# The Journal of the Alchemical Society

Edited by

H. Stanley Redgrove, B.Sc. (Lond.), F.C.S.

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VOL. III. PART 14. NOVEMBER, 1914.

## REPORT OF FOURTEENTH GENERAL MEETING.

THE fourteenth General Meeting of THE ALCHEMICAL SOCIETY was held at 8.15 p.m., on Friday, October 9th., at 1, Piccadilly Place, Piccadilly, W. The chair was occupied by the Acting President, Mr. H. Stanley Redgrove, B.Sc., F.C.S.

The Chairman announced that owing to the war it had been decided to cancel the arrangements for the Annual Dinner this year. But it was hoped to hold the monthly meetings of the Society as in normal circumstances. The Council, however, proposed making an innovation in January, when instead of a long paper or lecture followed by a formal discussion, there would be a Symposium of short papers and speeches, followed by a Conversazione during which these could be discussed in an informal manner. Members wishing to take part in the Symposium were invited to communicate with the Honorary Secretary.

The Honorary President, Professor John Ferguson, LL.D., etc., delivered his presidential address for the Session, entitled "Some Notes on the Poem entitled The Marrow of Alchemy." (This address will be printed in a later number of the JOURNAL).

In proposing a very hearty vote of thanks (which was carried by acclamation) to Professor Ferguson for his valuable address, the Chairman reminded the members that their thanks were also due to M. W. de Kerlor for the use of his premises for the meetings of the Society.

## REPORT OF FIFTEENTH GENERAL MEETING.

THE fifteenth General meeting of THE ALCHEMICAL SOCIETY was held at 8.15 p.m., on Friday, November 13th., at 1, Piccadily Place, Piccadilly, W. The chair was occupied by the Acting President, Mr. H. Stanley Redgrove, B.Sc.

The Chairman announced that the Council had decided to alter the date of the Symposium to December 11th. Members wishing to take part were requested immediately to communicate with the Honorary Secretary.

A paper was read by M. W. de Kerlor on "Some Notes on the Alchemical Researches of M. Jolivet Castelot," which was followed by a discussion. (Abstracts of the paper and discussion are printed in the present number of the JOURNAL).

A vote of thanks was passed to M. de Kerlor for his paper.

# SOME NOTES ON THE ALCHEMICAL RESEARCHES OF M. JOLLIVET CASTELOT.

By W. de Kerlor.

Twenty years ago, before the works of the modern exponents of the doctrine of the unity of matter, the composition and evolution of the atoms, molecules and electrons, were known, M. Jollivet Castelot put forward similar theories in his books entitled *La vie et l'Ame de la Matière* and *Comment on devient Alchimiste*. Basing his deductions on principles derived from the writings of the ancient philosophers and from certain laboratory experiments of his own which indicated the complexity of atoms, he finally concluded that there do not exist "simple" chemical elements, that there is no inert or "dead" matter, and that matter may be dissociated atomically and finally reabsorbed into the ether. Sir William Crookes, Sir Oliver Lodge, Sir Norman Lockyer, and others have since confirmed his early experiments in their various works on the subject of the unity of matter. From this logically follows the theory of atomic evolution and the possibility of transmutation, and in the light of modern discoveries the would-be alchemist of to-day is able publicly to prosecute his researches without evoking the smiles of mockery so popular a few years ago at the mention of the word "transmutation."

Almost with one accord the alchemists have defined the Philosopher's Stone as a metallic ferment, a mineral capable of acting by its presence on certain bodies and transforming them into gold. M. Gustave Le Bon states the same thing in speaking of colloidal metals. These, when diluted to an extraordinary degree, acquire properties of such specific intensity, so different from those they possess in the ordinary way, that they have had to be included in the list of diastases. One observes, furthermore, that they act in virtue of their presence merely, that is, they appear unchanged in the products of the reaction. In a similar way we can conceive of the "powder of projection" as a metallic diastase, which ferment acts by its presence (that is, appearing unchanged in the final products of reaction) upon atoms of lead or mercury, which it transforms into atoms of gold.

The discovery of the spontaneous disintegration of the radium atom upset the dogmatic assertions of materialists, and the subsequent identification of the alpha-radiation with helium threw further light upon the doctrine of the unity of matter.

Transmutation is not in itself incredible, and there are certain experiments which go to show that it has actually been accomplished. The accounts of transmutation related by J. B. van Helmont and J. F. Helvetius are well known to all members of the Society, and have been discussed at a former meeting. Dr. Emmens, of the United States, is said by M. Castelot [*La Science Alchimique* (Paris, 1904), pp. 23 and 24] to have made the following experiment: He took some Mexican silver dollars containing slight traces of gold, and converted them, by his own "secret" process, which he has not elected to make public, into ingots, the constitution of which was 528 parts of gold, 383 of silver, 86 of copper, 0.65 of platinum, 0.05 of lead, and 0.23 of zinc. The United States Government recognized the authentic value of these ingots, since it converted them into golden dollars, the appearance of which was the same as that of the ordinary ones. Subsequently, in the laboratory of the Alchemical Society of France, experiments are said to have been conducted, proving sufficiently clearly that gold is a synthetic product. M. Jollivet Castelot claims to have found, in the course of his studies, that it is possible to transform silver, copper, and alloys of these metals into gold, in baths of nitric acid, sulphuric and nitric acids, and acetic acid and acetate of ammonia. These experiments require months of intense heat and also light, electricity, care, and above all, patience.

The theoretical explanation, according to M. Castelot, may be stated thus: the principle of the metal—and of all bodies—is hydrogen, the chemical Absolute. This hydrogen is united with oxygen, always; with nitrogen, or ammonia, or carbon, etc., which serve as ferments. If one is successful in separating hydrogen from the metal, or from its ferment, and in uniting it with the ferment of another metal, a body will be obtained presenting the properties of the metal desired, and thus the new metal will have been artificially produced. Hence one must find a catalytic agent, a body intervening to help the transformation. M. Castelot states that a little iron or copper added to the silver hastens and improves the production of gold, which is equally favoured by water, air, and light; and that electricity especially plays an important part. Experimentation must perforce be slow, and the operations must succeed one another at intervals of several days. The temperature must vary from 60 deg. to 300 deg. and higher.

M. Castelot's first experiment was performed in January, 1893, but was unsuccessful so far as actual transmutation is concerned.

The second attempt was completed in February of the same year. A five-franc piece was dissolved in pure nitric acid at 36 deg., a little iodine was added, and the mixture was brought to the boiling point; the liquid became a celestial blue (on account of the presence of copper), and it was decanted into a large tube. A large deposit of silver and copper nitrates was formed somewhat rapidly, and, after about two hours, a light brown tint appeared at the bottom of the tube; this was copper and perhaps a little gold, of which a part came from the coin and another part came from the transmutation of silver into gold. The liquid was left for a few days exposed to the light and the air, after which it was evaporated to dryness in an excess of nitric acid, in order to separate the silver from the copper. The result was a black deposit. The mixture of nitrates was calcined, dissolved in warm, distilled water, and the solution was filtered (in the shade), the silver nitrate passing through in solution and the copper remaining on the filter. The filtrate was tested for gold by means of oxalic acid, but no trace of this metal was found. However, in the capsule, after the calcination of the nitrates, there remained a large metallic deposit, which was insoluble in pure, boiling nitric acid, and even in lukewarm *aqua regia*. It was therefore necessary to dissolve it in boiling *aqua regia* and to precipitate by zinc. The silver was separated from the copper by the ordinary manipulations. After calcination, an ingot of silver was obtained, sown with yellow pellicules which appeared auriferous.

These experiments are recorded in *La Vie et l'Ame de la Matière* (pages 81-91). Other experiments on similar lines, but including the use of mercury, have yielded some very interesting results, which are described in several numbers of *Les Nouveaux Horizons*. I had hoped to give you some further particulars promised me by M. Jollivet Castelot. The headquarters of the French Society are, however, at Douai, which has been devastated by war; and consequently, to my great regret, these particulars have not been forthcoming.

## ABSTRACT OF DISCUSSION.

MR. SIJIL ABDUL-ALI said that he thought the Society had listened to an interesting discourse, although he was bound to confess that personally he had found it very difficult to follow the experimental processes which had been described and still more difficult to interpret those processes theoretically as the paper was read. He was unable, therefore, to throw any particular light on this aspect of the subject, or to develop the thesis along its own lines, and he

must apologise if his remarks were critical rather than interpretative. The general criticism which he would be inclined to bring against the paper was that, so far as he could discern, it failed to throw any real light upon the subject of Alchemy, if by that term was understood the concerns and concepts of the so-called "Hermetic Science" as it obtained in Europe during the Middle Ages. He was not quite clear as to exactly what evidence was before them at the moment, but even supposing that M. Jollivet Castelot had actually succeeded in transmuting silver or copper or both metals into gold, it was perfectly certain, so far as his reading of the alchemical texts had gone, that M. Castelot had adopted methods which were not even suggested by the texts in question. M. Castelot obtained at the best only the minutest traces of gold, and he had at his disposal the apparatus and the methods of modern chemistry. The alchemists, on the other hand, claimed to be able to make gold in great quantity, their apparatus, so far as one could judge, was very simple, and there was no evidence that they had ever used, or that they even had any knowledge of how to use, electricity and its various phenomena. He confessed, however, that he was speaking with a very limited knowledge so far as M. Castelot's experiments were concerned, and he would be very interested in any further information which the lecturer could give in regard to the practice and theory thereof.

He could, he continued, easily conceive the possibility of metallic transmutation by a slight extension of the most recent scientific methods, and the theory of the subject would present no difficulty to the modern mind. In fact, he thought he was right in saying that the advanced modern chemists not only contemplated the possibility, but also anticipated the accomplished fact with considerable assurance. At least, there was no reason why they should not do so. But even if such transmutation had been or was about to be realized, THE ALCHEMICAL SOCIETY would hardly be affected. They were not primarily concerned with the fact of transmutation at all, except as regards the evidence that it was or was not effected by the alchemists; such evidence must obviously be in part historical, but it might also be enormously aided if someone were to come forward and demonstrate the *Magnum Opus*, using as his sole textbooks and taking his entire theory and practice from the literature of Alchemy. In the absence of such positive and particular demonstration, the results of chemistry were no part of their business. What they were concerned with was

the root and origin of the amazing and often sublime ideas of which alchemists were the living exponents, and of which their writings were the outward and permanent, though at the same time often veiled and obscure, expression; and their research towards this end might be, and indeed ought to be, prosecuted from both the historical and the metaphysical points of view.

It was thus that they found themselves in the twentieth century, in the midst of the glamour and romance of its science, heeding the literature of a bygone age, and as some think, of a lost art. The physical work of Alchemy was, in theory at any rate, the seal and symbol of a sublime hypothesis—he could not affirm that it was more than hypothesis, though of course more was implied in the claim—concerning the principle of the Universe. It was the ultimatum which was sought, as he believed, in deepest earnest and incessantly, but he could not say whether it was ever found. Those were the days, perhaps, of faith, and the faith was sublime and beautiful because its object was so. These men looked for a sign in the kingdom of metals of that which they knew to take place in the kingdom of souls. They sought a token of their redemption and that of the world. It was easy to say that they were foolish and ignorant, but it was impossible to say that they were not sincere, and even that which was said easily was of course not always said truly. But at least it might be said that the sublime symbolism was entirely lost in experiments made by purely chemical methods with the sole object of transmuting metals, and although it might be possible to interpret the symbolism of modern chemistry, and indeed of all phenomena, such interpretation would doubtless lead us a very long way from the symbolism which was found by the alchemist at every step and stage in his "great experiment."

He added that he was sorry to have been unable to elucidate the lecture, but he felt that it contained material which would be of greater value when one was able to see it in print.

MR. GASTON DE MENGEL said that he considered M. de Kerlor's paper a most interesting one. It could be looked at from three different points of view. He proposed in the first place to look at it from the point of view of physical science, and to ask, What evidence was adduced by M. Jollivet Castelot that the metals were actually transmuted into silver or gold? Had every possibility been eliminated of traces of gold having been already present in the metal experimented upon, for M. Jollivet Castelot did not appear to have worked upon metals in a pure condition?

Another point, already indicated by Mr. Abdul-Ali, was that M. Castelot's methods were certainly not those of the old alchemists. It would, therefore, be interesting to know whether M. Castelot simply undertook the transmutation of metals, quite outside any alchemical theories, except that, of course, of transmutation being possible; that is to say, whether he sought in these experiments purely to do something new in the way of inorganic chemistry; or, to effect the claims of the ancient alchemists. If the first of these objects were his, then it had been attained, providing his experimental results were validated. If, however, the second object were the one he had aimed at, then in no case did he appear to have proved his point, because the alleged transmutations were effected by methods other than those of the ancient alchemists, so that the validity of these transmutations would not prove anything more concerning the alchemists than that there was some truth in their view.

There were, he added, many reasons to believe that some of the processes used by the old alchemists were not purely material, but included certain psychical and spiritual operations, based upon their view of the constitution of the universe; and that in their experiments they endeavoured to bring these psychic and spiritual operations to bear on the metals. He wished to query whether M. Jollivet Castelot had taken this matter into account, and had employed similar methods in any of his experiments.

The third aspect of the matter might be summed up in the question, was M. Jollivet Castelot utilising in the chemical field philosophical doctrines, and seeking a token of these doctrines in his experiments? He certainly claimed a sort of Monism for the universe as such. Did he experiment purposely to prove the truth of any such hypothesis, or did he experiment simply from curiosity, to see whether transmutation were possible or not?

Finally, it must not be forgotten that the ancient alchemists ascribed to the Philosopher's Stone powers other than that of transmuting metals. It could, according to hypothesis, cure bodily disease and effect certain other marvels, which fact showed that it was the result of some process which, according to their views, properly applied would make possible extraordinary things in the domains of both the material and the psychical. He would like some light as to M. Jollivet Castelot's views as to this matter.

Mr. De Mengel added that as the questions with which THE ALCHEMICAL SOCIETY was concerned fell into three or

four distinct groups, historical, chemical, philosophical and spiritual, it might facilitate research if the Society were formed into sections each devoted to one of these aspects of the problem of Alchemy.

MR. A. E. WAITE said that the whole question was unavoidably left open on every side. M. de Kerlor had presented in outline a series of remarkable experiments purporting to have been made by M. Jollivet Castelot, and there was no one present who would wish to call in question the sincerity of their distinguished French *collaborateur*, the President of *La Société Alchimique de France*. They were, however, difficult to follow, and of course from the evidential point of view it would be recognised that there was only a bare statement before them. The further particulars promised by M. Castelot would possibly throw light upon matters which were at present in obscurity. Mr. Abdul-Ali had raised a question in his remarks which was of some importance in its own degree, and this also remained open, though so far as the speaker was acquainted with M. Jollivet Castelot's literary record in his work entitled *Comment on devient Alchimiste*, and in *L'Hyperchimie*—the original official organ of the French Society—his dedications appeared to be in the direction of methods pursued by the old alchemists. Were it otherwise, the speaker agreed that a result held to be obtained by processes of purely modern chemistry, however valuable in themselves, would do little to accredit our predecessors in the same path of research. It would not follow that metals had been transmuted in old days if it were found possible to transmute them now, as a result of operations distinct from those of the past. On the other hand, however, if there were evidence of old transmutation, its modern performance would surely indicate that what had been accomplished then was not radically distinct in *modus operandi* from anything that might be performed now. These things were matters of commonplace. Unfortunately the testimonies of alchemists were not evidence either, as their processes cannot be followed, though the speaker confessed to a personal feeling that Helvetius and van Helmont were bearing faithful testimony within the limits of their science at the period. It was yet another open question, but he believed himself to be in much the same position as M. de Kerlor with regard to M. Castelot, whatever the verdict of instructed chemists on the recent experiments and their results.

Mr. Waite, continuing, said that he was anxious to carry the subject further for a few moments, with a view to

determine how far the physical operation was a concern of The Alchemical Society. There were some who might have come among us believing that we possessed a key to the mystery of transmutation, and even a few might have retired subsequently in disappointment, because we could not or would not put them in possession of a process for making material gold by a super-commercial method. So far as he was concerned personally, and speaking, as he believed that he could, for the rest of the founders, laboratory work was no part of their programme, which was rather the careful, critical and comparative study of the old texts, in the hope of decoding the most cryptic of all symbolism and thus securing an authoritative canon of distinction between records belonging to the so-called practical work and those of the mystical order, which were those only that deserved the name of practical from his point of view. M. Gaston De Mengel had mentioned the old idea that if anyone attained the height of spiritual adeptship his power over material things would be so increased that he would be able to transmute metals. The graces of sanctity were not, in the speaker's opinion, apart from powers, but he questioned whether the powers of sanctity lay in such a direction, or would be exercised if they did. However this might be, he held that the only important side of alchemical literature was that which was believed to be spiritual, and even then it was important only if its heavy symbolical veils concealed a progress in the mystery of the spirit beyond that which was on record in the open day in the great literature of the mystics. In this connection he remembered the testimony of Alipili: "If that which thou seekest thou findest not within thee, thou wilt never find it without thee." Again: "O Man, know thyself; in thee is hid the treasure of treasures."

Mr. D. N. Dunlop said that he was one of those persons who took an unbounded interest in the symbolism of Alchemy. It seemed to him that whatever experiments were made on the physical plane by the ancient alchemists, greater interest attached to their works on the spiritual side. He thought, however, that a difficulty arose in that we were in danger of making too great a distinction between the spiritual and the not-spiritual—there was a tendency in most discussions to draw a very hard and fast line of division between spiritual interpretation and what might be called psychic and physical interpretation of these things. He suggested that there was no such division, and that the distinction was a purely artificial creation of our minds in their efforts to discover the truth. No state of spiritual conscious-

ness, or consciousness in a spiritual condition as distinct from something more physical or psychic, could be experienced by a man or woman without a corresponding effect on the elements of the body, and the process was surely a reversible one.

In the light of the great symbolism of Alchemy, the universe was conceived of as a precipitation from the pure ether, the primary substance from which all other elements derived their being. Everything we saw in the metallic or mineral kingdom was a precipitate from this primary substance. Now, it did not require a very great stretch of the imagination to suppose that by a knowledge of the precipitation, the process might be reversed through the right bodily experience, and the minerals thus brought back to the primary substance, though we might not be able to convert this into gold in the ordinary understanding of that word. It seemed to him that here might be discovered something of alchemical magic, than which there was no greater magic And to him personally such an experience would be, at least, more interesting than any chemical experiments which might yield a few golden coins—though these were certainly useful on occasion. It was the alchemical transmutation which could take place in a man's self that was really worth while. He was not prepared to dispute as to whether chemical transmutation had ever been effected; but even if a man succeeded in preparing a whole pot of gold, in the end he would probably come to the conclusion that after all it availed little in those moments when the greatest realities were concerned. Along the line of spiritual transmutation there was unbounded delight and happiness and magic, and when it was more generally traversed, somewhat of the glory that we read about as belonging to "the golden age," would again return and be witnessed in the physical plane.

THE CHAIRMAN said that, bearing in mind the maxim that a tree is judged by its fruits, he could pay the present lecturer no greater compliment than by saying that his lecture had given rise to the most interesting discussion that had yet taken place at a meeting of THE ALCHEMICAL SOCIETY. He had one or two brief remarks to contribute thereto. In the first place, he did not think that the evidence, as put forward by the lecturer, that M. Jollivet Castelot had succeeded in performing transmutation could be regarded as satisfactory or convincing. The descriptions of the experimental methods used were not sufficiently detailed to enable other investigators to repeat the experiments and verify, if possible, the results. Such experimental verification was, however, an essential

element in scientific evidence. Moreover, so far as he was able to gather from the lecturer's remarks, M. Jollivet Castelot had not carried out a complete analysis of the products of his experiments, nor even effected any conclusive tests for the presence of gold.

He had never, however, denied the possibility of transmuting "base" metal into gold. As an empiricist he could not deny the possibility, for instance, that a cow might jump over the moon. It was true that cows jumping over moons had not hitherto entered into his experience; but his experience was not yet complete,—all the future had to become actual. He did not, however, regard this phenomenon as a probable one, whereas he did regard the phenomenon of metallic transmutation as a probable one. The trend of modern science was certainly in that direction. Metallic transmutation was a legitimate object of research, and he wished to say nothing to discourage M. Jollivet Castelot in his labours. The question as to whether this transmutation had ever been achieved was a question of evidence. As concerned the evidence relating to J. B. van Helmont, and J. F. Helvetius, he had said on a former occasion all that he had found possible to say, and as concerned the present evidence, as he had already said, it left him very far from convinced.

A larger question, however, emerged out of the present one. It seemed to him that in the case of many members of The Alchemical Society, their studies had led them to a point where, paradoxical though it might seem to say so, metallic transmutation was not of prime importance in Alchemy. He was not especially referring to those who regarded the subject as a veiled mysticism. But to him, and here he conceived himself to be voicing the views also of other speakers, it was not the fact (if fact it be), but the method and reason of transmutation that were of prime importance. It was possible to conceive of metallic transmutation being effected in such a manner as to leave the whole question of Alchemy—of Hermetic philosophy—untouched. But The Alchemical Society was, he thought, concerned with both these matters, with transmutation as such, though primarily because of any light the solution of that problem might cast upon the question of Alchemy, as well as with alchemical philosophy as such. He was doubtful, however, whether it would be advisable to split up the Society into sections, as suggested by Mr. De Mengel: naturally, members of the Society would devote their attention to such particular aspects of its work as especially appealed to them. The question, however, was one which Mr. De Mengel might bring before the Council.

In conclusion, he wished to thank the lecturer for having brought to their notice these interesting researches, and to express the hope that M. Jollivet Castelot would be able to resume his labours after the war and would communicate results from time to time to this Society as well as to his own Society in France.

M. DE KERLOR, in his reply, said that he was in agreement with the several speakers who had questioned the conclusiveness of the evidence for transmutation adduced by M. Jollivet Castelot. But he thought that he had at least made out a *prima facie* case. He believed that when M. Castelot first commenced to experiment, he discredited the alchemical doctrines as applied to the transmutation of metals, regarding these doctrines as essentially symbolical and dealing with the spiritual development of man. He made many experiments, however, to effect transmutation, following up merely the chemical teachings as given in the schools. Partial success was claimed for some of these experiments, others were fruitless. Later, he experimented along the lines laid down by the old alchemists, taking into account points which hitherto he had omitted; but without success. About four or five years ago he obtained a white mercurial preparation, which he hoped would have proved to be the Philosopher's Stone, but it failed to effect transmutation. He then reverted to his former methods, and claimed to have been more successful, though the speaker did not consider the results conclusive.

However, it should be remembered, he added in reply to Mr. Abdul-Ali, that the alchemists had no set method by which to attempt transmutation. They endeavoured to follow nature, according to their understanding of her operations, in the light of their doctrine of the unity of matter. M. Jollivet Castelot prosecuted his researches in the same spirit.

The remarks of Mr. Dunlop, he thought, exhibited considerable psychological insight, and he trusted they would avert any division in the alchemical camp. Nevertheless, Mr. De Mengel's suggestion was certainly of interest. There were truly a physical Alchemy, an astral Alchemy, and a divine Alchemy. We had to admit the fact of this division. But in a higher sense these three were one. To his mind, the works of the ancient alchemists hid great secrets, still awaiting revelation, and to be a true alchemist, man needed to be somewhat more than man.

## REVIEWS.

*The Life & Work of Roger Bacon: an Introduction to the Opus Majus.* By John Henry Bridges, M.B., F.R.C.P. Edited, with Additional Notes and Tables, by H. Gordon Jones, F.I.C., F.C.S. 7¼ ins. by 5 ins., pp. 173. Weight 16 ozs.* London: Williams & Norgate, 14, Henrietta Street, Covent Garden, W.C. Price 3s. net.

THIS book is a new edition of the late Dr. Bridges' "Introduction" to his edition of Bacon's *Opus Majus*, issued by the English Positivist Committee under the editorship of Mr. H. G. Jones, who has added additional notes, many being from Dr. Bridge's *Essays and Addresses*. The volume appears at an appropriate time, the septcentenary of Roger Bacon having been celebrated this year at Oxford. It is divided into twelve sections, dealing respectively with Bacon's life, his position in the metaphysical controversies of the thirteenth century, his projected *Scriptum Principale*, his philology, mathematics, astrology, views as to the propagation of force, optics, Alchemy, experimental science, moral philosophy, and the general characteristics of the *Opus Majus*, together with several useful appendixes. The whole forms an admirable account of Bacon's life and work, a sane and balanced estimate of his significance in the evolution of thought, and an excellent introduction to his works Bacon has often been maligned for his beliefs in Astrology and Alchemy, but as Dr. Bridges (who is quite sceptical as to the claims of both) points out, not to have believed in them in Bacon's day would have been rather an evidence of mental weakness, than otherwise. What relevant facts were known, supported alchemical and astrological hypotheses. "Astrology," he writes, "conformed to the first law of Comte's *philosophia prima* as being the best hypothesis of which the ascertained phenomena admitted." And in his alchemical speculations, Bacon was much in advance of his contemporaries, and stated problems which are those of modern chemistry.

But as Dr. Bridges indicates, Bacon's greatness lies, not in the fact that he made any discoveries—for he did not, it appears, either in chemistry, optics or geography, though he suggested problems whose solutions afterwards led to valuable discoveries,—but in his grasp of the true scientific

* In future the weights will be given of all books reviewed in the JOURNAL. It is thought that this information will be useful to readers ordering such books through the post.

method, as a combination of the mathematical and the experimental, and in his broad-minded moral and religious eclecticism, and his consciousness of the unity of all knowledge, both theoretical and practical.

EDITOR.

*Roger Bacon.* By Sir John Edwin Sandys. 9¾ ins. by 6¼ ins., pp. 18. Weight 2¼ ozs. London: Published for the British Academy by the Oxford University Press, Amen Corner, E.C. Price 1s. net.

IN this monograph the author gives the known salient facts in Bacon's life, and then proceeds to trace the monk's relation to literature and to the several sciences. Although the numerous quotations from Bacon's works are of considerable interest, I think the sketch would have been of more value if an attempt had been made to give Bacon's methods of thought and rules of life. The human element in a study of this kind is not negligible. Also several pages are given to discussing Bacon's knowledge of Aristotle, whereas mathematics is dismissed in about eighteen lines; in view of the facts that Bacon had little sympathy for classic tradition, and that, on the other hand, he called mathematics "the gate and key to all the other sciences," this apportionment is surely peculiar. By the way—what evidence is there that Roger Bacon attained a high reputation as a *teacher* whilst in Paris?

B. RALPH ROWBOTTOM.

*Robert Boyle: a Biography.* By Flora Masson. 8¾ ins. by 5¼ ins., pp. x + 323 + 1 plate. Weight 22 ozs. London: Constable and Co., Ltd., 10, Orange St., W.C. Price 7s. 6d. net.

IT is evident that the talented author of this work has found the writing of it a task after her own heart. She is in love with every member of the Boyle family—and an interesting family they were, playing no mean part in the social and political life of the troublesome times of the Stuart kings—and she has a gentle care that we do not lose sight of any of them until each is safely dead and buried.

Looking at Kersseboom's fine portrait of Boyle, or Virtue's excellent engraving of it, we should hardly take the subject for a man of science. The flowing curls and lace at the throat speak of the courtly cavalier. But when we look into the rather austere, but altogether kindly and wise face we see the essential Puritan, and can well understand what Miss Masson tells us, that he became enamoured of the Stoics when only a mere boy—and no robust one. In these

present days of hustle and specialism, we should, perhaps, regard Boyle as somewhat of a dilettante and his style would certainly strike us as affected. But we need to reconstruct the philosophical atmosphere of the seventeenth century. The members of *The Invisible College,* which afterwards became The Royal Society, had just realised that knowledge could be gained, not merely or chiefly from musty tomes, but by experimenting on nature herself, and they delighted in nature and her myriad "curiosities" as a child delights in a new and interesting toy. The debt modern science owes to Robert Boyle, not only for his discovery of the fundamental relation between gaseous volume and pressure, but to the impetus and direction he gave to scientific study, is an almost immeasurable one. And it is *The Sceptical Chymist* that will keep the name of Boyle for ever green in man's memory.

And that is the reason why I am disappointed to find so little detail concerning Boyle's scientific work in Miss Masson's book. Of his speculations and theories, his courtly controversies, and his position in and significance for the history of science and philosophy, she has nothing detailed to tell us. But not to seem ungrateful, let me thank her for myself and other readers for what she has given us—a charming portrait of the Christian *virtuoso,* who held that advance in experimental knowledge could not be other than beneficial to the cause of true religion.

