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Spagyric Discovery and Invention: Physiological Alchemay: Volume 5

Joseph Needham

Excerpt

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33. ALCHEMY AND CHEMISTRY

(j) THE OUTER AND THE INNER MACROBIOGENS; THE ELIXIR AND THE ENCHYMOMA

(1) ESOTERIC TRADITIONS IN EUROPEAN ALCHEMY

The science of alchemy (*ars alchimica*) [said Martin Luther in the middle of the + 16th century],^a I like very well, and indeed it is truly the natural philosophy of the ancients. I like it not only for the many uses it has in melting and alloying metals, and in distilling and sublimating herbs and extracts (*in excoquendis metallis, item herbis et liquoribus distillandis ac sublimandis*), but also for the sake of the allegory and secret signification, which is exceedingly fine, touching the resurrection of the dead at the Last Day. For as in a furnace the fire extracts and separates from a substance the other portions, and carries upward the spirit, the life, the sap, the strength, while the unclean matter, the dregs, remain at the bottom, like a dead and worthless carcase . . .^b even so God, at the day of judgment, will separate all things through fire, the righteous from the ungodly.^c

And a similar thought was committed to paper about + 1641, when Sir Thomas Browne wrote, in his *Religio Medici*:^d

The smattering I have of the Philosophers' Stone (which is something more than the perfect exaltation of gold), hath taught me a great deal of Divinity, and instructed my belief, how that immortal spirit and incorruptible substance of my Soul may lye obscure, and sleep awhile within this house of flesh. Those strange and mystical transmigrations that I have observed in Silk-worms, turned my Philosophy into Divinity. There is in these works of nature, which seem to puzzle reason, something Divine, and hath more in it than the eye of a common spectator can discover.

These interesting quotations may serve to remind us that beside the current of practical laboratory experimentation in Western proto-chemistry and alchemy there was, perhaps from the beginning, a parallel current of mystical, allegorical, symbolic, ethical, even psychological exegesis. At many places in the foregoing volumes the reader will have come across somewhat mystifying references to 'inner' or 'spiritual' alchemy within the Chinese story, and the question that now has to be faced at last is whether or not there was similarity between the distinctively

^a *Tischreden*, I, 1149, quoted by Montgomery (1), p. 79, who demonstrates, as others such as Hubicki (1) also do, the very favourable influence which Lutheranism had upon the development of alchemy and early chemistry. For other sciences see Miall (1); Pelseneer (3, 4, 5) and Mason (2, 3). On the general subject of the relations between Protestant theology and the natural sciences Dillenberger (1) is well worth reading. We have already referred (Vol. 2, p. 92) to the preponderance of scientific men on the side of the Reform at this time.

^b Here Luther illustrates further by speaking of the preparation of wine, cinnamon, nutmeg and the like.

^c Though Luther is in no way to be compared with the Gnostics of the early Christian centuries, one cannot help being reminded here of the close connections between Gnostic ideas and Hellenistic proto-chemical thought. This we duly emphasised in Vol. 5, pt. 4, pp. 376 ff., 385 ff., but we would have been justified in putting the case a good deal more strongly, as may be seen from the texts of Basilides, Ptolemaeus and the Sethians among others, translated in Foerster (1), vol. 1, pp. 64 ff., 135, 304-5 etc.

^d Macmillan ed. p. 64.

non-laboratory traditions in China and the West. As we know, practical laboratory alchemy tends to be described in Chinese texts as the search for the 'outer elixir' (*wai tan*¹), besides which there was, especially in Thang times and later, later increasingly, a parallel search for an 'inner elixir' (*nei tan*²). The exact significance of this distinction has been a matter of much uncertainty among those few sinologists who have ever wandered near these fields,^a and indeed at the present time it would be impossible to point to any monograph or book which deals, even inadequately, with the *nei tan* complex. Was it basically allegorical, food for the soul of the adept on his difficult path towards perfection? Or was it something entirely different from the mystical psychology of the West? We are now fully assured that it was entirely different, and that a radical distinction must be made between the two kinds of 'alchemy' in the West and the two kinds of 'alchemy' in China. We shall find it necessary to introduce an entirely new word for the 'inner elixir', since it was a physiological rather than a psychological achievement. But first it is necessary to take a closer look at the spiritual alchemy of Europe.

