A CRITICAL APPRECIATION OF THE EXPOSITION OF ALCHEMY BY IBN KHALEDUN

S. MAHDIHASSAN *

ABSTRACT

A subject is properly grasped only as a whole so that when its beginning remains unknown the subject has not received due justice. In the case of alchemy Ibn Khaldun overlooks its beginning and also what the name Kimiya signifies. In fact he deals with the latest and degenerate form of alchemy. Here there was the mere claim of making gold. Alchemy started in China as a cult of longevity. The ideal fruit of longevity was recognized as peach and the god of longevity, Shou-Hshing, emerges from the peach. But vegetable substances were liable to decay hence inorganic drugs, being heat-stable, were preferred. To keep the corporeal system deterioration-proof, they took gold as drug as it is fire-proof while to prolong life-span they took cinnabar, red like blood and blood was soul. The use of gold and cinnabar as two drugs of longevity constituted the antecedent of alchemy. It was however conceived that if cinnabar becomes heat-stable like gold or gold becomes red like cinnabar, as one substance, what is one is indissoluble and this, as drug, would likewise unite human body and soul into unity when it would be indissoluble and man would become immortal. With this aim began alchemy. Granules of gold were rubbed with the extract of a herb of longevity when the resultant became red colloidal-gold. According to its make-up, it was gold-cum-herbal juice, and was named accordingly. In Fukin dialect, Kim = gold and Iya = juice, hence Kim—Iya was a Herbo-golden complex. It entered Arabic as Kimiya. This fact was unknown to Ibn Khaldun and even to later writers on alchemy.

Finally a golden-mercury complex was prepared as cinnabar gold, called Chin-Tan, the two words meaning, gold-cinnabar. It entered Indian medicine as Makaradhvaja. When man is old there is no charm in life. But Chin-Tan, or Makaradhvaja, promised rejuvenation and have been popular with some people. But more than that alchemy promised to make gold from base metals. Ibn Khaldun explains this as due to greed but greed itself has to be psychologically taken to its sub-conscious origin. Here it is love of life. Man realized that there is a long way to the synthesis of gold and as he hopes to succeed that day likewise is a long way in future.

* Consulting Chemist, Nazimabad, Karachi, Pakistan.
The craze for gold generates a subconscious lust for life. It is thus taken to its origin. In his account the beginning and the end of alchemy each is missing both of which are provided here.

As Prof. Abdus Salam (1982) rightly states, "Ibn Khaldun was one of the greatest social historians and the brightest intellects of all times." Accordingly it is worthwhile knowing his exposition of alchemy which still persists as a controversial subject. Indeed this would be the first time that Ibn Khaldun's account of alchemy is being considered at all. Now to know any reality we have to realize its three phases, its origin or its past; its constitution or its make up which would represent its present; and thirdly its function, which would continue to take it into the future. These phases covering the past, present and future would contribute to our knowledge of an entity as whole. Translating these phases as definite questions, pertaining to alchemy, we would ask:

1. What is the origin of alchemy, what does the name itself signify.
2. What is alchemy as accepted by its adepts.
3. Of what use is it to man.

Whereas any article on alchemy, as for example, in the Encyclopedia of Islam, would begin by considering the origin of the name, alchemy, Ibn Khaldun has not a word to discuss its etymology. Thus the earliest stage and the antecedents which finally led to the invention of alchemy as craft have been completely ignored. What he then deals with is alchemy as popularly believed, and this would be its latest and degenerate phase as the art of making gold from base metals. Here it must be owned that he does full justice analysing the present belief in alchemy. But as he has ignored the past his critical analysis is confined to its degenerate or the present phase. In fact his approach is that of any encyclopedist rather than that of a genuine historian. The case he handles is similar to the interpretation of Soma in Rigveda. It was an indispensable drink which made the Aryan nomads indefatigable hunters. It ended as a decorative relic claiming to be the agency of longevity immortality and even of resurrection. The difficulty then lies in showing the intermediate stages connecting the earliest and the final. What is being overlooked is that Soma used to be consumed thrice a day so that the Aryan hunter actually lived upon it. Ephedra was to him what the Coca-plant has been to Red Indians of South America.
Kowl (1978; 164) reports that "in Peru and Bolivia about 90 percent Indians are still using it". Probably the nomad Aryans who drank Soma juice thrice a day used it to an equal extent. I say this because originally alchemy prepared medicaments which were also energizers though used by a small section of the population.

