
Taken from a 1960 reprint of "AN ENCYCLOPAEDIA OF OCCULTISM", by Lewis Spence; University Press, Hyde Park, New York. Originally Published in 1920, it is considered to be one of the most complete texts on the subject.

ALCHEMY: The science by aid of which the chemical philosophers of medieval times attempted to transmute the baser metals into gold or silver. There is considerable divergence of opinion as to the etymology of the word, but it would seem to be derived from the Arabic al=the, and kimya=chemistry, which in turn derives from the late Greek chemica=chemistry, from chumeia=a mingling, or cheein, `to pour out` or `mix', Aryan root ghu, to pour, whence the word `gush'. Mr. A. Wallis Budge in his "Egyptian Magic", however, states that it is possible that it may be derived from the Egyptian word khemeia, that is to say 'the preparation of the black ore', or `powder', which was regarded as the active principle in the transmutation of metals. To this name the Arabs affixed the article `al', thus giving al-khemeia, or alchemy.

HISTORY OF ALCHEMY: From an early period the Egyptians possessed the reputation of being skillful workers in metals and, according to Greek writers, they were conversant with their transmutation, employing quicksilver in the process of separating gold and silver from the native matrix. The resulting oxide was supposed to possess marvelous powers, and it was thought that there resided within in the individualities of the various metals, that in it their various substances were incorporated. This black powder was mystically identified with the underworld form of the god Osiris, and consequently was credited with magical properties. Thus there grew up in Egypt the belief that magical powers existed in fluxes and alloys. Probably such a belief existed throughout Europe in connection with the bronze-working castes of its several races. Its was probably in the Byzantium of the fourth century, however, that alchemical science received embryonic form. There is little doubt that Egyptian tradition, filtering through Alexandrian Hellenic sources was the foundation upon which the infant science was built, and this is borne out by the circumstance that the art was attributed to Hermes Trismegistus and supposed to be contained in its entirety in his works.

The Arabs, after their conquest of Egypt in the seventh century, carried on the researches of the Alexandrian school, and through their instrumentality the art was brought to Morocco and thus in the eighth century to Spain, where it flourished exceedingly. Indeed, Spain from the ninth to the eleventh century became the repository of alchemic science, and the colleges of Seville, Cordova and Granada were the centers from which this science radiated throughout Europe.

The first practical alchemist may be said to have been the Arbian Geber, who flourished 720-750. From his "Summa Perfectionis", we may be justified in assuming that alchemical science was already matured in his day, and that he drew his inspirations from a still older unbroken line of adepts. He was followed by Avicenna, Mesna and Rhasis, and in France by Alain of Lisle, Arnold de Villanova and Jean de Meung the troubadour; in England by Roger Bacon and in Spain itself by Raymond Lully. Later, in French alchemy the most illustrious names are those of Flamel (b. ca. 1330), and Bernard Trevisan (b. ca. 1460) after which the center of of interest changes to Germany and in some measure to England, in which countries Paracelsus, Khunrath (ca. 1550), Maier (ca. 1568), Norton, Dalton, Charnock, and Fludd kept the alchemical flame burning brightly.

It is surprising how little alteration we find throughout the period between the seventh and the seventeenth centuries, the heyday of alchemy, in the theory and practice of the art. The same sentiments and processes are found expressed in the later alchemical authorities as in the earliest, and a wonderful unanimity as regards the basic canons of the great art is evinced by the hermetic students of the time. On the introduction of chemistry as a practical art, alchemical science fell into desuetude and disrepute, owing chiefly to the number of charlatans practicing it, and by the beginning of the eighteenth century, as a school, it may be said to have become defunct. Here and there, however, a solitary student of the art lingered, and in the department of this article "Modern Alchemy" will demonstrate that the science has to a grate extent revived during modern times, although it has never been quite extinct.

THE QUESTS OF ALCHEMY: The grand objects of alchemy were (1) the discovery of a process by which the baser metals might be transmuted into gold or silver; (2) the discovery of an elixir by which life might be prolonged indefinitely; and there may be added (3), the manufacture of and artificial process of human life. (for the latter see Homunculus)

