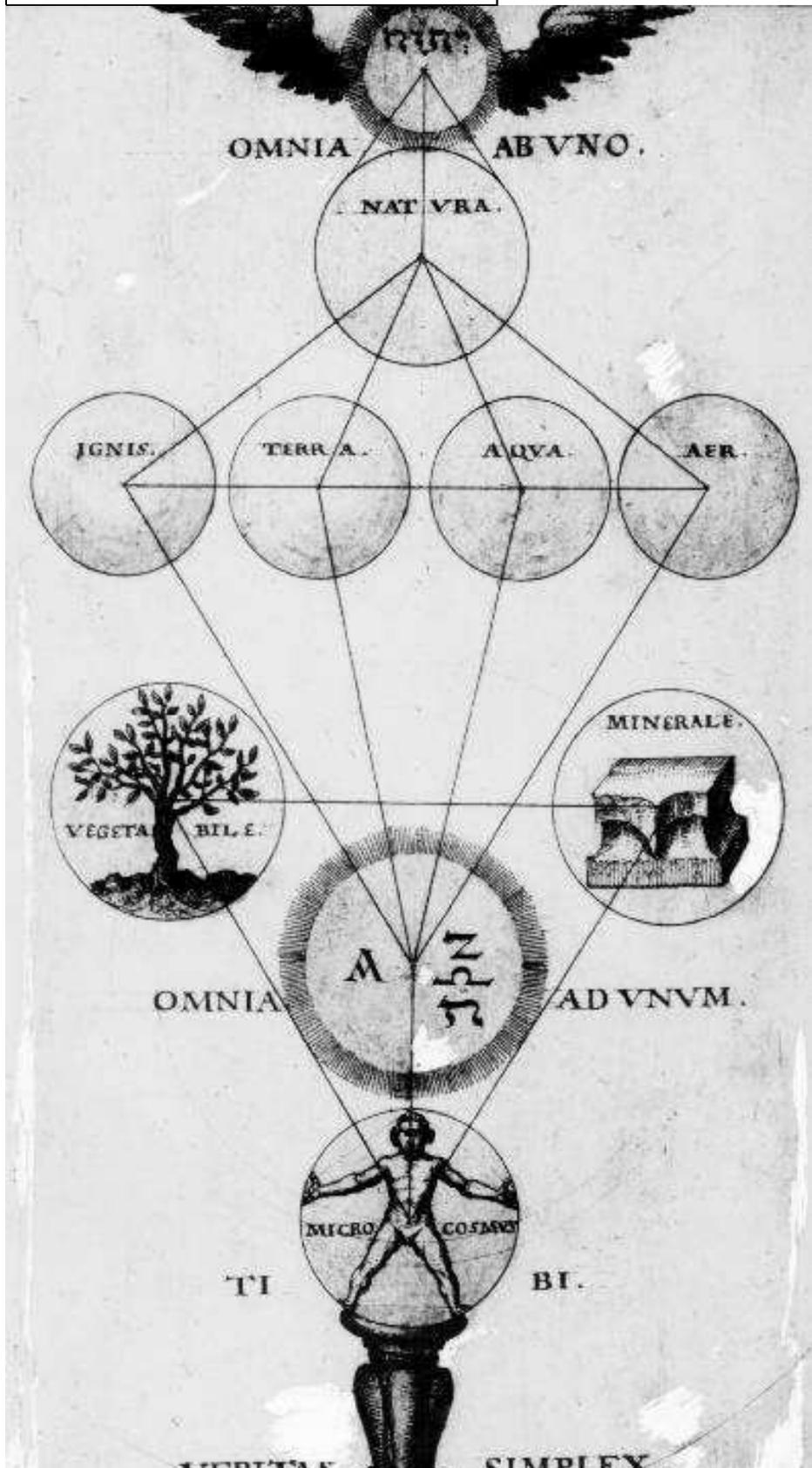
So could it not be that our present day tarot cards should perhaps be seen as arising out of the hermetic ideas at the foundation of the Renaissance, rather than from the Jewish Kaballah? I believe this view requires, indeed demands, some attention, even though it might upset the established and ingrained ideas of twentieth century occultism.

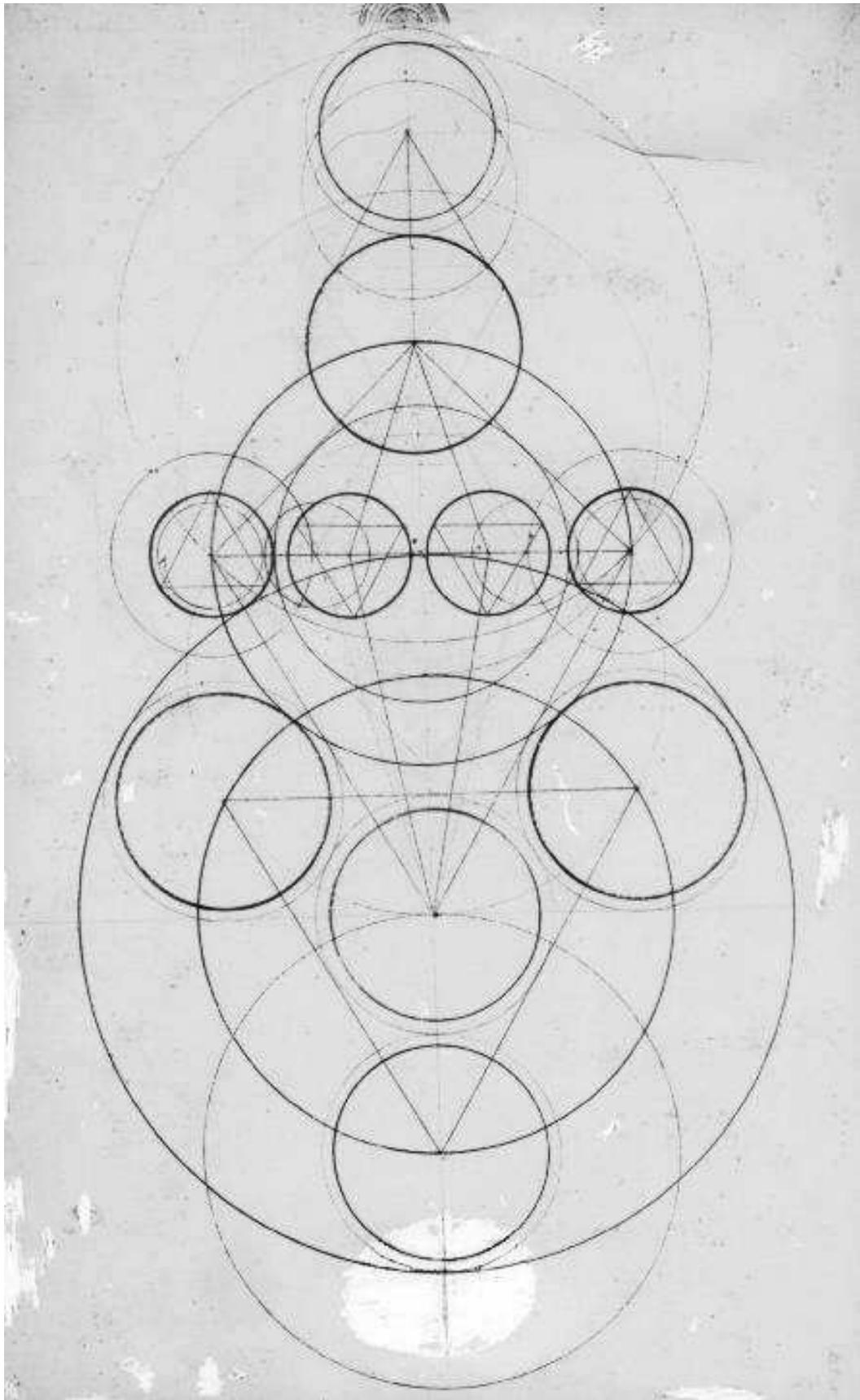
The Inner Geometry of Alchemical Emblems