Ibn Khaldun begins with the urge with which alchemy is carried out. According to him "many people unable to earn their living are led by greed to cultivate alchemy". All quotations come from Rosenthal (1958) and numbers refer to pages. Ibn Khaldun further says even more emphatically, that "the common cause of the desire to practice alchemy is a person's inability to make his living in a natural way while this craft is not natural". Pointing to well known representatives of these two ways of living, he finds that "Avicenna, who states that alchemy is impossible, was a great Wazir, and a very wealthy person, while, al-Farabi, who states that it is possible, was one of those poor persons who have not the slightest success in making a living by any means. This is an obvious suspicion to the attitude of people who are eager to try alchemy out and practice". Here I would say that great men make great mistakes beyond the powers of ordinary intellects. As such it indirectly speaks of the greatness of Ibn Khaldun to lock upon a personality as that of al-Farabi as a typical "Miskeeni". I wonder what he would have said of Newton, who believed in alchemy and prepared mercurials and consumed them himself which so much energized him that he suffered from insomnia. Now ephedra and coca are likewise energizers and as such also anti-somniaents.

According to Ibn Khaldun history of alchemy really begins with Jabir which means sufficiently late in history. He writes that the chief systematic writer on alchemy is Jabir b. Hayyan and alchemists even call alchemy, the Science-of-Jabir. He wrote seventy treatises on alchemy but all of them read like puzzles". He then admits that the classical literature on alchemy remained a sealed book to him but he did not miss much for "Jabir was the chief sorcerer of Islam" and nothing better. Nevertheless since Ibn Khaldun acted like an encyclopedist compiling available information and critically presenting the same, he had to depend for theoretical knowledge of alchemy upon some authentic source and this he found, "as an epistle on alchemy by Abu Bakr b. Bishrun". Full justice is done to this source for Ibn Khaldun's article mainly constitutes of a long extract from it. Then what Ibn Khaldun has to say of real importance is what he would learn from Ibn
Bishrun. Now Avicenna himself had criticized alchemy so that Ibn Khaldun had to criticize its defenders and selected, "Al–Tugharai (being) one of the greatest alchemists" 273. Accordingly he depends upon two authorities, Ibn Bishrun and Al–Tugharai, to speak for alchemy, directly as such, and indirectly by replying to criticisms.

Alchemy looks upon a substance not only as the actual but also as the potential. It resorts to technical processes like pulverization, calcification and distillation which bring out the potential in a substance which then is called Elixir. Once this is obtained, when mixed with a base metal and heated over fire, the resultant becomes gold. In fact the alchemists "give elixir the name of spirit, and that of the body, to the substance to which it is added" 228. Alchemy thus becomes a play upon spirit so that "it is not a natural craft" 246. "The truth is that alchemy is one of the ways in which the spiritual souls exercise an influence and are active in the world of nature". 245 "Now since alchemy is the creation of gold, in a substance other than gold, it is a kind of sorcery. (Accordingly) to protect alchemy from the disapproval of religious laws they used puzzling expressions" 246. Further he says that "those who claim to have made gold with the help of alchemy are like those who might claim the artificial creation of man from semen" 276. Finally he writes that "in general alchemy, as they understand it has to do with universal creations". 279

Here he touches the core of theoretical alchemy for it is based on animism. According to this doctrine every thing that has a form, be it even an inorganic substance, has life, since form results when there is a soul or life essence. Thus a crystal has form and it also grows and growth is life which then means that even inorganic substances are living bodies. In fact Ibn Khaldun did realize that according to alchemy elixir is spirit and the substance accepting it would be body so that to introduce Elixir in any substance would be to enliven it and thus create it. Above all there was the general belief in spontaneous generation. Al–Tugharai, replying to Avicenna’s criticisms, maintained that "we know of generation of certain animals. For instance scorpions are created from earth and straw. Why then should it be impossible to make similar observations in the case of minerals" 273. In as much as spontaneous generation was universally accepted at the time no one could logically deny the possibility of imitating spontaneous generation by combining Elixir, as spirit, and a base metal, as body, thereby generating gold as a regular creation. Here Elixir would function as spirit or life-essence. Moreover
Ibn Bishrun states "Anything that moves is active and living and anything stationary is dead. Further anything meltable in fire and volatile and combustible is living, and of the opposite qualities is dead." 259. With such a wide conception of a life-form, meltable lead, volatile mercury and combustible sulphur, each would be classed as a living substance.

But the prerequisite for the ideal creation is harmony among the constituents of system. Let us see what this means when the human system is so reconditioned that there is perfect harmony among its main elements. Ibn Bishrun clearly writes that "man (as he is) suffers from the disharmony of his component elements. If his elements were in complete harmony the soul would not be able to leave his body. Man would then live eternally." 232 Thus alchemy places emphasis not on creation but on making life eternal. Now whereas Ibn Khaldun has understood that alchemy tries to imitate creation, he has missed the real aim of alchemy, of making man immortal though clearly hinted at by Ibn Bishrun: alchemy prepares drugs of longevity. Here again it speaks of the greatness of Ibn Khaldun that he could not part with common sense to be able to imagine that the alchemists did try to make human life eternal on this earth.