Boyle was born in the year in which Francis Bacon died, and to him the application of the Baconian method to chemistry and physics is largely due. Its result was the destruction of the weird fabric of alchemical hypothesis—an event for which even those of us who believe that this curious building was the house of verity may be profoundly glad. For if Alchemy enshrines a great truth, it must be reached by a new way—Boyle's way—the method of induction from experience and verification by experience. Whether such a truth is now being reached by this road, whether, indeed, we are in the forecourt of the new and better temple of Alchemy, are questions now being asked and sometimes answered in the affirmative.

EDITOR.

*Essays and Addresses.* By the late James Campbell Brown, D.Sc., LL.D. [Edited by Henry H. Brown]. $8\frac{3}{4}$ ins. by $5\frac{1}{2}$ ins., pp. x + 208. Weight $21\frac{1}{2}$ ozs. London: J. & A. Churchill, 7, Great Marlborough Street, W. Price 5s. net.

IN part 4 of the JOURNAL [vol. i, pp. 62 to 64], I had the pleasure of reviewing the late Prof. Brown's *History of*

*Chemistry,* which dealt so largely and so adequately with the alchemical period. The present work has been issued, under the same editorship, at the request of several of the late Professor's friends and admirers. I had hoped that some other papers of his dealing with Alchemy might have been discovered and incorporated in the volume. But though I am disappointed in this, there is certainly much in the book of interest to students of the history of chemistry.

Several of the essays deal with the educational, technical and professional aspects of chemistry in an interesting manner, though certain of Prof. Brown's educational views have been rendered obsolete by the advancement of psychology. Others deal with the historical side, and there are charming sketches of those pioneers of organic research—Liebig and Hofmann. An essay on "The Use and Abuse of Hypothesis" should interest readers of the JOURNAL; Prof. Brown's thesis, in which he maintains the necessity of inductive logic, making special reference to Mill, is illustrated by references to early as well as late chemical theory, that of "phlogiston" and Prout's hypothesis included.

There is a geniality about Prof. Brown's style of lecturing and a wit which are very pleasing. His editor has done well in preserving, as far as possible, this style in the present volume.

EDITOR.

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# THE JOURNAL OF THE ALCHEMICAL SOCIETY

EDITED BY H. STANLEY REDGROVE, B.Sc. (LOND.), F.C.S.

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## REPORT OF SIXTEENTH GENERAL MEETING.

THE sixteenth General Meeting of THE ALCHEMICAL SOCIETY was held at 8.15 p.m. on Friday, December 11th., at 1, Piccadilly Place, Piccadilly, W. The Chair was occupied by the Acting President, Mr. H. Stanley Redgrove, B.Sc.

The meeting was in the nature of a Symposium, to which the following contributions were made:—

Lt.-Col. JASPER GIBSON, V.D., LL.B. (Lond.): "An Interpretation of Alchemical Symbolism with Reference to the Writings of Edward Kelly."

Mr. ARTHUR EDWARD WAITE: "Some Notes on the Alchemist Alipili."

Mr. GASTON DE MENGEL: "The Purposes of Alchemical Research."

Mr. D. N. DUNLOP: "Principles and Symbols."

Mr. H. STANLEY REDGROVE, B.Sc.: "Some Characteristics of Mediæval Thought."

(The first, second and last of these essays are printed in the present number of the JOURNAL). During the reading of Mr. Redgrove's paper, the chair was occupied by M. W. de Kerlor. There was no formal discussion, the meeting being followed by a Conversazione.

## AN INTERPRETATION OF ALCHEMICAL SYMBOLISM WITH REFERENCE TO THE WRITINGS OF EDWARD KELLY.

By Lt.-Col. JASPER GIBSON, V.D., LL.B. (Lond.).

IN case anyone should wonder why I have chosen the works of such a notoriously disreputable alchemist as Edward Kelly for special study, I propose to premise my reasons, as follows,—firstly, he was not a mystic, but a practical craftsman; secondly, he had been compelled to study the best authorities then available in the hope of making good his claim to be an adept; and thirdly, he has been credited with having been successful in effecting a transmutation.

If our Society is to achieve any practical result it must, I think, after recovering the lost lore of the alchemists, in view thereof and of the results of the latest experiments performed in the laboratories of the leading scientists of to-day, devise some novel experiment which will carry us a step further in the quest of the infinitesimal, and our first task, towards this end, must be to classify our authors and after eliminating those who are obviously speculative, mystical or medical, strive to ascertain the meaning of the terminology used by actual practitioners, and translate it so as to be comprehensible at the present day.

I do not propose to discuss the question of alchemical mysticism, and the medical aspect of Alchemy or its consideration as a quest for a panacea, or elixir of life, is also deemed to be beyond the scope of this essay.

On delving into alchemical literature, the explorer finds himself confronted with an unfamiliar symbolism and a bizarre account of the workings of nature based upon a metaphysic long since lost sight of, which bewilder the student and irritate the scientist.

We are, however, bound to assume that the symbols used by the learned men of past ages were intended to express what, for them, were facts of experience, and moreover, that they were intelligible among those who were in possssion of the key. As in modern times it is the practice in mathematics and natural science to use an arbitrary or conventional system of symbolism, so in earlier times a sort of conventional symbolism of natural objects was in vogue; but this was used not so much for convenience and clearness of expression, as for the purpose of concealing information from those who were uninitiated, or rivals in other schools, and as a safeguard against persecution by the civil and ecclesiastical authorities.

Before proceeding further with the study of alchemical writings, it would be well for the student to lay these aside for a while and devote his attention to acquiring some knowledge of the systems of symbolism and metaphysics which were in vogue at the time, and also make some acquaintance with astrology and oriental philosophy. However, I do not here intend to enter into any abstruse enquiry as to the origin and constitution of primordial matter (*materia prima*), which I apprehend to be inaccessible in laboratory experiments; but I propose to deal only with the kind of matter that we can manipulate by means of physical forces and such apparatus as are now available in physical and chemical laboratories.

According to metaphysicians, this kind of matter (which for convenience of reference I term "gross") was consequential upon a "substantial form" actuating the *materia prima*, the two being inseparable constituents of corporeal beings, and it was also held that "substantial form" was an

*act*,—or rather, *the principle of activity*—whereby things actually exist as they are; and, in my mind, this calls up concepts of energy and motion.

Harking back some four thousand years or so, and endeavouring to make some guess at the notions which were entertained by the ancient philosophers from whose teachings the systems which have survived in India have developed, I fancy I have discovered some striking correspondences between them and the doctrines of the mediæval metaphysicians, as well as with the latest theories of the scientific men of to-day. But it will only be possible in this paper to allude in a most cursory fashion to the mass of erudition contained in the ancient writings of the East, so it must suffice to say that in my opinion the term "*prakriti*" connotes the same indefinable reality as "*materia primâ*", and from this entity, under the influence of the *gunas*, or *formæ*, gross matter evolves, at first in simplicity, and then in various degrees of complexity. Although, in the course of transmission, these ancient traditions have inevitably become corrupted, it also appears to me that the concept of *purusha* was originally very closely related to that of *forma*.

Now, it was taught that the *gunas* functioned on various planes, and, as regards the plane of matter with which at present we are dealing, I suggest that these might not inappropriately be likened to three modes of motion, or, rather energy, manifesting as the three states of matter—solid, liquid and gaseous.

According to recent views of the constitution of matter, an atom is composed of a nucleus exhibiting the characteristics of a positive electric charge, around which a number of exceedingly minute particles carrying negative charges are constantly moving with a high velocity in definite paths. And, further, it is now suggested that what metaphysicians would call the "accidents" which differentiate one element from another, become changed when changes are effected in the number or orbits of these electrons.

Now, although a host of problems present themselves as to the how and why of these processes, for practical purposes we are only concerned with results, and, for the present, need only direct our enquiries as to whether we can effect desired changes with forces at our disposal.

Having regard to the extreme minuteness of the entities with which we shall have to deal, it seems highly probable that the Ether, or some medium *ejusdem generis*, if such exists, will have to be utilised for transmitting the energy by means of which we essay to modify intra-atomic conditions, and before attempting any experiment we should mentally review the kinds of force likely to lend themselves to the furtherance of our object, and ascertain how many of these were known to and applied by the alchemists.

When a new nomenclature was introduced by Lavoisier and the French Encyclopædists, it was unfortunate that they appropriated the term "element," which already had a time-honoured signification, and it is still more deplorable that the scientists of that period, elated by their discoveries, were not content with merely disproving certain tentative theories held by some of their contemporaries, but overwhelmed with ridicule entire systems of philosophy which had, during the course of ages, been laboriously built up on a basis of fundamental truths. The modern chemist is, however, by no means so positive that all or any of the "elements" listed in the text-books are "primitive and simple bodies," so I shall offer no apology for using the term "element" in the same sense as the ancient philosohers to denote any one of the modes in which gross matter is observed to exist in the universe under natural conditions; and in support of the utility and veracity of the underlying ideas, I point to their re-appearance as evidenced by the currency of the terms "solid," "liquid," "gaseous," "igneous," and "etheric," at the present day.

While the Hellenic and mediæval philosophers dealt with four elements, the Oriental Sages recognised five, *viz.*, *Akasa* (Ether), *Vayu* (Air), *Tegas* (Fire), *Ap* (Water), and *Prithivi* (Earth), which they termed the *Mahabhutas*, and it had not escaped their observation that these were not merely passive entities, but that each was capable of exerting a specific activity, or as we should express it now-a-days, of absorbing emitting, or conducting one or more forms of energy.

If then we conclude that the concept of what we now term "energy" was present to the minds of the adepts, we are justified in anticipating to find it expressed in the system of symbolism they used for the guarded communication and perpetuation of their teachings.

The foregoing remarks may seem to have little relation to the works of Edward Kelly, but, before presenting the results of my attempt to decode the cipher in which these works are written, it is desirable to explain my system of reading his symbols. In view of the much more accurate knowledge of the processes at work on the earth under normal conditions at the stage of evolution which has now been reached, I have dismissed from consideration as speculative or analogical, statements in which the generation of metals and minerals are attributed to "seed", or what might be called *vital* processes; moreover, systems involving the invocation and intervention of superhuman or infrahuman beings will not be touched upon, as being within the provinces of magic or demonology rather than of Alchemy; and although I am of opinion that the action of cosmic forces is by no means a factor to be ignored when an attempt is made to perform the *magnum opus*, the examination of the rela-

tionship of astrology to Alchemy must be postponed and dealt with in a separate paper, which I hope I may be permitted to present to THE ALCHEMICAL SOCIETY on some future occasion.

While writing this paper I have endeavoured to keep this question before me:—How should we set about repeating the experiments described by Kelly, and how should we modify them having regard to the knowledge and apparatus now available?

In mediæval language, the process would be described as the corruption of the substance, severance of the *forma* from the *materia*, whereupon it forthwith becomes potential to some other *forma;* and in modern terminology, the disintegration of the atoms by the application of certain forms of energy, whereupon changes ensue in the number and disposition of the component electrons with regard to the nuclei. I do not know which of these descriptions would be the more intelligible to the man in the street. Both, however, clearly indicate that *activity* is involved, so we are led to enquire what are the active principles inhering in the elements or, in other words, what forms of energy are at our disposal. These we should now call electricity, heat, and radio-activity; and I propose to ask you to consider how far these respectively correspond to the mysterious Mercury, Sulphur and Salt of the alchemists.

The mysterious metallic liquid, quicksilver, so heavy, yet so volatile and nimble, might well be taken to symbolise the dense, yet illusive, Ether, at times manifesting as lightning; combustible Sulphur, the product of volcanic activity, is still closely related to Fire both in Scriptural and poetic imagery. And what tellurial product could be more appropriate as the emblem of the essential radio-active "Stone" than that immemorial and necessary ingredient of food—Salt!

Let us now consider the writings of Edward Kelly and the authors he quotes and see what results can be obtained by applying this suggested key to their symbolism.

If we can trust his biographers, Kelly obtained possession of a certain material, which, while it lasted, enabled him to perform transmutation with success; but his troubles began when his stock was exhausted, because he had not discovered how to acquire or prepare this reägent which he refers to as the "Stone."

It is worthy of note that in most other cases in which it is alleged that "the work" was successful, it is narrated that the "Stone" had been supplied by some unknown person, who subsequently disappeared. From this I am inclined to infer that the knowledge of where the "Stone" was to be found, or how it could be prepared, was possessed by certain schools of initiates who, by reason of being pledged to secrecy or from other motives, were neither able

nor willing to place their secret in the hands of the public, but who nevertheless from time to time afforded clues, which had the race been sufficiently developed, might have sufficed to enable the savants of the day to discover it for themselves from the sources of knowledge then at their disposal.

In a metrical treatise attributed to Kelly * (p. xliv.) it is said that "Magnesia" is obtainable from no costly substance, but from earth; and as "Magnesia" was the name of a mineral found in Thessaly, it might well have been used as a synonym for some kind of clay possessing radio-active properties, and it is, to say the least, a coincidence that such are to be found in the South-west of England and in Bohemia, both of which were at one time or another visited by Kelly.

The references to "man and wife," and the production of Eve out of the side of Adam, are, I suggest, respectively symbolic of positive and negative potential, and radio-active emanation.

At p. lvi, §IV, we find what might well be another reference to radio-active earth in "that which lieth waste. . . into which astrals ejaculate their operations."

At p. 15 §47, it is stated that "they are mistaken who strive to elicit the medicine for the tinging of metal from animals or vegetables, [for] the Stone is the metallic matter which changes the forms of imperfect metals into gold."

At pp. 22 and 23, we are warned that all teaching that changes Mercury (here meaning ordinary quicksilver) is false and vain, and no water (fluidic activity) can dissolve metals except that which abides in them [*i.e.*, electric fluid, according to an old terminology] and this "is mercury, but not *aqua fortis*, or anything else which those fools are pleased to call Mercurial Water."

At p. 24, Mercury is said to receive all homogeneous substances, but to reject all that is heterogeneous, and to recoil from what is strange; which is meaningless, I think if it does not refer to conductors and non-conductors of electricity.

At p. 27, we read that "The water of the Sages adheres to nothing except homogeneous substances. It does not wet your hands if you touch it, but scorches the skin and corrodes every substance with which it comes in contact," &c.

Menalates, who is then quoted, says, "Whoever joins quicksilver to the body of magnesia, and the woman to the man, extracts the hidden nature by which bodies are coloured.

* The references are to *The Alchemical Writings of Edward Kelly*, published by James Elliott & Co., in 1893 under the editorship of Mr. Arthur Edward Waite.

Know that quicksilver is a consuming fire which mortifies bodies by its contact." Here, surely, if this has any meaning at all, it refers to some process of electrolysis in which a radio-active earth is also used.

At p. 31, we read that "The second part of the Stone we call living Mercury, which, being alive and crude, is said to dissolve bodies, because it adheres to them in their innermost being. This is the Stone without which Nature does nothing. Mercury never dies except with its brother and sister". This, I think, is another hint as to the action of positive and negative charges.

At p. 33, Kelly sums up the subject, as follows,—"In short our whole Magistery consists in the union of the male and female, or active and passive, elements through the mediation of our metalic water [electricity] and a proper degree of heat". He then quotes Rhasis; "Change the bodies into water, and the water into earth: then all is done". Now, the word denoting *water* in many languages is frequently used as a symbol for some *proto-materia* or "astral" matter, so I understand the writer to mean that, if for an instant we sever the *forma* from the *materia*, the latter will automatically assume another *forma*.

Even where different symbols are used, as at p. 39, *et seq.*, similar ideas, are, I think, expressed; thus, the Sun and Gold stand for the positive, and the Moon and Silver for the negative potential. We read that "Gold says, 'no one kills me but my sister'", which I take to be a reference to a view of electricity, similar to the two-fluid theory. Kelly again sums up thus,—"In the work of Sages there are three solutions,—The first is that of the crude body. The second that of the earth of the Sages. The third is that which takes place during the augmentation of the substance. If you diligently consider all that I have said, this Magistery will become known to you." [p. 50].

In writing this I think Kelly was not far wrong, and that he had got hold of several sound notions which, however, he buried in a mass of rubbish; but even if he understood what he quoted and edited, it was theoretical knowledge only and he never succeeded in replenishing the supply of the radio-active material which in the first instance he obtained by chance.

In *The Humid Path* and *The Theatre of Terrestrial Astronomy*, Kelly makes an excursion into astrological Alchemy, a full examination of of which cannot be undertaken here; but similar ideas to those mentioned above are adumbrated in both the text and the wood-cuts, and in some of the latter the figures are linked together, which I take as symbolic of the passage of the electric current, the Sun and the Moon representing the positive and negative poles of some kind of arcane voltaic battery.

Although the detailed discussion of Kelly's astrological symbolism cannot here be given, a few words thereon and on the part played by cosmic forces in transmutation may be of service, if only to disabuse anyone of the notion that all references to astrology in alchemical writings are of merely symbolical interest. Doubtless, the crude system by which the luminaries and planets are used as symbols for various metals is well known to all, but has it occurred to anyone to ask whether this was merely conventional or had some deeper meaning?

Of the existence of cosmic forces, variations in the effects of which, both in nature and intensity, bear definite relations to the relative positions of the heavenly bodies from time to time, there is, I think, ample evidence, and these forces are being systematically examined. Like other forms of energy, cosmic forces are capable of exerting their influence on various planes of being, and it is when they act on constituents of atoms that they become of interest to the alchemist, for this is the point of contact between astrology and Alchemy, and indeed all branches of molecular physics, for it is concerned with cryptic properties of crystals and precious stones as well as with metals. The empiric teaching on the subject is conflicting; but I anticipate the discovery of some other basis.

It remains to be ascertained whether all the cosmic forces apparently disposed by the planets originate entirely in the Sun, and are merely differentiated by the planets, or emanate, to some extent, from radio-active bodies existing in the planets,—the presence of such bodies in different proportions accounting for differences in the observed effect of the planets' respective activities.

These theories are not mutually contradictory, nor are they opposed to the theory that the planets are bodies bearing specific charges of some form of energy akin to electricity, which disturb similar charges on the Sun and the Earth by a process analogous to induction, and owing to their revolutions, continually modify the solar field of force and therefore the conditions subsisting in the Aura and Magnetic Field of the Earth. If these cosmic forces affect intra-atomic conditions and are continually varying, it follows that they are factors to be taken into account when selecting a time favourable for conducting experiments in transmutation.

Whether mere gold-making is or is not practicable is of very little importance, but just as the labours of the alchemists have placed at our disposal undreamed riches in other ways, so our researches may result in the discovery of new processes and means of controlling energy; and it is in this direction that it appears to me that the energies of our Society should be directed. The mere acquisition of know-

ledge without consequent action is barren; therefore, I strongly advocate the initiation of some scheme for the execution of practical work in connection with this Society in the near future. In the twentieth century we should have learnt that the only sound method by which progress can be made is that in which theory and experiment keep pace one with the other; then let us make a strong and combined effort to give THE ALCHEMICAL SOCIETY a place not only in the history of Science, but in that of the world, and not merit the gibe of Kelly:—

"Elixir vitae and the precious Stone
You know as well as how to make an apple;
If 'te come to workinge then you let alone".

## SOME NOTES ON THE ALCHEMIST ALIPILI.

By ARTHUR EDWARD WAITE.

THOSE who would enter upon the study of alchemical texts from the mystical standpoint will do well to realise that their undertaking is scarcely less arduous than that of their brethren who would be active in the physical work. In both departments there is at least as much difficulty over the interpretation of symbolism. Furthermore, if we assume for a moment that each division of the subject veils an experiment which has been carried to its perfect term, I incline to think that this term must be easier of attainment on that side which is physical. If we knew the First Matter of the metallic *Magnum Opus*, the true vessels, the elements and their accurate proportions, I know of nothing to hinder us from proceeding along scientific lines to a successful issue. But in the spiritual department, where indeed the vessel is known and the matter is conceived darkly, so that the symbolism is perhaps rather one of procedure, if the key to all were in our hands, and if we had opened the door of the sanctuary how much more would remain to be done! Given the conditions, attainment of life in God, or Divine Union in consciousness, is of another scheme and order than any experiment in chemistry. We are not, however, in the happy position of being confronted by this alternative. As I have indicated on other occasions, the whole work remains to be done upon the texts; and I want on the present occasion, when we are here for the purpose of discussion, to take one alchemical text which bears some of the mystical marks, and indicate very briefly the kind of difficulty which it presents. If we could reach between us any light about it, we should have expended our time wisely.

The text which I have chosen for consideration was mentioned in my closing remarks at the last meeting; it is the *Centrum Naturæ Concentratum* of the alchemist Alipili

It is said that he was a Mauritanian, born of Asiatic parents, and that he embraced Christianity. Various works were attributed to him, written in Arabic, but there appears to be no trace of most. The tract under notice was translated into "low Dutch" and published in 1694. Our National Library contains only an English rendering of this, by E. Brice, writing as "a lover of the Hermetic Science." It belongs to the year 1697. The sub-title is "The Salt of Nature Regenerated, for the most part improperly called the Philosopher's Stone."

It is proclaimed at the inception of the work that the seeker after gold should be driven from the entrance of that Temple which leads to Hermetic Knowledge, and that he shall not find what he seeks. A later explanation tells us that "those who desire to serve God, their neighbour and themselves, have no leisure for vain chemical experiments." Seekers on this path should abandon such frivolities. The first work is a renewal of the heart in God, and the symbolism of this kind of conversion is put quite plainly when it is said: "Transmute your own souls, which have attracted the hardness, coldness and impurity of lead, the austerity and bitterness of copper, the inconstancy of *argent vive*, and by the Divine Spirit render them peaceful and better." This is part of the work which is termed a searching out and discovery of "the universal centre of all Nature." That centre is man, in whom earth, air and water are said to meet. "He is placed in the middle, between that which is superior and that which is inferior, and *Ruach Elohim* was inspired into him—or the Eternal Word and Life, together with an elementary or astral spirit. It is said further: (1) That he who has knowledge of the microcosm cannot long be ignorant of the macrocosm; (2), That "the universal orb of the earth contains not so great mysteries and excellences as a little man, formed by God to His image"; (3) That the world in which "the matter of the Sophy is highest and best to be found is man"; (4) That the term of our research is in our own body.

Now, all this stands forth clearly enough at its value as to the inward nature of the work. This notwithstanding, the Dutch translator speaks of eye-witnesses who stated that "with a small quantity of his Regenerated Salt, Alipili transmuted a great quantity of base metal into good silver and gold." And the alchemist testifies on his own part that "by the grace of God he has prepared a matter out of animals," which "offered unto me one way animals, another way vegetables, again another way often minerals and metals." This follows from his thesis that "animal, vegetable and mineral natures come from the same root." The wording is exceedingly obscure and reminds one of the ridiculous processes on egg-shells and all kinds of refuse-

matter which were attempted by groping amateurs and were derided by others who were better versed in the art. But the thesis appears to be that as, by the hypothesis, there is a common basis of the animal, vegetable and mineral kingdoms, so each individual member of each kingdom carries within itself something that is a characteristic essence of the whole. It is on such assumption that Alipili proceeds to develop a theory of material transmutation in comparatively simple terms.

"If thou can'st make that spirit familiar to thee which by its energy in the animal creatures maketh all things that enter into thee to live an animal life, what and how great an effect dost thou think that spirit will produce, if thou joinest it for the Agent to a metalline nature?" On the surface at least, there was never a more grotesque proposition than to take the animal power of assimilating and converting food and apply it to a metal for any purpose whatever. The meaning, however, is that "herb and grass" become man by their passage through him for his nourishment, and therefore, presumably, if we can endue gold with the power of assimilation we can feed it with inferior metals and they will be converted in turn. It is a grotesque argument from a forced analogy, and there is little need to say that any *modus operandi* is wanting, and it does not by any means follow from the writer's way of expression that he wished to be taken literally. He says, indeed, that the generation of men and animals is a better subject for consideration than that of gold.

If, however, in his references to "metalline nature" he is speaking in parables which call to be understood mystically, a question arises as to that "spirit" which maintains the life of animals in the manner indicated; and it happens that this is really the subject-matter of the text. What then is this spirit? The answer is that it is the Salt of Nature, which is drawn out of the inward centre. It appears to be concealed everywhere—in "the inferior parts of the world" and in those also which are superior. He who can extract it is MAGNUS APOLLO. That from which it is to be extracted is called "viscous water," of which it is a concentrated centre. On the side of its natural history there are no further particulars, but on the theosophical side it is said cryptically that it is joined to "the invisible speaking of the Divine Word" by the light of which it is moved and nourished. This Salt of Nature was created by Christ, or the Word, and was that which He called good. It is a spirit which "ascends up into the airy heaven and which again descends, which restrains the winds, and holds them in the fists of its power, which gathers together the waters into their places." It is added that this Spirit of Salt is the medium of all things and that nothing in Nature can subsist without it.

When it has been regenerated by an artist, there proceeds from this Salt "a wonderful and noble thing. . . which maketh every corrosive thing sweet, every weak and inferior thing sound and strong." And again: "This thing giveth both riches and wealth; and in this life it deserves the name of a most precious treasure. It is the type and image of the resurrection and immortality." Finally, says Alipili, "I have seen by this thing how the Word was made flesh," together with His days of ministry, passion, death, burial, resurrection and ascension.

The supposed Arabian alchemist is not the only one of his fraternity who has compared the stages of the Great Work to that of the world's creation or to the mystical pageant of the world's redemption in Christ. His incessant alternation between physical and material images is a curious feature of the discourse. If we suppose for a moment that he is really veiling a dream or a reality in physics, he is useless on that side, giving no key whatever. If he is veiling a spiritual mystery, we have heard on other authority of a Wisdom which proceeds from the mouth of the Most High and which disposes all things "strongly and sweetly." We know also that the birth, life, death, resurrection and ascension of Christ constitute a scientifically accurate delineation of the soul's ascent and attainment. But again, on this understanding, the secret is useless, because it gives us no process, no suggestion of a path to follow. By the hypothesis of sacramental Christianity, under veils of bread and wine, the Eucharist communicates Christ and those who receive worthily are converted by Divine Nourishment. If the *Centrum Naturæ Concentratum* is an allegory of this Arch-Natural Graal, then the term of our research is indeed in our own body, but we find no aid to that term in the tract of Alipili.

## SOME CHARACTERISTICS OF MEDIÆVAL THOUGHT.

By H. Stanley Redgrove, B.Sc. (Lond.), F.C.S.

In the earliest days of his upward evolution, man was satisfied with a very crude explanation of natural phenomena—that to which the name "animism" has been given. In this stage of mental development all the various forces of nature are personified: the rushing torrent, the devastating fire, the wind rustling the forest leaves—in the mind of the animistic savage, all these are personalities, spirits, like himself, but animated by motives more or less antagonistic to him.

I suppose that no possible exception could be taken to the statement that modern science renders animism im-

possible. But let us enquire in exactly what sense this is true. It is not true that science robs natural phenomena of their spiritual significance. The mistake is often made of supposing that science explains or endeavours to explain phenomena. But that is the business of philosophy. The task science attempts is the simpler one of the correlation of natural phenomena, and, in this effort, leaves the ultimate problems of metaphysics untouched. A universe, however, whose phenomena are not only capable of some degree of correlation, but present the extraordinary degree of harmony and unity which science makes manifest in nature, cannot be, as in animism, the product of a vast number of incoordinated and antagonistic wills, but must either be the product of one Will, or not the product of will at all.

The latter alternative means that the Cosmos is inexplicable, which not only man's growing experience, but the fact that man and the universe form essentially a unity, forbid us to believe. The term "anthropomorphic" is too easily applied to philosophical systems, as if it constituted a criticism of their validity. For if it be true, as all must admit, that the unknown can only be explained in terms of the known, then the universe must either be explained in terms of man—*i.e.*, in terms of will or desire,—or remain incomprehensible. That is to say, a philosophy must either be anthropomorphic, or no philosophy at all.

Thus, a metaphysical scrutiny of the results of modern science leads us to a belief in God. But man felt the need of unity, and crude animism, though a step in the right direction, failed to satisfy his thought, long before the days of modern science. The spirits of animism, however, were not discarded, but were modified, coördinated, and worked into a system as servants of The Most High. Polytheism may mark a stage in this process; or, perhaps, it is the result of mental degeneracy.