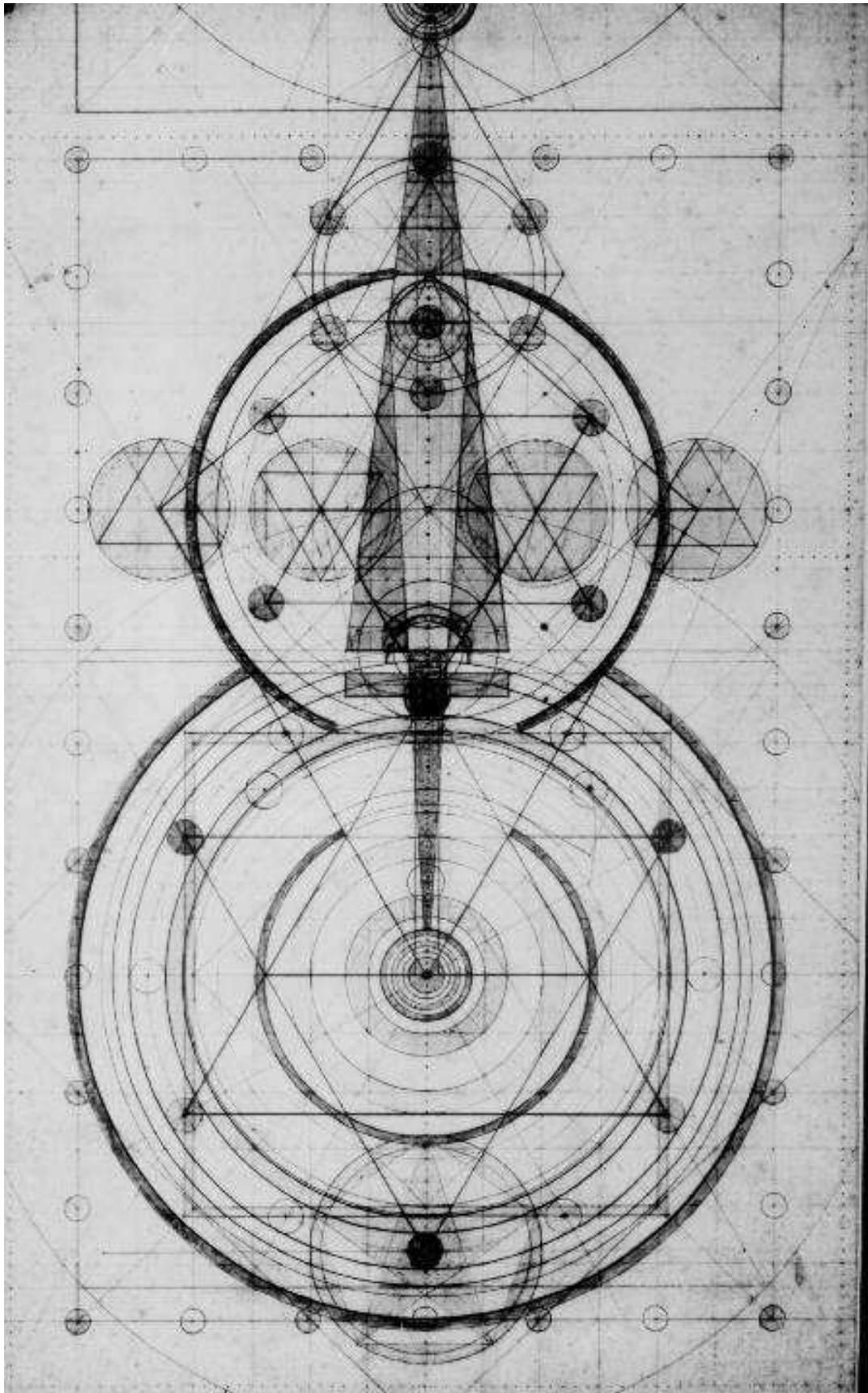
Adam McLean

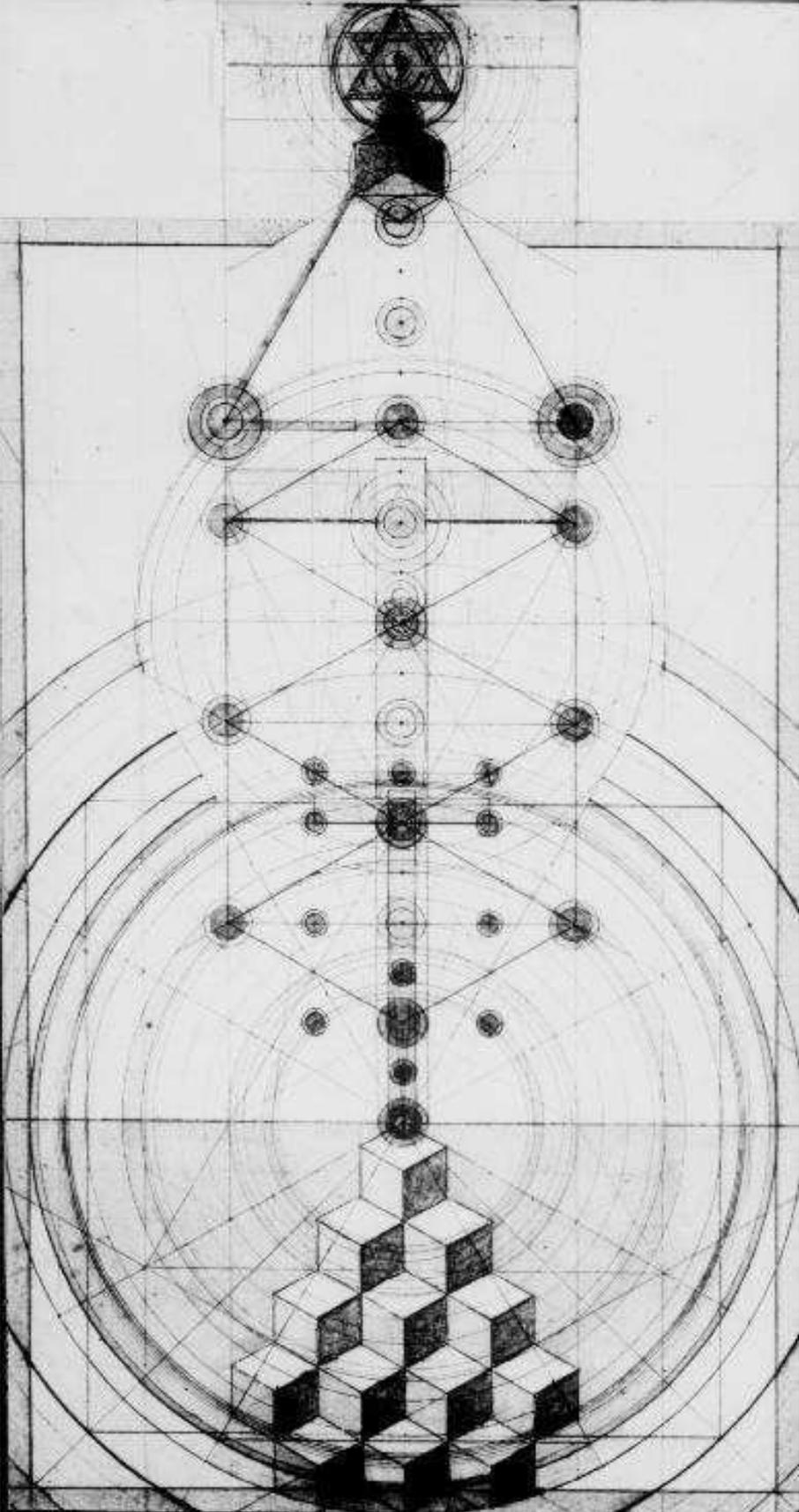
From the Hermetic Journal, Winter 1983.

Over the past five years of the Hermetic Journal, I have often illustrated in the Alchemical Mandala feature and other articles the profound symbolism wrapped up in the old sixteenth and seventeenth century emblematic engravings of alchemists and Rosicrucians. I have sometimes indicated how certain of these diagrams can be seen to have an underlying geometric skeleton structure upon which the symbols are arrayed. However, I never analysed this aspect in great depth and merely pointed out some simple geometric features. Patricia Villiers-Stuart in her publications has often brought to my attention the complex geometry that lies beneath such emblems, but I had not considered that this aspect was of paramount importance, until I recently requested from the British Library a microfilm of an important Rosicrucian book in their collection, the 'Speculum Sopicum Rhodo-Stauroticum' of Theophilus Schweighardt, published in 1618. Although a printed book this particular copy contains a number of manuscript additions made in the 18th century bound into the volume. Some of these manuscript additions analyse in great detail, the geometry underlying two emblems contained in this collection.. The first figure shows the emblem (contained incidentally in the 'Secret Symbols of the Rosicrucians', the Geheime figuren, Altona 1785, and found in other Rosicrucian sources), and the second, third and fourth illustrations show an ascending series of intricate geometrical analyses of the emblem. The evidence of these drawings certainly convinces me that there is another level to many of the emblematic engravings of this period that has yet been fully considered - the key of their inner geometry. The engravers of that period, de Bry, Matthieu Merian, Lucas Jennis, may well have worked a complex geometric message as well as a symbolic one into their beautifully executed engravings. I consider that this discovery is of great importance and hope that some of my correspondents might have the inclination to follow up in detail this aspect with regard to other engravings. There may be a whole layer of meaning that we are at present unaware of woven into these ancient emblems.



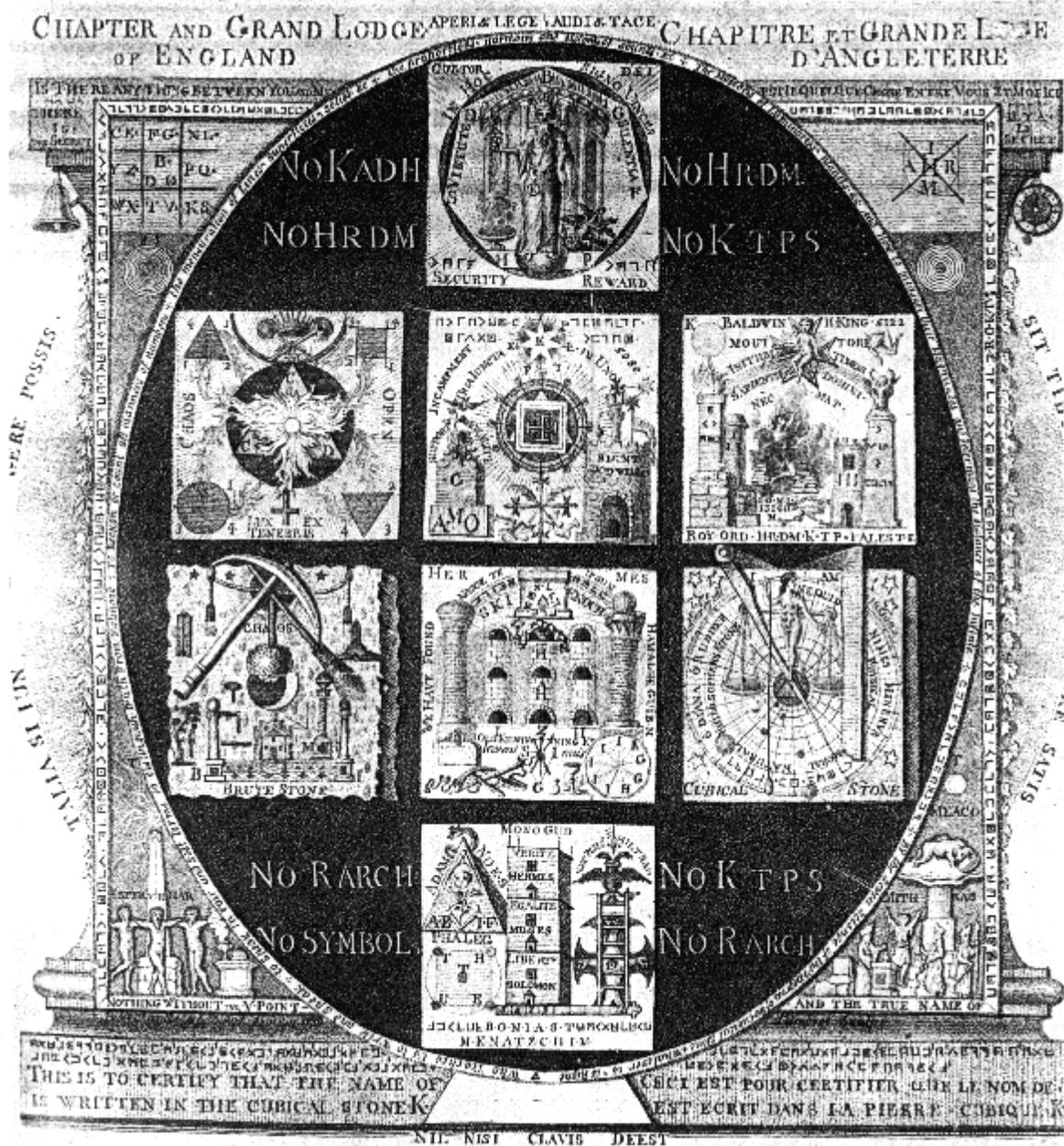






Hermetic Symbolism in a Masonic Engraving

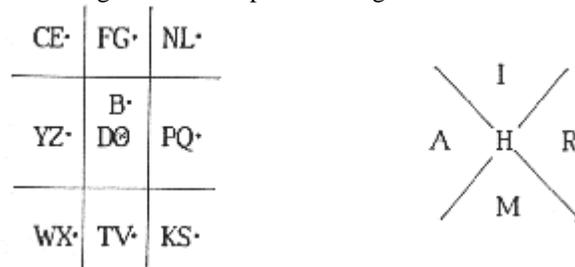
Article by Adam McLean originally published in the *Hermetic Journal* Winter 1987.



I reproduce here the final plate in a set of six copperplate engravings found in the archives of a masonic lodge in Bamberg in Germany. These were however of English origin, being engraved by P. Lambert R.A. and published in London in 1789. This sixth plate from the series is especially rich in symbolism and as much of which has obvious hermetic undertones it especially attracted my interest. I am grateful to Joscelyn Godwin for bringing this item to my attention. I am not a masonic scholar so am in no sense qualified to analyse the symbolism from that standpoint, however, there are so many hermetic resonances that I think it may be instructive to examine the symbolic content from the hermetic viewpoint. At the very least we can see how hermetic ideas were woven into the complex symbolism of late 18th century Masonry in England.

This engraving shows an egg-shaped space set within a square frame, here stylised into an architectural form.

Around three sides of this square setting is a message spelt out in the Royal Arch cipher or secret masonic script. The key to this is given in the top left and right hand corners of the square



Thus taking the angles of the relevant square C is , E (since it is dotted) is , F is , G (dotted) is , and so on, K is , S is , while from the central square we see that B is , D is , and O is notated . This particular arrangement of the letters is a blind however, and does not decipher the text, but merely serves to illustrate the principle of the cipher without giving away the secret message too easily. I have not taken the time to work out the cipher, there being barely enough text to do a letter frequency analysis, but there seem to be three separate encipherings each section being separated by a key  symbol. I understand, however, that the texts were decoded in an article in *Ars Quatuor Coronatorum*, Vol III, 1890, pp. 36-37, though I have not been able to consult this in preparing this article.

The lower side of the square has in English "Nothing without the V point and the true Name of ...", while below this on the plinth is written "This is to certify that the Name of ... is written in the Cubical Stone K". In the circular radiance that appears from behind the square setting we have the Latin phrase "If you can comprehend these things, you know enough", and in the centre at the bottom of the plinth we have "Unless the Key is not missing". Such teasing statements are of course found on early hermetic and alchemical emblems, a well known example being Khunrath's Amphitheatre Engravings which use similar phrases to taunt the reader, but this was a common device in many earlier works. I understand that these particular phrases are found inscribed on the regalia of a Companion of the Royal Arch.

Around the circumference of the oval space we find a much more comprehensible statement:

Who teaches us to write and speak,
To speak in fair and soft terms,
To distinguish truth from falsehood,
To reckon and count all manners of numbers,
The mensuration of lines, superficies, solids,
The proportion, harmony and discords of sound,
The motion of luminaries, planets,
And how to measure their magnitude
and determine the distance of the Infinite.

[word(s) in cipher]

By the seven science of the 7 degrees of the Cubical Stone,
Whatever is, is right.