This brings us to the stage when we have to consider how alchemy ultimately tried to transform a mortal into an immortal being. And when this is possible it is child's play to transform a base metal into gold. Essentially alchemy is the art that tries to make every thing everlasting, man as immortal or ever-living, and a base metal, gold, and thereby everlasting as metal. The question now arises as to how it tries to do so. The constituents of a non-permanent system are separated by pulverization, calcification and distillation. Such technique sees that what was material and coarse has become refined and soul-like. Ibn Bishrun says "You must realize that mixing a fine thing with another fine thing is easier than mixing a coarse thing with another coarse thing. I have in mind here the similarity in form among spirit on the one hand and bodies or substances on the other, for it is the form of things that caused their union" 233. Briefly matter has to become soul-like when the corporeal system of man, now soul-like, becomes the equal of spirit, Ruh, and of soul, Nafs, when these three constituents would unite into an inseparable whole. "It should be known that as long as substances remain coarse and rough they can not be combined." 235. For as long as the constituents remain "coarse they are easily separated" 235 and the system is not everlasting. But when refined and subtle in form, "they are as derived from
one substance”, 235 constituting a homogenous system. Previously “the natures of the substance had been separate, but now they adhere to one another and have become one thing, similar to the soul in power, and similar to the body in composition.” 232. Technically speaking alchemy tries to transform matter into a soul-like substance, a form of energy. Then if body and soul were unlike each other before, now, on being re-conditioned, they become alike, with the body as soul-like. Ibn Bishrun maintains that “such parts interpenetrate, being similar to each other, thereby becoming one thing. The soul (the spirit and body as the other) to become one thing with no disagreement and in full harmony with one another”. 241 We have to picture matter becoming so refined that it assumes a form of energy and no one can separate forms of energy, as for example heat and light from fire.

But against all this Ibn Khaldun took up the stand point of a realist. All considerations apart the fact glares in our face that no one has succeeded in synthesizing gold. He accordingly writes, “had any alchemist found a correct method his children and colleagues would have preserved it and ourselves or others would have learned about it”. 278 On the contrary “they have found nothing but lying stories”. 278 While criticizing alchemy he tries to excel Avicenna in his attempts of having done likewise before. Al-Tugharai, as alchemist, had already endeavoured to reply to Avicenna and Ibn Khaldun maintains that “Al-Tugharai is right in his refutaticn of Avicenna” 274. However, Ibn Khaldun tries to show that both “Al-Tugharai and Avicenna are wrong” 274. The arguments he now puts forward are superior to those of Avicenna “whose remarks say nothing of the sort” 277, which Ibn Khaldun now offers. Altogether Ibn Khaldun’s main criticisms against alchemy are the following:

Alchemy imitates nature and assumes base metals gradually grew into gold. In nature this took nothing “shorter than 1080 years” 274. When the alchemists, “imitate the way nature processes; substances in mines” 274 the time factor is obviously different. He writes “gold can not be developed from its matter in a day or a month” 279.

Moreover evolution implies intermediate life-forms, “from one stage to another during the period of its creation until it reaches its goal” 275. On the contrary synthesis of gold is a single stage creation. “The alchemists also state that finally the elixir is similar to yeast transforming everything into its own essence 278. But “Yeast conditions dough for digestion, which is material destruction, while elixir trans-
forms one mineral into a higher one. This is something creative and constructive. Thus the elixir can not be compared with yeast”. quotations are abbreviated. Here end the main criticisms of Ibn Khaldun as an encyclopedist rather than as a genuine historian, his observations remaining confined to the later or to the degenerate phase of alchemy.

Ibn Khaldun wrote in the fourteenth century yet no notice has hitherto appeared suggesting if he has added anything to our knowledge of alchemy. This further confirms that he has been an encyclopedist who merely presented alchemy as was generally known in his times. As historian he has missed the origin of alchemy and ignored the etymology of the name. Moreover he extols the view that, ”Alchemy is that science of Jabir” which means the stage when alchemy had been fully developed. Moreover what characterizes his account is the motive he attributes to the pursuit of alchemy. It was to be a short-cut to prosperity when the tricker-magician could pretend to turn base metals into gold and thrive as a charlatan. Such an alchemy would be something spontaneous with no background whatsoever. We have now to turn to quite a different alchemy with a long past naturally one which can be properly documented.