THE THEORY AND PHILOSOPHY OF ALCHEMY: The first objects were to be achieved as follows: The transmutation of metals was to be accomplished by a powder, stone or exilir often called the Philosopher`s Stone, the application of which would effect the transmutation of the baser metals into gold or silver, depending upon the length of time of its application. Basing their conclusions on a profound examination of natural processes and research into the secrets of nature, the alchemists arrived at the axiom that nature was divided philosophically into four principal regions, the dry, the moist, the warm, the cold, whence all that exists must be derived. Nature is also divisible into the male and the female. She is the divine breath, the central fire, invisible yet ever active, and is typified by sulphur, which is the mercury of the sages, which slowly fructifies under the genial warmth of nature. The alchemist must be ingenuous, of a truthful disposition, and gifted with patience and prudence, following nature in every alchemical performance. He must recollect that like draws to like, and must know how to obtain the seed of metals, which is produced by the four elements through the will of the Supreme Being and the Imagination of Nature. We are told the the original matter of metals is double in its essence, being a dry heat combined with a warm moisture, and that air is water coagulated by fir, capable of producing a universal dissolvent. These terms the neophyte must be cautious of interpreting in their literal sense. Great confusion exists in alchemical nomenclature, and the gibberish employed by the scores of charlatans who in later times pretended to a knowledge of alchemical matters did not tend to make things any more clear. The beginner must also acquire a thorough knowledge of the manner in which metals grow in the bowels of the earth. These are engendered by sulphur, which is male, and mercury, which is female, and the crux of alchemy is to obtain their seed - a process which the alchemist philosophers have not described with any degree of clarity.

The physical theory of transmutation is based on the composite character of metals, and on the existence of a substance which, applied to matter, exalts and perfects it. This, Eugenius Philalethes and others call 'The Light'. The elements of all metals is similar, differing only in purity and proportion. The entire trend of the metallic kingdom is towards the natural manufacture of gold, and the

production of the baser metals is only accidental as the result of an unfavorable environment. The Philosopher's Stone is the combination of the male and female seeds which beget gold. The composition of these is so veiled by symbolism as to make their identification a matter of impossibility. Waite, summarizing the alchemical process once the secret of the stone is unveiled, says: "Given the matter of the stone and also the necessary vessel, the process which must be then undertaken to accomplish the `magnum opus' are described with moderate perpicuity. There is the calcination or purgation of the stone, in which kind is worked with kind for the space of a philosophical year. There is dissolution which prepares the way for congelation, and which is performed during the black state of the mysterious matter. It is accomplished by water which does not wet the hand. There is the separation of the subtle and the gross, which is to be performed by means of heat. In the conjunction which follows, the elements are duly and scrupulously combined. Putrefaction afterwards takes place.

`Without which pole no seed may multiply.'

"Then, in the subsequent congelation the white colour appears, which is one of the signs of success. It becomes more pronounced in cibation. In sublimation the body is spiritualised, the spirit made corporeal, and again a more glittering whiteness is apparent. Fermentation afterwards fixes together the alchemical earth and water, and causes the mystic medicines to flow like wax. The matter is then augmented with the alchemical spirit of life, and the exaltation of the philosophic earth is accomplished by the natural rectification of its elements. When these processes have been successfully completed, the mystic stone will have passed through the chief stages characterized by different colours, black, white and red, after which it is capable of infinite multication, and when projected on mercury, it will absolutely transmute it, the resulting gold bearing every test. The base metals made use of must be purified to insure the success of the operation. The process for the manufacture of silver is essentially similar, but the resources of the matter are not carried to so high a degree.

"According to the "Commentary on the Ancient War of the Knights" the transmutations performed by the perfect stone are so absolute that no trace remains of the original metal. It cannot, however, destroy gold, nor exalt it into a more perfect metallic substance; it, therefore, transmutes it into a medicine a thousand times superior to any virtues which can be extracted from its vulgar state. This medicine becomes a most potent agent in the exaltation of base metals."

There are not wanting authorities who deny that the transmutations of metals was the grand object of alchemy, and who infer from the alchemistical writings that the end of the art was the spiritual regeneration of man. Mrs. Atwood, author of "A Suggestive Inquiry into the Hermetic Mystery", and an American writer named Hitchcock are purhaps the chief protagonists of the belief the by spiritual processes akin to those of the chemical process of alchemy, the soul of man may be purified and exalted. But both commit the radical error of stating the the alchemical writers did not aver that the transmutation of base metal into gold was their grand end. None of the passages they quote, is inconsistent with the physical object of alchemy, and in a work, "The Marrow of Alchemy", stated to be by Eugenius Philaletes, it is laid down that the real quest is for gold. It is constantly impressed upon the reader, however, in the perusal of esteemed alchemical works, that only those who are instructed by God can achieve the grand secret. Others, again, state that a tyro may possibly stumble upon it, but that unless