In the dark space within the oval, is placed:

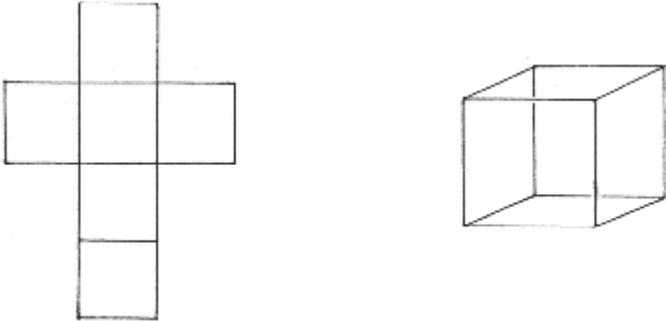
No Kadosh No Heredom
No Heredom No Knights Templar

No Royal Arch No Knights Templar
No Symbols No Royal Arch

Linking to the statement at the centre bottom of the plate

"Unless the Key is not missing"

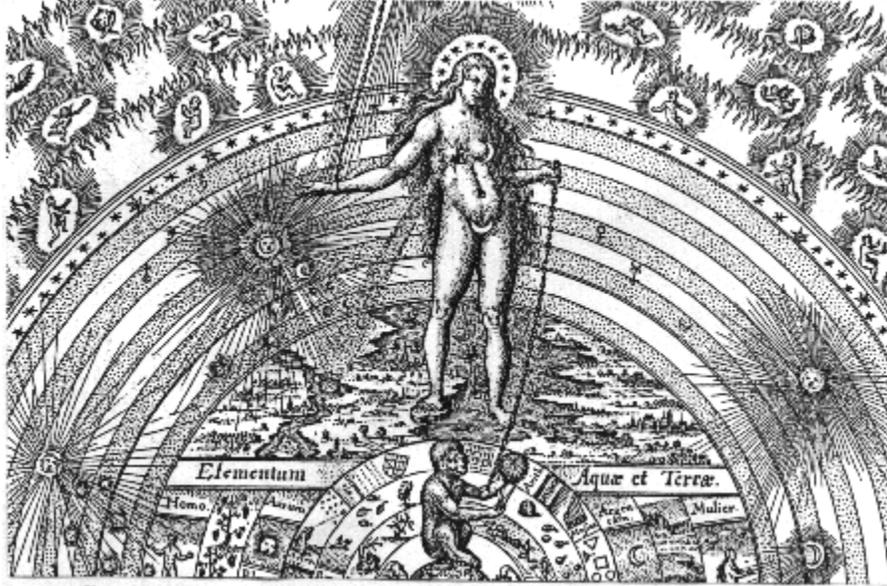
The central space is taken up by a pattern of eight squares bearing elaborate symbolism. Two of these are shaded to appear as three dimensional blocks rather than flat planes-the one on the left being the Brute Stone, whilst that on the right is labelled the Cubical Stone. The six remaining squares form a pattern, which can be wrapped up to form a cube.



The panel in the lower corner of the outer square shows the Mithraic mysteries with a 'priest' celebrating at an altar formed from two flat square stones and a cube. This image is also seen on one of the squares.



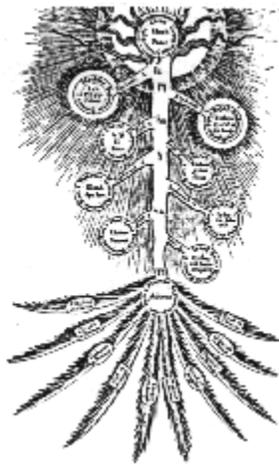
First we will consider the 'Brute Stone' and the 'Cubical Stone'. The Cubical Stone shows the cosmic space of the planetary spheres and the realm of the stars. On the earth stands Diana the 'Queen of Heaven' bearing seven breasts. Four symbolic objects are shown-the square, compass, plumb-line and scales, suggesting the geometric patterns of harmony that are found in the cosmos. Beneath her feet is the 'Physical, Moral, Natural Philosopher's Stone'. This picture echoes the symbolism of one of Robert Fludd's well known diagrams.



Contrasting with this on the left side of the diagram is the Brute Stone.



Here a tree is seen upside down spanning the worlds, its roots in the Sun, its branches spreading downwards through the realm of the Moon towards the earth. Again this calls to mind another of Fludd's famous diagrams.



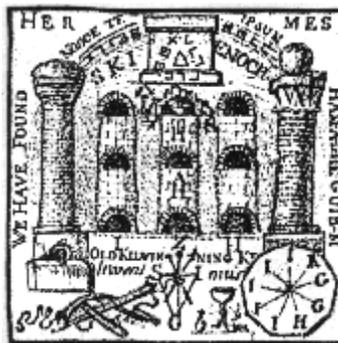
The Brute Stone also bears various masonic symbols - the pickaxe and broom, the metronome or pendulum accurately beating time, while in the lower left we see a mallet, square and level. This is the realm of the world bounded by measurement (both of space and time). At the lower centre of this is a temple with two pillars and central sanctuary and obelisk, suggesting that the spiritual can be found in this world of measurement by the right application of the cosmic spiritual principles of mensuration and proportion. At the top centre of this stone is seen a

cord with tassels set across two rings. This implies a kind of veil or barrier between the cosmic world of the planetary spheres and the outer physical world below, this gulf being spanned by the inverted tree, the descent of the spiritual principles from above as a living force, rather than abstract principles.

The six other squares form the surfaces of a cube when folded up, so we can suggest that this is to be placed upon the Brute Stone, representing the earthly world, and capped by the Cubical Stone, to form an altar of aspiration. This altar thus contains in a coded form the essence of the work of spiritualising the material world (the square between these two stones has at its top centre a sketch of this altar). This set of six faces of the cube seems to work especially with the symbolism of the Three, the Four and the Seven.



Thus the lowest square has a triangular pyramid, a square tower of three storeys (associated with Truth, Equality, Liberty - Hermes, Moses and Solomon) and a seven rungged ladder. There are also found other archetypal symbols familiar in alchemy - the serpent, the double-headed eagle, the skull and the tetramorph.



Architectural symbols are repeated on some of the other squares. Thus, the second from bottom shows us the wall of a three-storeyed building, each storey having three arched openings or niches. Below on the left a nonagon bears nine letters possibly associated with these niches. Twin pillars, another symbolic element common to this set of squares frame the triple building, and (as we have noted earlier) in the central space above is the archetypal form of an altar formed from a cube and two slabs of stone. This has a triangle with nine letters set around it in cipher and from it radiates out beams of light, and what appears to be a rainbow (also bearing nine letters in cipher) forms an arc around the tower. In the small detail of this square we find a menorah (seven-branched candlestick) and also a chalice.



The third from bottom is a figure centred upon a radiant circular form set upon a cross like stem. The radiant form bears a triangle and square at its centre, while above flames a seven pointed star (labelled with an 'E'). To the left is seen a square obelisk upon which is a rose above which hovers a dove. This is labelled 'support' and 'morality' while the plinth of the obelisk has 'AMO' (Love). The round castellated tower to the right is the 'sign of God's Will'. Thus Love and Will are balanced. At the top of this tower is a pillar with a book at its top and a lunar pennant or flag with the image of the Moon. Three Templar crosses are set above. This figure recalls the form of Robert Fludd's Rose on a Cross.



The square or face to the left is openly hermetic in conception centred on the Caduceus or Mercury symbol. At its centre is an upward pointing triangle and set on top a downward pointing triangle of flames, thus forming the Seal of Solomon. This can also be seen as Sulphur, the radiating fire-principle. At each corner of this square are seen geometrical figures, triangles, square and circle, with numbers 1, 2, 3, 4 arranged so as to illustrate mirror symmetries and reflections. Thus :-

4 3

1 2

when mirrored become

3 4

2 1



The square on the right seems more directly masonic in symbolism. Four towers are set in a rectangular arrangement. The square tower in the left foreground set upon a rough built plinth and crowned with fire is partnered by the obelisk on the right with a bull's head. In the background left is a circular tower on a rough built plinth, while a castellated round tower is placed in the background right. In the centre a figure seems to be offering a sacrifice at a rough built altar while above the figure of a child is seen in a Templar Cross. The masonic interpretation of this

particular set of symbols are not known to me.



The final square at the top of the oval space is an elaborate symbolic statement of the operative use of this whole complex of symbolism of the Cubic stone. A heptagon set in a circular space radiates outwards beams of light, while around it is the statement familiar in Rosicrucian circles 'In Hoc Signo Vinctes' - 'By this sign you are successful'. A priestly figure crowned with the spirit (H.P. = 'High Priest' ?) stands on a globe of the world set in front of a six-columned temple. He extends his right hand holding six stars while his left points to a triple headed dragon. Thus he attempts to unite the above and the below-the realm of the cosmic spirit with that of the inner dragon. To his right is a vessel burning incense signifying the purification of the ritual space through air and fire. Between his teeth he holds a dagger while upon his vestments is a seven sided medallion with a 'K'.

Labarinto and the Tarrochi of Mantegna

by Adam McLean.



In 1616 a very curious book was published in Venice, the *Labarinto* by Andreas Ghisi. The title page reads "The Labyrinth, newly published by the distinguished Andrea Ghisi, nobleman of Venice, in which are seen 1260 figures, all ready for service, each conforming and corresponding, speaking one to another, and infallibly, on the third turn, the imagined figure will be known, with its secret presented."

This consisted of a dedication and short dedication to Giovanni Bembo, the Doge of Venice, with a word square as a tribute to him, consisting of 21x21 letter squares, followed by a sequence of 22 page openings each labelled with a letter of the alphabet. On each of these openings were 60 small block figures in four rectangular groups of fifteen. The same set of 60

figures appeared on each page opening, but in a different permutation. The figures in the 1616 edition were based on the Tarocchi of Mantegna (see my article in the Autumn 1983 issue of the Hermetic Journal). The Tarocchi of Mantegna are divided into 5 sets of ten images

1st decade The different social conditions of humankind

2nd decade The nine muses and Apollo

3rd decade The seven Liberal Arts with Poetry, Philosophy and Theology

4th decade The seven Cardinal Virtues with spirits of Life, Time and the Cosmos

5th decade Seven Planets and the three higher spheres



The *Labarinto* uses this series of 50 images, with a number of minor changes. 'Chiromantia' and 'Felicita' replace 'Calliope' and 'Terpsichore' of the 2nd decade. 'Mathematica' replaces 'Arithmetica' from the 3rd decade, 'Industria' replaces 'Cosmico' in the 4th decade, and 'Quatro Orbi' replaces 'Prima Causa' in the 5th decade. The additional ten images in a similar style seem to be linked in polarised pairs :-



Kairo - Roma

Galia - Nave

Elefante - Hidra

Dio d'Amor [God of Love or Cupid] - Baco [Bachus]

Adam Eva - Zane in Banco [scene on a platform]



The *Labarinto* was presented as a game, enigma or mathematical puzzle, the rules for which are not easy to decipher, though they probably involve permutations or perhaps the symmetries of group theory. Ghisi mentions that the outcome of his 'game' depends entirely on the genius of the player. In the copy of this work in the Stirling-Maxwell collection in Glasgow University

Library, the following catalogue entry has been pasted in:

"A very curious Block-book, containing 60 different woodcut figures, with xylographic inscriptions, worked in red ink, so arranged on 22 leaves as to appear in different positions. Under the form of an arithmetical puzzle or labyrinth, according to the Libri Catalogue, "The work contains a solution of one of the most complicated problems, both of the theory of numbers and geometry of position, which even to write in algebraic signs would give some difficulty."



The first edition of the *Labarinto* (Venice, 1607) is extremely rare, however there is a copy in the British Library. It is of a slightly larger format than the 1616 edition and uses a different set of 60 images. The British Library copy has some manuscript notes pasted in at the end, in which someone has tried to solve the problem posed by this work, using series of tables of numbers based on the arrangements of the emblems on the sequence of page openings.

The title page mentions 1260 figures though there are actually 1320 (22 x 60), so that this may mean that one opening of the 22 is some kind of key to using the others.

An English version was published at London in 1610.

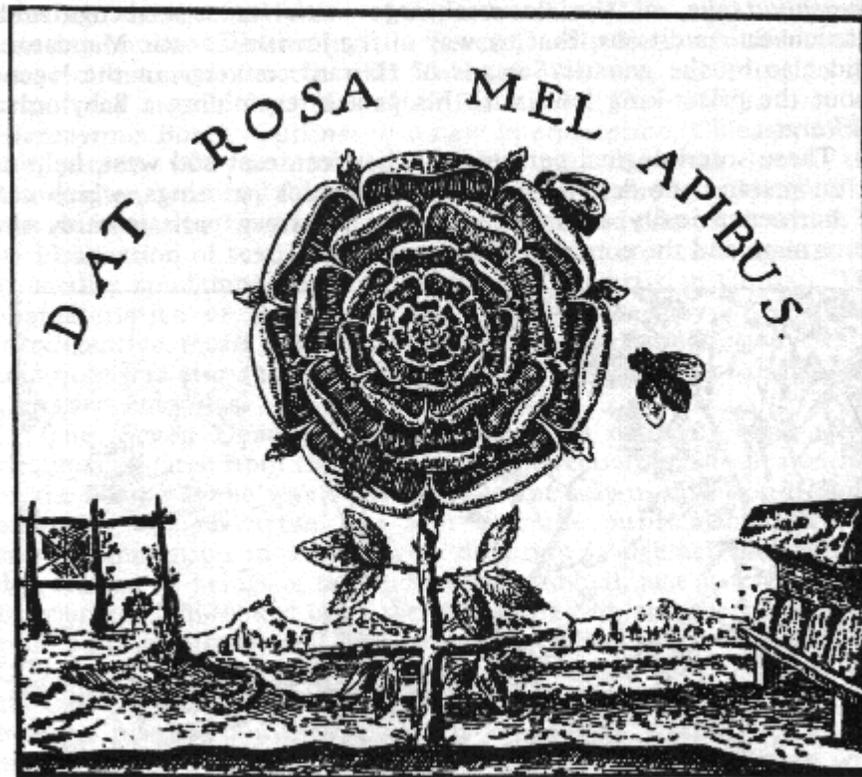
Wits laberynth, or, The exercise of idlennesse. Containing an artificiaall textvre of two thovsant two hvndred and sixtie figures, so placed and disposed, as by the helpe of a briefe direction for that purpose, you may tell which of them any man thinketh. As also by the same observation, to discouer any name, or number, that shall bee imagined. Besides an ample and large svjject for those that affect such ingenious recreations, by the sharpnesse of their own conceits, to drawe out many other delightfull varieties. First composed in Italian, and now Englished and augm. London, Printed by T. Purfoot, and are to be sold by I. Budge, 1610.