In as much as Ibn Khaldun could mention Jabir, almost as the founder of alchemy, let us recall a performance on his part. In the family of Barmakis, of the Vazir of Harun Rashid of Arabian Nights, a lady of the household became seriously ill and was given up as hopeless by the court physicians. Jabir was sent for and on his administering an Elixir she revived almost from her death bed. Such a cure naturally made him famous. This historical fact is not reported by Ibn Khaldun. The question next arises as to what was this life-saving drug and what did Jabir otherwise achieve as alchemist which would go to his credit. Partington (1949; 113) is one of the master historians of alchemy whose work appears in more than one thick volume. He writes that ”in between the beginning (of Greek alchemy, about 300 A.D.) and the time when it began to take shape as a science in the seventeenth century, chemistry, (alchemy) had acquired a new theory, the origin of which is still obscure. It is said to have been taught by Jabir in the eighth century. This theory taught that the principles of metals are mercury, conferring metallic properties and sulphur, the cause of the loss of these properties on roasting when something combustible seemed to escape.” This would be Jabir's
contribution to theoretical alchemy besides his practical alchemy as his life-saving Elixir. Ibn Khaldun could only explain alchemy as taking a base metal and turning it into gold. The inverse or starting with gold itself and preparing a drug out of it far more valuable than gold could never be imagined. All considerations apart we would like to know what could have been the nature of the Elixir Jabir prepared as his masterpiece. Levey (1959; 142) writes that “Jabir is known to have worked out a formula for the number of times gold would have to be fused in order to be converted into Elixir. This came to 1000 furnaces (calcinations) distillation and sublimation were also repeated innumerable times supposedly to purify and to transmute substances”. Here is a clear case of Jabir starting with gold itself and preparing Elixir as calcined gold.

Then to speak of charlatans pretending to turn base metals into gold and to ignore that gold can serve as raw material to produce a life-saving drug is to offer a distorted picture of alchemy. With emphasis on Elixir alchemy becomes a branch of pharmaceutical chemistry which specializes in preparing calcined metals as a class of medicaments not found in nature. Since we are interested in the history of alchemy we have to show that when alchemy was introduced in Alexandria if it also tried to produce some special type of medicine. According to Greek medicine the human system is endowed with four qualities, hot, cold, dry and moist. Excess of any quality would result in some ailment and the remedy would consist in administering a drug with the opposite quality. Taylor (1951; 82) accordingly explains that “Jabir tried to do the same, to cure the baseness of metals with medicines which he termed Elixirs. The Greek alchemists likewise talked of the Medicine, Pharmakon, which was to be added to a mixture in order to cause a transmutation. Jabir greatly developed the idea of the supreme Elixir, the medicine of the metals”. We now easily realize that in Pre-Jabirian times the preparation Elixir was called Pharmakon in Greek whence, Pharmacon = Elixir.

Accepting Elixir as medicine its one feature to be observed is its universal range. We associate a medicine with a definite disease or even with a given symptom. Elixir was not used for any symptomatic treatment. It overhauled the system as whole, bringing about a thorough transformation, the sick became healthy, the aged young and when applied to a base metal it would be transformed into gold. This directs us to the nature of the active principle to understand the all-transforming
nature of elixir. Briefly what is Elixir? It is a Chinese term meaning, universal soul. The original Chinese words are Ek-Chhi, the One-soul, the universal soul. It was Arabicized as Ik - Si - (R) as discussed in an earlier article (Mahdihassan 1961 b). Then given a drug of which the active principle is universal soul, its mechanism of action can only be creation. This Ibn Khaldun did clearly understand. He writes that “Elixir is spirit, and the substance, to which it is added is called the Body” 228. And combining spirit with body results in creation, which is also confirmed by him for he says that “alchemy is the creation of gold in a substance other than gold and as such it is sorcery” 246. But even to say that alchemy imitates creation would not be quite correct. Levey has told us that Jabir could prepare his elixir only after gold had been calcined a thousand times. This would be repeated creation, properly considered resurrection. To understand this further we must know the theory of calcination. If a soul contacts a body it is vivified, life is produced, and the phenomenon is called creation. The life-form however is unstable, or mortal, for body and soul are unlike each other and remaining two they can easily separate. This fact has been emphasized by Ibn Bishrun who clearly hints at the mortal nature of man. He maintains that, “man suffers from disharmony of his component elements (otherwise) man would live eternally” 232. The disharmony is obvious for the body is coarse and material while soul is subtle and energy. Ibn Bishrun observes that “as long as substances remain coarse and rough they can not be paired (combined)”. But theoretically “all substances were spirits at the beginning” 234. Accordingly “when a great amount of fire is applied to them it turns them again into spirits” 234. This then is the theory of calcination which transforms material substances into spirits by the use of fire. Material body thus refined enables a better union with soul or spirit. Ibn Bishrun writes “You must realize that mixing a fine thing with another fine thing is easier than mixing a coarse thing with another coarse thing” 233. The above two only as fine substances can become one. Thus when gold was calcined thousand times, it became a dust-fine powder which can even float on water, while gold is the heaviest metal we know. Moreover gold is yellow, jaundice coloured, while calcined gold becomes reddish, charged with life, and Redness = Soul. Then to transform bullion gold into calcined gold technically was a real achievement in pharmacy during ancient times.