As is well known, the eminent psycho-analytic philosopher C. G. Jung published in 1944 a book called 'Psychologie und Alchemie' (1) which has had a great deal of influence.^b He followed it up by other works such as 'Alchemical Studies' (3) and 'Mysterium Conjunctionis' (8), but in all these books the general idea is the same. Jung suggested that the practical chemical element in medieval and Renaissance European alchemy had been much over-rated, believing that a great deal, if not most, of the description in the alchemical writings was essentially mythology, consisting of allegories, metaphorical formulations, poetical analogies and symbolism. The alchemist achieved what Jung called the process of psychological individuation by meditating on the phenomena of chemical change;^c he freed himself from the inner contradictions, conflicts, etc. which lead to obsessions, anxieties, neuroses and psycho-somatic disorders—attaining psychological wholeness, balance and integration—by following chemical reactions or descriptions of them, and identifying these with universal 'archetypes'^d instead of his own inner world alone. Thus Western psychological alchemy was concerned not so much, if at all, with actual chemical operations as with states of mind, catharsis, sublimation, purification and the attainment of unity and equilibrium—almost like an auto-psycho-analysis before psycho-analysis had been invented.

Now evidently it could be but a short step from the multifarious poetical and secretive cover-names in which alchemy, both West and East, was so rich (for example in China the 'elegant girl by the riverside', *ho shang chha nü*³ for mercury,^e

^a One may refer, for example, to the recent eccentric but knowledgeable paper of Liu Tshun-Jen (1), based upon a range of literature somewhat different from that used by us herein. It will prove more understandable if read after the study of the present sub-section.

^b Much has been written on the life and thought of Jung; here we should like to refer only to the perceptive essay of Staude (1).

^c (1), pp. 3, 27.

^d See p. 7 below.

^e E.g. in *TT990*, ch. 2, p. 28*a*, *TT993*, ch. 2, p. 25*a*.

¹ 外丹

² 內丹

³ 河上姤女

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and we have seen a thousand examples already) to all sorts of metaphorical formulations and symbols.^a One finds in Jung's expositions of the alchemical writings, therefore, a veritable farrago of imagery, parallelisms, patterns, visions, and symbolic formulations, drawn from Orphism, Gnosticism,^b the Hermetic Corpus,^c the Alexandrian proto-chemical philosophers,^d the Kabbalah,^e and many other sources, not excluding the apocryphal Gospels^f and similar quasi-Christian legendary material; where almost every possible statement seems to be made, however contradictory, valued indeed sometimes because of its very paradoxical contradiction. The method was uncomfortably Forkean or Granetian,^g statements of all kinds from all historical periods being inextricably mixed. Jung's defence against this was that human nature is everywhere the same, with human activities and the human condition at all times comparable, having an essential similarity of neurotic and psychotic content;^h but it is doubtful if this can justify the ignoring of historical

^a There is no lack of descriptions of the 'Great Work' as the later European alchemists conceived it, whether in the form of albums of their allegorical illustrations, such as those of Fabricius (1) or Alleau (1) or Ploss *et al.* (1); or as textual expositions such as that of Evola (4). Some are more overtly psycho-analytic than others; some make comparisons with the experience of persons under the influence of hallucinogenic drugs. For example, Fabricius finds a sexual *conjunctio* between each of the stages of descending and ascending colour-change, and has much to say on incest, birth trauma and primal anxiety. How much wiser the attentive reader will be after studying this material is a moot point.

^b Cf. pt. 4, pp. 376 ff. There was also a connection with later Manichaeism since it regarded matter as something essentially evil from which all spirits were trying to escape. A classical account of this religion, quite distinct from, and opposed to, Christianity, was given in +1707 by J. C. Wolf (1). But since his time there have been enormous advances in our knowledge of these world-views. Beginning with Burkitt (1, 2), one can now find reliable general accounts in Doresse (1); Rudolph (1) and Foerster (1). Puech (5) has a brilliant essay on the ideas of the Gnostics about time, and Bianchi (1) brings out other aspects of their thought. The Coptic Gnostic library of Nag Hammadi (Chenoboskion) has been edited in English by Robinson (1).