Whether this work has any hermetic import I am unable to say, as I have not been able to solve its enigmatic structure. The use of the Tarocchi of Mantegna derived emblems may have little significance, since the first edition used another set of images. However, the fact that the work was published in this form in 1616, during the explosion of hermetic and alchemical publications, is very suggestive that some hermetic riddle is woven into its strange structure.

A source for Robert Fludd's sevenfold rose

by Adam McLean. Article in *The Hermetic Journal* 1991.



The rose symbol from the titlepage of Robert Fludd's *Summum Bonum*, published at Frankfurt in 1629, has become well known as a Rosicrucian symbol. It has a sevenfold symmetry, seven layers of petals and its stem is formed in the shape of a cross. However, it appears that this design was not entirely an original conception for Fludd's book, as the engraver, Matthieu Merian, had used a similar grouping of symbols fourteen years earlier in an emblem book which he illustrated.



This is emblem 21 from *Iacobi à Bruck Angermundt Cogn. Si. Emblemata Moralia & Bellica, Argentorati Per Iacobum ab Heyden Iconographum Anno MDCXV. M. Merian Incidebat*. What is original in the reworking for Fludd's book is the cross shaped form of the rose stem and the sevenfold symmetry of the rose. This shows very clearly that Merian and the publishers of Fludd's book, while drawing on symbolism from the emblem tradition, nevertheless intended to give this symbol definite and unambiguous Rosicrucian associations.

The kabbalistic-chemical altarpiece in Bad Teinach

By Adam McLean. From the *Hermetic Journal* 12, Summer, 1981, pages 21-26.



The Kabbalistic-Alchemical Altarpiece in a small church in the town of Bad Teinach near Calw in Germany, is, I believe, of the greatest esoteric value. I have at present little information on its outward history, though it is dated 1673 and seems to have been prepared at the instigation of Princess Antonia (1613-1679), so I will therefore concentrate in this article on the symbolism of the painting. The painting's central panel, which is all we shall concern ourselves with here, shows us a Rose Garden surrounded

by a hedgerow bearing red and white roses. Outside the garden in the background on the left is a four-square military camp, while on the right we see a city founded on a circular plan. In the centre foreground, a bowered gate opens into the garden and a female figure is seen standing upon the threshold, pausing at her entry to gaze at the wonders before her. She bears in her right hand her flaming heart, while on her left she leans upon a staff in the form of an anchor cross. Thus she represents the Soul of Man standing at the threshold of spiritual illumination, with the fire of enthusiasm and love burning within the heart, and the anchored foundation of the Soul in the central mystery of the Cross of Christ.

The Soul gazes into the garden, and here we are reminded of the Rosarium or Rose Garden of the Virgin, the medieval picture of the enclosed domain in which the human soul can commune with the Sophia-Wisdom aspect of the Spirit. Within this Rose Garden are two realms - a circular garden and a domed Mystery Temple. The soul must first traverse the circular garden before the soul reaches the outer court of the Temple which stands upon a podium of seven steps.

THE CIRCULAR GARDEN

The garden is centred upon the figure of the resurrected Christ, standing upon a rock and holding his Cross. From

his body there flows a stream of blood forming a pool at the centre of the circle. Around him the garden is segmented into three rings of twelve flower beds each bearing their own particular plants, and we see 12 figures standing around the circumference of the inner ring (which is within the pool of the Christ Blood). These twelve

figures are constellated with an array of symbols which are too complex to analyse here, but for example they appear with various animals, they hold symbolic objects, have certain colourings and they each stand at sacred trees which grow at the boundary of the inner ring. These trees are as follows, counting clockwise from the figure just to the right of the Christ :-

Laurel - Cypress - Willow - Fig - Cedar - Fir - Olive - Apple - Pomegranate - Almond - Palm - Oak.

The twelve figures are representatives of the 12 tribes of the Israelites, or the twelve Apostles and can also be related to the Zodiac Signs. Thus the first stage of the Soul's encounter with the garden requires an experience of the twelve archetypes on all levels, as the twelve sacred trees, or twelve animal forms, etc. The Soul has to inwardly experience

how the one spiritual energy manifests in the lower worlds divided twelvefold. Only by reintegrating this twelvefoldness can the Soul gain true perception of the unity that lies beyond, here the Christ figure in the centre of the circular garden. This is the sublime mystery of the Twelve + One at the Centre.

Once the Soul has achieved this integration, she will stand in the position of the Christ Being. This position is the point of spiritual incarnation in the natural world, the Malkuth of the Kabbalists, and in this painting we see clearly a Tree of Life glyph of the Kabbalists, displayed with female figures marking the Sephiroth. This Tree of Life spans the garden and temple, it unites these two realms within the soul's experience of the spiritual reality of the Rose Garden. We can outline it as follows

The Supernal Triad Kether, Chokmah, Binah, is indicated by the three crowned female figures at the centre of the dome of the temple. Although they cannot be seen on the detail of the illustration here, on the original painting the head of Kether is surrounded by a nimbus of seven eyes, Chokmah by seven stars, and Binah by a nimbus of seven flames, which provides an interesting interpretation of the usual meanings of these Sephiroth. Kether at the Crown of the Tree has the gift of seeing into the higher reaches of the spiritual world, Chokmah bears the Wisdom of the Stars, and Binah has the fire of illuminated Understanding. (These are an example of just a small detail of the symbolism, and the whole painting is truly profound in its detailed encapsulation of esoteric wisdom in pictorial form).

To the right below Chokmah on the pediment of the Temple we see the figure of Chesed, and below and to the left of Binah, is pictured Geburah. Completing the intermediate Triad is Tiphareth, depicted as the woman with the two children, one child held up, the other standing below her. Tiphareth stands at the special point of the tree mirroring in her essence the above and the below.

The lower Triad is composed of Netzach, as the female figure bearing fruiting branches and standing at the base of the right BOAZ column of the Temple, Hod at the base of the left JACHIN column plucks at her harp, and in the centre below them standing upon a crescent moon is Yesod.

Now one can clearly see that the Christ figure occupies the 10th place, that of Malkuth. To harmonise with the presentation of the Sephiroth as Goddess forms, we must realise that this is the point of the incarnation of the Spirit in Matter, and thus the Soul figure entering the Garden will initially come to occupy this Sephira. Christ is here seen as the representative of humanity, rather than in his aspect as part of the Godhead. Once the Soul stands consciously

on Malkuth, the individual being can see, at least in dim outline, the Tree of Life with the higher Sephiroth stretching above the Soul. Thus this perception unites the experience of circular Zodiac Garden, the Astral world of Archetypes, with the higher realms of the Spiritual World (the Devachanic Worlds) pictured by the Temple.

THE TEMPLE

This temple is approached by ascending a podium of seven stages, at the corners of which we see the Four Evangelists with their animal symbols of the elements. On the left - Matthew (the Man) and John (the Eagle), and on the right - Luke (the Lion) and Mark (the Bull). The temple is domed with a central sanctuary below, outside of which stands two columns, Boaz and Jachin. The Boaz column on the left bears around it a clockwise helix of seven turns formed of animals going 'two by two', while the Jachin column has a helix of seven anticlockwise turns with flowers and fruit forms. Above on the pediment of the sanctuary are, two obelisks that connect symbolically with these columns, the Fire Obelisk on the left and the Water Obelisk on the right. Beside the water obelisk stands the Angel with 'a face like the Sun' (see Apocalypse Chapter 10), while beside the fire obelisk is the great image of gold, silver, brass and iron from Nebuchadnezzar's Dream (see Daniel 2, 31).

In two outer porticos we see the four major Prophets of the Old Testament. Under the left, Jeremiah and Daniel, and under the right, Ezekiel and Isaiah, each bearing characteristic symbols.

Within the sanctuary, Aaron with his breastplate officiates at the altar, beside which are raised the Cross of the Crucifixion of Christ and a Cross with a crucified serpent (an important alchemical symbol, which appears for example in the alchemist Nicholas Flamel's Hieroglyphic Symbols, which was supposedly based upon a Jewish esoteric book). The crucified serpent is connected with Moses (see Numbers chapter 21). We have here a meeting of the old Moses mysteries with the Christian mystery of the Resurrection. At the apex of the pediment above the sanctuary, we see the figures of Kether Chokmah and Binah as outlined before. Various bird forms, which connect with alchemical stages are seen. Beside Chokmah, we note the PHOENIX, while beside Binah an EAGLE is visible. Beneath the figure of Tiphareth, a PELICAN in its piety nourishes its young upon its own blood. Elsewhere is seen the PEACOCK with its resplendent tail, and other birds with alchemical connections are also to be found in this painting. 'Above at the top of the dome of the temple we see the vision of the Twenty Four Elders around the Throne of God (see the Apocalypse chapter 4). Here we are in the highest regions of the spiritual world.

Various angelic Hierarchies with musical instruments resound the harmonies of the spheres around the crowned emblem of the (A) Alpha and (O) Omega, the Beginning and the End of all Being, which is placed in nimbus of light standing at the top of the Temple's dome.

At the highest point of this dome stand the three archetypal Initiates of the Jewish Tradition, Elijah, Moses, and Enoch. These three represent the three different streams of initiation, though these are unified in that all achieved their spiritual vision on a mountain top - with Elijah it was Mount Carmel, Enoch was translated from the brow of Mount Moriah, and Moses, of course, had his vision on Mount Sinai. The perhaps also relate to the Transfiguration of Christ on the mountain before his three disciples Peter, James and John, when Moses and Elias appeared with Christ and the three disciples wished to erect three tabernacles to worship these three facets of the Spirit.

On the left of the Temple, the camp must be that of the Israelite journey to the Promised land with the Tabernacle in the Wilderness, the Temple itself is a representation of Solomon's Temple, while on the right, Jerusalem, is the city built in the form of a temple. Thus we have three archetypal temple forms.

The whole painting seen in totality, presents to us a picture of path to consciousness of the spirit, through an initiation experience gained by working symbolically with this temple. It thus incorporates kind of esoteric masonry with various alchemical and kabbalistic facets and it could also perhaps have some Rosicrucian connections. This was a 'teaching painting' designed for Princess Antonia, who was of the family of Frederick I, Duke of Wurttemberg, alchemist and occultist, who in 1603 was invested into the Order of the Garter by James I. Perhaps we see here the record of a late 17th century continuation of the esotericism of the Rosicrucian movement within a closed fraternity (the painting was probably never intended to be seen outside of a small group of people working with its symbolism). One suspects that it would be most valuable to enquire further into the background of the personalities involved in this esoteric group.

A fascinating and extremely detailed description, analysis and interpretation of this altarpiece is found in a German book by an Anthroposophical writer (not available in English) :- Harnischfeger, Ernst. *Mystic im Barock : Das Weltbild der Teinacher Lehrtafel* 228 pages many illustrations. Verlag Urachhaus, Postfach 13 10 53, 7000 Stuttgart 1, Germany.

Some notes on the work of Louis Kervran

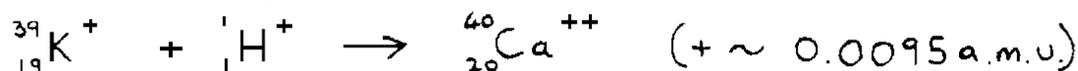
By Adam McLean. First published in the Hermetic Journal 1981.