Now calcination is the crude term for the processes which turn matter, as something coarse, into something dust-fine or soul-like. A metal is taken, gold would be the best, it is granulated and rubbed with
a plant – juice, for plant has life and can donate its soul for being incorporated into metal as body. The resultant becomes a herbo-metallic complex, a life-form, with metallic body and a herbal soul. Such a life-form, however is not stable, matter is still coarse, and by no means an equal to the soul donated by the plant. The herbo-metallic complex then is subjected to fire and is killed. It is again pulverized along with herbal juice when the herbal soul revives it again. Pulverization is carried out for the soul to diffuse into every particle of the metal. Then such pulverization and calcination theoretically means killing and resurrecting. It is then believed that the impact of soul upon matter makes it soul-like. Ibn Bishrun clearly states that, "the sages have mentioned that spirits return repeatedly to bodies so that they have greater coherence with them" 237. To enliven a dead metal, a single treatment with a herbal juice would have sufficed. Such a herbo-metallic complex would be a living substance but no everlasting life-form. But when it is killed and resurrected it becomes death-proof, now everlasting in form, a regular Resurrection-body, as exemplified by Jesus Christ. What becomes everlasting can also donate its active principle to confer immortality on its acceptor. Then to make man himself immortal he needed a drug which was itself everlasting, and soul-like. We have to realize that gold is everlasting but it is a mummy, or a fossil, with no life-essence to offer. This clearly implies that Elixir is not ordinary soul, merely a vivifying agency, but an immortalizing principle, an all-transforming universal-soul. Briefly Elixir = Resurrection Body = Universal soul. We have now to explain that the origin of such an idea in alchemy started long before Jabir, and incidentally also his conception of metals being derived from two elements, sulphur, as Ruh, and mercury as Nafs, of all metals including gold itself.

III

The early man was a cave dweller and a hunter. His main trouble was wounds and blood loss. He came to believe that blood = Life essence and Redness is the active principle or soul-concentrate. As a result Redness = Soul and a red substance, like red-ochre, can substitute blood and cure wounds and blood loss. Red ochre was the first drug man used and strange enough Unani and Ayurvedic systems of medicine continue to use it as a styptic, particularly for piles and dysentery. There is also an article on red-ochre as drug (Mahdihassan, 1979). It has been shown that it became a drug of longevity and the Neanderthal and other cavemen made it a drug of resurrection for they buried the dead
dusted with red ochre. Even this custom has survived, for the Maoris of New Zealand smear the skeleton of the dead and only then finally bury the same. During Medieval Ages water was kept in pots, made of red ochre, when such water was used to cure plague. A villager in India would take a slab consecrate it by smearing it with red ochre when it is enlivened as a living god who could redress the grievances of the worshipper. Being soul-incorporate it was also used to fashion the image of god in pagan Arabia. Irving (1980; 12), writes that "Banu Adam the name is derived from Red-Earth (red-ochre) in Arabic, referring to the clay-god used in fashioning him". Briefly stated archaeology and history have established the fact that red-ochre has been the drug of longevity, immortality and resurrection, above all a panacea, and its active principle is redness as soul.

Later the population increased and hunting had to procure food enough for a large family. The aged was unable to partake in such strenuous work and had to be disposed off as a parasite. He was first killed and later excommunicated as an ascetic. Living all alone in a forest his first problem was to collect his daily ration from the resources of the forest. Now this required him to overexert and keep himself mobile day after day. A day's rest meant fasting and a long lingering death from thirst and starvation. Thus arose the urge to seek a drug that could bestow strength on his weak limbs. What he needed was a panacea which could recondition the body as a whole, driving away dotage and making him feel young again. One such drug was ephedra which bore red berries and thus contained redness as its active principle.

Looking out for other red substances the Chinese ascetic found minium or red-oxide of lead close enough to blood. Purifying such an ore he recovered lead which at once became a drug of longevity. Strange enough its use has survived to this day in Unani and Ayurvedic systems of medicine not to talk of Chinese medicine itself. Now with the introduction of lead as oral drug came the first theory in alchemy that lead is the progenitor of all metals, including gold itself. Ibn Bishrun accordingly comments that, "lead is spiritual, luminous and clear. It is the active principle which holds the spiritual (Ruh) and psychic (Nafs) powers together and encloses them" 244. It means that lead contains both Ruh and Nafs; these being subsouls which constitute soul as whole. The aged ascetic looking out for a drug that can make him physically strong-found gold particles shining in a river bed. Melting them he found gold to be fire proof or everlasting in form. Then to take gold orally
was to become gold-like or immune to all debility and deterioration. Thus entered gold as drug and its use is maintained up to date.