^c See the definitive editions of Scott (1) and Nock & Festugière (1), as also the expositions of Kroll (1) and Mead (1). This Corpus, which bears the name of the legendary Egyptian philosopher-god Hermes Trismegistus, consists of the theological writings of +3rd-century Graeco-Egyptian philosophers. One of the documents (*Asclepius Lat.* III) is datable to +270 almost exactly. It is only now becoming clear that the 'Christianisation' of these writings, with their emphasis on redeemed man's power over Nature, by the +15th-century Italian philosophers Marsilio Ficino and Pico della Mirandola, had a great deal to do with the appearance of the Renaissance magus and the birth of modern science (cf. Yates, 1).

^d All in Berthelot & Ruelle (1), cf. Berthelot (1, 2). Cit. as *Corpus Alchem. Gr.* (– 1st to +7th cents).

^e Another Corpus, of Jewish mysticism and magic, systematised first in the +13th century, but with roots going back clearly to Gnosticism (see Blau (1); Scholem (3, 4); Yates (1), pp. 92 ff.; Waite (12), (2) pp. 377 ff.). We have already referred to the Kabbalah (or, as the Renaissance scholars called it, Cabala) in Vol. 2, pp. 297 ff., drawing attention to parallelisms between its system and that of the Chinese symbolic correlations. The datings of the two chief books there given are perhaps too early, for the *Sefer Yesirah* (Book of Creation), tr. Stenring (1), should be placed rather in the +11th-century, and the *Zohar* (Book of Splendour) towards the end of the +13th. But there had been a centuries-long development within the framework of oral tradition since the +3rd-century. The *Zohar* is attributed to a +2nd-century Palestinian writer, R. Simon ben Yochai, but its author was almost certainly Moses ben Shem Tob de Leon (d. +1305). The central doctrine could perhaps be called a system of creation by remote control, and the ten sephiroth (names of God) or emanations, remind one at times, by their independent status as creative forces, of the eight trigrams (*kua*) of the much earlier *I Ching* (Book of Changes). This parallelism has long been dimly realised, as by Waite (12), p. 68. The Kabbalah was another ancient system of mysticism 'Christianised' at the Renaissance, and it had a deep influence on some of the early figures in the scientific revolution. In particular its doctrine of the 'creative word' has been found relevant again in modern times by Rather (1), who has brought it into relation both with the infinite possibilities of arrangements of atoms in the molecules of organic chemistry, and with the semantophore molecules of DNA base sequences in the genetic code.

^f See the collection of James (1), and the more recent and elaborate work of Hennecke & Schneemelcher (1), together with particular studies and translations such as that of Ménard (1).

^g Cf. Vol. 2, pp. 216 ff.

^h (8), p. xviii, e.g.

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periods, because the same words could hardly always mean the same things. In fact, he drew his material largely from the + 14th to the + 18th centuries, from the texts of that great burgeoning of allegorical alchemy at the Renaissance when proto-chemical alchemy had come to an apparently dead check;^a yet it was not entirely so confined, for the Hellenistic aurifactors had been mystical enough, Zosimus more so, and Stephanus of Alexandria completely so.^b What first put Jung upon this trail constitutes a paradox of paradoxes, but that we shall see at the conclusion of this sub-section.

For those who are not learned in modern introspective psychology the conceptions which Jung applied to the explanation of alchemical allegory are difficult to grasp, but we must do our best.^c Processes of 'projection'^d took place in the psyche of the individual alchemist suggested to him by the peculiar behaviour of the chemical substances with which he carried on his operations, changes of colour and physical property, volatility, solidification, solution, precipitation, resistance to heat, and so on. He found, to his relief, that his own complexes (as we should say) were mirrored in them, and therefore acceptable as natural, no more demanding feelings of sin or guilt.

On psychological projection it is best to quote Jung's own words.

As we know from psycho-therapeutic experience, [he wrote^e] projection is an unconscious, automatic process, whereby a content that is unconscious to the subject (the person) transfers itself to an object, so that it seems to belong to that object. The projection ceases the moment it becomes conscious, that is to say, when it is seen as belonging to the subject.