Some notes on the work of Louis Kervran

Adam McLean

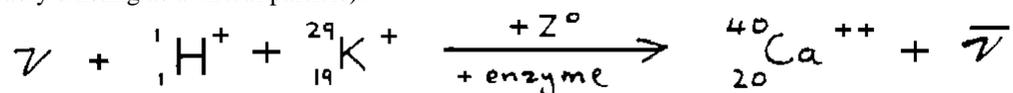
In an article in *La Revue Generale des Sciences* Paris, of July 1960, Louis Kervran, then Director of Conferences at the University of Paris, described experiments proving the existence of the transmutation of some elements by biological means. Further details were given by him in a book *Transmutation Biologiques* (Maloine, Paris 1962). These experiments involved measuring the weight of Potassium and Calcium in dry seeds and in germinated seeds, these seeds during germination being isolated from contact with Potassium or Calcium in their environment, say through the water or air. Thus any measured increase in the weight of these elements could only be explained by some transmutation occurring in the living plant.

These publications were received with scepticism by some physicists because such transmutations were not explainable within the laws of physics then admitted. However, other scientists were to confirm Kervran's findings. Among these were Prof. Dr. Hisatoki Komaki, chief of the Laboratory of Applied Microbiology at a Japanese University, Prof. Baranger, Head of the Laboratory of Chemical Biology in the Ecole Polytechnique in Paris. J.E. Zundel, at that time Director of a paper company having a chemical analysis laboratory, pointed out that in germinating oats, there was an increase of Calcium of sometimes more than 100% in a medium containing no calcium. From where was this Calcium derived? Kervran suggested from Potassium, because of a decrease of Potassium (K) quantitatively equal to the increase in Calcium (Ca), and he gave the following formula in 1960



After many experiments, hundreds of analyses of tens of thousands of grains or plants J.E. Zundel (then Chemical Engineer of the Polytechnicum School of Zurich) confirmed these findings in a lecture in 1971 at the French Academy of Agriculture (Bull No. 4, 1972). He had then used chemical and physical methods of analysis. Later in 1979, Zundel, using the mass spectrometer at C.N.R.S (the Microanalysis Laboratory of the French National Scientific Research Centre), and neutron activation mass analysis at the Swiss Institute for Nuclear Research in Villigen (Aargau), confirmed the increase for Calcium of 61% + or - 2% (average for both laboratories) that is absolutely beyond any statistical dispersion. (There was also an increase of 291% for Phosphorus and 36% for Sulphur). See the article - 'Transmutation of the Elements in Oats' in *The Planetary Association for Clean Energy Newsletter*, Volume 2, Number 3, July/August 1980. So it now seems that transmutations of a few elements arise as a property of the metabolism of living matter, transmutations obtained in great quantity at a low energy.

Recently a possible explanation for this phenomenon within the framework of modern physics has been evolved by French physicist Oliver Costa de Beauregard, Professor of Theoretical Physics at the Institut de Physique Theorique Henri Poincare (Faculty of Sciences, Paris) who is also Director of the Centre National de la Recherche Scientifique (C.N.R.S.). Costa de Beauregard suggests that such transmutations neither takes place through strong interactions, nor through electromagnetic forces, but through the weak interaction. This takes place through the neutral current of the intermediate vector boson, the so called Z^0 , particle recently discovered by particle physicists. Kervran's reaction for a biological transmutation from Potassium (K) to Calcium (Ca) in germinating oats is thus explained as being initiated by neutrino capture (from cosmic rays) and the weak interaction follows mediated by the Z , neutral current (the Z^0 probably existing as a virtual particle):-



It would seem that this formula has brought the reality of these transmutations into the theoretical framework of modern physics. We thus see that in living matter there not only occurs the chemical reactions (electromagnetic forces) of photosynthesis involving the absorption of photons of light from the sun, but also weak interactions that can effect the nuclear structure of matter, activated through the participation of cosmic energy in the form of neutrinos that stream down upon the earth from the depths of the universe. A full awareness of the consequences of

these ideas should have a profound influence upon many domains of modern science, not least in agriculture, dietetics and healing.

In my article on 'The Ethers and the Fundamental Forces of Physics' in the *Hermetic Journal* Number 9, I pointed out that the weak interaction bore a relationship to the transforming ether known in esotericism. Indeed, I there related that this transforming ether "promotes the multiplicity of forms within the material realm through its transmutative quality of etheric force". Thus with Louis Kervran's profoundly important work we could stand upon the threshold of a turning point in the physical sciences, and we seem to have the meeting ground between contemporary Physics and an esoteric science of the ethers. One can only hope that such research is fully followed up and the profound implications for the present rigid view of the mechanism of living matter are not missed. Indeed can it be that the transmutations of the ancient alchemists may again gain scientific respectability?

In preparing this short article, I have drawn from published material from various sources, but for the basis of the article I am indebted to Louis Kervran's own translation of a recently published article on his work.

Notes on the 'Twelve Keys of Basil Valentine'

By Adam McLean. First published in the [Hermetic Journal](#) 1987.

Notes on the 'Twelve Keys of Basil Valentine'

Adam McLean

The 'Twelve Keys of Basil Valentine' is recognised as one of the most important and influential of alchemical works. It was first published in 1599 as a text only piece but achieved its widest distribution as part of a compendium the *Tripus Aureus* (Golden Tripod) edited by Michael Maier and published by Lucas Jennis at Frankfurt in 1618. This was later included in the more massive compendium *Musæum Hermeticum* also published by Jennis in 1625.

The earliest edition did not have any illustrative plates but Lucas Jennis provided twelve engraved plates (probably by Merian), one for each of the 'keys'. These plates obviously drew on the allegorical descriptive imagery of the text, but added a coherence to the symbolism. The text is obscure, and teases the reader with paradox and riddling allegory in the best traditions of alchemical material of that period,

"The twofold fiery male must be fed with a snowy swan, and then they must mutually slay each other and restore each other to life; and the air of the imprisoned fiery male will occupy three of the four quarters of the world, and make up three parts of the imprisoned fiery male, that the death-song of the swans may be distinctly heard; then the swan roasted will become food for the King, and the fiery King will be siezed with great love for the Queen, and will take his fill of delight in embracing her, until they both vanish and coalesce into one body."

However, I believe that it was the addition of the twelve emblematic figures that made the work more approachable and led to it becoming a popular and influential work. Indeed sometimes these twelve emblems are themselves referred to as the 'Keys' of Valentine.

I will not attempt in this short article to analyse the text and its relationship to the emblems, however, I would like to present some notes that may help others to penetrate this rich and complex mass of symbolism. Often in attempting to grasp within our thought the ideas illustrated by the images or sense with our feelings the symbolic patterns that are worked into such esoteric documents, we can get lost and discouraged if we merely jump headlong into the mass of symbolism. We need some esoteric tools (in computer terms, a disassembler) to unravel the code and label some of the more obvious structural elements. Once we have an entry point into the esoteric code we can work this into meditative exercises that slowly reveal the spiritual essence woven into the allegorical emblematic structure. Readers of this Journal will be aware that my approach to such sequences of emblems is to see them as a whole entity, rather than as individual emblems. It is my belief, confirmed by my experience of working with such emblem structures, that the designers of such emblem systems worked various patterns into the symbolism of the whole sequence, so that echoes, pairings, inversions, mirrorings of symbols occur across the individual emblems. Often I find that an emblem system seems to have (at least one) underlying geometric pattern and when the emblems are arranged in this pattern much of the confusing fog of symbolism will dissipate and the sequence begins to take on a coherent form. Thus my work with the *Rosarium* series, the *Crowning of Nature*, the Mylius engravings, the *Lambspring*, and other such sequences.

As part of a long term project to produce a compendium of such emblem systems, I have been working with the Basil Valentine Keys, and decided to include this article as notes on some work in progress rather than a final polished interpretation. It may be useful for others to follow up these indications and see where they lead.

At this point in my investigations it is not entirely clear which of the possible geometric arrangements of the twelve emblems will lead to the deepest penetration of their symbolic subject matter. There may indeed be a number of simultaneously valid arrangements, so I will confine my remarks here to the appearance of triple symbolism in the emblem sequence as a whole.

Those who have read my commentary to the Mylius Engravings will find there (on page 104) that I identified an elaborate sevenfoldness (22 sets of 7 interlinked symbols in all) in the 28 Mylius engravings. These engravings were published in Mylius' *Philosophica Reformata* in 1622, and a number of these emblems are obviously derived from

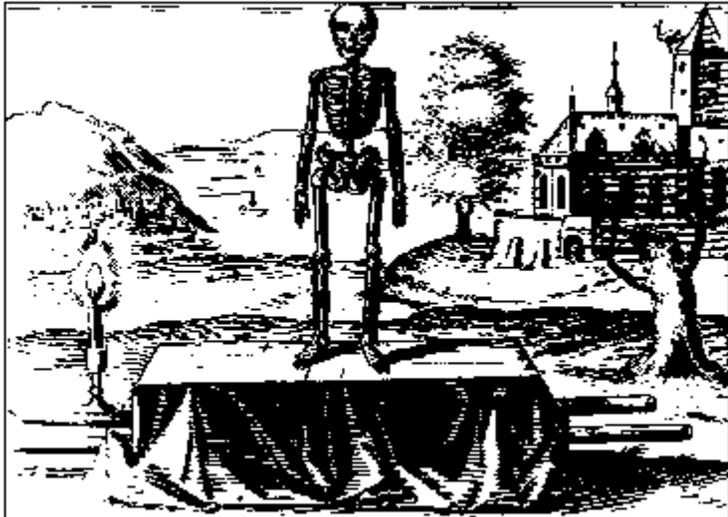
the *Twelve Keys* and indeed from the symbolic material in the extended poem *The Twelve Gates* of George Ripley.

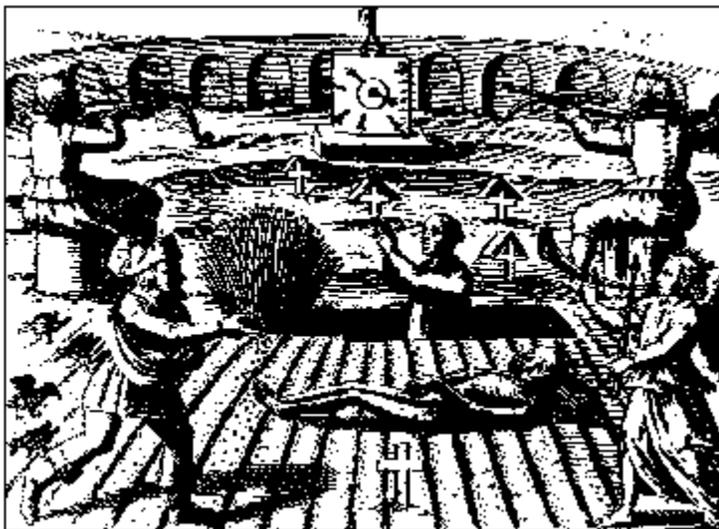
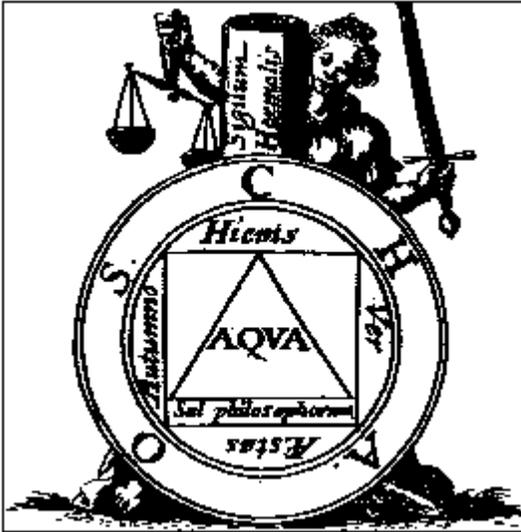
The particular grouping of symbols I will explore here is not a sevenfold one but the appearance of symbols across the whole series of emblems in sets of three. This will provide some insights into the inner geometry of the *Twelve Keys*. I have provided here all twelve of the illustrations so that the reader can follow this threefold mapping of symbols.

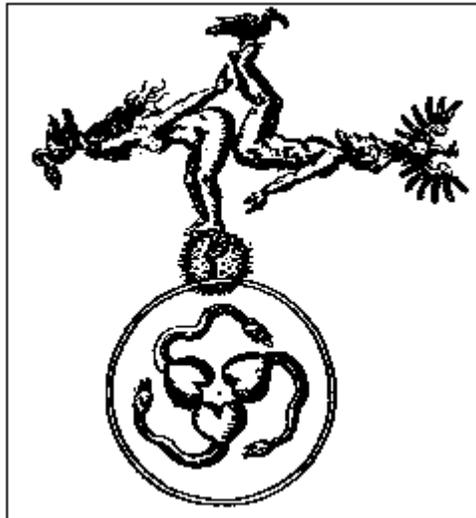
3 Roses	1 5 12
3 Lions	5 11 12
3 Hearts	5 9 11
3 Flasks	5 6 7
3 Classical Gods [Saturn-Neptune-Mars]	1 6 11
3 Male/Female groups dominant	1 6 9
3 Snakes	2 9 12
3 Wielded swords	2 8 11
3 Furnaces	1 6 12
3 Angel winged figures	2 5 8
3 Circles	7 9 10
3 Arrows	3 5 8
3 Animals devouring	3 11 12
3 Sceptres	1 6 8
3 where birds play a major role [cocks-crows-four birds]	3 8 9
3 where birds play minor role [bird on sword-peacock weathervane-swan]	2 4 6
3 Crowned creatures [snake-cockerel-lion]	2 3 5
3 Tools/instruments held by men [bellows-flask-tongs]	5 6 12
3 Objects held by women [flower-heart with sun & moon]	1 5 11
3 Sun-Moon-Mercury symbols	2 10 12

I hope this list may encourage the reader to seek for other triplicities in the symbols, or indeed to find some other way of approaching and making comprehensible this complex net of symbols.