he is guided by an adept he has small chance of achieving the grand arcanum. It will be obvious to the tyro, however, that nothing can ever

be achieved by trusting to the allegories of the adepts or the many charlatans who crowded the ranks of the art. Gold may be made, or it may not, but the truth or fallacy of the alchemical method lies with modern chemistry. The transcendental view of alchemy, however, is rapidly gaining ground, and probably originated in the comprehensive nature of Hermetic theory and the consciousness in the alchemical mind that what might with success be applied to nature could also be applied to man with similar results. Says Mr. Waite, "The gold of the philosopher is not a metal, on the other hand, man is a being who possesses within himself the seeds of a perfection which he has never realized, and that he therefore corresponds to those metals which the Hermetic theory supposes to be capable of developing the latent possibilities in the subject man." At the same time, it must be admitted that the cryptic character of alchemical language was probably occasioned by a fear on the part of the alchemical mystic that he might lay himself open through his magical opinions to the rigors of the law.

RECORDS OF ACTUAL TRANSMUTATIONS: Several records of alleged transmutations of base metal into gold are in existence. These were achieved by Nicholas Flamel, Van Helmont, Martini, Richthausen, and Sethon. For a detailed account of the methods employed the reader is referred to several articles on these hermetists. In nearly every case the transmuting element was a mysterious powder or the "Philosopher's Stone".

MODERN ALCHEMY That alchemy has been studied in modern times there can be no doubt. M. figuier in his "L'Alchimie et les Alchimistes", dealing with the subject of modern alchemy, as expressed by the initiates of the first half of the nineteenth century, states that many French alchemists of his time regarded the discoveries of modern science as merely so many evidences of the truth of the doctrines they embraced. Throughout Europe, he says, the positive alchemical doctrine had many adherents at the end of the eighteenth century and the beginning of the nineteenth. Thus a "vast association of alchemists", founded in Westphalia in 1790, continued to flourish in the year 1819, under the name of the "Hermetic Society". In 1837, an alchemist of Thuringia presented to the Societe Industrielle of Weimar a tincture which he averred would effect metallic transmutation. About the same time several French journals announced a public course of lectures on hermetic philosophy by a professor of the University of Munich. He further states that many Honoverian and Bavarian families pursued in common the search for the grand arcanum. Paris, however, was regarded as the alchemical Mecca. There dwelt many theoretical alchemists and "empirical adepts". The first pursued and arcanum through the medium of books, the other engaged in practical efforts to effect transmutation.

M. Figuier states that in the forties of the last century he frequented the laboratory of a certain Monsieur L., which was the rendezvous of the alchemists in Paris. When Monsieur L`s pupils left the laboratory for the day, the modern adepts dropped in one by one, and Figuier relates how deeply impressed he was by the appearance and costumes of these strange men. In the daytime, he frequently encountered them in the public libraries, buried in gigantic folios, and in the evening they might be seen pacing the solitary bridges with eyes fixed in vague contemplation upon the first pale stars of night. A long cloak usually covered the meager limbs, and their untrimmed beards and matted locks lent them a wild appearance. They walked with a solemn and

measured gait, and used the figures of speech employed by the medieval illumines. Their expression was generally a mixture of the most ardent hope and fixed despair. Among the adepts who sought the laboratory of

Monsieur L., Figuier remarked especially a young man, in whose habits and language he could nothing in common with those of his strange companions. He confounded the wisdom of the alchemical adept with the tenets of the modern scientist in the most singular fashion, and meeting him one day at the gate of the Observatory, M. Figuier renewed the subject of their last discussion, deploring that " a man of his gifts could pursue the semblance of a chimera." Without replying, the young adept led him into the Observatory garden, and proceeded to reveal to him the mysteries of modern alchemical science.

The young man proceeded to fix a limit to the researches of the modern alchemists. Gold, he said, according to the ancient authors, as three distinct properties: (1) that of resolving the baser metals into itself, and interchanging and metamorphosing all metals into one another; (2) the curing of afflictions and the prolongation of life; (3), as a 'spiritus mundi' to bring mankind into rapport with the supermundane spheres. Modern alchemists, he continued, reject the greater part of these ideas, especially those connected with spiritual contact. The object of modern alchemy might be reduced to the search for a substance having the power to transform and transmute all other substances into one another - in short, to discover that medium so well known to the alchemists of old and lost to us. This was a perfectly feasible proposition. In the four principal substances of oxygen, hydrogen, carbon, and azote, we have the tetractus of Pythagoras and the tetragram of the Chaldeans and Egyptians. All the sixty elements are referable to these original four. The ancient alchemical theory established the fact that all the metals are the same in their composition, that all are formed from sulphur and mercury, and that the difference between them is according to the proportion of these substances in their composition. Further, all the products of minerals present in their composition complete identity with those substances most opposed to them. Thus fulminating acid contains precisely the same quantity of carbon, oxygen, and azote as cyanic acid, and "cyanhydric" acid does not differ from formate ammoniac. This new property of matter is known as "isomerism". M. Figuier's friend then proceeds to quote support of his thesis and operations and experiments of M. Dumas, a celebrated French savant, as is well known to thous of Prout, and other English chemists of standing.