What I may term systematised as distinguished from crude animism persisted throughout the Middle Ages. The work of systematization had already been accomplished, to a large extent, by the Neoplatonists and whoever were responsible for the Kabala. It is true that these main sources of magical or animistic philosophy remained hidden during the greater part of the Middle Ages, until almost at their close the youthful and enthusiastic Cornelius Agrippa stated his thirst thereat and produced his own attempt at the systematization of magical belief in the famous *Three Books of Occult Philosophy*. But the waters of magical philosophy reached the mediæval mind through various devious channels, traditional on the one hand and literary on the other. And of the latter, the works of pseudo-Dionysius, whose immense influence upon mediæval thought has sometimes been neglected, must certainly be noted.

The most obvious example of a mediæval animistic belief is that in "elementals"—the spirits which personify the primordial forces of nature, and are symbolised by the four elements, immanent in which they were supposed to exist, and through which they were held to manifest their powers. And astrology, it must be remembered, is essentially a systematized animism. The stars, to the ancients, were not material bodies like the earth, but spiritual beings. Plato speaks of them as "gods." Mediæval thought did not regard them in quite this way. But for those who believed in astrology, and few, I think, did not, the stars were still symbols of spiritual forces operative on man. Evidences of the existence of astrological belief in those days are abundant. As one instance of the unlikely places where one may find signs of it, I may mention that in examining an arch of the Lombardic church at Portchester, Hants, I noticed a Sagittarius and two Fishes worked into the design: proof, I think,—though it is true that there is another hypothesis,—that the architect desired to obtain the beneficent influences of the planet Jupier,—whose "houses" Sagittarius and Pisces are,—for his edifice.

It has been said that the theological and philosophical atmosphere of the Middle Ages was "scholastic", not mystical. No doubt "mysticism", as a mode of life aiming at the realization of the presence of God, is as distinct from scholasticism, as empiricism is from rationalism, or "tough-minded" philosophy (to use James's happy phrase) is from "tender-minded." But no philosophy can be absolutely and purely deductive. It must start from certain empirically determined facts. A man might be an extreme empiricist in religion (*i.e.*, a mystic), and yet might attempt to deduce all other forms of knowledge from the results of his religious experiences, never caring to gather experience in any other realm. Hence the breach between mysticism and scholasticism is not really so wide as may appear at first sight. Indeed, scholasticism officially recognised three branches of theology, of which the *mystical* was one. I suggest that mysticism and scholasticism both had a profound influence on the mediæval mind, sometimes acting as opposing forces, sometimes operating harmoniously with one another. As Prof. Windelband puts it, "We no longer onesidedly characterise the philosophy of the middle ages as scholastic, but rather place mysticism beside it as of equal rank, and even as being the more fruitful and promising movement." ["Present-Day Mysticism," *The Quest*, vol. iv. (1913), p. 205.]

Alchemy, with its four Aristotelian or scholastic elements, and its three mystical principles—sulphur, mercury, salt,—must be cited as the outstanding product of the

combined influence of mysticism and scholasticism—of mysticism which postulated the unity of the Cosmos, and hence, taught that everything natural is the expressive image and type of some supernatural reality; of scholasticism which taught men to rely upon deduction and to restrict experimentation to the smallest possible limits.

The mind naturally proceeds from the known, or from what is supposed to be known, to the unknown. Indeed, as I have already indicated, it must so proceed if truth is to be gained. Now what did the men of the Middle Ages regard as falling into the category of the known? Why, surely, the truths of revealed religion, whether accepted upon authority, or upon the evidence of their own experience. The realm of spiritual and moral reality, there, they felt, they were on firm ground. Nature was a realm unknown; but they had analogy to guide, or rather, misguide them. Nevertheless if, as we know, it misguided, this was not, I think, because the mystical doctrine of the correspondence between the spiritual and the natural is unsound, but because these ancient seekers into Nature's secrets knew so little, and so frequently misapplied what they did know. So alchemical philosophy arose and became systematized, with its wonderful endeavour to perfect the base metals by the Philosopher's Stone—the concentrated Essence of Nature—as man's soul is perfected through the life-giving power of Jesus Christ.

I want in conclusion to say a few words concerning phallicism in connection with my topic. For some "tender-minded"* and, to my thought, obscure reason, the subject is tabooed. Even the British Museum does not include works on phallicism in its catalogue and special permission has to be obtained to consult them. Yet the subject is of vast importance as concerns the origin and development of religion and philosophy, and the extent of phallic worship may be gathered from the widespread occurrence of obelisks and similar objects amongst ancient relics. Our own maypole dances may be instanced as one survival of the ancient worship of the male generative principle.

What could be more easy to understand than that, when man first questioned as to the creation of the earth, he should suppose it to have been generated by some process analogous to that which he saw held in the case of man? How else would he account for its origin, if knowledge must proceed from the known to the unknown? No one questions at all that the worship of the human generative organs as symbols of the dual generative principle of nature degenerated into orgies of the most frightful character, but

* I here use the term with the extended meaning Mr. H. G. Wells has given to it. See *The New Machiævelli.*

the view of nature which thus degenerated is not, I think, an altogether unsound one, and very interesting remnants of it are to be found in mediæval philosophy.

These remnants are very marked in Alchemy. The metals, as I have suggested, are there regarded as types of man, hence they are produced from seed, through the combination of male and female principles—mercury and sulphur, which on the spiritual plane are intelligence and love. The same is true of that Stone, which is perfect Man. As Bernard Trévisan wrote in the fifteenth century, "This Stone then is compounded of a Body and Spirit, or of a volatile and fixed Substance, and that is therefore done, because nothing in the world can be generated and brought to light without these two Substances, to wit, a Male and Female: From whence it appeareth, that although these two Substances are not of one and the same species, yet one Stone doth thence arise, and although they appear and are said to be two Substances, yet in truth it is but one, to wit, *argent-vive.*" [BERNARD, Earl of TREVISAN: *A Treatise of the Philosopher's Stone*, 1683, (see *Collectanea Chymica: A Collection of Ten Several Treatises in Chemistry*, 1684, p. 91)]. No doubt this sounds fantastic; but with all their seeming intellectual follies these old thinkers were no fools. The fact of sex is the most fundamental fact of the universe, and is a spiritual and physical as well as a physiological fact. That we now recognise it as a fact in physics and chemistry is proved, I suggest, by the whole of electro-chemical theory, which is based upon the doctrine of electrical duality.

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## NOTICE.

THE COUNCIL of the Society have decided to offer facilities for the formation of Study-groups, consisting of members interested in particular branches of research, for the mutual interchange of information and assistance, to be effected by correspondence and informal meetings of the members of each group. Members who are interested in any particular branch or branches of research within the purview of the Society, and who wish to join one or more Study-groups, are invited to communicate with the Honorary Secretary, stating their particular interests, so that they may be put in communication with other members of like interests and groups may thus be formed.

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# THE JOURNAL OF THE ALCHEMICAL SOCIETY

EDITED BY H. STANLEY REDGROVE, B.Sc. (LOND.), F.C.S.

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## REPORT OF SEVENTEENTH GENERAL MEETING.

THE seventeenth General Meeting of THE ALCHEMICAL SOCIETY was held at 8.15 p.m., on Friday, January 8th, at 1, Piccadilly Place, Piccadilly, W. The chair was occupied by the Acting-President, Mr. H. Stanley Redgrove, B.Sc., F.C.S.

A paper was read by Mr. Gaston De Mengel on "The Philosophical Channels of Alchemical Tradition," which was followed by a discussion. (The paper and an abstract of the discussion are printed in the present number of the JOURNAL).

A vote of thanks was passed to Mr. De Mengel for his paper.

## THE PHILOSOPHICAL CHANNELS OF ALCHEMICAL TRADITION.

By GASTON DE MENGEL.

TO LIFT more than a corner of the veil of mystery which enswathes alchemical doctrine, to understand much of its nature, to discern its purport at all clearly, to be enabled fairly to estimate its value, it does not suffice to exercise the imagination upon its possible meaning, with no more than some vague idea of the swirl of mediæval thought in which Alchemy is bathed—we must know something of the channels through which flowed the waters of thought creating that eddy; we must catch a glimpse of their various sources. For only thus can we separate, as by a kind of fractional distillation, the discrete essences which commingle to wash the roots of the mysterious tree.

To trace those channels by a process of pure induction is a task beyond my meagre historical attainments. I will, therefore, take another course, and, somewhat in the spirit of the alchemists themselves, sketch deductively a hypothesis which I think will, in its main lines, be verified by comparison with historical data.

It can be proved, by a chain of metaphysical arguments which would be out of place here—even did space allow of them—that the spiritual soul of man is free. Man's spiritual activities can exercise themselves, when sufficiently actualized, on any object they choose, more or less independently of extrinsic motives, thus escaping the determinism of

the material world, as expressed in the law of cause and effect. In other words, man enjoys internal freedom of choice, in the measure of the actualization of his spiritual potentialities. Yet man, as Socrates pointed out, cannot but choose the good, once the good is presented to him; for evil is no positive entity or attribute, but merely a limitation, distortion or displacement of good. But, being gifted with spiritual freedom in the likeness of his Creator, man must have scope for its exercise, and can accordingly choose between particular kinds and degrees of good—he can select the greater good by becoming a willing and obedient instrument of God's Purpose; or he can select the lesser good by centering his activities on the exaltation of self, in more or less disregard of his relations to the Whole of which he can never be aught but a part. The choice can be made in the full light of truth—it was through no lack of wisdom that Lucifer fell. Often, indeed, the greater the wisdom, the greater the danger of the fall. The mystic who seeks God-union may come perilously near to the brink of the abyss, should he neglect that outward expansion which is sometimes called the Macrocosmic Consciousness. He who seeks too ardently the salvation of his own soul may lose it. This is a peril from which Christianity itself has not always been free, especially in its later, more corrupt and puritanical forms; whilst some Oriental religions and their Western derivatives, seeking to avoid it, have fallen into an unwarrantable pantheism.

Now, according to the choice which the free spirit of man has made, two disciplines and two traditions have arisen: the "White" and the "Black." These adherents have—if we believe in disembodied intelligence—been helped respectively by the Powers of Good and the Powers of Evil. But, as man, not being pure spirit, seldom lives to become wholly good or wholly bad, the White and Black traditions are probably nowhere to be found in perfect purity. Everywhere the two are commingled; though in some races, the outcome of a kind of spiritual selection, the White tradition predominates; and in others, become centres of spiritual rebellion and a leaven of corruption, the Black tradition prevails. There is a legend of one race in particular, giants born of the sons of God and the daughters of men, according to the sixth chapter of *Genesis,* which race became evil beyond others, so that "it repented the Lord that He had made man on the earth." This race of men, descendants of Enoch, son of Cain, inherited the occult lore which, in the apocryphal *Book of Enoch,* the sinful angels are said to have taught the daughters of men. These things are referred to by Clement of Alexandria and Tertullian, by whom (especially the latter) all occult lore is on that account utterly condemned. Indeed, the path of evil which clung to it through the ages

had caused it to be suspect in the eyes of the Roman law. Julius Paulus [*Lib.* iv., tit. 23: "*ad legem Corneliam de sicariis et Veneficiis*"] relates that the practice and even knowledge of magic were forbidden in Rome, as well as the possession of works on magic, which, when found, were to be burnt. Tacitus [*Annals,* ii, 32] mentions an edict, enacted under Tiberius, condemning all "mathematicians," which term included astrologers and magicians. Now magic, astrology and Alchemy were closely related, as witness Tertullian and the Leyden Papyri, and the first alchemists certainly did seem to promote the success of their art by magical formulæ and the evocation of spirits. Accordingly Diocletian consigned to the flames all alchemical works found in Egypt. If we add that the condemnation of Tertullian held its sway well into the Middle Ages, we have one potent reason for the secrecy in which the alchemists wrapped themselves and their works. Another was the intrinsic sacredness of the art in the eyes of its adepts; for in Egypt, its probable birth-place, the knowledge of the sacred art, relates Zosimus, was reserved to the sons of kings. But in all except the earliest alchemical writings all traces of magic have vanished, and they breathe a spirit which is the very antithesis of that of the black art. Could such a change have come about had Alchemy originated with the sons of Cain? Let us, in answer, continue the chain of consequences dependent on our starting hypothesis:

The essential feature of everything related to the Black tradition is the quest of power, the secret for and practice of every means which may serve to exalt the adept above his fellows, make him the equal of angels and a pretender to the throne of God Himself. Seldom, as we have seen, does this gloomy ambition reach its nethermost depths; even in what may be considered the remnants of the primeval Black tradition—the voodoo practices of Africa and Australasia, the rites of the Shamans of Tartary or the Bon-pa Bonzes of Thibet, the spells of the medicine-men of the Red Indians—the magician remains content, at the most, with the worship of evil spirits. Yet this essential feature, this quest of a power more or less secret, may be easily traced in the great religions, bearing witness to the commingling of the White and Black traditions—in Elam and Chaldea it was mitigated by the poetry of their cosmogony; in Egypt it was well subordinated to a higher esoteric teaching, which, among other things, seems to have had many points in common with the Kabalah; in China it grew into Taoism; in India it gave rise, by its fusion with the Vaidika religion, to the system of the Tantrika. In all such cases, the tendency would evidently be to abjure the commerce with evil spirits, and retain such arts as were not evil in themselves, turning to good ends the power that they gave. Thus

the commingling of the Black tradition with the White served in many ways a most useful purpose, by enlarging the outlook and adding to the means of action which, by too strict an adhesion to the White discipline, might have remained too narrow and limited. If it be asked how such a danger could accrue from a truly enlightened tradition, answer may be made that, in his first apprehension of truth. man uses, almost exclusively, his intuition; but, inasmuch as he is not a pure spirit, but is limited by the corporeal part of his substance, his intuition cannot at once grasp the whole truth, and can see but a small part of it at a time To overcome this difficulty, there must either be brought about a contact between minds seeing divers aspects of truth, or there must be initiated that process of linking together, as it were, successive glimpses of intuition, which constitutes the discursive reason. For reason is not in essence distinct from intuition—it is only a process rendered necessary by the limitation, in the semi-corporeal substance that is man, of the intuitive act. A pure spirit would see the truth as a whole—it can, by one spiritual glance, see at once all round the sphere of truth; but man, to use the same analogy, can only see a small part of the sphere at a time, and must travel over it by systematic stages—the act of vision is the same, it is only the limitation of its range which makes the discursive process necessary.

It was the Greek mind, with its love of independence, that first began to make systematic and deliberate use of the discursive process. Yet it did not start with a *tabula rasa*, but began by a blending of the new poetic independence with the theogonies and cosmogonies of the ancient Mysteries, themselves a blend of the White and Black traditions, with the White strongly predominant. This introduction of independent, individual thought, still at first expressed in poetry, the natural language of intuition, was bound sooner or later to come about, given proper conditions, such as those to be found in the Ionian isles. It first appears in Hesiod's *Theogony*, in the ninth century, B.C. From that time onwards, Greek thought passed gradually from the purely intuitive to the reflective, and its vehicle changed from poetry to prose.

Intuitively, the human spirit, being a reflection of the Divine Reason, must apprehend, under normal conditions, the order, proportion and harmony of the Universe. When reflection brings it face to face, as it were, with apparent contradictions, it seeks to reconcile them. This effort to reconcile, by reflection, the apparently contradictory intuitions of partial truths with the vague general intuition of universal harmony, seems to me the key to the proper understanding of Greek philosophical thought. I will not trouble you with a review of the various phases through which this

thought passed, but will be content with a brief exposition of a few of the doctrines which went to make that medley of many waters in which, in the third century, A.D., the tree of Alchemy took root in Alexandria.

One of the first problems that, in the nature of things, must first present itself to the mind, is precisely that which, by its close connection with alchemical cosmogony, immediately concerns us, *viz.*: How to reconcile the evident diversity and multiplicity of the Universe with the aspiration towards Unity revealed to us in the general intuition of universal harmony?

Though there can be but one answer when the discursive process is applied in all its rigour, a great diversity of answers suggests itself to the philosophical mind before reflection attains its maturity. With Parmenides and Zeno, we can attempt a denial of becoming and multiplicity, by treating them as mere appearances. With Heraclitus, becoming can be looked upon, on the contrary, as the essence of things, and must therefore contain within itself all opposites, which combine in the universal harmony ruling all things. Fire, which was to assume such importance with the alchemists, is with Heraclitus the universal principle of being, waxing and waning in ordered rhythm, constituting in its purity the soul, in its dimness and coarsening, the body. With the Stoics also, the soul is assimilated to fire; it is the fiery, thinking breath which penetrates matter, informs it and contains it—it is the spermatic logos of the Universe, and the human soul itself is but a part of this universal soul; all things are produced from it by relaxation of its tension; all things return to it by an augmentation of this tension—truly here we have the "*solve et coagula*" of the alchemist. The Stoics, we see, answered the problem by a materialistic pantheism. Before them, Plato had answered it by an idealistic pantheism, inasmuch as he seems to consider matter as a sort of limitation of Ideas in the sensible world, the quasi-reality of which he explains by postulating a participation of things in Ideas, which themselves owe their being to, and have their essence in, the ultimate Idea of the Good, which is the living God, the Absolute Being which has life, motion and thought. By thus denying the reality of a matter, which can be reached neither by sensation nor by thought, since it is neither sensible, nor an Idea, Plato seems to be seeking to avoid the contradiction of what is practically non-being issuing from Being, of what has none of the attributes of spirit proceeding from the spiritual One. This contradiction the Neo-platonist Plotinus boldly ignores, and, uniting the cosmogonic processes of the Stoics to the spirituality of Plato, invents the Alexandrian Trinity, with its three hypostases proceeding one from the other; the first, the Absolute

One beyond all thought, radiates of its Being, without loss, giving rise to Intelligence, the second hypostasis, which itself gives rise to the Soul of the World, the form of all things, and which contains them all. But since, says Plotinus, there is form, there must be something which receives the form, otherwise matter. And in this postulation of matter and form, Plotinus, as the Stoics before him, was influenced by Aristotle. Recognising the reality of both being and becoming, distinguishing the essential difference between the material and the non-material, Aristotle regards all sensible things as the combination of matter and form, two correlated entities of which the first is the substrate of all things, in itself purely passive, and the second the determining, actuating principle. I will not here refer at greater length to the Aristotelian doctrine of matter and form, further than to say that the penetrating intellect of "The Philosopher," as the Middle Ages called him, thereby gave to the world a clue which not only guided all philosophy after him until quite modern times, but even to this day can lead us to conceptions entirely in harmony with the most modern scientific thought. Refer to my paper in Vol. 1, Part 4 of THE JOURNAL OF THE ALCHEMICAL SOCIETY, replace the terms "Aether" and "stress," on page 57 and after, by the terms "*prima materia*" and "*forma*," respectively, and you have Aristotle's thought guiding us in the formulation of a cosmogony comprehending the discoveries of modern science. But so far as the alchemists were concerned, the influence of Aristotle, great though it was throughout the Middle Ages, seems to have been more indirect than direct; the rays of his wisdom reached them after refraction through the prisms of Stoicism and Neo-platonism successively. In fact, the genius of the alchemists seems to have been more intuitive than dialectic—in the realm of speculative philosophy, they feel more at home with Plato and the Neoplatonists; and their ideas, for instance, as to the prime matter from which all things are fashioned, are derived, through Plotinus, more from the *Timaeus* of Plato than from the *Metaphysics* of Aristotle. For in the *Timaeus* Plato attempted a more concrete definition of matter than elsewhere in his works; he speaks of it as an indeterminate something which is the source of becoming, difficult of explanation and dimly seen, a soft substance, the natural recipient of all impressions, the matrix or substrate of all physical change, and identified with space. He postulates the four elements of Empedocles—fire, air, water, earth, as composing the body of the Universe. Those elements are not ultimate, but, with the exception of earth, are convertible into each other, differing only in so far as their molecules correspond to four regular geometrical solids, the tetrahedron, octahedron, icosahedron, and cube respec-

tively. To animate the body of the Universe, Plato postulates a world-soul, fashioned by the Demiurgos according to mathematical and musical relations. For Plato was, as an intuitionist, influenced by Pythagoras, a link with the ancient Orphic Mysteries which made it all the more easy, for the seekers who regarded Alexandria as their Mecca, to mingle the independent spirit of speculative philosophy with the authoritatively inspired traditions of old.

The Pythagorean was one of the principal channels which conveyed to Alexandria the ancient traditions, in which the "white" was strongly predominant. It mingled freely with Platonism in the third century A.D., and its influence extended to the fifteenth century and even up to the present day; for Paracelsus was primarily a Neo-pythagorean, and some of the French secret schools of esotericism in existence in our own time are largely inspired by Pythagorean doctrines. Two other important channels of the (mainly White) tradition were Judaism and Christianity Some notable elements of the White tradition flowed also through Egyptian and Gnostic channels. The Greek alchemists make mention of Isis, Osiris, Typhon, Thoth, the temples of Memphis, Alexandria and Serapis, and the library of Ptolemy; they assimilate the tomb of Osiris to Mercury. The philosophical egg is a symbol common to Egypt and Chaldea, the religious systems of which latter country greatly influenced the Gnostics. But in Egyptian and Gnostic beliefs—particularly the latter—the Black tradition played a large part, and through it principally was the attention of the alchemists drawn to the phenomena of chemistry and especially the manipulation of metals. Of the Egyptians as heirs of the Black tradition we have already spoken. As to the Gnosis, it was a mixture of Orientalism (principally Babylonian), Hellenism, Judaism and Christianity, which flourished between the second and fourth centuries, A.D. The Gnosis, among other things, sought to probe the mysteries of Nature, and represented by plurivocal signs those of her properties which they discovered. It was strongly tinged with Chaldean lore, and several of its sects made great use of magic.

Such a fusion of elements as we have indicated was bound sooner or later to come to pass; civilisation, like all the rest of the Universe and its phenomena, obeying the law of progress from the homogeneous to the heterogeneous. As a result, the birth of Alchemy might well have been predicted, for what wonder that, struck with the wonderful transformation which the chemistry handed down with the Black tradition had brought to their notice, the partakers of the many waters of speculative philosophy should seek in these phenomena the confirmation or correction of their cosmogonical views?

The alchemists, as we have already surmised, were not particularly strong on the dialectic side; thus their philosophical doctrines are apt to be misleading, and the philosopher will be better employed in the critical study of the great minds of Greece from which those doctrines were derived. than in the reading of alchemical works. Likewise the scientist is justified in viewing with suspicion the alchemical operations, for the alchemists cannot claim to any mastery of the experimental method. Where the real value of Alchemy lies, therefore, is in what revelation it may yield us of the esoteric doctrines, imbued with all the fervour of mysticism, for which it ultimately came to serve as one of the repositories.

## ABSTRACT OF DISCUSSION.

MR. ABDUL-ALI said that he thought the paper had covered a very wide field, and he hardly felt in a position to criticize it. He was not sure that he had even grasped thoroughly the lecturer's thesis, but it seemed good and agreeable to him so far as he had understood it. The first point of interest which occurred to him was in connection with *The Book of Enoch,* and the legend therein related of how certain angels revealed to women the secret of working in metals; and he knew that in one of its legendary aspects the origin of Alchemy was held to be involved in this alleged event. He had not quite gathered, however, the lecturer's opinion on this matter—that is, how he interpreted the story and how it connected with the general thesis before them—and he would be pleased if a little further explanation could be given on this point.

With regard to the general transmission of Alchemy, he supposed that they could not go further back in the search for historical origins than the period of Alexandria. There was not, so far as he was aware, any trace of a theory of transmutation in Egypt prior to the epoch of Greek influence. Of course, there was considerable knowledge of metals and skill in working them, and he did not question that, in the minds of some of these workers, speculations would have arisen concerning the meaning of the familiar facts and the possibilities which might open from a consistent theory. But such a theory (except, of course, the ancient astrological one, which from their present standpoint was negligible) did not seem to have existed. The possibility always remained of a system of doctrine not preserved and never published in the ordinary sense, and of a purely esoteric channel of transmission, but it was undesirable from the standpoint of historical research to make any gratuitous assumption of that kind.

It was doubtless in the period when Alexandria flourished, he continued, that the so-called Hermetic works were

written—that is, the works ascribed by tradition to Hermes Trismegistos. At least that was the general opinion of modern scholars—Dr. Louis Ménard, for example. [See his work entitled *Hermès Trismégiste: Traduction complète, précédé d'une étude sur l'origine des livres Hermetiques*, 1867]. It was at Alexandria in the early Christian centuries that the peculiar fusion of Greek, Jewish and Egyptian thought occurred, which produced that remarkable body of speculation of which Neo-platonism was perhaps the most important limb. Into Alexandria, and flowing from it as a source, there would, the speaker conjectured, have been various streams of thought, but it was not quite clear how any of these came to be drawn towards the problems of chemistry. There was Philo the Jew, for instance, speculating upon the doctrines of Judaism and presenting them in a form acceptable to the philosophic mind of Greece; and later there was Zosimus of Panopolis seeking, perhaps, to bring the dreams of the Neo-platonists into touch with some scheme of nature, or *vice-versâ*.

This was the general philosophic atmosphere, and its chief element was mysticism. Possibly about this time, and certainly during the succeeding centuries, there would have been men skilled in the working of metals—among the Arabs, he suggested, and at Constantinople—and among these there would no doubt have been some of a more reflective or speculative type, who would have given some attention to the philosophical aspect of their work. Such minds, coming into contact with Greek thought, would probably have tried to assimilate it to their metallurgic knowledge, and thus would have arisen something rather more definite in the nature of a chemical philosophy. Later still, when the Arabs carried their knowledge into Spain, a channel of transmission was opened into western and northern Europe.

It was probably in these later years, continued Mr. Abdul-Ali, though he was not prepared to say exactly when, that the theories took on a somewhat more precise form by becoming assimilated to Christian doctrine. The distinctive Christian element he took to be the doctrine of the Philosopher's Stone as the "medicine of metals," the redeeming agent in the metallic world corresponding to Christ, the Redeemer of Man. Gold, considered as the perfect metal, might typify the regenerate man: it could withstand the fire, and was beautiful and incorruptible. But of itself it had no transmuting or redeeming efficacy: this belonged only to the Philosopher's Stone, which contained all the qualities of the perfection of gold *plus* the power of imparting such perfection to that which of itself was base.

Somewhat along these lines, the speaker thought, might be traced the development of alchemical theory.

Returning to the paper itself, he said there were one or two questions he would like to ask the lecturer. He supposed it was true to say that Aristotle influenced the alchemists more than Plato; but he wondered whether in some cases, even where Aristotle's works (in their Latin form, that was) were quoted, the general trend of thought was not rather in the direction of Platonism and its later developments. He remembered particularly the case of Thomas Vaughan, who, although under the influence of Aristotle in some of his books (*Aula Lucis*, for example), refers to him in another place as a mule, and contrasts him a little odiously with Plato. It was not quite easy to understand the attitude.

He would like also, he said, to ask the lecturer what precisely he meant by an ancient tradition of which white and black magic were two manifestations. Did he refer to any sort of traditional doctrine in the ordinary sense, or was he hinting at certain fundamentals in the constitution of the mind which tended always to predetermine or at least to direct its highest speculation?

With regard to the last paragraph of the paper, Mr. Abdul-Ali said he was in agreement with what was suggested as to the purposes with which the study of Alchemy might be profitably undertaken; and he would add one other, which was to endeavour to answer the question as to how and why these views came to be held. What, he asked, were the internal and external causes which produced these amazing theories—internal in respect to the nature of thought, and external in respect to the philosophic outlook of their period and of the period which preceded it?

Miss FRENCH enquired whether in the lecturer's opinion the Gnostics practised black magic.

THE CHAIRMAN said that he had listened to Mr. De Mengel's paper with great interest. It raised, he thought, many topics of debate, an adequate consideration of which was far beyond the time at the meeting's disposal.

Mr. De Mengel had spoken of a "black" tradition, and that, the speaker said, he supposed might be taken as the spirit of lust for power. It had, unfortunately, been rampant in the hearts of some of the later pseudo-alchemists of the "Edward Kelly" type, but he did not think that it was the motive force that actuated the earlier alchemists, whose ambition, rather, was to gain knowledge. And, judging from their writings, many of the later alchemists were quite free from it and acted from the highest motives. The words of "Eirenæus Philalethes," doubtless well-known to the members of the Society, might here be quoted—"Would to God all men might become adepts in our Art—for then Gold, the great idol of mankind, would lose its value, and we should prize it only for its scientific teaching."