Or, as his disciple Goldbrunner, put it:^f

Something external is held responsible while the real cause lies in the subject himself or herself. The effects of the complexes lying within the unconscious are projected outwards. What has to be done in such cases is to detach the projection from the object and make clear to the patient that the . . . imaginations and fears come only from the . . . forces in his or her own psyche.

Our task is not, said Jung,^g

to deny the archetype, but to dissolve the projection, in order to restore their contents to the individual who has involuntarily lost them by projecting them outside himself.

It is the mechanism of projection, as Goldbrunner says,^h which relates the picture-book of human traditions to the inner happenings of the psyche.

^a (1), p. 217.

^b Cf. Jung's account in (3), p. 206.

^c For a psychological commentary see Harding (1), pp. 377 ff., 414 ff.; Jacobi (1); Goldbrunner (1). There is also the book of Jung (12), an introduction to his own psychological philosophy.

^d It should be noted that this technical term in Jungian psychology has nothing whatever to do with the physical process of 'projection' descriptions of which are found in all alchemical and proto-chemical literature, namely the conversion of a mass of material into one of the precious metals by the throwing in of a very small quantity of a chemical substance (the philosopher's stone). This goes back at least as far in China as in the West, cf. Vol. 5, pt. 4, p. 7, and pts. 2 and 3, *passim*.

^e (13), pp. 59 ff.

^f (1), p. 33.

^g (13), p. 84.

^h (1), pp. 73 ff.

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A process or content residing in the unconscious can confront us as a quality of objects, our fellow-men, or the environment. The influences of the unconscious seem foreign to the ego, they appear to come from outside, from the objects; they have been (in a word) projected.

Thus the powers of Nature were once personified as spirits or demons under whose despotic sway man was a helpless victim, gods of disease or of the passions of war or sex. That was the archaic identity of subject and object which has been called 'participation mystique' (Lévy-Bruhl). The magic rites and the myths of ancient and primitive peoples reflect this stage of 'psychological identity' with the outside world. But eventually there came a recognition and a resumption or 'introjection' of the psychic forces. As this withdrawal happened in human history, and whenever it happens in the life of the individual, the conscious ego takes in new contents, increases its domain, and can differentiate more and more between itself and the environment.^a The withdrawal can be intensely therapeutic, for frightening symbols, due for example to anxiety unacknowledged, are replaced by self-knowledge, relief and calm—yet new problems and efforts now face the conscious ego.^b

Alchemy was found by Jung to be a case in point, for in the ancient and medieval laboratories the adepts had certain psychological experiences which they attributed to the chemical processes, not realising that these had nothing to do with material elements and compounds as we know them today, but were projections from themselves. The alchemist, wrote Jung,^c 'experienced his projection as a property of matter, but what he was really experiencing was his own unconscious'. Again,^d

in order to explain the mystery of matter (the alchemist) projected yet another mystery—his own unconscious background—into what was to be elucidated . . . This was not of course intentional, it was involuntary. Projections are never made, they happen.

This process, at that stage, was also in its way therapeutic, so long as it was possible; because the images from the unconscious, with their affective tone for which the men of that time had no name, were transplanted into the contents of the alchemist's vessels, so externalised in fact that they could be seen as part of the natural world and therefore felt as not alarming. This was the 'scapegoat function' of natural objects,^e helpful in certain circumstances when applied to things, harmful always when applied to people. Moreover, 'during the practical work, certain events of a hallucinatory or visionary character were perceived, phenomena which cannot have been anything but projections of unconscious contents'.^f This one can easily imagine, for in the behaviour of substances undergoing physical and chemical change there are many happenings which nowadays we know how to neglect as subsidiary—solid or liquid surface-films, interference colours, clouds formed when immiscible liquids are brought together, or fortuitous shapes assumed by

^a Cf. Goldbrunner (1), p. 127.

^b Cf. Jacobi (1), p. 118.

^c (1), p. 234.

^d (1), p. 233.

^e Jacobi (1), p. 21.

^f Jung (1), p. 239.