Passing to consider the possibility of isomerism in elementary as well as in compound substances, the points out to M. Figuier that id the theory of isomerism can apply to such bodies, the transmutation of metals ceases to be a wild, unpractical dream, and becomes a scientific possibility, the transformation being brought about by a molecular rearrangement. Isomerism can be established in the case of compound substances by chemical analysis. showing the identity of their constituent parts. In the case of metals it can be proved by the comparison of the properties of isometric bodies with the properties of metals, in order to discover whether they have any common characteristics. Such experiments, he continued, had been conducted by M. Dumas, with the result the isometric substances were to be found to have equal equivalents, or equivalents which were exact multiples of one another. This characteristic is also a feature of metals. Gold and osmium have identical equivalents, as have platinum and iridium. The equivalent of cobalt is almost the same as that of nickel, and the semi-equivalent of tin is equal to the equivalent of the two preceding

metals.

M. Dumas. speaking before the British Association, had shown that when three simple bodies displayed great analogies in their properties, such as chlorine, bromide, and iodine, barium, strontium, and calcium, the

chemical equivalent of the intermediate body is represented by the arithmetical mean between the equivalents of the other two. Such a statement well showed the isomerism of elementary substances, and proved that metals, however dissimilar in outward appearance, were composed of the same matter differently arranged and proportioned. This theory successfully demolishes the difficulties in the way of transmutation. Again, Dr. Prout says that the chemical equivalents of nearly all elemental substances are the multiples of one among them. Thus, if the equivalent of hydrogen be taken for the unit, the equivalent of every other substance will be an exact multiple of it - carbon will be represented by six, axote by fourteen, oxygen by sixteen, zink by thirty-two. But, pointed out M. Figuier's friend, if the molecular masses in compound substances have so simple a connection, does it not go to prove the all natural bodies are formed of one principle, differently arranged and condensed to produce all known compounds?

If transmutation is thus theoretically possible, it only remains to show by practical experiment that it is strictly in accordance with chemical laws, and by no means inclines to the supernatural. At this juncture the young alchemist proceeded to liken the action of the Philosopher`s Stone on metals to that of a ferment on organic matter. When metals are melted and brought to red heat, a molecular change may be produced analogous to fermentation. Just as sugar, under the influence of a ferment, may be changed into lactic acid without altering its constituents, so metals can alter their character under the influence of the Philosopher`s Stone. The explanation of the latter case is no more difficult than that of the former. The ferment does not take any part in the chemical changes it brings about, and no satisfactory explanation of its effects can be found either in the laws of affinity or in the forces of electricity, light, or heat. As with the ferment, the required quantity of the Philosopher`s Stone is infinitesimal. Medicine, philosophy, every modern science was at one time a source of such errors and extravagances as are associated with medieval alchemy, but they are not therefore neglected and despised. Wherefore, then, should we be blind tot he scientific nature of transmutation?

One of the foundations of alchemical theories was that minerals grew and developed in the earth, like organic things. It was always the aim of nature to produce gold, the most precious metal, but when circumstances were not favorable the baser metals resulted. The desire of the old alchemists was to surprise nature`s secrets, and thus attain the ability to do in a short period what nature takes years to accomplish. Nevertheless, the medieval alchemists appreciated the value of time in their experiments as modern alchemists never do. M. Figuier`s friend urged him not to condemn these exponents of the hermetic philosophy for their metaphysical tendencies, for, he said, there are facts in our sciences that can only be explained in that light. If, for instance, copper be placed in air or water, there will be no result, but if a touch of some acid be added, it will oxidize. The explanation is that "the acid provokes oxidation of the metal because it has an affinity for the oxide which tends to form." - a material fact most metaphysical in its production, and only explicable thereby.

He concluded his argument with an appeal for tolerance towards the medieval alchemists, whose work is underrated because it is not properly understood.

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