He agreed with the lecturer that the genius of Alchemy was intuitive, and that its exponents, dialectic was often weak. Intuition had, he thought, been well defined by C. C. Massey, thus:—"Thought, in whatever province it is exercised, seeks to recover for consciousness the synthesis of its related elements; 'intuition' gives this systhesis immediately, and is a direct perception of truth in an organic and concrete unity". [See *Thoughts of a Modern Mystic: A Selection from the Writings of the late C. C. Massey.* Edited by W. F. Barrett, F.R.S. (1909), p. 136]. What intuition gained over reason in point of rapidity, it lost in point of sureness. Moreover, it brought with it no criterion of the validity of its products. One could not distinguish between a false and a true intuition save by the aid of reason, and whatever warrant an intuition might carry for its recipient, it had to be restated in terms of reason in order to be made available for other minds. The alchemists might have—he thought, actually had—discovered intuitively certain facts concerning the Universe of the utmost importance; but these had to be rediscovered anew by the slower process of modern Science, based on inductive reasoning, to become, as it were, available, by separation from the dross in which they were embedded. At the same time, it must be remembered, he added, that inductive reasoning involved in itself an element of intuition—intuition, as it were, conjured up by the magic of reason—where the mind took a leap in the dark, and, from the ground of particular facts, seized upon a general law or truth of relation.

The error of the alchemists, he thought, and it was the error of their time from which they could hardly have been expected to have escaped, was the placing of too great reliance upon deduction. The major premise of their syllogisms —the principle of the unity of the Universe and consequent correspondence between its various parts—intuition, he thought, had given them correctly. But in forming their minor premises, a too slight acquaintance with the Universe frequently led them astray.

Naturally, owing to this predilection for deduction, he continued, Alchemy throughout its history reflected the philosophical soils on which it grew. The doctrine we regarded as most characteristic of it—that of the Philosopher's Stone as the medicine of the metals—was, as Mr. Abdul-Ali had indicated, certainly of Christian origin. Entirely explicable from this standpoint was the fact that the writings of the Greek alchemists hardly read like alchemical writings at all, in the sense in which we had accustomed ourselves to understand that term. The hand of mysticism, however, was clearly present; but it was Neo-platonism here, instead of Christian mysticism. Physiology also dictated its doctrines,

and gave rise to what might be termed the phallic element of alchemical tradition, an element which persisted from the beginning to the end of its days.

In conclusion, the speaker said that he was almost in entire agreement with the lecturer's final remarks. Only he would add that, to his mind, the problem of Alchemy was first and foremost a problem in epistemology, or perhaps, he should say, psychology. The question,—Why were the characteristic doctrines of Alchemy believed in by the best intellects of several centuries?—was a problem that demanded solution, apart altogether from that of the validity of those doctrines. He believed that the solution lay in the concept of Alchemy as one of the mind's products in its endeavour to bring its experience into unity and harmony with itself. But the problem was an immense one, not to be solved in a few words, or, indeed, by the labours of any one man.

Mr. GASTON DE MENGEL said, that in reply to Mr. Abdul-Ali's question as to *The Book of Enoch*, his reference thereto was purely in the sense of bringing forward an old legend which might be related to the "Black Tradition." As to Alchemy not being earlier than the Alexandrian times, his own opinion was that this was the case; as a matter of fact, the origin of Alchemy was dated by many authorities at about the third or fourth centuries, so that there was no justification for carrying it further back than this period. Moreover, he also thought he could agree with the former speaker that in Alexandria the principal element was mystical, in the sense of seeking union with God.

An interesting point had been raised by Mr. Abdul-Ali as to whether the mere fact of working in metals might not have given rise to speculations of origin and transmutation Mr. De Mengel thought that this was quite a probable hypothesis, only he would add, that if such had been the case, these speculations would probably have arisen at a much earlier date than the third century, because workers in metals in that century had already travelled far in their craft. He thought, too, that it was extremely probable, as sugested by both Mr. Abdul-Ali and the Chairman, that Christianity had given rise to the theory of a regenerating element, and, in fact, he had mentioned Christianity in his paper as one of the principal channels of alchemical tradition.

With reference to the question concerning Plato and Aristotle, it must, he said, not be forgotten how difficult 't was to distinguish between their respective influences in later writings; and this difficulty arose because all philosophy up to modern times, including Neo-platonism itself, had been greatly influenced by Aristotle, so that when we came to study the influence of Neo-platonism, we were bound to find with it many traces of Aristotelian doctrines.

As to white and black magic being two different aspects of the same tradition, he had endeavoured to suggest that they were more than aspects, being really related to two different traditions. Here he was in agreement with the Chairman's remarks. But whether the distinction was inherent in tradition, or was fundamentally a distinction in human thought, was a very wide question. Whilst in one sense we might consider the distinction to be subjectively fundamental, in another, historical study made us aware of much that supported the hypothesis of an objective distinction in tradition. In reply to Miss French, he added that some gnostic sects certainly practised magic and used all sorts of magical formulæ, and it was black magic from one point of view, inasmuch as evil spirits were involved. When we used such terms we must distinguish between intentions as well as processes, and if the intentions were good, the magic might be called "white." On the other hand, all magic, in one sense, might be deemed "black," because aiming at the invocation of spirits.

With regard to the Chairman's definition of intuition as that which gave an immediate synthesis of truth, he thought that the term "intuition" was here taken in a different sense from that in which he had used it in the paper, where it did not stand for a supernatural faculty. The Chairman's use of the term more closely approximated to Schelling's "intellectual intuition," that mystical gift which enabled the spirit of man to partake to some extent of the powers beyond the potentialities of the human substance *per se*. True mystical intuition could only be distinguished from false imagination by its results. To employ an analogy: Leverrier calculated the probable position of Neptune and communicated the result to an astronomer friend, who found the planet by his directions near the predicted spot. Imagine the mathematical process of Leverrier to be a superior power possessed by no other mortal, then the practical confirmation of his conclusions by his friend might be likened to a test of the reality of that power which an ordinary mortal might apply.

The speaker added that he agreed with the Chairman that the alchemists reasoned deductively, but he did not think that this was the cause of their failure, because, starting from a fundamental axiom, no fallacies were possible providing deduction was sufficiently strict. Such a fundamental axiom had, he suggested, been stated, though not accurately, by Descartes—"*Cogito, ergo sum.*" The existence of consciousness was an undeniable fact. It might be argued that the whole world was a hallucination, but the reality of mental experiences still remained, and from that fact very much indeed could be deduced. He did not say that, where details, and not broad principles, were con-

cerned, deduction was a very precise or sure process, but it was, he maintained, a possible process, which had, even in the realm of principles, been very greatly neglected.

As to Alchemy being more Latin than Greek, he thought that depended on what we elected to call Alchemy; and he did not see any special reason why we should reserve the term for the mystical chemistry of the sixteenth century any more than for that of the third.

The phallic doctrine, he suggested, arose in Egypt. In an alchemical MS. of the third century, attributed to St. Mark, metals were represented by men, and the Greek alchemists, who speak of the male and the female in this manner, mentioned many names of Egyptian Gods and temples.

## REVIEWS.

*Studies in Valency.* By F. H. Loring. 8ins. × 5½ins., p. viii + 47. Weight 7½ozs. London: Simkin, Marshall, Hamilton, Kent and Co., Ltd., Stationers' Hall Court, E.C. Price 2s. 6d. net.

THERE is no force, perhaps, quite so puzzling as chemical affinity—that force which, according to the atomic hypothesis, binds the atoms together, and by whose aid, out of some seventy-odd elements is woven the entire fabric of matter in all its multitudinous forms. Moreover in its property of valency—whereby the combining power of the elements is so strictly and so curiously limited—it appears to have no other analogue in nature. Other forces—though, perhaps, we must in the end postulate a "quantum" which cannot be divided, as in the case of electricity—at least appear to undergo continuous changes only. But valency is essentially a discontinuous property—a thing of jumps and jerks, if one may be allowed so to express it— following some yet-to-be-discovered law of integers and not one of continuous quantity. Perhaps this is but seeming, and a consequence of the postulation of the atomic constitution of matter; but even those who frankly recognise Dalton's hypothesis as a mental tool and a tool only, are reluctant to throw it aside until it has become quite superceded by some more adequate instrument.

Mr. Loring writes in a very terse manner, without any waste of words, and has evidently studied the literature of the subject to some purpose. He points out a number of interesting relations between the valencies of the elements, and indulges in some suggestive speculations. Always, however, does there seem to be an exception to any rule concerning valency,—suggesting, as Mr. Loring has himself pointed out more recently (in *The Chemical News*, Jan. 8th, 1915), the existence of some further law, some regularity in the irregularities. Perhaps the most interesting of his

speculations is that concerning the constitution of certain members of the group of inactive gases, wherein they are likened to the ions of a dissociated salt. The book should certainly be read by all interested in the question of the constitution of matter and the more philosophic side of chemical theory.

EDITOR.

*The Voice of Isis.* By the Teacher of The Order of Christian Mystics. Transcribed by Hariette Augusta Curtiss and F. Homer Curtiss, B.S., M.D. Second and Revised Edition. 7½ins. × 5ins., pp. 450. Weight 21¼ozs. Los Angeles and San Francisco: The Curtiss Book Co. (London Agents: W. Fowler, 7, Imperial Arcade, Ludgate Circus, E.C.) Price $1.50.

*The Soundless Sound.* By the Teacher of The Order of the 15. Transcribed by the same authors. 7ins. × 5ins., pp. 34. Weight 2¼ozs. Same Publishers. Price $0.75.

*The Philosophy of War.* By the same authors. 6ins. × 4½ins., pp. 49. Weight 6¼ozs. Same Publishers. Price (stiff paper cover) $0.25.

The Order of the 15, or alternatively, of Christian Mystics, is described as a non-sectarian spiritual movement for the advancement of Christian Mysticism. It is said not to be an organization, and in *The Voice of Isis* is also described as "the Order of Transmutation or Alchemy," the reference being to the spiritual side of the art. Judging from the books under review, the teachings of the Order have a close affinity to those of modern "Theosophy," and in their insistence on the doctrine of " as above, so below " connect with ancient Hermeticism. *The Voice of Isis* contains a full exposition of the philosophy of the Order, whilst in *The Philosophy of War* the Hermetic axiom is applied to the elucidation of the causes of war. *The Soundless Sound* is a less controversial book. It is a little volume of salutary ethical advice, insisting on the need there is of our awakening to the Divine Presence in all its manifestations and veils. It is, by the way, very beautifully printed and is a credit alike to authors and printers.

EDITOR.

*Soc: Ros: in Anglia: Metropolitan College. Transactions,* 1914. Edited by the Secretary, W. John Songhurst. 8¼ ins. × 5½ ins., pp. 74. Weight 5¾ ozs. Privately Printed.

THIS contains reports of the meetings of the Metropolitan College of the English Rosicrucian Society, held during 1914, including the following papers read at these meetings.—Dr. William Hammond: " Notes on some Stone Remains in Cornwall "; F. Bligh Bond: " Studies in the Christian

Cabala"; Dr. R. W. Felkin: "Folk-Lore in Central Africa"; Dr. W. Wynn Westcott: "The Religious and Masonic Symbolism of Stones"; and there is an additional paper by Dr. Westcott, entitled "An Essay upon the Constitution of Man: Spirit, Soul, Body." Mr. Bond's paper is particularly interesting. He establishes the importance of the numbers 19 and 37 (the lunar and solar numbers) in the geometry of the Vesica Piscis, and proceeds to point out how many—far more than given by chance, as calculated by probability—appropriate Greek words yield one or other (as the case may be) of these numbers or their multiples by Gematria. The whole subject is a very curious one, of much interest to the student of mediæval lore. The volume has as frontispiece, an admirably executed reproduction of Van Dyck's portrait of Sir Kenelm Digby, now in The National Portrait Gallery, London.

EDITOR.

ALSO RECEIVED

*The Differential Essence of Religion.* By Theodore Schroeder. Reprinted from *The New York Truth Seeker.* 9ins. × 6ins., pp. 28. Weight 2½ozs. New York: The Author, 56, East Fifty-ninth Street.

## NOTICE.

I HAVE been requested by the High Commissioner for Australia to refer in the JOURNAL to a pamphlet published under his authority, and obtainable from 72, Victoria Street, S.W., entitled *Australia's Trade with Germany.—Britain's Chance.—Australia's Raw Materials.* (9½ ins. × 6 ins., pp. 56; weight 3 ozs.). It contains details of the Commonwealth's imports from and exports into Germany, and other information likely to be of much interest to manufacturers at the present time.

EDITOR.

Printed by Kenneth Taylor & Co., 62 Carter Lane, Ludgate Hill, London, E.C.

# THE JOURNAL OF THE ALCHEMICAL SOCIETY

EDITED BY H. STANLEY REDGROVE, B.Sc. (LOND.), F.C.S.

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## REPORT OF EIGHTEENTH GENERAL MEETING.

THE eighteenth General Meeting of THE ALCHEMICAL SOCIETY was held at 8.15 p.m., on Friday, February 12th, at 1, Piccadilly Place, Piccadilly, W. The chair was occupied by the Honorary Secretary, Mr. Sijil Abdul-Ali.

The Chairman stated that the Acting President, Mr. H. Stanley Redgrove, was unavoidably absent owing to illness.

A paper by the Venerable Archdeacon J. B. Craven, D.D., entitled "Alchemy and the Devil," was read by the Chairman, and was followed by a discussion. (The paper and an abstract of the discussion are printed in the present number of the JOURNAL.)

A vote of thanks was passed to Archdeacon Craven for his paper.

## ALCHEMY AND THE DEVIL.

By the Venerable J. B. CRAVEN, D.D.,
Archdeacon of Orkney.

"FROM her first foundation the Church has conceived the forces arrayed against her in imagery borrowed from Persian mythology, as a vast army of dark spirits, headed by the great apostate angel Satan, the author of all physical and moral evil in the earth. . . . . We cannot then wonder that the new religion should have looked askance at studies which unfortunately had become associated with the prevalent demonology, nor that an abiding ecclesiastical prejudice should have survived from a conflict where science figured under the garb of an infernal magic, exercised to the injury both of God and man." [A. W. BENN: *History of English Rationalism in the Nineteenth Century*, vol. i, p. 65.] Accordingly we find in the city of Ephesus, remarkable amongst other things for the craft and skill of the silversmiths and metal workers, that after the declaration of the new religion, "Many who used curious arts, brought their books together and burned them before all men and they counted the price of them, and found it fifty thousand pieces

of silver," [*The Acts of the Apostles*, ch. viv, v. 19]—a great panic, and a great, an immense result. Ephesus was famous for its divinations and curious arts—and for the school of Apollonius of Tyana, who spent a considerable time in that city. [G. R. S. MEAD: *Apollonius of Tyana* (1901), p. 78.] In Raphael's cartoon of the burning of the books, we see Sol, Luna, and strange to add, the triangle, on a page of a volume just kindled by the fire. The Golden City of the Revelation is tinted by the reflection of the mines of Patmos —for "the city was of pure gold, like unto clear glass," the citadel of the great and final rescue, the last symbol, the work of the Tau, the Cross, the concluding letter of the Hebrew alphabet, the last of the Tarot series, macrocosm and microcosm, God and Creation, the absolute, typified by the woman clothed with Sol, Luna beneath her feet, surrounded by the four sphinx symbols, those of the ecclesiastical, the Divine Story.

Alchemy and magic have always been regarded with evil looks by the Church. She knew well enough that the Devil "is simply macrocosmos in the lower hemisphere." "The received manner of depicting the evil one was after the manner of Pan, though it is extremely curious that the numerical values of the names applied to him are identical with those of the good deity." [*The Canon—an Exposition of the Pagan Mystery perpetuated in the Cabala as the Rule of all the Arts* (1897) pp. 392-3.] Ophis, the serpent, and Sophia, wisdom, the dragon and truth, have the same numerical values. We feel the gloom of the subterranean caverns, the spectral brightness of the treasures there, the gnome-like appearance of the workers, their hidden occupations, the idea, perhaps in some sense true, that gold and other metals grew from seed, just as the golden wheat and sunlike flowers in the fields and gardens above, grew from the "bare grain," sown in the ground. Certainly the search after the metals of price was but the result of avarice and greed, for which no moral defence would be given by those who were commanded to have "all things in common," and to trust to the daily providence and provision of the Eternal Father. Alchemy meant to the Church a providing *beyond* what nature supplied, a false if not devilish kind of sleight by means of which sinful pleasures could be enjoyed—pride, the first and greatest sin, fed, and the means of sensual gratification provided for to any extent. It is true that in after times we find high ecclesiastics, even Popes, accused of attempts, sometimes said to be successful, by which alchemical gold was procured; but, on the whole, the sounds of the drum ecclesiastic were heard raising canonical forces against the workers in secret arts, who were denounced, condemned and banned.

In the twenty-ninth Canto of Dante's *Inferno*, we have the terrible fate of alchemical workers:—

"Then two I mark'd, that sat
Prop't 'gainst each other, as two brazen pans
Set to retain the heat. From head to foot,
A tetter bark'd them round . . . The crust
Came drawn from underneath in flakes, like scales
Scraped from the bream, or fish of broader mail.

. . . .

'Both are of Latium,' weeping he replied

. . . .

'Arezzo was my dwelling,' answer'd one
'And me Albero of Sienna brought,
To die by fire; but that, for which I died,
Leads me not here.

. . . .

But Minos to this chasm, of the ten,
For that I practised alchemy on earth,
Has doom'd me.'

. . . .

The other leprous spirit heard my words,
And thus return'd.

. . . .

'So shalt thou see I am Capocchio's ghost,
Who forged transmuted metals by the power
Of Alchemy; and if I scan thee right,
Thou needs must well remember how I aped
Creative nature by my subtle art.'"

This connection with the dark and Tartarean abode, and consequent subjectivity to the macrocosmos of the underworld, this oppressive opposition of ecclesiastical power, these led, at least partly, to the preservation of the practical portion of alchemical and occult knowledge in symbolic language, and strange pictorial figures, many of them seeming constantly to elude the interpretation of the student. But Alchemy is no hoax. Those who have made even a cursory study of the subject come to the conclusion, that for cen-

turies a proscribed labour held scientific secrets under the strange formulæ of alchemical writings, leading eventually in the sixteenth and seventeenth centuries to chemical discoveries which to-day are common benefits to mankind. In the spirit of Samson Agonistes the alchemist might now reply to the charge of assistance from the evil power,

> "I know no spells, use no forbidden arts;
> My trust is in the living God,
> Who gave me at my nativity this strength."

Yet even Lilly confesses that at his search in Westminster Abbey for a secret hoard, the prince of the power of the air raised a tempest—"our rods would not move at all, the candles and torches, all but one, were extinguished, or burned very dimly. John Scott, my partner, was amazed, looked pale, knew not what to think or do, until I gave directions and commenced to *dismiss the demons*, which *when done*, all was quiet again." [W. LILLY: *True History of King James I and Charles I* (1715), p. 78.] Night and darkness have ever great effect upon such devices, and the malign spirits, who are said to have the moon for their habitation, have apparently greater power under her light, than when Sol is in the ascendant.

Of Michael Scot, the great magician, it is said:—

> "It was a night of woe and dread,
> When Michael in the tomb I laid!
> Strange sounds along the chancel pass'd
> The banners waved without a blast";

and afterwards.—

> "'Tis said as through the aisles they pass'd
> They heard strange noises on the blast,
> * * * *
> Loud sobs, and laughter louder, ran,
> And voices unlike the voice of man;
> As if the fiends kept holiday,
> Because these spells were brought to day."

[SCOTT: *The Lay of the Last Minstrel*, 2nd. Canto, xvi, and xxii.]

Even ecclesiastics in high position were regarded with suspicion—some were detailed as "detestable magicians," and it is related of the Abbot of Tungland, the same who tried to fly, but found the feathers of the dunghill fowls drew him down, that he "never chose to go to mass though warned by the holy bell or skellat." He never said matins, nor wore stole or fanon lest they should be defiled with the smoke of his laboratory. This was Damian to whom in 1501-2 the Royal Treasurer of Scotland supplied £9 [*Pro-*

*ceedings of the Society of Antiquaries of Scotland,* vol. xi., pp. 184-5.] "for to multiply," who also "caused the King believe he be multiplyinge."

But to go much further back. Of Avicenna, the Arabs "long believed that he commanded spirits, and was served by the Jinns." The angelical doctor St. Thomas Aquinas, delivered as his opinion, after, it is said, a long study of the curious sciences, "that it is not lawful to sell as good gold, that which is made by alchemy." Roger Bacon was said to be "indebted for his wisdom to incessant communications with demons." "By neglecting the light of experience," he says, "alchemy can seldom produce gold of twenty-four carats. But with help of Aristotle's 'secret of secrets' experimental science has manufactured not only gold of twenty-four degrees, but of thirty, forty, and onward according to 'pleasure'". It was stated of Arnold of Villanova, "that all his erudition in alchemy was derived from demons." In 1317 the Inquisition condemned his books to be burned. His studies carried out in seclusion led him to differ from some prevalent religious opinions. [See A. E. WAITE: *Lives of Alchemystical Philosophers* (1888), pp. 52, 62, 64, 69 and 89.]

There seems to be some connection between the "Black Art," the alchemical furnace and the ancient gods of the internal fires. Hephaestos, Vulcan, and Loki, each lame from some deformity of foot, in time joined natures with the pans and satyrs of the upper world; the lame, sooty blacksmith donned their goat-like extremities of cloven hoofs, tail and horns, and the black dwarfs became the uncouth ministers of the sooty, black foul fiend. "If ever mortal man accepted the services of these cunning metal workers, it was for some sinister purpose, and at a fearful price, no less than that of the soul itself, bartered away in a contract of red blood, the emblem of life and the colour of fire." [FRED T. HALL: *Pedigree of the Devil* (1883), pp. 178-9.] Again, we read that "Some old alchemists taught that success may be most easily attained by chaining a demon to the work—while the true alchemist always taught the need of the Divine afflatus. It is at any rate certain that many alchemists have perished at their work, and many others have had their operations unexpectedly marred by some intervention of the spirit of mischief." [Dr. WYNN WESTCOTT, in *Societas Rosicruciana in Anglia: Metropolitan College: Transaction for* 1902, p. 21.] The shadow of this idea is to be found in the "dragon" or "fiery flying serpent" development and nomenclature in the more ancient alchemical works; for instance,—"Take a red dragon, courageous and warlike, to whom no natural strength is wanting."

But states as well as the Church had a suspicious dread of the power of the alchemist. The science was eventually suppressed in Egypt. "History tells us that all books relating to ancient Egyptian arts and sciences, were ordered by the Emperor Diocletian to be destroyed." ["SAPERE AUDE": *The Science of Alchymy,* (1893) p. 5.] In 1404 in England, the art of transmutation was made a felony by 5 Hen: iv. c. 4. This act was repealed in 1689 [*loc. cit.* p. 8]—probably one result of the formation of the Royal Society. The broader view of the possibility of success began afterwards to be held by capable thinkers. Boswell tells us the story of a visitor from Edinburgh, who pleased the great grammarian—"by talking learnedly of alchemy as to which Dr. Johnson was not a positive unbeliever, but rather delighted in considering what progress there had actually been made to the 'making of gold'". [BOSWELL: *Life of Johnson* (Pitman's Edition, 1907), vol. i., p. 533.]

The 15th card of the Tarot, corresponding to the Hebrew letter Samech, represents to us the position of the Devil in the cosmogony. Here the evil one holds the lighted torch, the symbol of fire, black magic and destruction. Here is the universal dissolving force, that force tightly held by the letter Samech, the Serpent forming a circle of his own body biting his tail,—a symbol of destiny holding the world in embrace. The destiny stands on a cube—the domination of matter over the sphere placed beneath. [PAPUS: *Tarot of the Bohemians* (translated by A. P. Morton, 1892) pp. 165-6.]

The real alchemist always endeavoured to shew that supposing gold could be created *ad libitum,* it would be useless. Still the evil spirit did present to the mental eye of the bewildered student "all the kingdoms of the earth, and the glory of them"—this was,—is,—the gain which is promised on condition of worship and trust. It has never been attained. The invocation of evil can only retort on itself, like the golden coins bestowed on the sworn votaries of Satan, which by morning light, prove to be worthless stones or withered leaves.

The higher Alchemy throws aside the theurgic art of magic—all invocations of devils, demons and evil spirits. It is "almost identical with religion, as distinct from Theology. The function of Religion and the great work of the Alchymist is spiritualization." ["SAPERE AUDE": *loc. cit.*, p. 19.] This work is the separation of the subtle from the gross, the redemption of Spirit, while still seated in matter, from the taint inevitable to the lowest planes of manifestation. Alchemy, now working upon the higher plane, does not seek material wealth by any demoniacal ends, but by

definite study, and the chemistry of mental force, it endeavours to resolve the ancient dragon-myths into the glorious certainty of a purged, purified, clear, intensified human existence ever brightened by belief in the possibility of progress towards the highest goal.

I think that the following conclusions are justified:—

(i.) That suspicions have always existed both in church and state that alchemists and alchemical pursuits and results, were assisted by the macrocosm of the lower sphere.

(ii.) That a re-action took place in and by which these labourers revolted from many cherished ideas in the religion professed by authority in the Middle Ages, which increased suspicions, and led to delations, causing the ordinary "man in the street" to avoid alchemical students.

(iii.) That on the one side these pursuits did lead to, or connect themselves with, theurgic magic, and divination by the "Black art." This is not, of course, a necessary consequence, but probably did follow.

(iv.) That on the other hand, a much stronger and nobler leading determined towards the higher Alchemy, in thought and act, which has its issues and fruits in the present time, in Societies such as ours, free from pretence, superstition and hallucinations.

(v.) That there is reason to suspect that the spirit of evil, to put the matter in the mildest way, was both evoked by, and may have been personally in contact with, a certain class of alchemical students studies, and results, and may still be so.

(vi.) That the nature of the older alchemical studies, the value which hoped-for results might have, and the dangers of persecution and even imprisonment, and murder, led to secret formulæ bizarre and strange, in regard to the actual metallic working, and to a hidden esoteric teaching, in the spiritual projection, much of which is still uninterpreted, though further study and comparisons may lead to excellent results—results, perhaps, tending towards the true and real development of the "Superman."

## ABSTRACT OF DISCUSSION.

A LETTER was read from Mr. H. S. REDGROVE, in which he expressed his interest in the paper. He said that there was a certain point of view from which every phenomenon might be regarded as magical, being

held to be the product of causation from the spiritual world. As Novalis had put it, "*Alle Erfahrung ist Magie, und nur magisch erklärbar*"—"All experience is magic, and only magically explicable." This, in a crude form, was perhaps, man's earliest view of nature; and after sublimation in the crucible of thought, might be found to be the final product of philosophy in its attempt to explain man's experience. He had dealt at some length with this point of view in a paper entitled "The Theory and Practice of Magic," published in *The Occult Review* for April, 1911 [vol. xii, pp. 195-207]. This aspect of magic was not, however, relevant to the present discussion, for which purpose it would be better to limit the term to attempts to produce desired events on the physical plane by the aid of disembodied personalities, whether conceived of as the spirits of the dead, or as spirits of a lower or higher order than man.

In that sense there was, he thought, in *fact,* little if any connection between Alchemy and magic. He could not remember, at the moment of writing, any alchemical tract of repute advocating magical means for the attainment of the quest of the Philosopher's Stone. A pure heart, a chaste life, and an attitude of prayerfulness and thankfulness towards God: these, indeed, were often insisted upon; but beyond such things the work was, it appeared, entirely of a physical nature.

In common *opinion,* however, the connection between Alchemy and magic was an intimate one. The Church of the Middle Ages was not alone in its attitude of attributing all physical phenomena it could not understand to the agency of the devil and his satellites. That was an attitude common to various types of the mediæval mind and their ancestors. Paracelsus was reputed to carry the devil in the pommel of his sword, whilst a little black dog of which Cornelius Agrippa made a pet was held to be a familiar spirit from hell. The story of Bacon's brazen head was another case in point. It was not necessary to have achieved the *magnum opus* to qualify as a magician, since what we now consider as the simplest chemical phenomena were then regarded with wonder and awe. No doubt Scholasticism, with its arcane doctrine of matter and form, helped to foster this attitude towards the ever changing facts of experience. The distinction between matter and spirit was a less clearly drawn one then than now; and there could be no doubt that the alchemists themselves regarded their experiments in chemistry as yielding them the spiritual essences of bodies, and enabling them, in a sense, to transcend the purely material realm.

Miss MARY FRENCH said that she did not think the paper touched very much upon the higher forms of Alchemy,

especially the mystical. She questioned how far accounts of alchemical experiments were to be taken literally and how far symbolically—were the alchemists looking for material gold or for something higher? She thought that the distinction between black and white magic was essentially a moral one, and that if it *were* possible to transmute base metals into gold without the assistance of evil powers, that could not be called magic, the term not applying to a purely material phenomenon. Men of science could make diamonds, and one might just as well call them magicians as give the name to the alchemists. Mr. Redgrove's view made every physical act a magical one. It was difficult to see, however, where to draw the line. Was the burning of incense, for instance, a magical ceremony?