Finally the Chinese ascetics discovered cinnabar as the one substance on earth identical with blood in its redness. Accordingly Blood = Redness = Cinnabar = Soul. When cinnabar ore was being purified it finally resulted in mercury and sulphur. Even in Chinese, soul is constituted of two subsouls, Kwei and Shen, so that if cinnabar was soul, then both sulphur and mercury became oral drugs, and as in the case of lead, Unani and Ayurvedic medicines recognize all three as drugs, cinnabar, sulphur and mercury. Now came the theory in alchemy that sulphur and mercury are the elements of all metals including gold. When the above antecedents of alchemy are not known it is natural on the part of Partington to observe that the theory said to have been taught by Jabir, that "the principles of metals are mercury and sulphur, the origin of which is still obscure".

The steps to be considered here would be Redness is soul, Red substances are drugs of longevity. Cinnabar is as red as blood, its two constituents, sulphur and mercury, are sub-souls, each is a drug of longevity, being subsouls in metallic form, they are the two elements of all metals. It has been remarked that after a stage alchemy made no progress. With the discovery of cinnabar as the equal of blood there was nothing more to expect.

By now the candidate of longevity had two ideal drugs. Gold would keep him everlasting in form and eternally young, cinnabar would keep his system saturated with soul, making him ever-living or immortal. It can be supposed that taking gold and cinnabar as samples the consumer could rejuvenate himself and remain immortal. But what are two can easily separate later on so that man can remain infirm and old, inflicted with infirmity. This would be a curse. The real drug of longevity would be, two as one, when either cinnabar becomes fire proof, like gold, or gold becomes red, like cinnabar. The man who thought in these terms laid the foundation of alchemy and coined the term Chin-I, for the drug of longevity. Now Chin-I is dialectally kim-Iya which is the original of the Arabic term, Kimiya, and this finally gave the name Alchemy. We are now required to discuss the term Chin-I.

IV

Alexandria was founded about 300 B.C., it became the world market by 200 B.C. The enterprising Arab sailors were tempted to import
Chinese silk for the Alexandrian market. Once in China they found street vendors selling a drug claiming it as conferring rejuvenation and longevity. Naturally such claims make strong appeal to human nature. In Mandarin the name for such a drug was Chin-1, literally, gold and juice, signifying gold-making-plant juice. Once we know how the juice was used to prepare the drug, we can realize the proper significance of the name. Now in a southern dialect of China, Chin-1 = Kim-Iya. This was Arabicized as Ki-Miya or Kimiya. This word entered Arabic about the same time as the name in Arabic for China, or Tseen, so that both Tseen and Kimiya, as words, may be dated about 200 B.C. As far as I know no one has attempted to show how old the name Tseen is in Arabic. Kimiya is also as old. Now comes the technique of using the juice.

Gold is granulated and rubbed with a plant juice with strong reducing powers. When this is repeated innumerable times gold as metal is reduced into its colloidal form. If pulverization is supplemented with calcination and thereby heating gold granules with the pulp of the herb that produced the juice, the result is expedited. Then calcination is an improvement upon atomization but is not indispensable. This is not usually explained in the literature. Finally gold appears as dust-fine powder which can float on water when otherwise gold is the heaviest substance. Moreover gold was yellow, jaundice coloured, but after being atomized it has become brick-red, when redness qualifies life. Then calcined gold is soul-like by form, being dust-like, and it is soul-like in colour, being red. The theory of its generation is very enlightening. Plant is something that grows and Growth = Life. This is more so when the plant is perennial. Then its juice would be saturated with a life-donating agency. When a metal is treated with the juice, impact of herbal-soul upon matter makes it soul-like. It then becomes the proper recipient of the herbal soul. Now when gold was turned from a yellow metal into a red powder, by its obvious effect, the juice was red-gold-making-juice. But to the alchemist bullion gold was a mummy or a fossil, only crude material, while of real value was red-gold, which to him meant proper gold. Then red-gold-making-juice was abbreviated to gold-making-juice, this further reduced to Gold-juice, or Kim-Iya. It is obvious that gold can be had easily, while the red-gold-making-herb was the real problem, and the juice represented the active principle or the ever-growing soul. It was thus complementary for calcined gold, which was herbometallic complex, to be named after its active principle, as Kim-Iya or Kimiya or as gold-making-juice. Thus Kimiya was the
active principle and also the drug containing it, moreover in Arabic it is also the art of making such drugs. The case is similar to the Sanskrit word, Rasayana, which means a drug of rejuvenation and also the art of rejuvenation. In Arabic Kimiya became the substance or agency of transformation, and the art of bringing about transformation. It was not merely the name of the resultant preparation. Then to have Kimiya, the juice that makes calcined gold, was the real asset and to use it became the art alchemy.