Fig. 1539. Psychological projection in Western allegorical alchemy; the idea of parricide hypostatized into chemical reactions. From the *Margarita Pretiosa Novella* (+ 1546) of Petrus Bonus. Cf. Silberer (1), pp. 84-5; Jung (1), Eng. ed., p. 210.

vapours in evaporation or distillation, bubble masses that take strange forms, etc. Indeed the whole transition from alchemy to modern chemistry might be seen from the psychological point of view as fundamentally the withdrawal of a mass of projections. They had doubtless eased the spirits of the first chemical explorers from Zosimus and Ko Hung onwards, but if man was ever to see Nature clear and plain they had to be recognised in a higher therapy as a veil which he himself had created.

In the texts of spiritual alchemy there were also always admonitions that the adept should look within himself and follow the 'inner light', a light which would illumine, as we might say, the dark places in the subconscious mind normally hidden from introspection. Moreover there was the idea that 'meditation' (an internal dialogue with the unconscious self) and 'imagination' (the use of the Paracelsian *astrum*, or light that lighteth every man that cometh into the world) would actually set free forces which would enable the operator in the Great Work to impose alterations on matter.^a Above all the alchemist was engaged upon an 'individuation process', nothing less than his own liberation from the inner contradictions and conflicts which give rise to neuroses, obsessions and anxieties.^b In changing Nature, he was, more importantly, changing himself, and whether engaged in transmuting ignoble substances into the noblest of substances, gold, or whether following the voluminous writings of those who thought that they had done so, he was in fact walking along the path of an ennobling salvation of himself. Individual

^a Cf. p. 16 below on the ideas of Mary Atwood.

^b 'The alchemist projected what I would call the process of individuation into the phenomena of physical change', Jung (1), p. 462. Cf. the discussion of Jacobi (1), pp. 137ff.



Fig. 1540. Psychological projection in Western allegorical alchemy; the idea of incest hypostatised into chemical reactions. Third woodcut of the *Rosarium Philosophorum*, + 1550 (Anon. 156). The scrolls name the two Sol and Luna, consenting to marriage, and over the dove is written: ‘It is the Spirit which gives life’. Cf. Jung (16), pp. 450ff.

mental health, in psychological terms, was what he was really after,^a the integration of the personality, with freedom from fear, depression, oppression, and ‘all evil thoughts which may assault and hurt the soul’.^b

The attainment of this, for Jung, was not dependent only on the overcoming of sexual or other traumata received in early youth or infancy, but also on the harmonising of the ‘archetypes’ of the collective unconscious. Archetypes might be said to be the idea-patterns that all people spontaneously have, occurring in variant forms in all civilisations and often repressed into the unconscious—for example, incest, castration, suicide, the virgin-mother, the father eating the son, parricide, impotence, the dragon or wild worm, the unicorn, death and resurrection, female and male, darkness and light, the Yin and the Yang (Figs. 1539, 1540). ‘So long’, wrote Jung, ‘as the alchemist was working in his laboratory, he was in a favourable position, psychologically speaking, for he had no opportunity to identify himself with the archetypes as they appeared; they were all projected immediately into the chemical substances’.^c The disadvantage was that the ultimate incorruptible was a

^a Though not of course consciously.

^b *BCP*, Collect for Lent 2.

^c (1), p. 37.

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chemical product and they could never get it, so the alchemical quest could never completely succeed,^a though both modern chemistry and modern psychology are in a real sense the inheritors of it.^b

Jung found in alchemy a veritable treasure-house of symbols the knowledge of which was extremely helpful for the understanding of neurotic and psychotic processes.^c Much of his work lay in analysing the dreams of his patients, and rightly or wrongly he was constantly reminded of alchemical symbolical terminology, probably because both were so often concerned with the problem of 'irreconcilable' opposites, naturally in archetypal form.^d

As the alchemists, with but few exceptions, did not know that they were bringing psychic structures to light, but thought they were explaining the transformations of matter, there were no psychological considerations to prevent them, for reasons of sensitiveness, from laying bare the background of the psyche, which a more conscious person would have been nervous of doing. It is because of this that alchemy is of such absorbing interest to the psychologist.^e

Archetypal images of the unconscious, related to motifs of folklore and mythology, arise in dreams, displace each other, overlap, interconnect and fuse in a bewildering manner, but the imagery of the alchemical writers shows hardly less waywardness.