Miss CLARISSA MILES said that there was much that had interested her in the paper, especially the reference to the search for gold in Westminster Abbey. It was a common thing a century or more ago to seek for hidden treasures and mines with the divining rod, and she herself had carried out many successful experiments in dowsing, both with a rod of witch-hazel and without. She did not think that black magic had interfered with Alchemy, or that it was possible to regard as black magicians men of such lofty and excellent ideas as the better sort of alchemists. Incense, she said in reply to Miss French, was a symbol of prayers ascending to God.

Miss D. MARION PAYNE said that she thought, in agreement with Mr. Redgrove, that everything might be thought of as magical in the last analysis. At any rate, the idea was, she suggested, one worth following out.

THE CHAIRMAN said that the most interesting point raised in the paper was, to his mind, that of black magic. He certainly thought some of the alchemists were guilty of such practices, but he did not see how Alchemy itself could be classed as either black or white magic. He suggested that it might be useful to distinguish between what he might call objective and subjective magic, the first effecting actual physical and material results, the other producing merely a change in the consciousness or personality of the magician. All nature was magical in the sense of being inexplicable. But beyond that which was produced by nature, there was something added by the power of intellect—by man,—which, in a sense, was supernatural and thus magical in another manner. The alchemists believed that nature did produce gold out of "evil" metals, but only after the labours of thousands of years. They thought they could in a short time produce the same result, and further than that, produce a body, not given by nature, able to create gold, containing in itself all the perfec-

tion of gold and able to make that which is base noble. Now to do that would, in a sense, be to perform a supernatural act. But the same could be said of any scientific experiment, producing by an adaptation by man of the forces of nature that which nature herself did not produce (electric light, synthetic dyes, *etc.*). All such activities might be called magical; but the distinction between black and white magic was a moral one. The mere making of gold could in itself be regarded as neither good nor evil; but the alchemist who aimed to produce it for selfish or evil purposes might be called a black magician. Psychological phenomena were subject to the same description. Some persons, for instance, found the burning of incense an aid to their devotions: in their cases, we might, therefore, term it white magic. He hoped to present to the Society a short paper, through the medium of the JOURNAL, dealing more fully with the subject from the point of view he had suggested.*

## A GENERAL VIEW OF MAGIC IN RESPECT TO CERTAIN PRIMARY MODES OF THOUGHT.

By SIJIL ABDUL-ALI.

As so frequently happens in philosophic enquiry, our first problem is one of definition. What are we to understand by "magic"? The difficulty of defining the term is well known, and there is no unquestionable concensus of opinion as to its meaning. I have no intention here and now of undertaking a task to which scholars have addressed themselves without very satisfying result, but it has appeared to me that there are a few simple considerations which may help towards a clearer comprehension of magic, and perhaps give a clue to its connection, if any, with Alchemy.

In the most general sense of the word, magic is the art or practice of wonder-working. Such a statement is, of course, far too vague to constitute a definition, but it may be useful to consider briefly what are its implications. By "wonder-working" is obviously meant the producing of an effect which creates wonder in the minds of those who perceive it; and wonder indicates the presence to a mind of that which, for a period at least, it cannot comprehend. Now that which is incomprehensible demands an explanation; it challenges the mind, which, by virtue of its indwelling and unconquerable faith, cannot accept defeat, but advances always into the territory of the unknown, with the zeal of a child that has not learned to fear. This passion is as dangerous as it is sublime, the elements of sublimity and

* This paper is printed in the current number of the JOURNAL.

danger being strangely interlinked; and the history of speculation is the history of the mind in a perilous and halting ascent to the grandeur of its loftiest conceptions.

To primitive men all things must have appeared wonderful, because inexplicable. Nature was manifold, lawless and hostile. I do not know when a single name was first applied to all that we now designate by the term "nature," but that epoch, if it could be determined, would signify an important change in the human outlook. It would indicate, perhaps, the earliest confession of a belief in the unity and therefore the intelligibility of that which on the surface appeared diverse and unintelligible; for a single name implies a single concept, and in every single concept is involved a synthetic mental act. Primarily the word would signalize an apprehension, a surmise, a hope, rather than a reality. The perplexing variety of nature is not readily assimilated to the unitive function of thought, and age after age must pass before the dream of a single intent behind the objects of sense can be referred piecemeal to the actual data of experience. Meanwhile the disparity provokes wonder, dread and error. Between the objective world, with its insensate power, its cruel infinitude, and the timid, ardent longing of the mind, is fixed a chasm which stimulates while it defies the reason; and each successive effort to cross it marks a stage in the development of reflective thought.

Thus, because the world does not conform *ab initio* with the aspirations of intelligence, it happens that various theories have been propounded to explain the non-mental in terms of the mental. A very superficial experience is sufficient to apprise men of certain phenomena of sequence, and these very quickly suggest intelligibility, because they imply connections which, while not consciously given by the percipient, are yet mental in character. Eagerly the mind attaches itself to these appearances, as giving it the first intimations, so to speak, of the presence of its own kindred in the external world. There is something touching, something pathetic and sublime about the speculations of primitive men. We feel that within them lurks the heart-throb, the tremulous dawn of quest, the first quickening of the immortal spirit which is to soar at last full-fledged and fearless in the celestial air. The error which they contain cannot destroy their beauty. We delight to preserve them as monuments to the everlasting procession of thought. But with masterly skill, with admirable courage, does the mind itself which created them separate the error from the beauty, the false from the true, and build into its last temple only the elements which can endure.

In addition to the universally recognised sequences of nature—such as those of the seasons, the tides, the phases

of the moon, the apparent motions of the sun and the stars—others might be noticed which, however, on closer examination would prove to be irregular and not representative of any permanent relations. Thus, for example, on the evidence of a narrow range of experience, the night-cry of the great hawk and the death of a child might be thought of as events which, given certain circumstances, were necessarily connected. Such a notion, once having attained sufficient gravity in the general mind of a primitive folk, would easily take root there, finding nourishment in every real or reputed incident which could possibly be turned to its support. From being a mere sentiment it would soon pass to the status of a belief; and since the mind recoils with anxiety from the unintelligible, and cannot be satisfied to believe without reason, it constructs a theory which shall, to some extent, reconcile it with its ineradicable conviction. The nature of the theory may serve, within limits, as one index to the degree of intellectual culture attained.

If the universal sequences to which I have alluded—the majestic procession of the seasons, the periodic sweep of the heavenly spheres—signify, as it were, the flowing rigidity, the living immutableness of nature, it must be admitted also that the contemplation of little, variable, fictitious sequences tends oppositely to the notion of whimsical spirits which merely sport with men. It is a result of inadequate knowledge. So long as generalization is based on only a few data, it is liable to the grossest error. The broader its basis in experience, the higher and the surer is its summit. An important difference between superstitious belief and scientific belief consists in this, that the former rests upon an induction from few and inadequate data, while the latter embraces a large range of observation, carefully sifted and weighed. Even supposing that, metaphysically considered, the process of inferring in the two cases is essentially the same, we may still assert that the height and stability of the mental erection is proportionate to the area of its experiential base. But the synthetic vision is of a two-fold character; or, rather, it has two apparent modes of attainment. The untutored mind, regarding the august periods of nature, is touched with poetic sentiments of awe and pleasure which, however rudimentary, contain the promise of its final conquest. It does not descend to details; it does not know them; but filled with the primitive apprehension of its own kindred substance under the manifold veils of seeming, it reaches forward to the goal of its quest, unconscious or forgetful of the deep valleys which lie before the object of its vision. These are the valleys of experience. Through them passes the tedious, winding path of human evolution. The earnest

mind must stoop to the examination of minutest details, and with infinite patience must build these, one by one, into the substance of its tabernacle "eternal in the heavens." "Without hurry, without rest," says Emerson, "the human spirit goes forth from the beginning to embody every faculty, every thought, every emotion, which belongs to it in appropriate events." The descent is to darkness, confusion and error. The vision of the mountain fades. Superstition, ignominious fear, and absorption in the illusive by-play of nature, replace the grand, primary, unlettered science of the mind. But out of this chaos a truer, a firmer science is at last to arise. Slowly, imperceptibly, its roots deepen and spread, and there appears no reward for the labour of the search for knowledge; until at last that which has been growing unseen within, bursts outwards and upwards to meet the light. Science, with the pride of youth, will not confess its genesis, or discover the deep, aged roots by virtue of which it came into being and at this day is nourished and maintained. The tree, inverted as in the ancient symbol, has its roots high in the immortal spirit, the unconquerable mind; and its branches reach everywhere outward and downward until in a thousand mysterious points of contact they mingle with the world.

Alfred Maury, in the Introduction to *La Magie et l'Astrologie dans l'Antiquité et au Moyen Age* (Paris, 1860), says: "The physical sciences were in origin only a mass of superstitions and of empirical processes which constituted what we call magic. Man was so conscious of the empire which he was called to exercise over the forces of nature that as soon as he put himself in relation with them, it was in order to try to subdue them to his will. But instead of studying the phenomena with the object of grasping their laws and of applying them to his needs, he imagined himself able, by the aid of particular practices and of sacramental formulæ, to constrain physical agents to obey his desires and projects. Such is the fundamental character of magic." This dim, perplexing consciousness of the empire of mind gave a certain air of intimacy to nature and proclaimed the possibility of a science of nature's processes. "To those earlier men, everything must have appeared human, familiar, and genial," wrote Novalis. Therefore we may expect to find that when they come to theorize upon the phenomena and potentialities of nature, they will first of all employ personal, human symbols. And this is precisely what we do find, whether we look to primitive religion or to primitive science. The clearly defined, abstracted concepts of impersonal entities appear late in the history of thought. All the occurrences in nature that are now comprised, for instance,

under the mathematical concept of energy were in former times explained in terms of a hundred inexact ideas; and according to the age and nation in which they flourished, these ideas varied and were known by different names. Sometimes, no doubt, under great civilizations of the past, men did attain to clear, comprehensive notions concerning the operations of nature, although the formulæ by which they were expressed probably differed very greatly from the symbolism which is in vogue to-day, and may, in fact, be lost to us for ever. But the practices and beliefs which we usually associate with the term "magic" are connected with the supposition of spirits or demons, that is, of quasi-intelligent beings who govern, in a more or less arbitrary manner, the events in nature. Obviously, to subdue these beings to his will was to gain the power over nature which man so greatly desired. The hypothesis is fundamentally, as I have already suggested, an offspring of that deep longing which is ultimately to raise the soul again to the height, and beyond the height, of its first unblemished vision. It is in the order of evolution, supposing even that its votaries were entirely deluded in respect of any objective efficacy which it might contain. It is in essence the child of necessity,—of that necessity under which the mind is constrained to exercise sequentially each function which lies latent within it. To-day it may seem dimmed and sullied with error; but the jewels of the mind are not fashioned without toil and pain and the black smoke of the fire whose limpid, ardent beauty they enshrine.

But, as already indicated, magic implies something more than the rudimentary attempt to understand nature. It is not hypothesis merely, at its highest or at its lowest. From its inception as the baseless credulity of savage tribes to the fullest expression it has yet attained in the concepts of science or the ideals and canons of art, the dream of the soul is towards power, conquest, control. To imagine a theory is the first step; to formulate it is the second; but to apply this ideal instrument to the actual world, to bring it into efficient action, is the last and critical step, and the only one which can satisfy the mind. Magic, therefore, is concerned with the production of effects in the objective world. Its performances are *supernatural*: in them nature is made to surpass the measure of her own, unaided work: they signify her union with creative intelligence. To put the matter in another way, magic implies not merely the divination but in some degree the command of future events. It will easily be seen that many useful results might be obtained by a purely empirical method of working, without any theory at all, or with only a very inadequate theory. We

know that artists and skilled craftsmen do not usually work according to a clear theory, and it is quite feasible to suppose that men of the past obtained results first and speculated upon them afterwards. But from whatever point of view we may choose to regard the matter, these two functions of the mind are intimately related. In the broadest sense, given experience or nature, the mind seeks an explanation which is consistent in all its parts. In a narrower sense, given the power to produce effects in the world of experience, it is not completely satisfied, but requires a theory acceptable to the reason: on the other hand, given a doctrine, the mind demands that it shall be consummated and sealed in experience. It is not my purpose here and now to attempt a separation of these elements, but it is important that we should note their existence.

These considerations help us to see that not only by its formulation of hypotheses, but also by its actual efforts to manipulate the phenomena of nature, magic laid the foundations of science. It failed as science because of its tendency to mistake for invariable, objective relations amongst phenomena what observation and analysis would have proved to be variable, subjective relations, and because it allowed its attention to centre upon fortuitous coincidences rather than upon the complete investigation of any set of apparently related events.

If we wish to find any important connection between magic and Alchemy, I think it will have to be in the direction of considering Alchemy as essentially a *supernatural* art, that is, an art which, in the judgment of its doctors, carried the processes of nature a distinct degree beyond their native measure. To cause nature thus to excel herself, to produce out of the depths of her own mysterious operations this token of her affinity with man, this memorial of his redemption, was the *Magnum Opus,* a work inspiring worship and wonder, the great *desideratum* of the Alchemist. In it is to be found a remnant, not without beauty, of that great, primitive, poetic wonder with which the first race of men contemplated the ineffable and mystic grandeur of the world.

## SPECIAL NOTICES.

THE COUNCIL, being of the opinion that, in the present circumstances, members would find it more convenient if the meetings of the Society were held earlier in the evening, have decided, for the present, to alter the time of the ordinary general meetings from 8.15 p.m. to 7.30 p.m.

Owing, however, to an unexpected and much-to-be-regretted illness, Mr. Arthur Edward Waite, who was to

have read a paper at the March meeting, is unable so to do. It has been decided, therefore, to cancel the March meeting, and consequently there will be no issue of the JOURNAL for March.

The next general meeting of the Society will, therefore, be held on Friday, April 9th, at 1, Piccadilly Place, Piccadilly, W., at 7.30 p.m., when it is hoped that a paper on "The Phallic Element in Alchemical Doctrine" will be read by the Acting President, Mr. H. Stanley Redgrove, B.Sc., F.C.S. Visitors are invited, and the Council trust that the meeting will be well attended.

There will be a meeting of the Council on the same evening and at the same place, immediately following the meeting announced above.

It is hoped to publish this session a special issue of the JOURNAL containing the full text of Professor Ferguson's address on George Starkey's *The Marrow of Alchemy*, delivered to the Society last December. This will be a double number, thus bringing the number of issues of the JOURNAL this Session up to the normal, namely, eight.

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# THE JOURNAL OF THE ALCHEMICAL SOCIETY.

EDITED BY H. STANLEY REDGROVE, B.Sc. (LOND.), F.C.S.

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## REPORT OF NINETEENTH GENERAL MEETING.

THE nineteenth General Meeting of THE ALCHEMICAL SOCIETY was held at 7.30 p.m., on Friday, April 9th. The chair was occupied by Mr. Arthur Edward Waite, an Honorary Vice-President of the Society.

The Secretary announced that Mr. F. H. Loring (Author of *Studies in Valency*) had been elected to membership of the Society.

A paper was read by Mr. H. Stanley Redgrove, B.Sc., entitled "The Phallic Element in Alchemical Tradition," which was followed by a discussion. (This paper is published in the present number of the JOURNAL: an abstract of the discussion will appear in the next issue).

A vote of thanks was passed to Mr. Redgrove for his paper.

The Chairman announced that the Third Annual General Meeting of the Society would be held immediately following the Ordinary Meeting on May 14th. Nominations, in accordance with the Society's Constitution and Rules, were required for two new Ordinary Members of Council.

## THE PHALLIC ELEMENT IN ALCHEMICAL TRADITION.

By H. STANLEY REDGROVE, B.Sc., (Lond.), F.C.S.

THE problem of Alchemy presents many aspects to our view, but, to my mind, the most fundamental of these is psychological, or, perhaps I should say, epistemological. It has been said that the proper study of man is man; and to study man we must study the beliefs of man. Now so long as we neglect great tracts of such beliefs, because they have been, or appear to have been, superceded, so long will our study be incomplete and ineffectual. And this, let me add, is no mere excuse for the study of Alchemy, no mere afterthought put forward in justification of a predilection, but a plain statement of fact that renders this study an imperative need. There are other questions of interest—of very great interest—concerning Alchemy, questions, for instance, as to the scope and validity of its doctrines; but we ought not to allow their fascination and promise to distract our attention from the fundamental problem, whose solution is essential to their elucidation.

At the first General Meeting of this Society, held on January 10th., 1913, I had the honour and pleasure of reading a paper on "The Origin of Alchemy" written from the standpoint I have briefly sketched in the foregoing words. [This JOURNAL, vol. 1, pp. 2-14]. In that paper my thesis was "that the alchemists constructed their chemical theories for the main part by means of *à priori* reasoning, and that the premises from which they started were (i.) the truth of mystical theology, especially the doctrine of the soul's regeneration, and (ii.) the truth of mystical philosophy, which asserts that the objects of nature are symbols of spiritual verities." Now, I wish to treat my present thesis, which is concerned with a further source from which the alchemists derived certain of their views and modes of expression by means of *à priori* reasoning, in connection with, and, in a sense, as complementary to, my former thesis. It will be necessary for me, therefore, briefly to deal with certain criticisms of this thesis.

The criticisms referred to are those contained in a paper entitled "The Canon of Criticism in Respect of Alchemical Literature," read by Mr. Arthur Edward Waite at the second General Meeting of this Society, held on February 14th., [this JOURNAL, vol. 1, pp. 17-30]. And firstly, let me say how glad I was that the paper read at the second meeting of this Society was, in part at least, a criticism of that read at the first; because this served to define the true function of such meetings, namely that of free discussion and interchange of thought. At the same time I was also glad that the paper was not completely critical and that it is possible for me to feel the support of Mr. Waite's authority for certain of my views. But some misunderstanding was occasioned, I think, by my use of the word "mystical," though I attempted to define the sense in which I employed it. I did not intend by the term any body of belief or practice necessarily opposed to orthodoxy, and where I have written "mystical theology", one might almost read "Catholic theology", were it not for the fact that Alchemy is not exclusively a Christian product. Mr. Waite seems to hold that the assimilation of alchemical doctrines concerning the metals to those of Mysticism concerning the soul was an event late in the history of Alchemy, and was undertaken in the interests of the latter doctrines. Now, we know that certain mystics of the sixteenth and seventeenth centuries did borrow from the alchemists much of their terminology with which to discourse of spiritual mysteries—Jacob Boehme, Henry Khunrath, and perhaps Thomas Vaughan, may be mentioned as the most prominent cases in point. But how was this possible if it were not, as I have suggested, the repayment, in a sense, of a sort of philological debt? Transmutation was an admirable vehicle of language for describing the soul's regeneration, just because the doctrine of transmutation was the

result of an attempt to apply the doctrine of regeneration in the sphere of metallurgy; and similar remarks hold of the other prominent doctrines of Alchemy.

The wonderful fabric of alchemical doctrine was not woven in a day, and as it passed from loom to loom, from Byzantium to Syria, from Syria to Arabia, from Arabia to Spain and Latin Europe, so its pattern changed; but it was always woven *à priori*, in the belief that that which is below is as that which is above. In its final form, I think, it is distinctly Christian.

In *The Turba Philosophorum*, the oldest known work of Latin Alchemy,—a work which, claiming to be of Greek origin, whilst not that, is certainly Greek in spirit,—we frequently come across statements of a decidedly mystical character. "The regimen," we read, "is greater than is perceived by reason, except through divine inspiration." [*The Turba Philosophorum, or Assembly of the Sages;* translated by Arthur Edward Waite (1896), p. 128]. Copper, it is insisted upon again and again, has a soul as well as a body; and the Art, we are told, is to be defined as "the liquefaction of the body and the separation of the soul from the body, seeing that copper, like a man, has a soul and a body" [*ibid.* p. 193, *cf* pp. 102 and 152]. Moreover, other doctrines are here propounded which, although not so obviously of a mystical character, have been traced to mystical sources in my paper on "The Origin of Alchemy" already referred to. There is, for instance, the doctrine of purification by means of putrefaction, this process being likened to that of the resurrection of man. "These things being done," we read, "God will restore unto it [the matter operated on] both the soul and the spirit thereof, and the weakness being taken away, that matter will be made strong, and after corruption will be improved, even as a man becomes stronger after resurrection and younger than he was in this world." [*ibid.* p. 101, *cf* pp. 27 and 197]. The three stages in the alchemical work—black, white and red—corresponding to, and as I maintain, based on, the three stages in the life of the mystic, are also more than once mentioned, "Cook them [the king and his wife], therefore, until they become black, then white, afterwards red, and finally until a tingeing venom is produced" [*ibid.* p 98, *cf.* p. 29].

In view of these quotations, the alliance (shall I say?) between Alchemy and Mysticism cannot be asserted to be of late origin. And we shall find similar statements, if we go further back in time. To give but one example:—"Among the earliest authorities," writes Mr. Waite, "the *Book of Crates* says that copper, like man, has a spirit, soul, and body," the term copper being symbolical and applying to a stage in the alchemical work. But nowhere in the *Turba* do we meet with the concept of the Philosopher's

Stone as the medicine of the metals, a concept characteristic of Latin Alchemy, and, to quote Mr. Waite again, "it does not appear that the conception of the Philosopher's Stone as a medicine of metals and of men was familiar to Greek Alchemy" [*ibid*, p 71].

All this seems to me very strongly to support my view of the origin of Alchemy, which requires a specifically Christian mysticism only for this specific concept of the Philosopher's Stone in its fully fledged form. At any rate, the development of alchemical doctrine can be seen to have proceeded concomitantly with the development of mystical philosophy and theology. Those who are not prepared here to see effect and cause may be asked, not only to formulate some other hypothesis in explanation of the origin of Alchemy, but also to explain this fact of concomitant development.

A few remarks may here be suitably made concerning what has been called the transcendental theory, which sees in alchemical literature veiled accounts of the soul's adventures—its travails and triumphs. Mr. Philip Sinclair Wellby, in his "Reflections on 'Basil Valentine'" read at the twelfth General Meeting of this Society [this JOURNAL, vol. ii., pp. 91-101], gave us an eloquent address from this point of view, and his paper does not stand alone in our proceedings. Let me at once say that, speaking of generalities, I have no quarrel with the philosophy of the school of transcendental Alchemy—indeed, Mr. Wellby was able, without in the least departing from their intention, to quote many words of mine in support of his thesis, so far as concerned the question of the reality of spiritual transmutation. The processes of spiritual Alchemy are, I believe, possible processes. But what I question is whether the alchemists, with certain exceptions late in the history of Alchemy, to whom reference has already been made, were concerned with such processes. Mr. Wellby has said "that the language of mystical theology seemed to be hardly so suitable to the exposition [as I maintain] or concealment of chemical theories, as the language of a definite and generally credited branch of science was suited to the expression of a veiled and symbolical process such as the regeneration of man" [this JOURNAL, vol. ii, p. 104]. But such a statement is only possible with respect to the latest days of Alchemy, when there *was* a science of chemistry, definite and generally credited. The science of chemistry, it must be remembered, had no growth separate from Alchemy, but evolved therefrom. Of the days before this evolution had been accomplished, it would be in closer accord with the facts to say that theology, including the doctrine of man's regeneration, was in the position of "a definite and generally credited branch of science", whereas chemical phenomena were

veiled in deepest mystery and tinged with the dangers appertaining to magic. As concerns the origin of Alchemy, therefore, the argument as to suitability of language appears to support my own theory; it being open to assume that after formulation—that is, in Alchemy's latter days—chemical nomenclature and theories were employed by certain writers to veil heterodox religious doctrine.

In the course of a discussion at one of our meetings, Mr. Sijil Abdul-Ali remarked that "he thought that, in the mind of the alchemist at least, there was something more than analogy between metallic and psychic transformations, and that the whole subject might well be assigned to the doctrinal category of ineffable and transcendent Oneness. This Oneness comprehended all—soul and body, spirit and matter, mystic visions and waking life—and the sharp metaphysical distinction between the mental and the non-mental realms, so prominent during the history of philosophy, was not regarded by these early investigators in the sphere of nature. There was the sentiment, perhaps only dimly experienced, that not only the law, but the substance of the Universe, was one; that mind was everywhere in contact with its own kindred; and that metallic transmutation would, somehow, so to speak, signalize and seal a hidden transmutation of the soul." [This JOURNAL, vol. II., p. 102].

I am to a large extent in agreement with this view. Mr. Abdul-Ali quarrels with the term "analogy," and, if it is held to imply any merely superficial resemblance, it certainly is not adequate to my own needs, though I know not what other word to use. Swedenborg's term "correspondence" would be better for my purpose, as standing for an essential connection between spirit and matter, arising out of the causal relationship of the one to the other. But if Swedenborg believed that matter and spirit were most intimately related, he nevertheless had a very precise idea of their distinctness, which he formulated in his doctrine of degrees—a very exact metaphysical doctrine indeed. The alchemists, on the other hand, had no such clear ideas on the subject. It would be even more absurd to attribute to them a Cartesian dualism. To their ways of thinking, it was by no means impossible to grasp the spiritual essences of things by what we should now call chemical manipulations. For them, a gas was still a ghost and air a spirit. One could quote pages in support of this, but I will content myself with a few words from the *Turba*—the antiquity of the book makes it of value, and anyway it is near at hand. "Permanent water," whatever that may be, being pounded with the body, we are told, "by the will of God it turns that body into spirit," [p. 65]. And in another place we read that "the Philosophers have said: Except ye turn bodies into not-bodies, and incorporeal things into bodies,

ye have not yet discovered the rule of operation" [p. 110, *cf.* p. 154]. No one who could write like this, and believe it, could hold matter and spirit as altogether distinct. But it is equally obvious that the injunction to convert body into spirit is meaningless if spirit and body are held to be identical. I have been criticised for crediting the alchemists "with the philisophic acumen of Hegel," [*vide* a rather frivolous review of my *Alchemy: Ancient and Modern* in *The Outlook* for January 14th., 1911]; but that is just what I think one ought to avoid doing. At the same time, however, it is extremely difficult to give a precise account of views which are very far from being precise themselves. But I think it may be said, without fear of error, that the alchemist who could say, "As above, so below," *ipso facto* recognised both a very close connection between spirit and matter, and a distinction between them. Moreover, the division thus implied corresponded, on the whole, to that between the realms of the known (or what was thought to be known), and the unknown. The Church, whether Christian or pre-Christian, had very precise (comparatively speaking) doctrine concerning the soul's origin, duties, and destiny, backed up by tremendous authority, and speculative philosophy had advanced very far by the time Plato began to concern himself with its problems. Nature, on the other hand, was a mysterious world of magical happenings, and there was nothing deserving of the name of natural science until Alchemy was becoming decadent. It is not surprising, therefore, that the alchemists —these men who wished to probe Nature's hidden mysteries —should reason from above to below; indeed, unless they had started *de novo*—as babes knowing nothing—there was no other course open to them. And that they did adopt the obvious course is all that my former thesis amounted to. In passing, it is interesting to note that a sixteenth-century alchemist who had exceptional opportunities and leisure to study the works of the old masters of Alchemy, seems to have come to a similar conclusion as to the nature of their reasoning. He writes: "The Sages . . . after having conceived in their minds a Divine idea of the relations of the whole universe . . selected from among the rest a certain substance, from which they sought to elicit the elements, to separate and purify them, and then again put them together in a manner suggested by a keen and profound observation of Nature." [EDWARD KELLY: *The Humid Path.* See *The Alchemical Writings of Edward Kelly*, edited by A. E. Waite, 1893, pp. 59 and 60].