The *Hermetic Musæum* reprinting of the *Twelve Keys* included a short appendix emphasising the threefold aspects involved in the practice of the twelve 'keys.' Here an especial emphasis is placed on interpreting the alchemical work through the Paracelsian doctrine of the 'Three Principles' – Salt, Sulphur and Mercury, and an emblem is given to further draw our attention to the importance of the number three in the work.



The flask contains the triangle and the three serpents of the three Alchemical Principles surrounding the double mercurial dragon – both in its winged-ethereal (volatile and spiritual) aspect and in its earthly-bodily (fixed and material) form.

It may be interesting to view the triple appearance of the symbols in the *Twelve Keys* as mirroring :-
 a salt, contractive, restricting, crystallising tendency,

a sulphurous, expansive, radiating, dissolving tendency,

and a mercurial, flowing, interweaving, dynamic equilibrium of forces, always seeking to balance the opposing energetics of the salt and sulphur in any outer phenomenon or inner experience.

An account of an experiment to grow a tree of silver

By Adam McLean. First published in the [Hermetic Journal](#) 1980.

An account of an experiment to grow a tree of silver

By Adam McLean

This experiment involves no special subtle transmutation, but the chemically respectable process of the precipitation of metallic silver from a solution of silver nitrate by the chemically more electropositive metallic mercury. For the first experiment (A) a 10% solution was used - 10 grams silver nitrate made up to 100 ml solution in water. About 20 grams of metallic mercury was introduced into the solution at normal room temperature in a 100 ml round bottomed flask, in small quantities at a time. As the mercury entered the transparent solution a brown precipitate immediately formed as a kind of veil in the solution, but within a few minutes this disappeared. One observed within the space of 15 minutes, small growths forming on the surface of the bubble of mercury, and within a hour a kind of grey mossy precipitate had formed around the mercury which had been completely transformed. As the experiment had reached a stasis and equilibrium, more mercury was introduced and within a further 12 hour small tree like growths began to press up out of the mossy precipitate at the bottom of the flask. These forms were very delicate and the slightest vibration disintegrated them. After a third addition of mercury, more rigid crystals of silver began to form within a further hour or so. These rigid crystals began to act as the trunks for the trees of silver which precipitated in the form of ramifying branches and fine leafy structures. These were much more stable and indeed the forms survived some few weeks.



A second experiment (B) was undertaken with a more dilute solution 5% silver nitrate, though with the same experimental method, and in this case a pattern more of radiating outward crystals shaped itself.



Note: precautions must be taken when working with mercury as it is extremely toxic. See the pages on [safety in alchemical experiments](#)

The Virga Aurea - Seventy-two magical and other related alphabets.

By Adam McLean. First published in the [Hermetic Journal](#) 1980.



In 1978 while researching for my book on the *Magical Calendar*, I came across another large engraving which bore a certain superficial resemblance to the de Bry plate, (indeed the Frenchman F. De Mely who edited an edition of this work in 1922 seems to have thought them both part of the same book.) This was the *Virga Aurea* of James Bonaventure Hepburn published at Rome in 1616. The *Virga Aurea*, or to give the full title, "The Heavenly Golden Rod of the Blessed Virgin Mary in Seventy-two Praises" consists of a list of seventy two alphabets (actually seventy, plus Latin and Hebrew which are the two languages of the text of the plate). Some of these alphabets are those of known ancient languages, for example, Greek, Hibernian, Germanic, Phoenician, etc., while others are magical alphabets, Angelic, Coelestial, Seraphic, Solomonic, etc., and the whole plate is thus an encyclopaedia of alphabetic symbolism.

James Bonaventure Hepburn (1573 - 1620) was a Scot born in East Lothian near Edinburgh. He became an able and respected scholar, and being Catholic and a member of the austere order of St. Francis de Paul, he rose to the high position of Keeper of the Oriental Books and Manuscripts at the Vatican. He had a great knowledge of Eastern languages and, in particular, Hebrew. In 1591 he published his Arabic Grammar, and he was later to translate a Kabbalistic book from Hebrew into Latin, the 'Kettar Maleuth' of Rabbi Solomon, however I have not been able to locate a copy of this work.

The *Virga Aurea* was published as a large engraving (approx 20" by 32") at Rome in 1616, though it seems from internal evidence that Hepburn originally produced an illuminated manuscript bearing the essentials of the work done in various colours and possibly using gold. The engraving consists of a listing in four columns of the seventy alphabets, each letter of which is shown transliterated into Latin script, together with a small emblem and short text from the Bible. These lists are headed by a picture centred upon the figure of the Virgin Mary, standing below the Trinity of Father, on the right side, the

Son, on the left, and the Holy Spirit completing the triangle, and shown as a dove descending. The Virgin stands on the crescent Moon within a brilliant egg of light centred on the Sun. Within the space of the egg are the other five planets, and the Virgin bears a halo of the twelve stars. On her left side a winged female Venus figure in flowing robes, stands upon a dragon, her right hand pointing heavenwards, her left holding a lily. On the Virgin's right side, a winged Mars figure, attired with a helmet sword, and tunic, holds in his right hand a long spear and in his left a set of scales, and he stands upon an eagle. Flanking this scene are a number of Saints, including St. Peter, St. Bonaventure, and possibly St. Andrew.

The work is dedicated to Pope Paul V (Pope from 1605-21), who was particularly interested in books, greatly extending the Vatican Library during his Pontificate, and beginning a collection of Antiquities. He would, of course, be entirely sympathetic to, and probably encouraged, the scholarly pursuits of Hepburn. His more open approach to scholarship, allowed Hepburn the freedom even to consider publishing his translation of the Kabbalistic piece, even although a decade or so before, Giordano Bruno was burned at the stake in Rome as a heretic for pursuing similar interests.

This document is an invaluable collection of alphabets providing a wide survey of many different alphabet symbols both of contrived magical alphabets and those of extant languages. A complex pun is enshrined in the word 'Virga' of the title in Latin - Virga, 'a rod' being in one sense used for the alphabetic symbols, which are sometimes described as the 'rods' of a language, the other sense of the word 'rod' is mentioned in the text as the Rod of Moses and the Papal Rod or Staff of power; and finally 'Virga', the Virgin.

In order to bring all this mass of material together, Hepburn must have had a wide range of source material to study, and it seems most likely that this material was available in the Vatican Library itself. As to what Hepburn's motives were for publishing such a collection of alphabets, we can only speculate. He certainly produced these in a form which gave it scholarly respectability and also by heading it with the figure of the Virgin Mary, using the pun 'Virga' Rod-Virgin, gave it credibility in terms of the Church. The timing of the publication, 1616, right at the centre of the Rosicrucian/hermetic publishing period, suggests that Hepburn in his own way may have been responding to that impulse. Under the guise of the Virgin Mary heading the plate, Hepburn was able to publicly reveal the symbolism of many alphabets, and in particular, magical alphabets. If we further take into account Hepburn's interest in the Kabbalah, and his translation and publication of a Solomonic occult text, I think we are justified in assuming that Hepburn may have, in some small way, contributed to the public revelation at that time of the esoteric wisdom of the past. At the very least one can suggest that he was inspired by this movement into producing the *Virga Aurea*. As librarian at the Vatican, he certainly would have received early copies of the Rosicrucian publications. The *Virga Aurea*, although a single large engraving contains such a mass of detail that an exhaustive analysis will be left till later.

[Section below the figure of the Virgin translated by Patricia Tahlil]

To Our Most Blessed Father And Lord, Pope Paul The Fifth, In Eternal Happiness Led astray by the deceits and deceptions of the Evil Spirit, antiquity held its peace from assisting seekers of the Laurel Bough; the darkness of error having been dispelled from the Gentiles by the rising of the Sun of Justice, may it now be allowed to seekers to prefer salvation, safety, and the Rod of Jesse, our golden branch, namely the Virgin Mary. So, O Most Blessed of Princes, sketched by my pencil from the sacred page, in colours that were to hand, arranged in a garland of seventy-two praises, surrounded by flowers and various pleasant numerical symbols, or adorned with ribbons, I most humbly place and fasten this votive picture at the feet of the Most Blessed Virgin. After much midnight striving, may I make pledge of my soul, yearning and striving long years after the Blessed Virgin, to the success of the Rule in which we are blessed, and to its long and eternal fruitfulness, so that it may please Omnipotent God to be kind to His Church, which you most deservedly lead, and most wisely rule. And whom may I not compel, armed with the Blessed Rod? That which God made as the Staff of Moses, famous and venerable in power, Moses was by this the greater and more heavenly, since he was ruler of a part, the severed bough, and may, by the Good Rod, be ruler of the whole world. With the aid of the Blessed Rod, but also by bloody sacrifice, the one (i.e. Moses) was Head of the Synagogue, the other (i.e. the Pope), by the blessing of the bloodless Rod is Great Pontiff of the Catholic Church. The one knew the appearance of truth, by the blessing of the Rod, and was the predecessor of Christ; the other, by the blessing of the Rod, is his successor, endowed with the twin, or extensive, royal and priestly Rod. For Moses subdued serpents with his Rod, parted the Sea, and drew water from the rock. By his blessed staff, the Pope makes the Rock (or Body of Christ) from bread, and His Precious Blood from Wine, crosses Hell, and bars or opens Heaven; he kills the old serpent, and recent heretical serpents.

One type of the Blessed Rod is that of Moses, famous for signs and true miracles, the other, more expressive of the Most Blessed Maiden, is of the character of Jesse's Rod.

Deign therefore, O Most Blessed of Princes, to accept this tiny little gift of devotion to the Most Blessed Virgin, and to look kindly on my theory of the Holy Rod, and to embrace and cherish me in kindness, as you are accustomed to do with all the smallest sons of the Church.

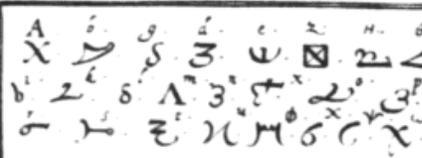
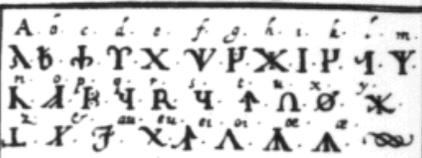
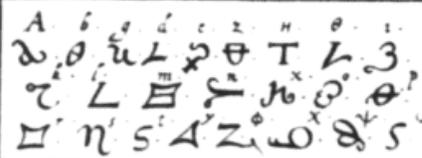
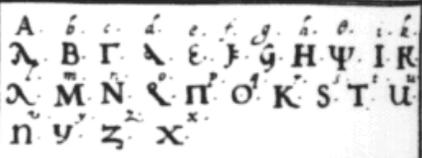
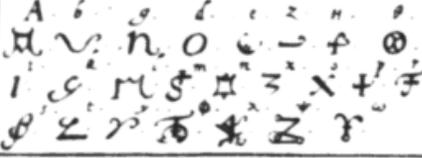
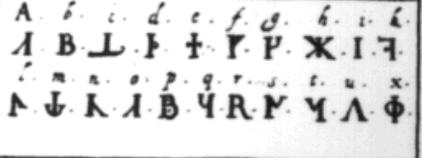
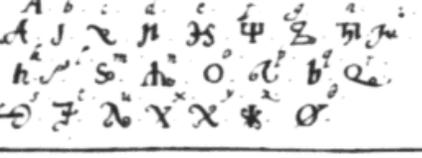
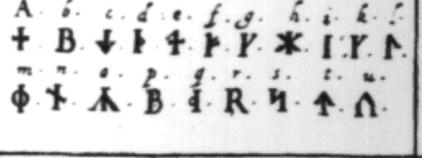
Father James Bonaventure Hepburn, Scot.

Order of St Francis de Paul.