This is what makes it so difficult for us to understand alchemy. Here the dominant factor is not logic but the play of archetypal motifs, and although this is 'illogical' in the formal sense, it nevertheless obeys natural laws which we are far from having explained. In this respect the Chinese are much in advance of us, as a thorough study of the *I Ching* (Book of Changes) will show. Called by short-sighted Westerners a 'collection of ancient magic spells' (an opinion echoed by modernised Chinese themselves), the *I Ching* is a formidable psychological system that endeavours to organise the play of archetypes, the 'wondrous operations of Nature' into a certain pattern, so that a 'reading' becomes possible.^f

We have already given our opinions on the *I Ching* at an earlier stage,^g and must not return to it here, but Jung's evaluation of that concept-repository is of much interest. In all this he probably did not wish to imply that the late European allegorical-mystical alchemists never engaged in any laboratory operations at all. The point is that while the proto-scientific character of such experiments is quite clear in the Hellenistic aurifactors and the Jābirian and Geberian alchemists, the later alchemist went on doing practical operations not so much with any aim of understanding the natural world in the scientific sense, as rather for the purpose of purifying, integrating and perfecting himself by the contemplation of the mechanisms of change in God's creation; in other words he saw for himself what kind of things happened in chemical transformations, and projected upon these the archetypes which welled up from his own unconscious—thus becoming an individuated, fully adjusted or balanced *totus homo*. The analogy with the *chen jen*¹ or

^a (3), pp. 90, 91. Cf. pp. 223 ff., 298 ff.

^b One could say of the Hellenistic aurifactive writings that chemistry has inherited the *Physica* and psychology the *Mystica* (cf. p. 111). Jung (1), p. 218.

^c (8), p. xvii.

^e (8), pp. xviii, xix.

^f (8), pp. 293, 294.

^d (1), pp. 41 ff., (2), p. xvii.

^g Vol. 2, pp. 322 ff., 335 ff.

¹ 真人

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'realised man' of Taoism springs to the mind, but what follows will indicate the grave danger of all such identifications.^a

Since European allegorical-mystical alchemy developed within the bosom of Christendom it is natural to ask what relation it had with the ideas of that organised religion. Now alchemy was always recognised as the art of taking to pieces and putting together again. *Solve et coagula* was one of its great watchwords. Separation and analysis (the realm of Ares) was followed by synthesis and consolidation (the realm of Aphrodite).^b This is the origin of the seventeenth-century Latin word 'spagyral' for alchemical, for σπάω, σπαράττειν, *spao*, *sparattein*, means to rend, tear, separate or stretch out, while ἀγείρειν, *ageirein*, is to bring, unite or collect together.^c Conflict was thus subsumed in unity, melanosis followed by xanthosis, with the attainment of all the longed-for ends—permanence, incorruptibility, androgyny, spirituality yet corporeality, divinity, the beatific vision, and (last but not least) the Chinese-Arabic components of longevity and immortality. Hence the immense significance of the 'union of contraries' in alchemy, the *coincidentia oppositorum*, of which so much more will have to be said. And since 'uniting symbols' tend always to have a numinous character one is in no way surprised to find Christ continually identified with the philosophers' stone, whether in the context of the eucharistic liturgy or not.^d True, the latter was celebrated by those in need of redemption who gained the fruit of grace by the work done on their behalf (*ex opere operato*), while the alchemist laboured for the redeeming of the divine soul of the world slumbering in matter and yearning for redemption, gaining an elixir of life by his own activity (*ex opere operantis*).^e Many similar contrasts have been formulated by Jung and his expounders; 'the alchemists ran counter to the Church in preferring to seek through knowledge rather than to find through faith'.^f Alchemical allegory restored the bridge to Nature which the Church had cut when it alienated consciousness from its natural roots in the unconscious, for alchemy allowed the recognition of archetypes that could not be fitted into Christian theology.^g Alchemy was to Christianity as the undercurrent to the surface, or as the dream to the consciousness, compensating the conflicts of the waking mind.^h Besides, there was the great contrast that the Church was a collective while the adept's quest was solitary and individual; he would find out his own salvation. All the same, the imagery of alchemy did not fail to inspire some of the best religious poetry of the seventeenth century. The Anglican parish priest, George Herbert, wrote:ⁱ