In describing the realm of spirit as *ex hypothesi* known, that of nature unknown, to the alchemists, I have made one important omission, and that, if I may use the name of a science to denominate a complex of crude facts, is the realm

of physiology, which, falling within that of Nature, must yet be classed as *ex hypothesi* known. But to elucidate this point some further considerations are necessary touching the general nature of knowledge. Facts may be roughly classed, according to their obviousness and frequency of occurrence, into four groups. There are, first of all, facts which are so obvious, to put it paradoxically, that they escape notice, and these facts are the commonest and most frequent in their occurrence. I think it is Mr. Chesterton who has said that, looking at a forest one cannot see the trees because of the forest; and he has a good story illustrating the point, in which a man renders himself invisible by dressing up in a postman's uniform ["The Invisible Man" in *The Innocence of Father Brown*]. At any rate, we know that when a phenomenon becomes persistent, it tends to escape observation; thus, continuous motion can only be appreciated with reference to a stationary body, and a noise, continually repeated, becomes, at last, inaudible. The tendency of often repeated actions to become habitual, and at last automatic, that is to say, carried out without consciousness, is a closely related phenomenon. We can understand, therefore, why a knowledge of the existence of the atmosphere, as distinct from wind, came late in the history of primitive man, as, also, many other curious gaps in his knowledge. In the second group we may put those facts which are common, that is, of frequent occurrence, and are classed as obvious. Such facts are accepted at face-value by the primitive mind, and are used as the basis of explanation of facts in the two remaining groups, namely, those facts which, though common, are apt to escape attention owing to their inconspicuousness, and those which are of infrequent occurrence. When the mind takes the trouble to observe a fact of the third group, or is confronted by one of the fourth, it feels a sense of surprise. Such facts wear an air of strangeness, and the mind can only rest satisfied when it has shown them to itself as in some way cases of the second group of facts, or, at least, brought them into relation therewith. That is what the mind—at least, the primitive mind—means by "explanation." "It is obvious," we say, commencing an argument, thereby proclaiming our intention to bring that which at first is in the category of the not-obvious, into the category of the obvious. It remains for a more sceptical type of mind—a later product of human evolution—to question obvious facts, to explain them, either, as in science, by establishing deeper and more far reaching correlations between phenomena, or in philosophy, by seeking for the source and purpose of such facts, or, better still, by both methods.

Of the second class of facts—those common and obvious facts which the primitive mind accepts at face-value and uses

as the basis of its explanations of such things as seem to it to stand in need of explanation—one could hardly find a better instance than sex. The universality of sex, and the intermittent character of its phenomena, are both responsible for this. Indeed, the attitude of mind I have referred to is not restricted to primitive man; how many people to-day, for instance, just accept sex as a fact, pleasant or unpleasant, according to their predilections, never querying, or feeling the need to query, its why and wherefore? It is by no means surprising, that when man first felt the need of satisfying himself as to the origin of the universe, he should have done so by a theory founded on what he knew of his own generation. Indeed what other source of explanation was open to him? Of what other form of origin was he aware? Seeing Nature springing to life at the kiss of the sun, what more natural than that she should be regarded as the divine Mother, who bears fruits because impregnated by the Sun-God? It is not difficult to understand, therefore, why primitive man paid divine honours to the organs of sex in man and woman, or to such things as he considered symbolical of them,—that is to say, to understand the extensiveness of those religions which are grouped under the term "Phallicism." Nor, to my mind, is the symbol of sex a wholly inadequate one under which to conceive of the origin of things. That Phallicism usually appears to have degenerated into immorality of a very pronounced type is to be deplored, but an immoral view of human relations is by no means a necessary corollary to a sexual theory of the universe.

The Aruntas of Australia, I believe, when discovered by Europeans, had not yet observed the connection between sexual intercourse and birth. They believed that conception was occasioned by the woman passing near a *churinga*—a peculiarly-shaped piece of wood or stone, in which a spirit-child was concealed, which entered into her. But archæological research having established the fact that Phallicism has, at one time or another, been common to nearly all races, it seems probable that the Arunta tribe represents a deviation from the normal line of mental evolution. At any rate, an isolated phenomenon, such as this, cannot be held to controvert the view that regards Phallicism as in this normal line. Nor was the attitude of mind that not only accepts sex at face-value as an obvious fact, but uses the concept of it to explain other facts, a merely transitory one. We may, indeed, not difficultly trace it throughout the history of Alchemy, giving rise to what I have termed "The Phallic Element in Alchemical Doctrine."

In aiming to establish this, I may be thought to be endeavouring to establish a counter-thesis to that of my former paper, but in virtue of the alchemists' belief in the

mystical unity of all things, in the analogical or correspondential relationship of all parts of the Universe to each other, the mystical and the phallic views of the origin of Alchemy are complementary, not antagonistic. Indeed, the assumption that the metals are the symbols of man almost necessitates the working out of physiological as well as mystical analogies, and these two series of analogies are themselves connected because the principle "As above, so below" was held to be true of man himself. We might, therefore, expect to find a more or less complete harmony between the two series of symbols, though as a matter of fact, contradictions will be encountered when one comes to consider points of detail. The undoubtable antiquity of the phallic element in alchemical doctrine, precludes the idea that this element was an adventitious one, that it was in any sense an afterthought; notwithstanding, however, the evidence, as will I hope become apparent later in this paper, indicates that mystical ideas played a much more fundamental part in the genesis of alchemical doctrine than purely phallic ones—mystical interpretations fit alchemical processes and theories far better than do sexual interpretations; in fact, sex has to be interpreted somewhat mystically in order to work out the analogies fully and satisfactorily.

As concerns Greek Alchemy, I shall content myself with a passage from a work *On the Sacred Art*, attributed to Olympidorus, followed by some quotations from and references to the *Turba*. In the former work it is stated on the authority of Horus that "The proper end of the whole art is to obtain the semen of the male secretly, seeing that all things are male and female. Hence [we read further] Horus says in a certain place: Join the male and the female, and you will find that which is sought; as a fact, without this process of re-union, nothing can succeed, for Nature charms Nature," etc. The *Turba* insistently commands those who would succeed in the Art, to conjoin the male with the female [*vide*, pp. 60, 92, 96, 97, 134, 135 and elsewhere in Mr. Waite's translation], and, in one place, the male is said to be lead; the female orpiment [*ibid*, p. 57]. We find also the alchemical work symbolised by the growth of the embryo in the womb. "Know," we are told, " . . that out of the elect things nothing becomes useful without conjunction and regimen, because sperma is generated out of blood and desire. For the man mingling with the woman, the sperm is nourished by the humour of the womb, and by the moistening blood, and by heat, and when forty nights have elapsed the sperm is formed. . . God has constituted that heat and blood for the nourishment of the sperm until the fœtus is brought forth. So long as it is little, it is nourished with milk, and in proportion as the vital heat is maintained, the bones are strengthened. Thus it behoves you also to act in

this Art." [*ibid.* pp. 179-181 (second recension); *cf.* pp. 103-104].

The use of the mystical symbols of death (putrefaction) and resurrection or rebirth to represent the consummation of the alchemical work, and that of the phallic symbols of the conjunction of the sexes and the development of the fœtus, both of which we have found in the *Turba*, are current throughout the course of Latin Alchemy. In *The Chymical Marriage of Christian Rosencreutz*, that extraordinary document of what is called "Rosicrucianism," and symbolic romance of considerable ability whoever its author was [see Mr. Waite's *The Real History of the Rosicrucians*, 1887, for translation and discussion as to origin and significance], an attempt is made to weld the two sets of symbols—the one of marriage, the other of death and resurrection unto glory,—into one allegorical narrative; and it is to this fusion of seemingly disparate concepts that much of its fantasticality is due. Yet the concepts are not really disparate; for not only is the second birth like unto the first, and not only is the resurrection unto glory described as the Bridal Feast of the Lamb, but marriage is, in a manner, a form of death and rebirth. To justify this in a crude sense, I might say that, from the male standpoint at least, it is a giving of the life-substance to the beloved that life may be born anew and increase. But in a deeper sense it is, or rather should be as an ideal, a mutual sacrifice of self for each other's good —a death of the self that it may arise with an enriched personality.

It is when we come to an examination of the ideas at the root of, and associated with, the alchemical concept of "principles," that we find some difficulty in harmonising the two series of symbols—the mystical and the phallic. In one place in the *Turba* we are directed "to take quicksilver, in which is the male potency or strength" [Mr. Waite's translation, p. 79]; and this concept of mercury as male is quite in accord with the mystical origin I have assigned to the doctrine of the alchemical principles [*vide* "The Origin of Alchemy"]. I have shown, I think, that salt, sulphur, and mercury are the analogues *ex hypothesi* of the body, soul (affections and volitions), and spirit (intelligence or understanding) in man; and the affections are invariably regarded as especially feminine, the understanding as especially masculine. But it seems that the more common opinion, amongst Latin alchemists at any rate, was that sulphur was male and mercury female. Writes Bernard of Trévisan, "For the Matter suffereth, and the Form acteth assimulating the Matter to itself, and according to this manner the Matter naturally thirsteth after a Form, as a Woman desireth an Husband, and a Vile thing a precious one, and an impure a pure one, so also *Argent vive* coveteth

a Sulphur, as that which should make perfect which is imperfect: So also a Body freely desireth a Spirit, whereby it may at length arrive at its perfection" [*A Treatise of the Philosopher's Stone*, 1683 (see *Collectanea Chymica: A Collection of Ten Several Treatises in Chymistry*, 1684, p. 92)]. At the same time, however, Mercury was regarded as containing in itself both male and female potencies—it was the product of male and female; and, thus, the seed of all the metals. ". . . Nothing in the World can be generated," writes Bernard, "without these two Substances, to wit, a Male and Female: From whence it appeareth, that although these two Substances are not of one and the same species, yet one Stone doth thence arise, and although they appear and are said to be two Substances, yet in truth it is but one, to wit, *Argent-vive*. But of this *Argent-vive* a certain part is fixed and digested, Masculine, hot, dry and secretly informing: But the other which is the Female, is volatile, crude, cold and moyst" [*ibid.* p. 91]. Edward Kelly, who is valuable because he summarises authoritative opinion, says somewhat the same thing, though in clearer words:—"The active elements . . these are water and fire . . may be called male, while the passive elements . . . earth and air . . represent the female principle. . . . Only two elements, water and earth, are visible, and earth is called the hiding-place of fire, water the abode of air. In these two elements we have the broad law of limitation which divides the male from the female. . . The first matter of minerals is a kind of viscous water, mingled with pure and impure earth. . . Of this viscous water and fusible earth, or sulphur, is composed that which is called quicksilver, the first matter of the metals. Metals are nothing but Mercury digested by different degrees of heat." [*The Stone of the Philosophers*. See *The Alchemical Writings of Edward Kelly*, edited by A. E. Waite, 1893, pp. 9 and 11-13]. There is one difference, however, between these two writers, inasmuch as Bernard says that "the Male and Female abide together in closed Natures; the Female truly as it were Earth and Water, the Male as Air and Fire." Mercury for him arises from the two former elements, sulphur from the two latter. [*The Answer of Bernardus Trevisanus, to the Epistle of Thomas of Bononia, Physician to King Charles the Eighth* (see JOHN FREDERICK HOUPREGHT: *Aurifontina Chymica*, 1680, p. 208]. And the difference is important as showing beyond question the *à priori* nature of alchemical reasoning. The idea at the back of the alchemists' minds was undoubtedly that of the ardour of the male in the act of coition and the alleged, or perhaps I should say apparent, passivity of the female. Consequently, sulphur, the fiery principle of combustion, and such elements as were reckoned to be active, were denominated "male,"

whilst mercury, the principle acted on by sulphur, and such elements as were reckoned to be passive, were denominated "female." As to the question of origin, I do not think that the palm can be denied to the mystical as distinguished from the phallic theory. And in its final form, the doctrine of principles is incapable of a sexual interpretation. Mystically understood, man is capable of analysis into two principles—since "body" may be neglected as unimportant (a false view, I think, by the way) or "soul" and "spirit" may be united under one head,—*or* into three; whereas the postulation of *three* principles on a sexual basis is impossible. Joannes Isaacus Hollandus is the earliest author in whose works I have observed explicit mention of three principles, though he refers to them in a manner seeming to indicate that the doctrine was no new one in his day. I have only read one little tract of his; there is nothing sexual in it, and the author's mental character may be judged from his remarks concerning "the three flying spirits,"—taste, smell and colour. These, he writes, "are the life, soule, and quintessence of every thing, neither can these three spirits be one without the other, as the Father, the Son, and the Holy Ghost are one, yet three Persons, and one is not without the other" [*One Hundred and Fourteen Experiments and Cures of the Famous Physitian Theophrastus Paracelsus. Whereunto is added . . . certain Secrets of Isaac Hollandus, concerning the Vegetall and Animall Work*, 1652, pp. 29 and 30].

When the alchemists described an element or principle as male or female they meant what they said, as I have already intimated, to the extent, at least, of firmly believing, that seed was produced by the two metallic sexes. By their union metals were thought to be produced in the womb of the earth; and mines were shut in order that, by the birth and growth of new metal, the impoverished veins might be replenished. In this way, too, was the *magnum opus*, the generation of the Philosopher's Stone—in species gold, but purer than the purest—to be accomplished. To conjoin that which Nature supplied, to foster the growth and development of that which was thereby produced; such was the task of the alchemist. "For there are Vegetables," says Bernard of Trévisan in his *Answer to Thomas of Bononia*, "but Sensitives more especially, which for the most part beget their like, by the Seeds of the Male and Female for the most part concurring and conmixt by copulation; which work of Nature the Philosophick Art imitates the generation of Gold" [*loc. cit.*, p. 216].

Mercury, as I have said, was commonly regarded as the seed of the metals, or as especially the female seed, there being two seeds, one the male, according to Bernard, "more ripe, perfect and active," the other the female, "more

immature and in a sort passive" [*ibid*, p. 217; *cf.*, p. 236] " . . . our Philosophick Art," he says in another place, following a description of the generation of man, " . . . is like this procreation of Man; for as in *Mercury* (of which Gold is by Nature generated in Mineral Vessels) a natural conjunction is made of both the Seeds, Male and Female, so by our artifice, an artificial and like conjunction is made of Agents and Patients" [*ibid*, p. 218]. "All teaching," says Kelly, "that changes Mercury is false and vain, for this is the original sperm of metals, and its moisture must not be dried up, for otherwise it will not dissolve" [*loc. cit.*, p. 22], and quotes Arnold to a similar effect [p. 16]. One wonders how far the fact that human and animal seed is fluid influenced the alchemists in their choice of mercury, the only metal liquid at ordinary temperatures, as the seed of the metals. There are, indeed, other good reasons for this choice, but that this idea played some part in it, and was present at the back, at least, of the alchemists' minds, I have little doubt.

The most philosophic account of metallic seed is that, perhaps, of the mysterious adept "Eirenæus Philalethes," who distinguishes between it and mercury in a rather interesting manner. He writes, "Seed is the means of generic propagation given to all perfect things here below; it is the perfection of each body; and anybody that has no seed must be regarded as imperfect. Hence there can be no doubt that there is such a thing as metallic seed. . . . All metallic seed is the seed of gold; for gold is the intention of Nature in regard to all metals. If the base metals are not gold, it is only through some accidental hindrance; they are all potentially gold. But, of course, this seed of gold is most easily obtainable from well-matured gold itself . . . Remember that I am now speaking of metallic seed, and not of Mercury. . . . The seed of metals is hidden out of sight still more completely than that of animals; nevertheless, it is within the compass of our Art to extract it. The seed of animals and vegetables is something separate, and may be cut out, or otherwise separately exhibited; but metallic seed is diffused throughout the metal, and contained in all its smallest parts; neither can it be discerned from its body: its extraction is therefore a task which may well tax the ingenuity of the most experienced philosopher; the virtues of the whole metal have to be intensified, so as to convert it into the sperm of our seed, which, by circulation, receives the virtues of superiors and inferiors, then next becomes wholly form, or heavenly virtue, which can communicate this to others related to it by homogeneity of matter. . . . The place in which the seed resides is—approximately speaking—water; for, to speak properly and exactly, the seed is the smallest part of the metal, and is invisible; but as this

invisible presence is diffused throughout the water of its kind, and exerts its virtue therein, nothing being visible to the eye but water, we are left to conclude from rational induction that this inward agent (which is, properly speaking, the seed) is really there. Hence we call the whole of the water seed, just as we call the whole of the grain seed, though the germ of life is only a smallest particle of the grain" [*The Metamorphosis of Metals.* See *The Hermetic Museum,* edited by A. E. Waite, 1893, vol. ii, pp. 238 *et seq*].

To say that "Philalethes'" seed resembles the modern electron is perhaps to draw a rather fanciful analogy, since the electron is a very precise idea, the result of the mathematical interpretation of the results of exact experimentation. But though it would be absurd to speak of this concept of the one seed of all metals as an anticipation of the electron, to apply the expression "metallic seed" to the electron, now that the concept of it has been reached, does not seem so absurd.

According to "Philalethes", the extraction of the seed is a very difficult process, accomplishable, however, by the aid of mercury—the water homogeneous with itself. Mercury, again, is the form of the seed thereby obtained. He writes: "When the sperm hidden in the body of gold is brought out by means of our Art, it appears under the form of Mercury, whence it is exalted into the quintessence, which is first white, and then, by means of continuous coction, becomes red." And again, "There is a womb into which the gold (if placed therein) will, of its own accord, emit its seed, until it is debilitated and dies, and by its death is renewed into a most glorious King, who thenceforward receives power to deliver all his brethren from the fear of death" [*ibid.* pp. 241 *et seq.*].

The fifteenth-century alchemist Thomas Norton was peculiar in his views, inasmuch as he denied that metals have seed. He writes: "Nature never multiplies anything, except in either one or the other of these two ways: either by decay, which we call putrefaction, or in the case of animate creatures, by propagation. In the case of metals there can be no propagation, though our Stone exhibits something like it. . . Nothing can be multiplied by inward action unless it belong to the vegetable kingdom, or the family of sensitive creatures. But the metals are elementary objects, and possess neither seed nor sensation" [*The Ordinal of Alchemy.* See *The Hermetic Museum,* 1893, vol. ii, pp. 15 and 16].

His theory of the origin of the metals is astral rather than phallic. "The only efficient cause of metals", he says, "is the mineral virtue, which is not found in every kind of earth, but only in certain places and chosen mines, into

which the celestial sphere pours its rays in a straight direction year by year, and according to the arrangement of the metallic substance in these places, this or that metal is gradually formed" [*loc. cit.*, pp. 15 and 16].

In view of their well-known astrological symbolism, that gold should be masculine, silver feminine, does not surprise us, because the idea of the masculinity of the sun and the femininity of the moon is a bit of Phallicism that still remains with us. It was by the marriage of gold and silver that very many alchemists considered the *magnum opus* was to be achieved. Writes Bernard of Trévisan: "The subject of this admired Science [Alchemy] is *Sol* and *Luna*, or rather Male and Female, the Male is hot and dry, the Female cold and moyst." The aim of the work, he tells us, is the extraction of the spirit of gold, which alone can enter into bodies and tinge them. Both *Sol* and *Luna*, are *absolutely* necessary, and "whoever . . shall think that a Tincture can be made without these two Bodyes, . . he proceedeth to the Practice like one that is blind" [*A Treatise*, etc., *loc. cit.*, pp. 83 and 87].

Kelly has teaching to the same effect, the Mercury of the Philosophers being for him the menstruum or medium wherein the copulation of Gold with Silver is to be accomplished. Mercury, in fact, seems to have been everything and to have been capable of effecting everything in the eyes of the alchemists. Concerning gold and silver, Kelly writes, "Only one metal, viz., gold, is absolutely perfect and mature. Hence it is called the perfect male body. . . . Silver is less bounded by aqueous immaturity than the rest of the metals, though it may indeed be regarded as to a certain extent impure, still its water is already covered with the congealing vesture of its earth, and it thus tends to perfection. This condition is the reason why silver is everywhere called by the Sages the perfect female body." And later he writes: "In short, our whole Magistery consists in the union of the male and female, or active and passive, elements through the mediation of our metallic water and a proper degree of heat. Now, the male and female are two metallic bodies, and this I will again prove by irrefragable quotations from the Sages." Some of the quotations will be given: "Avicenna: 'Purify husband and wife separately, in order that they may unite more intimately; for if you do not purify them, they cannot love each other. By conjunction of the two natures you get a clear and lucid nature, which, when it ascends, becomes bright and serviceable.' . . . . Senior: 'I, the Sun, am hot and dry, and thou, the Moon, art cold and moist; when we are wedded together in a closed chamber, I will gently steal away thy soul.' . . Rosinus: 'When the Sun, my brother, for the love of me (silver) pours his sperm (*i.e.*, his solar fatness) into the chamber (*i.e.*, my

Lunar body), namely, when we become one in a strong and complete complexion and union, the child of our wedded love will be born.' . . 'Rosary': 'The ferment of the Sun is the sperm of the man, the ferment of the Moon, the sperm of the woman. Of both we get a chaste union and a true generation.' . . Aristotle: 'Take your beloved son, and wed him to his sister, his white sister, in equal marriage, and give them the cup of love, for it is a food which prompts to union.'" [*The Stone of the Philosophers, loc. cit.* pp. 13, 33, 35, 36, 38, 39, 40 and 47]. Kelly, of course, accepts the traditional authorship of the works from which he quotes, though in many cases such authorship is doubtful to say the least. The alchemical works ascribed to Aristotle, for instance, are beyond question forgeries. Indeed, the symbol of a union between brother and sister, here quoted, could hardly be held as acceptable to Greek thought, to which incest was the most abominable and unforgiveable sin. It seems liklier that it originated with the Egyptians, to whom such unions were tolerable in fact. The symbol is often met with in Latin Alchemy. Michael Maier also says: "*Conjunge fratrem cum sorore et propina illis poculum amoris,*" the words forming a motto to a picture of a man and woman clasped in each other's arms, to whom an older man offers a goblet. This symbolic picture occurs in his *Atalanta Fugiens, hoc est Emblemata Nova de Secretis Naturæ Chymica, etc.* (Oppenheim, 1617). This work is an exceedingly curious one. It consists of a number of carefully executed pictures, each accompanied by a motto, a verse of poetry set to music, with a prose text. Many of the pictures are phallic in conception, and practically all of them are anthropomorphic. Not only the primary function of sex, but especially its secondary one of lactation, is made use of. The most curious of these emblematic pictures, perhaps, is one symbolising the conjunctin of gold and silver. It shows on the right a man and woman, representing the sun and moon, in the act of coition, standing up to the thighs in a lake. On the left, on a hill above the lake, a woman (with the moon as halo) gives birth to a child. A boy is coming out of the water towards her. The verse informs us that: "the bath glows red at the conception of the boy, the air at his birth." We learn also that "there is a stone, and yet there is not, which is the noble gift of God. If God grants it, fortunate will be he who shall receive it" [*loc. cit.*, p. 145].

Concerning the nature of gold, there is a discussion in *The Answer of Bernardus Trevisanus to the Epistle of Thomas of Bononia*, with which I shall close my consideration of the present aspect of the subject. Its interest for us lies in the arguments which are used, and are held to be valid. "Besides, you say that Gold, as most think, is nothing else than *Quick-silver* coagulated naturally by the force

of *Sulphur;* yet so, that nothing of the *Sulphur* which generated the Gold doth remain in the substance of the Gold: as in an humane *Embryo*, when it is conceived in the Womb, there remains nothing of the Father's Seed, according to *Aristotle's* opinion, but the Seed of the Man doth only coagulate the *menstrual* blood of the Woman: in the same manner you say, that after *Quick-silver* is so coagulated, the form of Gold is perfected in it, by virtue of the Heavenly Bodies, and especially of the Sun" [*loc. cit.*, pp. 206 and 217]. Bernard, however, decides against this view, holding that gold contains both mercury and sulphur, for "we must not imagine, according to their mistake who say, that the Male Agent himself approaches the Female in the coagulation, and departs afterwards; because, as is known in every generation, the conception is active and passive: Both the active and the passive, that is, all the four Elements, must always abide together, otherwise there would be no mixture and the hope of generating an off-spring would be extinguished" [*ibid*, pp. 212 and 213].

In conclusion I wish to say something of the role of sex in spiritual Alchemy. But in doing this I am making a by no means necessary addition to my thesis, and I am anxious that it should be understood as such, so that no confusion as to the issues may arise.

In the great alchemical collection of Mangetus, there is a curious work (originally published in 1677), entitled *Mutus Liber*, which consists entirely of plates, without letter-press. Its interest for us in our present concern is that the alchemist, from the commencement of the work until its achievement, is shown working in conjunction with a woman. We are reminded of Nicholas Flamel, who is reputed to have achieved the *magnum opus* together with his wife Pernelle, as well as of the many other women workers in the Art of whom we read. It would be of interest in this connection to know exactly what association of ideas was present in the mind of Michael Maier, when he commanded the alchemist: "Perform a work of women on the molten white lead, that is, cook" [*Atalanta Fugiens*, 1617, p. 97], and illustrated his behest with a picture of a pregnant woman watching a fire over which is suspended a cauldron, and on which are three jars. There is a cat in the background, and a tub containing two fish in the foreground, the whole forming a very curious collection of emblems. Mr. Waite, who has dealt with some of these matters, luminously though briefly, in an article on "Woman and the Hermetic Mystery," published in *The Occult Review* for June, 1912 [vol. xv., pp. 323-330], says "The evidences with which we have been dealing concern solely the physical work of alchemy and there is nothing of its mystical aspects. The *Mutus Liber* is undoubtedly on the literal side of metallic transmutation;

the memorials of Nicholas Flamel are also on that side," etc. He adds, however, that "It is on record that an unknown master testified to his possession of the mystery, but he added that he had not proceeded to the work because he had failed to meet with an elect woman who was necessary thereto"; and proceeds to say—"I suppose that the statement will awaken in most minds only a vague sense of wonder, and I can merely indicate in a few general words that which I see behind it. Those Hermetic texts which bear a spiritual interpretation and are as if a record of spiritual experience present, like the literature of physical alchemy, the following aspects of symbolism: (*a*) the marriage of sun and moon; (*b*) of a mystical king and queen; (*c*) an union between natures which are one at the root but diverse in manifestation; (*d*) a transmutation which follows this union and an abiding glory therein. It is ever a conjunction between male and female in a mystical sense; it is ever the bringing together by art of things separated by an imperfect order of things; it is ever the perfection of natures by means of this conjunction. But if the mystical work of alchemy is an inward work in consciousness, then the union between male and female is an union in consciousness; and if we remember the traditions of a state when male and female had not as yet been divided, it may dawn upon us that the higher alchemy was a practice for the return into this ineffable mode of being. The traditional doctrine is set forth in the Zohar and it is found in writers like Jacob Boehme; it is intimated in the early chapters of Genesis and, according to an apocryphal saying of Christ, the kingdom of heaven will be manifested when two shall be as one, or when that state has been once again attained. In the light of this construction we can understand why the mystical adept went in search of a wise woman with whom the work could be performed; but few there be that find her, and he confessed to his own failure. The part of woman in the physical practice of alchemy is like a reflection at a distance of this more exalted process, and there is evidence that those who worked in metals and sought for a material elixir knew that there were other and greater aspects of the Hermetic mystery."

So far Mr. Waite, whose impressive words I have quoted at some length; and he has given us a fuller account of the theory as found in the *Zohar* in his valuable work on *The Secret Doctrine in Israel* (1913). The *Zohar* regards marriage and the performance of the sexual functions in marriage as of supreme importance, and this not merely because marriage symbolises a divine union, unless that expression is held to include all that logically follows from the fact, but because, as it seems, the sexual act in marriage may, in fact, become a ritual of transcendental magic.

At least three varieties of opinion can be traced from the view of sex we have under consideration, as to the nature of the perfect man, and hence of the most adequate symbol for transmutation. According to one, and this appears to have been Jacob Boehme's view, the perfect man is conceived of as non-sexual, the male and female elements united in him having, as it were, neutralised each other. According to another, he is pictured as a hermaphroditic being, a concept we frequently come across in alchemical literature. It plays a prominent part in Maier's book *Atalanta Fugiens*, to which reference has already been made. Maier's hermaphrodite has two heads, one male, one female, but only one body, one pair of arms and one pair of legs. The two sexual organs, which are placed side by side, are delineated in the illustrations with considerable care, showing the importance Maier attached to the idea. This concept seems to me not only crude, but unnatural and repellent. But it may be said of both the opinions I have mentioned that they confuse between union and identity. It is the old mistake, with respect to a lesser goal, of those who hope for absorption in the Divine Nature and consequent loss of personality. It seems to be forgotten that a certain degree of distinction is necessary to the joy of union. "Distinction" and "separation," it should be remembered, have different connotations. If the supreme joy is that of self-sacrifice, then the self must be such that it can be continually sacrificed, else the joy is a purely transitory one, or rather, is destroyed at the moment of its consummation. Hence, though sacrificed, the self must still remain itself.

The third view of perfection, to which these remarks naturally lead, is that which sees it typified in marriage. The mystic-philosopher Swedenborg has some exceedingly suggestive things to say on the matter in his extraordinary work on *Conjugial Love*, which, curiously enough, seem largely to have escaped the notice of students of these high mysteries.