The 72 Alphabets, or "the seventy-two praises", connect with the 72 lettered Name of Cod in the Hebrew tradition, the

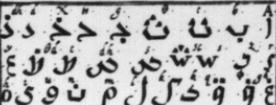
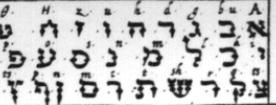
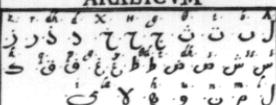
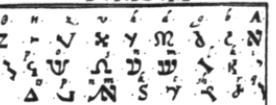
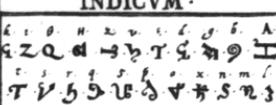
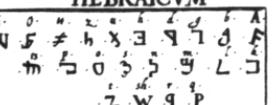
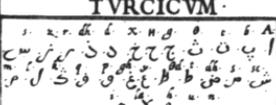
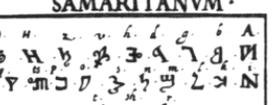
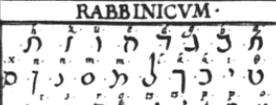
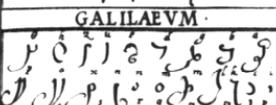
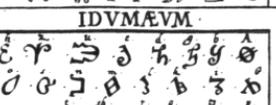
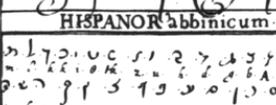
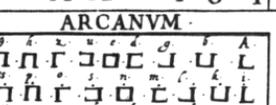
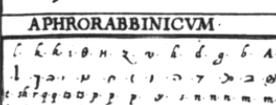
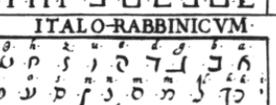
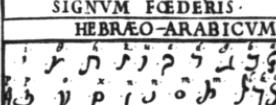
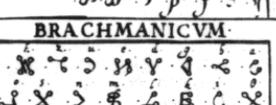
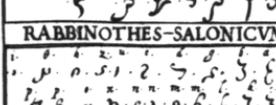
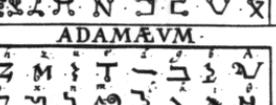
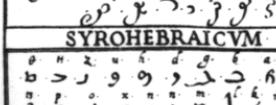
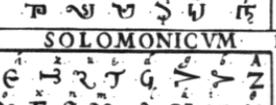
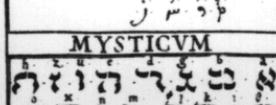
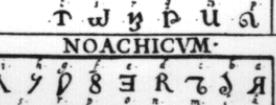
Shemhamphorash. This was contained in the three verses of Exodus XIV : 19, 20, and 21, each containing 72 letters in Hebrew, which when written down using the Kabbalistic system of boustrophedon, gives 72 Names of God. Interestingly enough the text of Exodus XIV, 21 describes Moses stretching out his hand over the Red Sea and parting the waters, which is referred to in the text of the *Virga Aurea*.

Error!

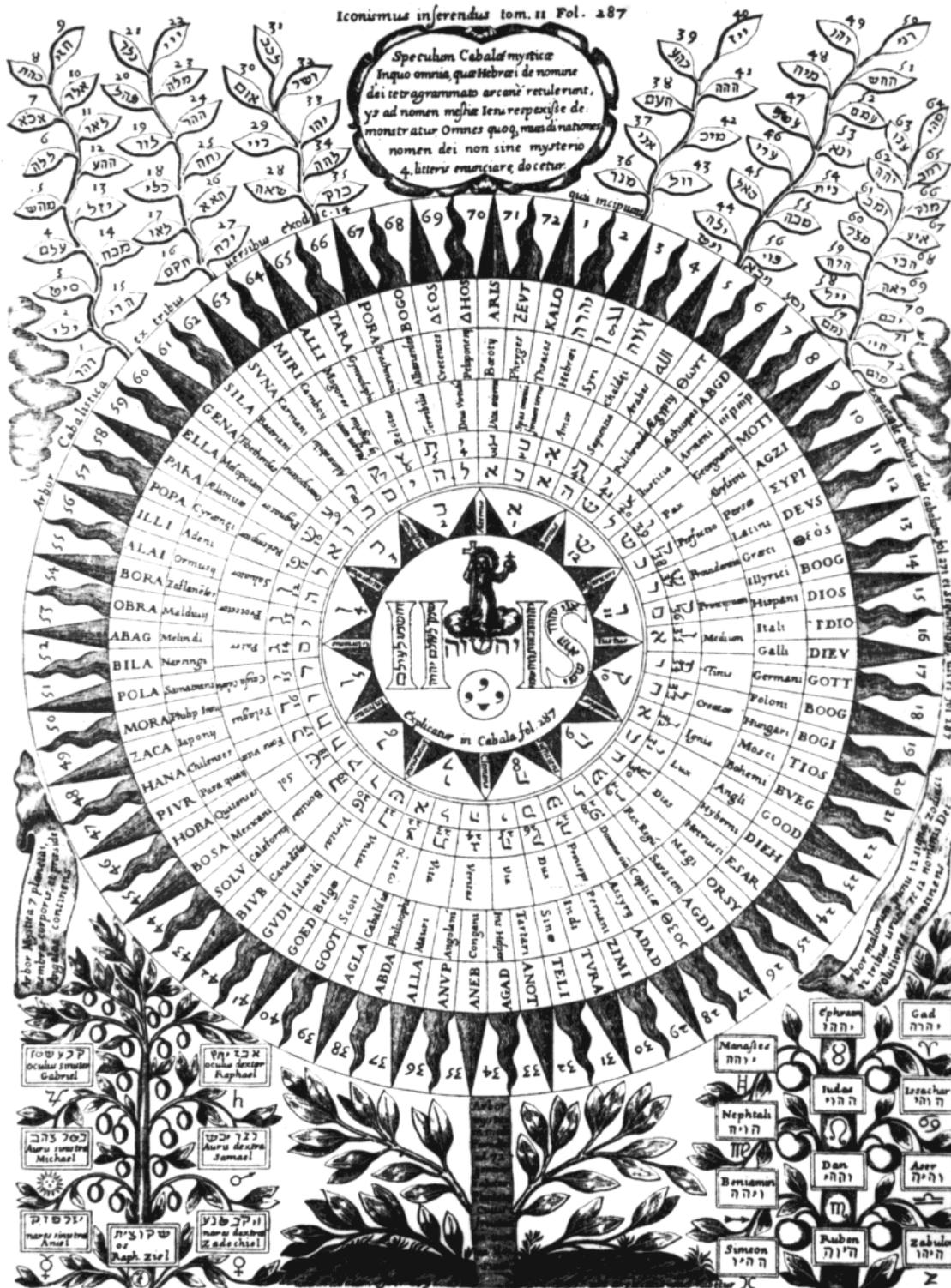
<p>PARADISI <i>Esti 24</i></p>  <p>AQUEDUCTVS</p>	<p>ALPHABETVM BABILONICVM</p> 	<p>GRATIA PLENA <i>Luci 1 28</i></p> 	<p>GOTHICVM</p> 
<p>SPECVLVM SINE <i>macula Sap 7</i></p> 	<p>HIEROGLYFICVM</p> 	<p>EVA <i>miraculosus</i></p> 	<p>GETICVM</p> 
<p>LIBER TESTAMENTI <i>IDEI Esti 24</i></p> 	<p>APOLLONIANVM</p> 	<p>SARA <i>Dna</i></p> 	<p>SCYTHICVM</p> 
<p><i>Omnis gloria filio</i></p> 	<p>ÆGYPTIACVM</p> 	<p>REBECCA <i>signa</i></p> 	<p>MASSAGETICVM</p> 

MAGNI REGIS CIVITAS REGIS SOLE Sep 7	CVSSAEVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z	RACHEL Mact 2 18	MERCURIANVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z
SCALAIACOB SPECIOSIOR SOLE Sep 7	VIRGILIANVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z	LAHEL Abundanz Job 42	ISIACVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z
LECTICA VIRGO DEIPARA IYDITH Confessio Ind 7	HETRWSCVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z	CORNY STIBI Abundanz Job 42	GRÆCVM A B Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ Ν Ξ Ο Π ρ σ τ υ φ χ ψ ω
LECTICA VIRGO DEIPARA IYDITH Confessio Ind 7	SARACENVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z	DIES PERENNIS Abundanz Job 42	IONICVM A B Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ Ν Ξ Ο Π ρ σ τ υ φ χ ψ ω
LECTICA VIRGO DEIPARA IYDITH Confessio Ind 7	ASSYRIVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z	FIOS ROSAR Abundanz Job 42	AELICVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z
LECTICA VIRGO DEIPARA IYDITH Confessio Ind 7	ARMENIACVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z	TEMPIVM DEI sanctum est 163	ATTICVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z
LECTICA VIRGO DEIPARA IYDITH Confessio Ind 7	SYRRME NIACVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z	STELLA maturna Ecc 10	DORICVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z
LECTICA VIRGO DEIPARA IYDITH Confessio Ind 7	ILLYRICVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z	CIOSA Ecc 24	LATINOGRÆCVM A B Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ Ν Ξ Ο Π ρ σ τ υ φ χ ψ ω
LECTICA VIRGO DEIPARA IYDITH Confessio Ind 7	SABÆVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z	PALMA EN GADDI E 24	COPHITÆVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z
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LECTICA VIRGO DEIPARA IYDITH Confessio Ind 7	PHENICVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z	AQVAS E 24	SERVIANVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z
LECTICA VIRGO DEIPARA IYDITH Confessio Ind 7	GALLICVM antiquum A B C D E F G H I J K L M N O P Q R S T U V X Y Z	PLATANVS richo Ecc 24	HIBERNICVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z
LECTICA VIRGO DEIPARA IYDITH Confessio Ind 7	GERMANICVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z	ROSA in Ir De SOL Cant 6	SCOTICVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z
LECTICA VIRGO DEIPARA IYDITH Confessio Ind 7	LYNA Can 6 A B C D E F G H I J K L M N O P Q R S T U V X Y Z	ROSA in Ir De SOL Cant 6	SCOTICVM A B C D E F G H I J K L M N O P Q R S T U V X Y Z

<p>CHALDAICVM</p>	<p>TORRENS MELLIS ET</p> <p>BYTURI L. 6. 20.</p>	<p>SERAPHICVM</p>	<p>DOMVS DOMINI</p> <p>DEI III. P. 12.</p>
<p>PALÆSTINVM</p>	<p>NVBES RORIS IN</p> <p>Calceus III. 18.</p>	<p>SVPERCOELESTE</p>	<p>MENSA PERSONARVM</p> <p>Professionis N. 4.</p>
<p>CANANÆVM</p>	<p>ROSA FLORENS</p> <p>intra spatium Can. 2.</p>	<p>COELESTE</p>	<p>CANDELABRVM</p> <p>Auri puri Ex. 25.</p>
<p>PERSICVM</p>	<p>CIVITAS DEI</p> <p>NOSTRI P. 45.</p>	<p>ANGELICVM</p>	<p>ARCA NOE</p> <p>Gen 2. 14.</p>

APHRICANVM. 	SANCTA EST. 	ENOCHÆVM. 	TEMPLVM. 
ARABICVM. 	LIGNVM VITAE. 	PVNICVM. 	PVTEVS AQVAV. 
INDICVM. 	FACIES TVA. 	HEBRAICVM. 	HORTVS. 
TVRVICVM. 	PORTA COELI. 	SAMARITANVM. 	FONS SIGNATVS. 
RABBINICVM. 	VRNA AVREA. 	MOSAICVM. 	VITIS ABVNDANS. 
GERMANORABBINICVM. 	VIRGA. 	IVDAEOSAMARITANVM. 	ARCA Testamenti. 
GALILAEVM. 	ORACVLVM IN. 	IDVMÆVM. 	THRIBVLVM. 
HISPANORABBINICVM. 	LAMINA AVREA. 	ARCANVM. 	CIVITAS. 
APHRORABBINICVM. 	ARCVS DNI IN. 	ITALO-RABBINICVM. 	SVSANNA DELICATA. 
SIGNVM FÆDERIS. 	HEBREO-ARABICVM. 	MONS DOMVS DOMINI. 	BRACHMANICVM. 
RABBINOTHESSALONICVM. 	VIRGA de radice. 	ADAMÆVM. 	QUASI AVRORA. 
SYROHEBRAICVM. 	THRONS. 	SOLOMONICVM. 	PROFIT LATORIV. 
MYSTICVM. 	CVRRVS DEI. 	NOACHICVM. 	Terrificus ut Castris acris. 

A generation later, the Jesuit Athanasius Kircher (1602 - 1680), another scholar working within the Catholic Church, was much concerned with languages. Kircher published his version of the Shemhamphorash, the 72 Names of God in the different languages, in the form of an engraved plate in his book *Oedipus Aegypticus* (Rome 1652-4), which is shown opposite, and he probably had knowledge of Hepburn's work when compiling this plate.