^a There is no agreed or satisfactory translation for the important and widely used term *chen jen*, and we tend to say 'adept' instead of 'real man', 'true man' or 'perfected man', all of which have been used by others. The basic sense of it is given in ch. 1 of the *Huang Ti Nei Ching*, *Su Wen* as 'he who has understood the interaction of the Yin and the Yang in the workings of the universe, harmonising and nourishing the *ching* and *chhi* of his body, and guarding his *shen* . . .' In other words, *chen* here is used in the sense of *hsiu chen*, 'restoring the primary vitalities' (cf. p. 46), and hence attaining longevity. Moreover, as mentioned above (pt. 2, p. 109), the term was originally applied chiefly to immortals of high grade, and only gradually came to signify an adept still in this mundane world. All this will be better understandable as the reader proceeds.

^b Jung (8), p. xiv.

^c *Loc. cit.* See also von Lippmann (12).

^d Cf. Jung (1), p. 343.

^e (1), p. 457.

^f (1), p. 35 *et seq.*

^g (1), p. 34.

^h (1), p. 23.

ⁱ Verses 4 and 6 of 'The Elixir', no. 156 in 'The Temple' (EH,485). The Gibson edition contains also the 'Life of Mr G. H. [+ 1593 to + 1632]' by Izaak Walton.

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All may of thee partake;
 Nothing can be so mean,
 Which with his Tincture (for thy sake)
 Will not grow bright and clean.

This is the famous Stone
 That turneth all to Gold;
 For that which God doth touch and own
 Cannot for less be told.

What then were the dominating themes or motifs in Western allegorical-mystical alchemy? One can distinguish two in chief, both arising quite naturally from meditation on the behaviour of chemical substances undergoing change. There was the theme of death and resurrection to eternal life, with its associated motifs of a descent into hell, and the liberation or redemption of the spirit imprisoned within base matter. And there was the sexual theme of the conjunction of opposites,^a the union which brings forth a higher product or state of equilibrium, so tending upwards step by step towards an absolute perfection.^b Associated with this was the employment of hermaphrodite beings as symbols,^c and the depiction of the unity of all things in cosmic diagrams analogised by Jung with the maṇḍalas of Indo-Tibetan religious art.^d It is easy to see how both themes arose naturally in the first place from the observation of laboratory phenomena, for the alchemist (from Alexandrian times onwards) often had to destroy the pleasing properties of one substance or metal in order to gain the still more pleasing properties of the other which he was preparing, while in every chemical reaction the properties of the two reacting substances disappear as those of the product or products take their place.

First, as to death and resurrection, it will be remembered that the Alexandrian aurifactors or proto-chemists conceived of chemical and metallurgical change as the withdrawal of certain 'forms' (in the Aristotelian sense) from 'matter as such', followed by the imposition of certain others.^e Since all matter as such was thought to be identical and homogeneous, one could, as it were, hope to be able to replace one coat of paint on a lump of it by a paint of an entirely different colour. Hence they (and many alchemists in subsequent centuries after them) thought in terms of a 'deprivation of forms' (*olutio, separatio, divisio, putrefactio*) of the *materia prima* (ὑλη, *hulē*), followed by a progressive 'addition of the forms' (*ablutio, baptisma*).^f The lowest stage, when matter as such, or something like it, was reached (*mortificatio, calcinatio*) was a blackening (Fig. 1541), the famous μελάνωσις, *melanōsis* (*nigredo*), but after this the ascent towards the golden, the purple, or the perfect

^a Cf. our discussion in Vol. 5, pt. 4, pp. 363 ff.

^b This was what Waite (5), p. xxix, called the 'alchemical doctrine of evolution', the 'processes of the development of inherent energies'.

^c Cf. Pagels (1).

^d The maṇḍala of Hindu and Buddhist tradition is a discoidal cosmic diagram or image of the universe, but also a theophany in so far as it could be the habitation, temporary or permanent, of the gods or Bodhisattvas themselves. It played an important part in Tantric initiation and other liturgies, and is particularly prominent in Tibetan Mahāyāna. See Eliade (6), pp. 223 ff., 392, and the monograph of Tucci (5).

^e Cf. Leicester (1), pp. 27, 41, 110.

^f Jung (1), p. 304.