Swedenborg's heaven is a sexual heaven, because for him sex is primarily a spiritual fact, and only secondarily, and because of what it is primarily, a physical fact; and salvation is hardly possible, according to him, apart from a genuine marriage (whether achieved here or hereafter). Man and woman are considered as complementary beings, and it is only through the union of one man with one woman that the perfect angel results. The altruistic tendency of such a theory as contrasted with the egotism of one in which perfection is regarded as obtainable by each personality for itself alone, is a point worth emphasising. As to the nature of this union, it is, to use Swedenborg's own terms, a conjunction of the will of the wife with the understanding of the man, and reciprocally of the understanding of the man with the will

of the wife. It is thus a manifestation of that fundamental marriage between the good and the true, which is at the root of all existence; and, it is because of this fundamental marriage that all men and women are born into the desire (so easily perverted) to complete themselves by conjunction. The symbol of sexual intercourse is a legitimate one to use in speaking of this heavenly union; indeed, we may describe the highest bliss attainable by the soul, or conceivable by the mind, as a spiritual orgasm. Into conjugial love "are collected," says Swedenborg, "all the blessednesses, blissfulnesses, delightsomenesses, pleasantnesses, and pleasures, which could possibly be conferred upon man by the Lord the Creator" [*The Delights of Wisdom relating to Conjugial Love*, translated by A. H. Searle, 1891, §68]. In another place he writes, "Married partners [in heaven] enjoy similar intercourse with each other as in the world, but more delightful and blessed; yet without prolification, for which, or in place of which, they have spiritual prolification, which is that of love and wisdom." "The reason," he adds, "why the intercourse is more delightful and blessed, is, that when conjugial love becomes of the spirit, it becomes more interior and pure, and consequently more perceptible; and every delightsomeness grows according to the perception, and grows even until its blessedness is discernible in its delightsomeness." [*ibid.* § 51]. Such love, however, he says, is rarely to be found on earth.

A learned Japanese [Professor Yone Noguchi: *The Spirit of Japanese Art*, 1915, p. 37,] speaks with approval of Idealism as a "dream where sensuousness and spirituality find themselves to be blood brothers or sisters." It is a statement which involves either the grossest and most dangerous error, or the profoundest truth, according to the understanding of it. Woman is a road whereby man travels either to God or the devil. The problem of sex is a far deeper problem than appears at first sight, involving mysteries, both the direst and most holy. It is by no means a fantastic hypothesis that the inmost mystery of what a certain school of mystics call "the Secret Tradition" was a sexual one. At any rate, the fact that some of those, at least, to whom Alchemy connoted a mystical process, were alive to the profound spiritual significance of sex, renders of double interest what they have to intimate of the achievement of the *Magnum Opus* in man.

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# THE JOURNAL OF THE ALCHEMICAL SOCIETY.

EDITED BY H. STANLEY REDGROVE, B.Sc. (LOND.), F.C.S.

VOL. III., PART 19. MAY, 1915.

## REPORT OF TWENTIETH GENERAL MEETING.

THE twentieth General Meeting of THE ALCHEMICAL SOCIETY was held at 7.30 p.m., on Friday, May 14th. The chair was occupied by the Acting President, Mr. H. Stanley Redgrove, B.Sc.

A paper was read by Mr. Arthur Edward Waite, entitled "The Beginnings of Alchemy", which was followed by a discussion. (This paper is printed in the present number of the JOURNAL).

A vote of thanks was passed to Mr. Waite for his paper.

The Chairman announced that the Council had decided, in view of the war, that the Society should hold no Dinner this year.

## REPORT OF THIRD ANNUAL MEETING.

THE third Annual Meeting of THE ALCHEMICAL SOCIETY was held immediately following the above-reported meeting, after the retirement of visitors. The chair was occupied by the Acting President, Mr. H. Stanley Redgrove, B.Sc.

In the absence of the Honorary Treasurer, and acting on his behalf, the Chairman presented the General Account of the Society for the past Session. He pointed out that in estimating the financial position of the Society, it should be borne in mind that three further issues of the JOURNAL for this Session remained to be published and paid for, though this debt was partly balanced by subscriptions owing from a number of members, which, it was hoped, would be received without further delay. The Statement of Account was adopted, and after discussion the following resolutions were passed:—

(i.) By Mr. Ramsay L'Amy. That "Order on Banker" forms for the automatic payment of subscriptions be supplied to members.

(ii.) By Mr. T. Marson. That every endeavour be made to increase the membership of the Society, and that present members be requested to undertake as far as possible to introduce new members, and to make known the aims of the Socieiy.

(iii.) By Mr. A. E. Waite. That the Council be requested to increase the annual subscription of members resident in or near London, to 15s.*

The Honorary Secretary read his Report, which was adopted.

The Chairman announced that Mr. P. S. Wellby found himself compelled to resign from the office of Honorary Treasurer. Mr. J. Prag had been duly nominated and seconded for this office. The two retiring Ordinary Members of Council were Messrs. J. A. Jutsum, and J. Prag. Messrs. F. A. Higgs and T. Marson had been nominated and seconded in their places. Messrs. J. A. Jutsum and B. R. Rowbottom had been nominated as Auditors. A ballot was held and the following were declared duly elected:

*Honorary Treasurer*: Mr. J. Prag.

*New Ordinary Members of Council*: Messrs. F. A. Higgs and T. Marson.

*Auditors*: Messrs. J. A. Jutsum and B. R. Rowbottom.

Votes of thanks were passed to the Honorary Treasurer and Honorary Secretary for their services during the past year.

## REPORT OF THE HONORARY SECRETARY.

I HAVE pleasure in reporting that during the Session which ends June 30th next, papers upon the following subjects have been read before the Society:—

Professor JOHN FERGUSON, LL.D.: *"The Marrow of Alchemy."*

W. DE KERLOR: *The Alchemical Researches of M. Jollivet Castelot.*

Lt.-Col. JASPER GIBSON, LL.B.: *An Interpretation of Alchemical Symbolism with Reference to the Writings of Edward Kelly.*

ARTHUR EDWARD WAITE: *The Alchemist Alipili.*

H. STANLEY REDGROVE, B.Sc.: *Some Characteristics of Mediæval Thought.*

GASTON DE MENGEL: *The Philosophical Channels of Alchemical Tradition.*

The Ven. ARCHDEACON CRAVEN, D.D.: *Alchemy and the Devil.*

H. STANLEY REDGROVE, B.Sc.: *The Phallic Element in Alchemical Doctrine.*

ARTHUR EDWARD WAITE: *The Beginnings of Alchemy.*

These papers have been printed in the JOURNAL of the Society†, which has also contained reports of the discussions, reviews of books and literature bearing upon Alchemy, and other items of interest. Brief notices and reports of the

* The Council invite correspondence from members relative to this motion.

† Owing to certain difficulties, Professor Ferguson's paper has not yet been printed, but the Editor hopes to be able to embody it in a special issue of the JOURNAL.

meetings have appeared in *The Athenæum, Knowledge, The Chemical News,* and *The English Mechanic.*

The meeting in December took the form of a symposium, to which several interesting contributions were made in addition to those which have appeared in the JOURNAL.

We are indebted to Mons. de Kerlor for the use, throughout the Session, without charge, of his premises at 1, Piccadilly Place, for the purposes of both the General and the Council Meetings, and on the Society's behalf I take this opportunity of thanking him for his courtesy and hospitality.

There has been a small influx of new members, which roughly balances the retirements, so that in point of numbers our position has not materially altered. It is to be regretted, however, that the attendance at meetings is so small, and I trust that those who are really interested in the Society's work will show their interest by being present as often as possible, taking part in the discussions, and contributing papers. The welfare of the Society depends obviously upon the personal enthusiasm and co-operation of each of its members.

Considering the peculiar stress and anxiety of the times, I think we may regard the work of the Session as satisfactory.

SIJIL ABDUL-ALI,
HONORARY SECRETARY.

## REPORT OF THE HONORARY TREASURER.

### GENERAL ACCOUNT OF THE ALCHEMICAL SOCIETY TO MAY 14TH. 1915.

| RECEIPTS. | £ | s. | d. |
|---|---|---|---|
| Balance brought forward ... ... ... ... ... | 5 | 11 | 4½ |
| Subscriptions ... ... ... | 19 | 19 | - |
| Postages received ... | | 10 | 6 |
| Sale of Journal (less Publisher's Commission) ... ... ... ... ... | 3 | 16 | 3 |
| Sale of Cases and Binding of Journal... | | 17 | 3 |
| | £30 | 14 | 4½ |

| EXPENDITURE. | £ | s. | d. |
|---|---|---|---|
| Paper for Journal ... | 1 | 16 | 6 |
| Printing Account :— | | | |
| Journal, 2 issues at £3 and 4 issues at £3 10s. ... ... | 20 | - | - |
| Title and Index ... | | 15 | - |
| Stationery ... ... ... ... | | 11 | - |
| Postages ... ... ... ... | 2 | 18 | 11 |
| Reporting (Messrs Attwood & Binsted) | 2 | 15 | - |
| Cost of cases and Binding of Journal ... ... | | 12 | 3 |
| Balance in hand, 14th May, 1915 ... ... ... | 1 | 5 | 8½ |
| | £30 | 14 | 4½ |

PHILIP S. WELLBY,
HONORARY TREASURER.

Audited and found correct.

B. R. ROWBOTTOM,
FRED A. HIGGS,
*Auditors.*

## ABSTRACT OF DISCUSSION

ON "THE PHALLIC ELEMENT IN ALCHEMICAL DOCTRINE" (see pp. 65 to 84).

A VISITOR (Mr. F. A. Gardiner, F.L.S., Honorary Treasurer of The Swedenborg Society) asked what was Mr. Redgrove's opinion of the use of a term whose definition was fixed on one plane of being to denominate something else altogether on another plane. The word "sex" was used to refer to the two elements of a union that ensured the propagation of species; was it fair, therefore, to use it to indicate the elements of a union whereby something absolutely different from the participants was produced.

Mr. SIJIL ABDUL-ALI said that the paper to which they had listened presented an aspect of alchemical literature that was perhaps of some interest from a historical point of view, but which appeared to have little meaning for the present age and was unfortunately coloured, to a considerable extent, by the grossness of uncultured minds. The misuse of the symbolism in question was fairly evident, but Mr. Gardiner had raised an important point in respect to the nature of symbolism generally, and a few words might be added on that subject. If we used terms primarily applicable to the natural world, in order to express what we believed to be true of the spiritual world, we were bound to enlarge, as it were, the face-value of those terms, although of course the legitimacy or precise meaning of such enlargement might remain open to question. With regard to sexual symbolism, it was well known that in occult and mystical literature, matter was regarded as female in comparison with the causative functions of spirit, the latter being to the former somewhat as agent to patient; or, more generally, a created thing was female in respect to its Creator. This conception introduced a further and more complex mode of the use of symbolism, and involved peculiar difficulties of its own; for even though we premised the legitimacy of supposing that the relations amongst objects in the physical world were referable to, and symbolical of, relations amongst objects as existing in the spiritual world, it would by no means follow that we could rightly think of analogous relations as between finite, created things and an infinite Creator. It seemed likely that a critical and comprehensive philosophy would require the careful revision of our use of natural symbolism as expressive of the spiritual world, and, *a fortiori*, of its use in reference to the relations of created things to God.

Mr. J. W. FRINGS said he would like to congratulate Mr. Redgrove on the suggestiveness of his lecture. In addition to the actual material given for digestion there was much that would inevitably arise as the result of that pro-

cess. One point had struck the speaker particularly. It was the reference to the electron as the seed of metals. If, for a moment, we considered the dualism of the fundamental entities, or principles, of energy and ether, respectively as masculine and feminine, it was not really absurd to suggest a sexual union between them as producing the electron. And so, since the electronic theory of matter gave us the idea of the homogeneity of all substance, metals were produced from seeds; and the seeds themselves were the result of the union of male and female principles. A further thought was this: Philalethes' seed was said to be "diffused throughout the water of its kind." If we read for "water," the ether of science the analogy was seen to be almost, if not quite, scientifically accurate.

A VISITOR (Mr. Donald W. Cox) called attention to the fact that the astrological symbol of Mercury was a combination of the elements of the symbols of the other planets, which was, he thought, interesting in view of what the alchemists claimed for the metal mercury, as a union of both sexes and a synthesis of all elementary powers.

Mr. B. R. ROWBOTTOM said that he considered the point raised by Mr. Gardiner one of extreme importance; without a definite terminology the subject could not be interpreted. In Mr. Redgrove's address, the words "love", "sex", "male" and "female" had constantly occurred, and the key to the attitude of the alchemists could only be found by discovering exactly in what sense they applied certain terms. The speaker further said that if such words contained no physical meaning he was quite unable to understand them; he could only conceive of spiritual love even so far as it was ultimated in certain physical actions; actions either social or physiological, but certainly in a world of sense.

THE CHAIRMAN said that Mr. Redgrove had presented his subject clearly, the result being an excellent, informing paper, though misleading in title, "The Phallic Element in Alchemical Tradition" suggesting that sex-symbolism in Alchemy was confined to the male generative organ, or that the lecturer would deal with that aspect only. He had actually presented both sides and had shewn the prevalence of sex-notions throughout the literature. The recognition of male and female principles in all Nature was very general in the centuries of western Alchemy and was a mode of symbolising the active and passive states. While some alchemical texts merely reproduced this figurative language there were others which claimed the test of successful practice to support the terms. The quotation from Bernard affirmed that "the philosophick art" imitated Nature's work by generating gold from male and female seeds, "commixt by copulation." The question ended here, since the literature of Alchemy was the veil and not the exposition of its alleged processes. Regarding Mr. Redgrove's pre-

liminaries, the speaker thought that, as in the title of the paper, a modification of terms was needed. Many alchemists instituted comparisons between their art and Church Doctrines, even the scheme of redemption, but it was doctrine of the official kind, not exotic or mystical. Such analogies were more likely in their nature to be decorations of afterthought than to have shaped physical theorems. Moreover, regeneration doctrine was not a characteristic symbolism of Latin theology. The main pre-occupation was over two other figurative formulæ—those of crucified life and mystical marriage. The Second Birth formula was largely post-Reformation. So also—for Latin theology—man did not consist of body, soul and spirit, but of body and soul only. The trichotomy of personality was contra-Thomist and was scarcely held anywhere, if indeed it was not condemned formally. In purely mystical texts of Alchemy a corner of the veil was lifted more often by sporadic intimations than by any formal analogies, though these also lead. The Christo-Hermetic scheme of Khunrath was scarcely a reflection of official church teaching.

Mr. H. S. REDGROVE, in his reply, answered Mr. Gardiner to the effect that he could not approve of a word being employed in the manner indicated; but he thought that neither the alchemists he had quoted nor Swedenborg were guilty of this misuse. Mr. Abdul-Ali, however, had indicated such a case. The concept of a union between God and the individual soul, thought of under the analogy of sex—as distinguished from the concept of a union between God and the Church (or Humanity)—was, he thought, a very erroneous one, and had in the past led to most deplorable results, which he had touched upon elsewhere (see "Mysticism and Monasticism", *The Occult Review*, vol. xiv., pp. 97 to 101, August, 1911). He added that his own object was to endeavour to explain the origin of the alchemists' views, rather than to justify or to criticize them, though occasionally he had ventured to do this. Mr. Abdul-Ali's opening remarks seemed to him to indicate a curious underestimation of the value of historic research. He was glad that Mr. Frings had called attention to the present utility of the sexual symbolism of Alchemy, though the need for its investigation existed quite apart from this possible utility. The analogy called attention to by Mr. Cox was interesting, though it could not be carried far because the symbol for Mercury involved *three* elements, though certainly two of them—the cross and the circle—were sexual emblems. The fact adduced by Mr. Waite, that the trichotomy of personality did not come into favour until the Reformation, greatly supported, he thought, his theory of the origin of Alchemy, because it was at about that time also that the three-principle theory of the metals superseded the two-principle theory.

# THE BEGINNINGS OF ALCHEMY.

By Arthur Edward Waite.

The Abbé Pernety, at the close of the eighteenth century, demonstrated to his own satisfaction [*Fables et Symboles*, 2 vols., 1786] that all classical mythology was but a vesture or veil of the *magnum opus*, and the fable of the Golden Fleece was regarded generally at that period as a vindication of the wisdom of Greece in the great art of *chrysopeia*. Here is precisely one of those facile tricks of allegorical interpretation which, once admitted, might involve all mythologies and all the old literatures. Long before classical countries had been thought of in this connection, it was assumed, and more naturally, that the traditional science of Hermes had its cradle in ancient Egypt. As a matter of fact, neither in Egypt nor in Greece has any trace of Alchemy been discovered till subsequent to the Christian era. On the whole subject of origin and early remains in literature our chief source of knowledge is Berthelot's invaluable *Collection des Anciens Alchimistes Grecs* [Paris, 1887, 1888], and the French chemist's decision on this subject is contained in the following statement: "Despite the universal tradition which assigns to Alchemy an Egyptian origin, no hieroglyphic document relative to the science of transmutation has yet been discovered. The Graeco-Egyptian alchemists are our sole source of illumination upon the science of Hermes, and that source is open to suspicion because subject to the tampering of mystical imaginations during several generations of dreamers and scholiasts. In Egypt, notwithstanding, Alchemy first originated; there the dream of transmutation was first cherished" [*Op. cit.* Introduction, p. 3]. But this was during and not anterior to the first Christian centuries.

The earliest extant work connecting with Alchemy is known as the Leyden Papyrus, which was discovered at Thebes and is referable to the third century A.D. It contains seventy-five metallurgical formulæ—for the composition of alloys, the surface colouration of metals, etc. There are also fifteen methods of producing gold and silver letters. The compilation—as Berthelot points out—is devoid of order and is like the note-book of an artisan. It is pervaded by a spirit of perfect sincerity, despite the professional improbity of certain recipes. These appear to have been collected from several sources, written or traditional. The operations include tingeing with gold, gilding silver, superficial aureation of copper by the process of varnishing and by "the humid way". This text is held to demonstrate that when Alchemy began to flourish in Egypt it was an art of sophisticating or adulterating metals. The document is absolutely authentic and "bears witness to a science of alloys and metallic tinctures which was very skilful and very much advanced, a science which had for its object the fabrication and falsifi-

cation of the matters of gold and silver." It is held by Berthelot to cast new light upon the genesis of the notion concerning metallic conversion. The notion furthermore is not alone analogous, for the practices exposed in this papyrus are affirmed to be "the same as those of the oldest Greek alchemists"—pseudo-Democritus, Zosimus, Olympiodorus and pseudo-Moses. It follows, and is affirmed by Berthelot, that Alchemy did not originate in purely chimerical fancies but "in positive practices and actual experiences, by help of which imitations of gold and silver were fabricated" [*Ibid.*, pp. 19, 20]. Again: "The real practices and actual manipulations of the operators are made known to us by the Leyden Papyrus under a form the most clear and in accordance with the recipes of pseudo-Democritus and Olympiodorus. It contains the first form of all these procedures and doctrines. In pseudo-Democritus and still more in Zosimus, they are complicated already by mystical fancies; then come the commentators who have amplified still further the mystical part, obscuring or eliminating what was practical, to the exact knowledge of which they were frequently strangers" [*Ibid.*, p. 21].

It should be observed that for M. Berthelot the qualification of mystical is an analogue or equivalent for fanciful and that he is not therefore meaning to suggest a spiritual intention in the glosses of commentators or in the texts, *e.g.*, of Zosimus. Three other points call for brief notice: (*i.*) It is impossible to separate the Leyden Papyrus from its context of other papyri, as admitted by Berthelot, who says: "The history of Magic and of Gnosticism is bound up closely with that of the origin of Alchemy, and the Alchemical Papyrus of Leyden connects in every respect with two in the same series which are solely magical and Gnostic." (*ii.*) The Leyden Papyrus can be scarcely regarded as alchemical in the sense that Geber, Lully, Arnold, Sendivogius and "Philalethes" are alchemical writers. It is devoid of Alchemical terminology of the kind which characterises the later literature, and in so far as it contains processes for the falsification of metals, whosoever wrote the recipes and whosoever put them in practice could not have supposed that they were performing transmutation. (*iii.*) The affirmation that later Greek writers on Alchemy, not understanding the processes, being ignorant apparently concerning that science of alloys and tinctures of which Berthelot has spoken, overlaid them with mystical reveries, may call for special consideration from a particular point of view, should an opportunity occur. Meanwhile, it is significant to note that those with whom the tradition may be said to have originated, the makers of the symbolism and its peculiar dialect, seem in the opinion of the great French chemist to stand out in striking contrast with the maker of that first document from which—in his opinion—all Alchemy derives.

The collection of Greek Alchemists, as it exists now, was formed during the eighth or ninth century of the Christian era, at Constantinople. Its authors are cited, says Berthelot, by the later Arabian writers as the source of their knowledge, and in this manner they are really the fountain-head of western Alchemy, as this is known to us during the Middle Ages and subsequently. The latter was derived from Arabia. The texts admit of being separated into two chief classes, of which one is theoretical and mystical—in whatever sense we may elect to understand the latter of these terms—while the other is technical and concerned with special fabrications—as, for example, various kinds of glass and artificial gems. In the Berthelot collection the Greek text and translation—which we owe to the scholarship of Mons. C. E. Ruelle—do not exhaust the remains of Byzantine alchemists, but they omit no author of value either to science or archæology. The following tabulation of contents will be adequate for the present purpose:—(1) General Indications, including a *Lexicon of the Art Chrysopeia,* a variety of fragmentary treatises, an instruction of Isis to Horus, etc. (*ii.*) Treatises attributed to Democritus or belonging to the Democritic school, including one addressed to Dioscorus by Synesius and another of considerable length by Olympiodorus, the Alexandrian philosopher. (*iii.*) The works of Zosimus, the Panopolite. (*iv.*) A collection of so-called ancient authors, of fabulous attribution, including Orpheus and Moses; these texts are referable in some instances to so late a period as the fifteenth century. (*v.*) Technical treatises on the goldsmith's art, the aureation of copper, the sophistic colouring of precious stones, fabrication of silver, combustible sulphur, etc. (*vi.*) Selections from technical and mystical commentators on the Greek alchemists, including Stephanus, the Christian Philosopher, and the Anonymous Philosopher. It is here that the Berthelot collection is more especially incomplete.

With the Greek as with Latin alchemists of later centuries, Alchemy is a Divine and Sacred Art, a secret science, a sublime gnosis, the possessor of which is to be regarded as a sovereign master. The love of God and man, temperance, unselfishness, truthfulness, hatred of all imposture, are essential requisites and are laid down most clearly by both schools. By each indifferently, but by the second as reflecting the first, a knowledge of the art is attributed to Hermes, Plato, Aristotle and other great names of antiquity, while Egypt is regarded as—*par excellence*—the country of the Great Work. Both lay special stress upon a moderate and continuous heat, as opposed to a violent fire. The materials are also the same, but here it will be sufficient to mention the importance ascribed to mercury by the Greek alchemists, in order to place a student of the Latin literature

in possession of a key to the correspondences which exist under this head. Fnally, as regards terminology, the Greek texts abound with references to the egg of the philosophers, the philosophical stone, the stone which is not a stone, the blessed water, projection, the time of the work, the matter of the work, the body of magnesia, and other arbitrary names and conventional expressions which make up what I have termed the dialect of mediæval adepts. So far therefore as can be gathered from their remains, the Greek alchemists were alchemists in the sense of Lully and Arnold. Were Lully, Arnold and others of the Latin period entitled to be regarded as masters of a spiritual science, the presumption is then that Zosimus was so entitled. Were Zosimus and his school transmuters of metals, or honest seekers after that end in physics, then it is fair to conclude that men of later generations, using the same mixed terminology, and making therein the same fantastic marriage of things celestial and earthly, belong to the same category. Finally, if Greek alchemists, under the cover of a secret and pretended sacred science, were fabricators of sophistic gold and silver, there is then a strong presumption that those who spoke their language and dealt in analogous processes followed their objects. In this case, the science of Alchemy ended as it began, that is to say, as an imposture, but one which at the same time may have been often tempered with "superstition", since not uncommonly those who exploit credulity end by becoming credulous themselves.

The next point in our inquiry takes us, still under the admirable auspices of Berthelot, to a very different collection of texts, being those of the early Syriac and early Arabian alchemists. As the French chemist collaborated with a textual scholar for the production of the Byzantine collection, so in this later undertaking he had the assistance of Rubens Duval and of O. Houdas. The Byzantine tradition of Alchemy came down, as we have seen, to the Latin school of adepts, but the mediæval and later Latin writers derived from the former chiefly through Syriac and Arabian alchemists, though these were not the sole channel of tradition. According to Berthelot, "Latin Alchemy has other foundations, even more direct. . . The processes and even the ideas of the ancient alchemists passed from the Greeks to the Latins, before the time of the Roman Empire and—up to a certain point—were preserved, amidst the barbarism of early mediæval centuries, by means of the technical traditions of arts and crafts" [*La Chimie au Moyen Age. Tome Premier. Essai sur la Transmission de la Science Antique au Moyen Age,* p. iii]. The glass-makers, metallurgists, potters, dyers, painters, jewellers and goldsmiths, from the days of the Roman Empire and throughout the Carlovingian period, and still onward, were the preservers of this ancient technical tradition. The proofs are contained in certain

technical Latin treatises, *e.g.*, *Compositiones ad Tingenda*, *Mappæ Clavicula*, *De Artibus Romanorum*, *Schedula Diversarum Artium*, *Liber Diversarum Artium*, and some others. These are not alchemical writings. They connect with the Leyden Papyrus rather than with the Byzantine Collection, and they were actually the craft-manuals of their period. Some deal largely in the falsification of precious metals.

The Syriac alchemists derived their knowledge immediately from the Greek writers, but the Arabians from the Syriac school. The Syriac literature belongs in part to a period which was inspired philosophically and scientifically by the School of Alexandria and in part to a later period which had passed under Arabian influence. The Syriac remains include nine books translated from the Greek of pseudo-Democritus and a tenth of later date but belonging to the same school, the text being accompanied by figures of vessels used in the processes. These ten books are full of practical recipes, though a certain purity of body and a certain piety of mind are considered needful to success. The collection comprises further very copious extracts translated from Zosimus the Panopolite, but these are also bare practical recipes. There are further a few mystical and magical fragments, in a condition too mutilated for satisfactory criticism. The Syriac cycle closes with an extensive Arabic treatise in Syriac character, and this links up Syriac Alchemy with that of Arabia. It is of late date in the series and is an ill-digested compilation from various sources. It is also essentially practical—by intention at least.

The Arabic treatises included in Berthelot's collection are *The Book of Crates*, *The Book of El-Habib*, *The Book of Artanes* and the genuine works of Geber, the Latin works which have been attributed for so many centuries to this Master of the Art, and which are quoted as of the highest authority by all later writers, being simply forgeries. It is under the auspices of Berthelot that the true Geber has been translated for the first time into a western tongue. There are marked respects in which these Arabic treatises differ from the Syriac cycle. The former are verbose, the latter terse; the former are grandiose, the latter simple; the former are romantic and visionary, the latter are unadorned recipes. *The Book of El-Habib* is to some extent an exception, but the Djarber or Geber is more mysterious than his Latin prototype. El-Habib quotes largely from Greek sources, Geber only occasionally from these, but largely from treatises of his own, and it is significant that in his case Berthelot makes no annotations explaining—whether tentatively or not—the chemical bearing of the text. As a fact, the Arabian Geber might make one point of departure for a mystical exposition of Alchemy, supposing this to be tenable in respect of any part of the literature. I am not, however, suggesting that it would be a true point.

We have now reached a stage when it may be allowable to look back for a moment before turning briefly towards that part of my subject which has been the end in view throughout. It should be understood that the chief appeal of Latin Alchemy is to Arabia, while that of Arabia is to Greece and that of Greece is to Egypt. But upon the subject of the Great Work—as we have seen— the land of the Sphinx neither asks nor answers anything prior to the Christian period, when the first centre of Greek Alchemy was Alexandria and in or about the third century was the first epoch. In any further quest after origins the subject is transferred to China, and it will be remembered that an interesting paper by Professor Herbert Chatley was read at one of our meetings under the title of *Alchemy in China* [this JOURNAL, Vol. ii., Part 8, Dec., 1913]. The authority in chief was Dr. W. A. P. Martin, an English missionary and President of the Imperial University at Peking. [See *The Lore of Cathay,* Edinburgh, 1901]. I became acquainted on my own part with the researches of this writer so far back as 1895 and therefore several years prior to the publication of the work on which Professor Chatley depends, my information coming from an article which had appeared in *The China Review,* under the signature of Dr. Martin. The English missionary in his turn acknowledged a predecessor, observing that the Rev. Dr. Edkins, some twenty years previously, was the first, as he believes, to "suggest a Chinese origin for the Alchemy of Europe". The Byzantine collection was of course unknown to both, but the researches of Berthelot by no means explode their hypothesis, which is summarised by Dr. Martin as follows:—(i.) The study of Alchemy "did not make its appearance in Europe until it had been in full vigour in China for at least six centuries"; (ii.) it entered Europe by way of Byzantium and Alexandria, then the chief points of intercourse between East and West.