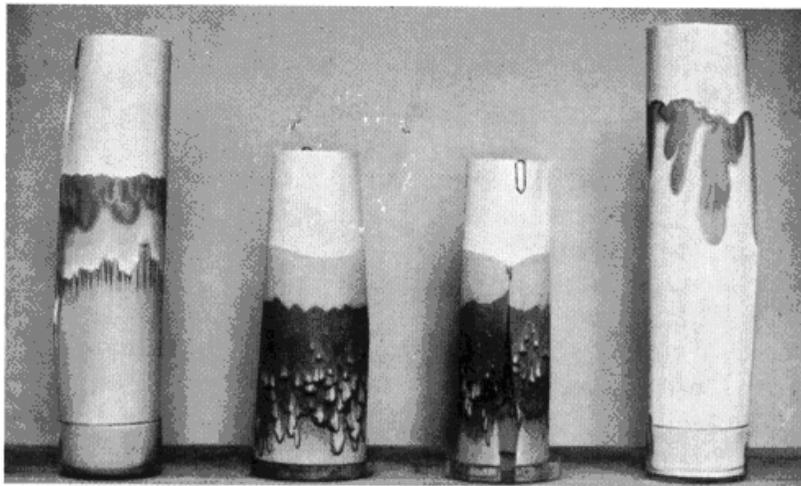
Capillary Dynamolysis

By Adam McLean. First published in the [Hermetic Journal](#) 1980.

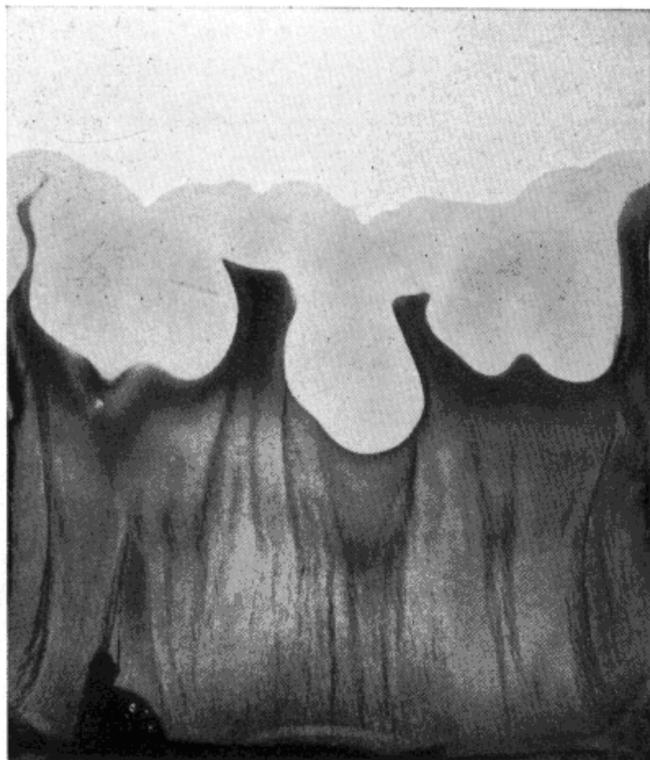
In the early 1920's, Lilly Kolisko working upon a suggestion made by Rudolf Steiner, the founder of Anthroposophy, devised a method for investigating the workings of the etheric forces in material substance. She called this technique 'Capillary Dynamolysis' and continued to refine the method until she died in 1976. She applied it particularly to researching the etheric forces working in the domain of agricultural composting methods, and using it to investigate the disease processes in plants, animals and man, that are the result of etheric imbalances. Through a series of experiments, she was able to show directly the influence of the planets on substance, particularly revealed at critical conjunctions and eclipses.

I believe her work to be of the greatest importance, as she has provided us with an experimental tool for investigating the etheric forces, forming the foundations of a modern alchemical experimental methodology.

The technique she pioneered is beautifully simple, and is basically a qualitative repeatable scientific test, which reveals the working of the etheric forces in a substance. A measured standard quantity (10 cc) of the substance to be tested, say a plant sap, is placed in a shallow glass vessel in a cylinder (about 12 inches high) of filter paper (a rectangular piece rounded and closed upon itself).



Showing the method of experiment



*Preserved Tomato Juice
with an addition of 1% Silver nitrate.*



*Fresh Tomato Juice
with an addition of 1% Silver nitrate.*

The solution is allowed to rise up the filter paper until it is all absorbed, and the filter paper is then left to dry completely. Then the patterns in this substance are revealed through a development process. This involves repeating the procedure above with the dried filter paper in the vessel a dilute solution of one of the soluble salts of the planetary metals. 1% solutions were found to be the most successful. The developing solution depends on which aspect of the etheric forces one is studying.

Gold Chloride for the Sun

Mercuric Chloride for Mercury

Silver Nitrate for the Moon

Stannous Chloride for Jupiter

Copper Sulphate for Venus

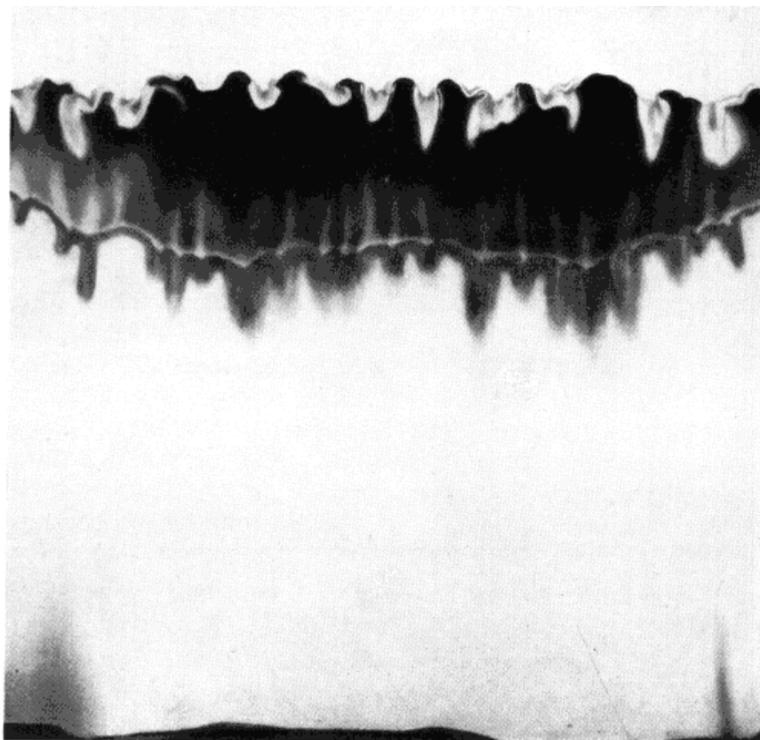
Lead Nitrate for Saturn

Iron Sulphate for Mars

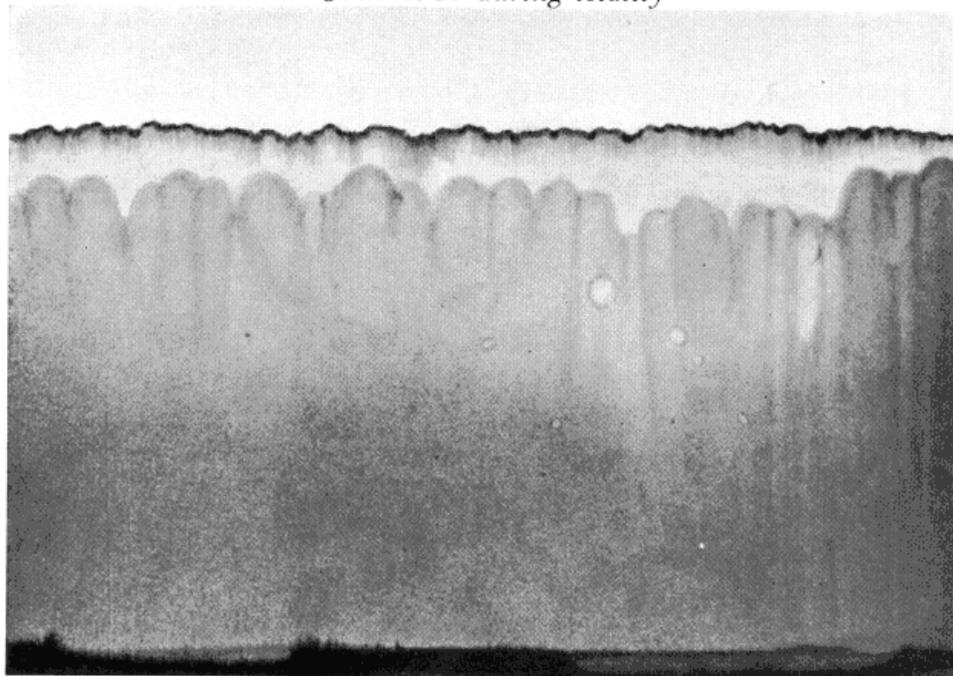
This part of the experiment should be done in good natural light, as light is essential in developing the forms. One finds revealed the patterns of colour and form on the filter paper, which are a kind of shadow image of the etheric forces working in the substance. This is rather than a quantitative one. That is, unlike laboratory capillary analysis, where one measures the height the substance rises on the paper, one is concerned at the nature of the forms displayed, and consider the strength of these forms, and the ways in which they metamorphose when different conditions are used.

Thus this test can be used to give an indication of how much life force remains in plant substances preserved using different preservatives. Results obtained using fresh apple juice and fresh tomato juice, and here we see the strong forms that characterise the activity of the etheric forces in the silver nitrate. By comparison the preserved juices show a definite lack of form. This test can also be used to show that homeopathic substances have definite formative forces working within these dilutions, which in the higher potencies have only a few molecules of the substance in the measured quantity of test solution.

Lilly Kolisko extended her work to include a series of experiments relating astronomical events to observable changes in the patterns of colour and form when they are allowed to rise through the filter paper. For this she chose an eclipse of the Sun, and the two illustrations shown are from experiments she undertook during the total eclipse of the Sun of 19th June 1936. Over the period of the eclipse, she performed a large number of capillary dynamolysis tests, starting the day before the eclipse and continuing till the day after. The experiments were performed on regular intervals, to provide a full record of the event, but as the time of the eclipse approached on 19th June at 4.56 am, these were performed up to the period of totality, when the experiments were repeated each minute.



*Gold chloride and Silver nitrate:
19th June 1936 during totality*



*Gold chloride and Silver nitrate:
18th June 1936. 5.52 a. m.*

Thus a complete record of the period of the eclipse was made and also control experiments for the day before and the day after. One time involved the simultaneous use of Gold Chloride and Silver Nitrate as the test solution, Gold reflecting the Sun forces and Silver description of this experiment together with illustrations of the resulting filter paper patterns, was published in 1936. I reproduce here one from during the totality of the eclipse itself and the other from the same time on the day before the eclipse. We see clearly how the silver during the eclipse event to dominate the gold colours.

I believe we should come to recognise in these capillary dynamolysis experiments of Lilly Kolisko, a kind of continuation in twentieth century alchemical experimentation. We read in many alchemical texts of how experiments were repeated again and again awaiting the right time when some definite change in the experimental substances could be seen. We can also see a parallel between the filter paper and the alchemist's test substances interacted and the colours and forms were revealed. The alchemist created in the space of their retorts, delicately balanced substances which were sensitive to any change in the etheric environment, or the forces working within the test substance. I think we can see in the alchemical writings descriptions of such equilibria, some of which involved not just solid/liquid and liquid/liquid phases but also liquid/etheric phases. I think we can see in the alchemist mused over such experiments, gazing into the retort watching for a sign, some subtle change that indicated the presence of a new force, as an alchemist would. I feel, be quite at home with Lilly Kolisko's work.

I believe that the work of Lilly Kolisko has provided for us a foundation stone upon which future alchemical experimentation can be built. Of course, can never be described in quantitative terms and this has led established Science, ruled by quantity, to deny their existence. However, has no method for investigating these forces directly. Lilly Kolisko has provided a bridge between esoteric Science and quantitative scientific methods, she was able to create a qualitative scientific method for observing the influence of the etheric forces in substances which are readily repeatable. I hope that her work can be continued and extended as I can see that upon its foundations a qualitative etheric science can be built, a new alchemy and Etheric Science.

Lilly Kolisko

Agriculture of Tomorrow Capillary Dynamolysis Gold and the Sun (eclipse of 19th June 1936)

Gold and the Sun (eclipse of 20th May 1947)

The Moon and the Growth of Plants

Eugen and Lilly Kolisko

Silver and the Human Organism

Lead and the Human Organism