Now the Arab sailors visiting Egypt passed on the Chinese drug, Kimiya, with its name, to Egyptians of the same social status as themselves and these were Bucharic speaking Copts. These writing in Greek transliterated Kimiya = Chemeia, but pronounced it exactly as the Arabs did. This subtle feature has been explained fully in an earlier communication (Mahdihassan, 1961). From the Copts alchemy passed on to the Greeks who, to begin with, did not try to make gold, but used a gold preparation, calcined gold, as a drug of longevity. Chemeia, in Greek, signified first, the all-transforming drug as also the art of transforming base substances into everlasting one. This was because Chemeia was precisely the Arabic word, Kimiya, which carried the above two connotations. But the practical alchemist soon needed a word to specify the all-transforming substance. The Greek alchemist preferred to call it merely Pharmacon, The Medicine, which again was not ideal, for it was one among many other medicines. Nevertheless with Pharmacon now the name for the substance, the word Chemeia was left to signify the art of alchemy. It must be emphasized that originally Chemeia was Kimiya hence Chemeia also carried two connotations, the vital substance first and the art alchemy next. Then just as the Greek alchemist had to use the word Pharmacon, the Arab alchemist acquired the word Elixir for the concrete substance. However in Arabic the two original meanings of Kimiya continued to remain, but in actual usage Elixir specified the concrete substance while Kimiya generally denoted the art alchemy. We are now to show how Arabic acquired the word Iksir.

We have learnt that Kimiya was soul saturating a plant juice, like Redness in blood. The active principle was soul, not juice, for soul was the content and juice its vehicle. Now in Chinese there is the term Ek-Chhi, the one-soul, the universal or cosmic soul, creative energy. It is only quantitatively superior to the soul in plant juice. Then to bring about transformation, instead of plant juice or Kimiya, one can prefer Universal soul or Ek-Chhi. This was Arabicized as Ek-Si-(R) and became Iksir.
Alchemy by Ibn Khaldun-Mahdi Hassan

hence Al-Iksir which finally became Elixir (Mahdi Hassan 1961, b). This entered Greek where Iksir was Hellenized as Xerion. This now replaced Pharmacon which was a vague or generic term meaning medicine, while Xerion would be a specific one. Then as alchemy developed among the Greeks there came the following words in due order.

(1) Chemeia = Elixir; also Alchemy. It carried two meanings.

(2) Pharmacon = Elixir; Chemeia = Alchemy; each separate.

(3) Finally Xerion = Elixir; Chemeia = Alchemy.

In Arabic we have as synonyms:

(1) Kimiya = Elixir,

(2) Iksir = only Elixir; Kimiya still being used for both, Elixir the substance and so Kimiya, the art.

(3) Philosophers' stone = Hajre Murkarram a synonym of Kimiya and Iksir.

We know, by now that Kimiya was a natural product, a herbal juice, with growth-soul as the active principle. What then was Iksir. We however know it is as universal-soul-incorporate, for Ek-Chhi, its original term, means universal soul. But we have also learnt that Jabir took gold, calcined it 1000 times and turned it into Iksir. Then Iksir is a generated product something made dust-fine and altogether soul-like. In effect Calcined metal—Iksir. It is dual natured, or as much matter, as much soul. Just as light, according to its corpuscular theory, is matter as also energy, likewise Elixir is matter as also soul, and this is creative energy. No one has so clearly worded it to indicate the dual nature of elixir better than Khwarizmi in his Mafatihalulum, edited by van Volten (1895; p. 266). He explicitly writes that "Iksir is the name of the compound of body (Jsad) and soul (Ruh)." I believe this is the first time that Khwarizmi is being quoted after several centuries when he first wrote it. Admitting that Soul and Body are two, Ibn Bishrun says "You must know that the mixtures which are the elements of alchemy agree with each other. They are derived from one substance, one order and one treatment unites them," p. 235. The one substance, taken above, is gold, and the body is dust fine powder, and the soul is its red colouration. And the red colour can not be separated from dust-fine matter,
much as light can not be separated from the heat of fire. But elixir, as now constituted, is dual natured, for soul itself is dual natured. Chhi, the source of all creation in Chinese, is matter plus energy, and because of its being dual natured it is the one source of all forms of matter and of all forms of energy and these two constitute the universe. It means that Chhi is the same as the Prime Matter of European alchemists. Accordingly we have Chhi=Iksir=Cosmic soul=Prime Matter. We can now realize how Elixir can transform the entire system. By its genesis it is Resurrection Body conferring everlasting nature upon its acceptor. Then to understand alchemy is to understand that Kimiya is a natural substance rich in creative energy or soul and Elixir is a synthetic product incorporating cosmic soul which can offer matter and creative energy as required. Thus there could have been no alchemy without Kimiya, or Iksir, yet Taylor (1951; p. 66) observes that in "Greek alchemy the principal feature that is lacking is that of elixir". With such admission we can understand his confessing "that it may at once be said that alchemy still remains an unsolved problem". What he missed was that the Greek word Chemeia→Kimiya and as such it signified both the substance inducing transmutation and also the art alchemy. This has been explained already (Mahdihassan 1976). The trouble with a great man like Ibn Khaldun was that he did not recognize his limitations obvious at that time. By its claims alchemy tried to make everything everlasting, man immortal, a base metal gold. By its practical achievement it made colloidal metals as drugs of longevity.

REFERENCES


dhan khalidun dharra kummiya ke pratipadan ka
aalochnatmak moolyankan

—eas. mahdihassan

saarang

ek vishwa um samay se sampratian: thik dhag samshia jata hai, aur jab uska prarambh abhiaat hota to vishwa ka utchild naya nahi mil paata. kummiya ke sandhye mein dhvan khalidun ne iske prarambh aur naam ke saath par bhi thiyana nahi diya. vaisya mein bhag kummiya ke abhigun aur vikrut roop se samvasth rakhte hain. yaha par manav guvna banane ka taba tha. kummiya ka prarambh chhita mein diyche aur sampradaya ke roop mein hushka tha. satraa (gutrusha) ko dhoorpa ko abhastingh aur dhoorpa ko dehasth ke roop mein mahanva prapt hui. to-vign ka aartha bhavang satraa se hushka. lekin jab shak-bhajee ke padaarth garmi
पर सिपाहि रखे जाने वाले प्रस्तुत किये जाते हैं, तब ये अकार्यात्मक औषधियां उनके खराबी के लिए उत्तरदायी होते हैं। उपरोक्त प्रणाली को विकृत होने से बचाये रखने के लिए प्रायः सुदृढ़ का औषधि के रूप में चित्रा, चूक यह अदालत है और जीवन अवधि को बचाने के लिए उन्होंने सिंहुर को चित्रा, जा रहत के समान खाल है और रहत है जीवान्त। दौरानुप के लिए प्रावरण और सिंहुर का औषधि के रूप में उपयोग कीमिया के पूर्ववर्त नहीं करता है। फिर भी यह कल्पना की गई है कि, यदि सिंहुर सुदृढ़ की तरह अदालत रहता है या सुदृढ़ सिंहुर को भांति एक लाल पदार्थ होता है, जो अबुलखलील है और यह एक औषधि के रूप में मानव धारीए एवं जीवान्त। को मिलाकर संगठित करता है। और यह अबुलखलील होता तथा मनुष्य अमर बना रहेगा। इस उद्धेद के साथ कीमिया का प्रा-राज रहा। दौरानुप जड़वृक्षों के अंत को सुदृढ़ कणका के साथ रंगाने के परिणाम- स्वरुप लाल कणकीय सुदृढ़ तेरावर हुआ। इसकी रचना के अनुसार यह सुदृढ़ सहित जड़वृक्ष का शरीर था और तदनुसार उसका नामकरण किया गया। पशुकिन भाषा में कि-पुरुष और इथा-दरस, जबकि फिम-इथा, जड़वृक्ष सुदृढ़ मिश्रण था। अरबी भाषा में इसके कीमिया के रूप में प्रतीत किया। कीमिया इस विधान की वास्तविकता का नाम इसके खालदन और उनके बाद के लेखकों को नहीं था, अन्तः सुदृढ़-पार्वत स्वरूप को सिंहुर सुदृढ़ के रूप में चित्रा किया गया, जिसको चित्र-टॉन के नाम से पुकारा जाने लगा। इन दो नामों का अर्थ पुरुष-त्राज-स्वरूप है। भारतीय विद्वानों में यह स्कृत घर्ष के रूप में प्रतीत किया। मनुष्य जब वृद्ध हो जाता है, तब उसके जीवन में अंत नहीं रहता । लेकिन चित्र-टॉन अथवा मरकद्वज ने नयीकरण का बाद किया और कुछ लोगों में प्रसिद्ध रहा। लेकिन उसके भी बड़कर कीमिया ने मुल्यवाद से सुदृढ़ बनाने का बाद किया। इस खालदन रखने के बाद कहा, कि यह ग्राह के कारण होता है, परस्तु ग्राह स्वयं के अवतारण मूल हो मनोरौंधातिक धर्म से देखना चाहिए। यहाँ पर यह जीवन प्रेम है। मनुष्य ने सुदृढ़ के मनोविकार का कठिन अवतारण का समान और जैसा वह उसके सकलता की आशा करता है, वह दिन भविष्य में बहुत खुश है।

सुदृढ़ उम्मीद जीवन में अवतारण का लालसा को पैदा किया। इस प्रकार यह उसके मूल का प्राप्त हुआ। उनके विवरण में कीमिया के प्रारम्भ और अन्त दोनों ही नहीं पाये गये जो कि यहाँ पर उल्लेख किये गये हैं।