The mere fact that there was a notion of Alchemy in China might not have much force in itself, but Dr. Martin exhibits a striking similarity between the theorems and literature of the subject in the far East and in the West There is, first of all, the fundamental doctrine that the genesis of metals is to be accounted for on a seminal principle. Secondly, there is the not less important doctrine that there abides in every object an active principle whereby it may attain to "a condition of higher development and greater efficiency". Thirdly, there is the fact that Alchemy in China—as in the West—was an occult science, that it was perpetuated "mainly by means of oral tradition", and that in order to preserve its secrets a figurative phraseology was adopted when the secrets were put into writing. In the fourth place—like early Byzantine Alchemy—it was bound up with astrology and magic. Fifthly, the transmutation of

metals was allied indissolubly to an elixir of life. Sixthly, the secret of producing gold was inferior to the other arcanum. Seventhly, success in operation and research depended to a large extent on the self-discipline and self-culture of the alchemist. Eighthly, the metals were regarded as composite. Ninthly, the true materials of the work were concealed under names which are those also adopted by western Alchemy—*e.g.*, lead, mercury, cinnabar, sulphur, etc. Tenthly, there are remarkable points of identity in the conventional terms common to both literatures—such as "the radical principle", "the green dragon", "the true lead", "the true mercury", etc.

I observe that Mr. H. Carrington Bolton includes in his important bibliography certain Chinese works dealing with Alchemy and ascribed to the third century [*A Select Bibliography of Chemistry*. Smithsonian Miscellaneous Collections. Published by the Smithsonian Institution, Washington, 1893]. Dr. Martin derives his citations from various dates and from some authors to whom a date cannot be certainly assigned. He remarks that "one of the most renowned seats of Alchemic industry was Bagdad, while it was the seat of the Caliphate"—that an extensive commerce was "carried on between Arabia and China"—that "in the eighth century embassies were interchanged between the Caliphs and the Emperors"—and, finally, that "colonies of Arabs were established in the seaports of the Empire." It seems to follow that although China may have had an independent and ancient school of Alchemy and that some of its dreams or its knowledge may have drifted westward, yet at a later period the knowledge or the dreams of Byzantium may also have drifted eastward, with Arabia as their channel.

But independently of questions of date, comparative antiquity and primal source, there is the question whether Chinese Alchemy was spiritual, physical, or both. Now, Dr. Martin tells us that there were two processes, the one inward and spiritual, the other material and outward. There were two elixirs—the greater and the lesser. The alchemist of China was, moreover, usually a religious ascetic. The operator of the spiritual *magnum opus* was translated apparently to the heaven of the greater genii. As to this spiritual process, Dr. Martin is not very clear, and leaves us uncertain whether it produced a conversion or transmutation of the inward man, or whether it prolonged physical life. His information, such as it is, will serve, however, as a way of transition to the last point of my inquiry.

When the mystical interpretation of alchemical literature was first propounded formally, in the year 1850, the Leyden Papyrus had been indeed unrolled but had not been translated, and so also the Byzantine literature proper was available only to specialists, who could read the Greek texts

in manuscript. The origin of Alchemy was in the clouds of speculation, which supposed that ancient Greece and Egypt were sanctuaries of chemical as well as transcendental wisdom. The works attributed to Hermes Trismegistos offered a certain point of departure, the *Tractatus Aureus* included, but once given the assumption that the Latin literature at large, from the days of the *Turba Philosophorum* and the false Geber, were to be understood not physically but spiritually, it is obvious that all Greek theosophy, especially that of Neoplatonism, could be used to elucidate alchemical literature. And that is what happened. A very important question arises, therefore, and this is whether the Byzantine, Syriac and Arabian collections—unknown when the hypothesis originated—offer anything which can be said to corroborate a mystical understanding of Hermetic literature. Let the Byzantine collection be regarded by itself for a moment, but apart from that Leyden Papyrus, the processes of which are said to have been misconstrued by some of the later adepts. Let the texts be taken consecutively as they stand in the publication of Berthelot. There is a dedication which exalts the sovereign matter and seems almost to deify those who know its mystery. Obviously a spiritual interpretation might be placed thereupon; obviously, also, that interpretation might be wrong. The dedication is followed by an alphabetical *Lexicon of Chrysopeia*, which explains the sense of the symbolical and technical terms made use of in the general text. The explanations are simply chemical. The Seed of Venus is verdigris; Dew, which is a favourite symbol with all alchemists, is said to be mercury extracted from arsenic, *i.e.*, sublimed arsenic. The Sacred Stone is chrysolite, though it is also the Concealed Mystery. Magnesia—that great *arcanum* of all Hermetic Philosophy—is identified indifferently with white lead, pyrites, crude vinegar and female antimony—*i.e.*, native sulphur of antimony. The list might be cited indefinitely, but it would be to no better purpose here. The *Lexicon* is followed by a number of short fragmentary treatises which mention all sorts of bodies well known to chemists, besides many which cannot be identified certainly. Here again there is much which might be interpreted mystically, yet such a construction would be perhaps only a misreading of unintelligible documents. In the copious annotations appended to these texts by Berthelot, the allusions are of course understood chemically. Even amidst the mystical profundities of the address of Isis to Horus, he distinguishes allusions to recondite processes of physical transmutation. About fragments on the fabrication of Asem, Cinnabar, and so forth there is no question of anything but the chemical purpose. Among the more extended treatises, that which is attributed to Democritus—concerning things natural and mystic—seems also unmistakably physical. Though it describes the

tincture as a Medicine of the Soul and the deliverance from all evil, there is no seal of spiritual things. As much may be affirmed of the discourse addressed to Leucippus, under the same pseudonymous attribution. The epistle of Synesius to Dioscorus, which is a commentary on pseudo-Democritus, or rather a preamble thereto, exalts that unknown personage but offers no mystical rendering of that which it undertakes to explain. On the other hand, the treatise of Olympiodorus contains indications which would be as valuable to a transcendental hypothesis as anything almost that has been cited from mediæval writers—when it is said, for example, that Zosimus, the crown of philosophers, preaches union with the Divine and the contemptuous rejection of matter, and that what is stated concerning minera is an allegory, for the philosophers are concerned not with minera but substance. Yet passages like these must be taken with their context, and the context seems against the hypothesis. The secret of the Sacred Art or the Royal Art is called the King's Secret, being the command of material wealth, and it was reserved because it is unbecoming that any save monarchs and priests should be acquainted with it. The philosopher Zosimus, who was so exalted by Olympiodorus, clothes much of his instruction in symbolical visions, and the extensive fragments which remain of him are specially rich in that bizarre terminology which characterised the later adepts, while he discusses the same questions which most exercised them—as, for example, the time of the work. He is neither less nor more transcendental than are those others. He speaks frequently in mysterious and exalted language upon things which are capable of being understood spiritually, but he speaks also of innumerable material substances and of the methods of operating chemically thereon. In one place he distinguishes explicitly between two sciences and two wisdoms, of which one is concerned with the purification of the soul and the other with that of copper, which becomes gold by cleansing. His fragments on furnaces and other appliances seem final as to the material object of the art in its practical application.

The writers who follow Zosimus in the collection give much the same result. Pelagus uses no expressions capable of mystical interpretation. Ostanes furnishes the quantities and names the materials which are supposed to enter into the composition of the all-important Divine Water. Agathodaimon has also technical recipes, and so of the rest, including the processes of the so-called Iamblichos and the chemical tract which—by a still more perverse attribution—is referred to Moses. Some extended fragments on the metallurgy of gold, the tincture of Persian copper, the colouring of precious stones do not need investigation, their fraudulent nature being of course transparent, despite their invoking the intervention of Divine Grace.

This is how matters stand in respect of Byzantine Alchemy, and as to the Syriac and Arabian texts, I have said enough to vindicate their physical nature. Moreover, they are largely translations. I have indicated also that there may be some doubt about the purport of the genuine Geber. It seems quite certain that nothing can be made of him physically, but it does not follow that, for this reason, he must be discoursing of spiritual mysteries.

The testimony of the most ancient alchemical literature seems therefore to leave the mystical interpretation of Alchemy in a very uncertain state. I do not say that the author of *A Suggestive Inquiry* or that Edward Hitchcock and a few other later writers could have drawn nothing to their purpose from these large bodies of texts. By a process of sacrificing context and ignoring general trend, I am very certain that they could have drawn much, as they did—and too often by the same method—from the Latin cycle, and from French and English works. But sooner or later there would have been an intervention of saner criticism, and the claim would then have been reduced to its proper proportions, where I propose now to leave it. I am entirely assured that there are certain alchemical texts which indicate that Hermetic terminology was taken over to adumbrate deep states of spiritual inward transmutation. I have dealt with some of them and there are others to which I may have recourse at some later period, but taken altogether they are a set of isolated texts, and the spiritual interpretation does not account for the literature at large. I wish only that it did. I have sought up and down the literature in that hope, but have come to the conclusion that there were not only two schools actuated by distinct purposes, but that one was vastly larger than the other. That one was the school of physical transmutation and the physical elixir of life. Thereunto, as it would seem, we must be content to refer the great collections of Byzantine, Syriac and Arabian Alchemy. In conclusion, I should like to disassociate myself from Berthelot's exaggerated view on the importance of the Leyden Papyrus throughout all the western literature of Alchemy. It opens a large question and cannot be discussed now. He is inclined to see its traces everywhere. I have checked his references and—if it must be said—I have a large knowledge of the literature beyond his own sources, and his claims in respect of it will have to be reduced one of these days to very slender proportions.

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## ABSTRACT OF DISCUSSION.

ON "THE BEGINNINGS OF ALCHEMY (see pp. 91 to 100).

Mr. J. W. FRINGS said that he would like to ask the lecturer whether it was possible that in the ordinary course of man's mental development the same sort of speculations might have arisen in various parts of the globe, and that instead of Alchemy having penetrated from one part of the world, either directly or indirectly, it might have arisen in different places spontaneously as a normal speculation in men's minds.

A VISITOR (Mr. K. A. C. Creswell) said he was not quite clear as to whether the lecturer endorsed the view he quoted, *viz.*, that Alchemy came from China, but he did not think the evidence was in favour of such a theory. Baghdad was nearer to China than Byzantium, and had China been the source of origin then surely the Arabic literature of Alchemy would have shown new and original features, whereas the lecturer himself had said that it was descended from the Greek through Syriac literature. This was only what one would have expected since the indebtedness of Islam to Greek learning in science, philosophy and medicine, had ever been acknowledged by scholars and by the Mahommedans themselves, although the latter had made original contributions, especially in trigonometry and astronomy. He thought that it was more likely that Alchemy had come to China from the West through the medium of the Arab traders who settled there very early, and in this connection he mentioned that there still existed in the mosque at Canton an Arabic inscription on stone, dating from the thirteenth century, a witness to long continued intercourse. However, in a matter of this sort so much turned on the question of priority of date, that he thought it best to await some definite historical data for Alchemy in China, before considering the view that Alchemy had a Greek origin was seriously menaced.

Mr. SIJIL ABDUL-ALI said he thought it was of some importance, in regard especially to the question of Chinese Alchemy and the points raised by Mr. Cresswell, to ascertain, if possible, the religious atmosphere in which the doc-

trines arose and flourished. Were they, for example, at any time assimilated to the doctrines of Buddhism? Everything, of course, depended upon the period of the alleged texts, and this was doubtless a very difficult matter to determine; but one would naturally suppose that if the alchemical theories coming from China were ever anything more than a mere superficial speculation upon the elementary phenomena of metallurgy and chemistry, they would have had and would still manifest an integral relation with the prevailing religious and philosophical beliefs under which they throve. It was obvious that in many respects the doctrines of later European Alchemy were inseparable from those of Christianity—especially of Christian mysticism; Greek Alchemy was associated with Neo-Platonism, and those who believed in the Egyptian origin of Alchemy were at considerable pains to demonstrate that the stages of the great work were cryptically portrayed in the legend of Osiris and Isis, which, in its turn, with other Egyptian legends, was held to underlie many of the myths of Greece. In theory at least there was a traditional sequence of doctrine lying within and shadowed forth by the texts, and a divine origin was claimed for the science of Alchemy in Europe. It would be interesting to know whether a similar claim had been made by Chinese alchemists, and, if so, what form it had taken.

Mr. T. MARSON said that as Mr. Abdul-Ali had made reference to Alchemy in China he would like to add that whilst pursuing his researches into the science he had gleaned from various sources [*Encyclopædia Londinensis*, 1800 and elsewhere] that Alchemy so far as it treated of the Elixir Vitæ was shown to have been introduced into China by Buddhist priests, with the Buddhist religion, about the year 65 A.D. by the authority of the Emperor MING TI. The Buddhist priests were commanded to discover medicinal powers in plants not previously employed in medicine with a view to preventing disease and lengthening life. [See REVILLE: *Histoire des religions*, 1889, vol. III, p. 187, "Chinese Religion"].

The Chinese idea of heaven, he added, was such as an alchemist might imagine to be the realization of his hopes and dreams. [See METCHNIKOFF: *La nature de l'homme*, 1903, p. 146.] The main picture represented a place of extreme beauty, abounding in gold and silver, in the midst of which was a crystal river running over grains of gold and sparkling gems, *etc.* The birth of Alchemy was certainly very much earlier than its introduction into China.

THE CHAIRMAN said that he thought that Mr. Waite had given the best *resumé* of the early history of Alchemy it had been his pleasure to hear or read. He thought that M. Berthelot's hypothesis as to the origin of Alchemy was alto-

gether unsatisfactory, for on that savant's own showing the Leyden Papyrus was of quite a different character from the alchemical texts supposed to be derived from it. These texts, moreover, commonly distinguished between the achievment of the *magnum opus* and the making of mere spurious imitations of the noble metals (*vide, e.g.*, the works of pseudo-Geber). Great systems of thought did not originate in the manner that M. Berthelot would have had us believe of Alchemy. Even were his theory true, the real problem, namely the reason for the Greeks so having misunderstood the Leyden Papyrus, and derived a system of natural philosophy therefrom, would remain, and it was an epistemalogical or psychological problem.

As concerned China, he felt inclined to venture an affirmative answer to the question asked by Mr. Frings (*c.f.* a letter in *The Academy* for March 29th., 1913). What was really needed, however, was some member or members of THE ALCHEMICAL SOCIETY acquainted with the necessary languages to undertake the study of Chinese and Indian Alchemy, and so clear up the whole obscure problem.

Mr. A. E. WAITE, in replying, said: (*i*) At all periods human minds had tended unquestionably to speculate independently on the same subjects in a similar way, and to express results in terms which indicate a common ideological basis. It was eminently possible for the notion of metallic transmutation to arise independently in different countries and times. But alchemical literature spoke a peculiar symbolical language, and the same conventional terms could not have been used, *e.g.*, in China and Greece, unless one had transmitted to the other. (*ii.*) Whether transmission was from China to Alexandria or *vice versa* could not be determined in the present state of our knowledge, and the speaker had left it open in his lecture. We were not acquainted with the grounds on which Mr. Bolton referred certain Chinese texts to the third century A.D., and we knew nothing of Dr. Martin's warrants. (*iii.*) Alchemical literature was not only a growth of Christian centuries, but in terminology and symbolism was saturated with Christian influence. This was prominent enough in the Byzantine collection, and there were vestiges in Syriac Alchemy, which, however, disappeared—for obvious reasons—in that of Arabia. About the religious atmosphere of the Latin period there was no question. (*iv.*) As regarded India, the speaker had no titles in research and could say only that some of the *Tantras* were reported to certain recipes for an elixir of life, of which Mercury was an ingredient. (*v.*) He endorsed cordially every word said by the Chairman respecting the exaggerated importance attached by Berthelot to the influence of the Leyden Payprus on Alchemical literature.

# "THE MARROW OF ALCHEMY."

(PRESIDENTIAL ADDRESS, READ OCTOBER 9TH., 1914.)

By Professor JOHN FERGUSON, LL.D.

THIS book, *The Marrow of Alchemy*, was published in a small octavo volume at London, in 1654-55, in two parts, with separate title-pages, prefaces and pagination; but the copies I have seen were bound together. The editor informs us that he published the theoretical part first, but kept back the second, or practical, part, till he saw how the first was received. He seems to have been satisfied, for he put out the second part in the following year (1655). So far as I know there was no further issue of the treatise till 1709, at London, when it again appeared under the title: "A True Light of Alchymy," along with other two short tracts, in a shabby little duodecimo volume. There was no subsequent edition in English. It was turned into German by Johann Lange and published in 1685, and a translation into Dutch came out in 1687.

The term *Marrow* here used, or its equivalent, occurs as the title of one or two other works, such as George Ripley's *Marrow of Alchymie* included by Salmon in his *Medicina Practica*, a tract ascribed to Roger Bacon, and one to Christophorus Parisiensis. There may be others.

As its name denotes this book professes to yield us the very pith of the matter, to reveal the mystery in theory and in practice of the red and white tinctures, the philosophers' elixir. It is not alone in this undertaking, for other treatises make a similar promise. In itself, however, it is more attractive than some of these, and it seems, though after all, I do not think it is, more intelligible. Doubtless it was a seduction to those of its time who were engaged in the alchemical research, and it now hangs out a bait to those who would gladly examine any document which would throw a gleam of light on what it was all about. On perusing a work like the present, one must assume that the pursuit had some show of reality to have produced it. A man would not set himself deliberately to write a poetical exposition of what he knew to be a delusion. There must have been something in it for him, however misunderstood, and glorified, and misinterpreted. The mystery, which was due chiefly to inability to dispel it, was exalted into something holy, so that it became a sin to reveal what was known of it to any but the elect. The knowledge could be attained only by divine revelation, or at least permission. That, anyhow, was a reason which an adept could give when he found it convenient to conceal his own ignorance.

Before making the attempt to extract any meaning which may be contained in this exposition, there are some preliminary matters connected with the book and its author, which deserve consideration.

One thing to be noticed is that the work is in verse. It is not singular in that respect, for there are several alchemical poems extant, such as the *Chrysopœia* of Augurellus, the *Livre de la Fontaine Perilleuse*, George Ripley's *Compound of Alchymy*, the poems collected by Elias Ashmole, *La Fontaine des Amoureux de Science*, and others. It may be observed besides, that though far from being technically perfect as regards either rhyme or rhythm, the poem is not wanting in a certain ease, which shows that the author was by no means devoid of talent. Indeed one is sometimes surprised at his dexterity in getting rhymes and bending his verse to suit a by no means poetical theme.

The first question, however, relates to the history and authorship of the poem.

The nominal author is Eirenæus Philoponos Philalethes, which is meant apparently to suggest Eirenæus Philaletha, the Cosmopolite, as the writer's master, or model. The writings were themselves edited by a person who signs the two introductions with the anagrams *Egregius Christo*, and *Vir gregis Custos*, respectively. These, with an effort, stand for George Stirkius or Georgius Stierk, and Georgius Stirkius, the actual name being George Stirk or Stierk, or, more familiarly, George Starkey.

In the preface to the first part, he describes how he came to edit the poem and he says the preface will give an account partly of the author and partly of himself. He says: "For the author he was an eye-witnesse of the great secret as he doth testifie of himself; nor that only, but had by gift a portion of that precious jewel so sought for by many but found of few: Which portion although he did for the most part lose it in hopes of multiplication of it (which he could not attain, being of the white not the red powder) yet by diligent search and industry he attained the preparation of the Philosophers Mercury, and by it to the preparation of the *Elixar* of the first order, which is indeed but of small vertue compared to what it may be advanced to. This, although it be but small profit, yet it is an infinite satisfaction to a son of Art, to see a medicine which will tinge Mercury or any imperfect metal into silver although not exceeding the proportion of one upon an hundred."

Starkey goes on to say that he had himself toiled many years in vain until he "had the good fortune to be acquainted with this author, who demonstratively convinced him of his former errors and set him in a right path." These

errors were due to his relying upon the books of those who wrote their bare thoughts without experience, or else were envious and wrote knottily on purpose to entangle the unwary. He then proceeds: "He shewed me several Tractates written by him who gave him the powder, hitherto never published: of which the names were *Ars metallorum metamorphoseos, Introitus apertus ad occlusum Regis palatium, Brevis manuductio ad Rubinum Cœlestem, Fons Chemicæ Philosophiæ, opus Elixeris Aurifici & Argentifici, Brevis via ad vitam longam, with a large Comment upon Ripley his twelve gates, and the Epistle to King Edward; Also a Commentary on Arnolds Ultimum Testamentum,* and lastly his *Cabala Sapientum,* or *An Exposition of the Hieroglyphicks of the Magi*: These Books I confesse of all that ever I read or had seen were the fullest, plainest, and most perspicuous; With much adoe I obtained Copies of them, but no commission to shew them to any body: I asked this my Friend why he did not cast in his *Calculus* into the Treasury of Philosophers, especially seeing he had been so farre successefull, he told me that indeed till he had accomplished the perfection of the Red, which he hitherto had not, he was unwilling to write: . . . at last he was persuaded by me to write this Treatise, which he performed in seaven Books, and another in Latine, entituled, *Breve manuductorium ad Campum Sophiæ,* which concerns chiefly *Paracelsus liquor Alchahest,* in which he clearly, plainly, and fully shews the difference between it and the Mercury of the Philosophers: And lastly, a Treatise called *Elenchus errorum in Arte Chemica deviantium,* which indeed is so plain, so full, and so convincing a Book, that more cannot be desired: By these and the forementioned Books, I soon attained the mystery of the Mercury, and by it the first Whitenesse, and hope ere long to see the Rednesse, in which the Authour would not instruct me, being by Solemn Vow obliged to the contrary, neither to effect it himself, nor teach others for such a number of years, on which Condition he received that from a Master, which (having the Mercury) he might else have received from God by industry; At last I had liberty of him to communicate these Manuscripts with some Friends, whom I heartily pitied, to see in what a state they were through the misleading of divers Sophisticall Authours and Receipts, who coveting the Copies, did so wearily entreat me, that from the time I first began to communicate them, I could never keep them at home; whereupon partly, and partly by the earnest perswasion of such who wanted *Ariadne's* threed in the Labyrinth of Alchemy, but chiefly aiming at the glory of God in it, I did by much entreaty at last prevail with my

Friend, from whom I had them (if I would) to make them publike, that others (whom God hath elected to so great a mercy) may reap the fruit by them that I cannot but with much thankfulnesse to God acknowledge my self to have received, who have at least seen an ocular demonstration of the truth in my own work (although I have not yet perfected the mastery) which will recompence my pains, travell, and charge in search, as the first doth satisfie my minde and judgement; For verily my work did not exceed the vertue of one upon 36, which advising with my Friend I had a satisfactory Reason, namely, that the white being not the utmost period, the work in the fire will move beyond it, and it is not easie to discern (but by long and oft experience) when it is come just to the height of the whitenesse, for before it comes to that passe it will look very glorious, that a man would say, this is the highest white, and yet it is not; so that if taken a little too soon, or let stand a little too long, it doth not tinge what it would do if taken just in time. It would require a large Treatise to tell you what scruples have caused me to stumble between the white and the red now twice, which I hope in not many trials to amend; but in a word, it is my errour in Imbibition, Cibation, and Fermentation, in which my Friend will not help me, but hath rather put me out, which I confide he doth, not for envy, but in scruple of his Vow, for my success should be equal to his if he should effect it himself, yet he tels me, that he doth truly instruct me (*per ambages*) which *ambages* I not understanding have twice concluded wrong to the *non-plus* of my skill and ruine of my work. I might here make a large discourse of the *Adepti* and their *Elias,* but shall refer the Reader to the Treatises fore-mentioned, being unwilling my self to fly to writing before my wings be fledged with more experience. These Treatises, Reader, thou shalt have in order, I began with this first, of which I wold only send out the first part at present, that Artists may *Ex Ungue Leonem.* The second part is wholly practical, which I keep by me till I see how the first will be accepted; If it be as courteously accepted as it was candidly pend, expect the others shortly. And I am solliciting for an *Elenchus Autorum potissimorum in Arte Chemica,* with a *Clavis Chemica* to open their Cabinets, that so students may have a censure of the true and more perspicuous Authors from a sonne of Art, and so need not reade in their *Tyrociny* such Labyrinthian Authors who either through gross ignorance or pure envy misleade the unwary. . . . . ."

If that preface truly states the facts, three persons seem to be concerned with the book; namely, George Starkey, the editor; Eirenæus Philoponos Philalethes, the author;

and the master, or adept, from whom he obtained the red elixir and certain writings, especially *Secrets Revealed*, which is ascribed to Eirenæus Philaletha.

The chief obscurity here envelops the intermediate personage, about whom nothing is known.

The question, therefore, has arisen if he was a separate person at all, or was identical with Starkey himself, and merely a stalking-horse under presentation of which he narrated his own experiences, and that the poem was written and not simply edited by him. This is the opinion held by most, and Starkey gets the credit of the authorship. It was, indeed, the contemporary opinion, for it was expressed in plain terms by Will. Cooper.* It was assumed also as certain by Bacstrom, at the close of the eighteenth century. Starkey's life too, and his reputed connection with Philaletha, the Cosmopolite, seem to confirm this view.

There is something to be said on the other side also. For, in the first place, there is Starkey's explicit statement that this poem is the composition of a friend. He nowhere makes any claim to it and in the "Advertisement to the Reader" prefixed to the Second Part, speaks with decision on the point. For after a brief summary of the First Part relative to the Theory, Starkey proceeds: "In the Second Part, which is this, he doth plainly discover the Practique, yet so, as that only Sons of this Art shall understand it, but darkly enough to a Sophister. I shall only speak something as to the materials which are to be taken in the Work. The Author quoted few, nor indeed could Meeter well bear quotations, besides, he challenging a name among experimental witnesses, would not prove his assertions so much by testimony as by reason; I who must follow him, as *Neoptolemus* did his Father *Achilles* (*Non passibus æquis*) shall confirm that by testimony which he hath convincingly proved by most sound Arguments"; and then he goes on to quote from Artephius, Pontanus and others.

If Starkey was the author of the poem, then unless in these prefaces he wrote of himself both in the first and third persons, it is not easy to see how they can be applied to him. But if they do and Starkey was the author, what occasion had he for the mystification in which he has enveloped the author's name and personality? There is just one other point: there is no evidence in Starkey's other writings of the possession of poetic gifts, even to the extent displayed

* *A Catalogue of Chymicall Books, London*, 1675, Part I. Q4 *verso*: "Eir. Phil. Philalethes, *alias* Geo. Starkie's *Marrow of Alchimy*. . . . Lond. 1654. 8." But in the Catalogue, Part II. D1 *verso*, where reference is again made to the book, and to its second part, 1655, the identification of the author with Starkey is not repeated.

in the present work. That, however, does not affect the subject.

Of George Starkey, whether author or merely editor does not make much difference, rather conflicting accounts are given. He is said to have been born in the Somers or Bermuda Islands, son of the Rev. George Stirk. He was intended for the ministry, but instead he took to medicine, and in 1648 in a letter addressed by him to the Worshipful Mr. John Winthorp, he asks for antimony, mercury, glasses, and some chemical books, stating that he had built a nice furnace, but could not proceed without the materials and apparatus. So it would appear that he was engaging in pharmacy, or practical chemistry.

He graduated as Master of Arts in New England and is said to have become acquainted there with Philaletha, from whom he ultimately obtained a quantity of transmuting powder for silver and a number of manuscripts.

He came over to England, performed a number of transmutations, but lost the greater part of his powder in futile attempts to make the tincture for gold. He edited the *Marrow of Alchemy* in which this story being told suggests that so far the poem is autobiographical and the intermediate person is fictitious. He was accused of having deceived Philaletha and having made away with some manuscripts, for Cooper states that they had disappeared and that he was anxious to recover them.

He practised medicine and probably pharmacy, and was a follower of Van Helmont. He wrote *Pyrotechny Asserted and Illustrated,* in which he treated of the volatilization of the alkalis, *Nature's Explication, Liquor Alcahest,* edited by Astell; some controversial tracts about Richard Mathew's Pill (claimed by Starkey), a tract on Oyl of Sulphur, and perhaps one or two other small things.

All the authorities whom I have seen agree in stating that Starkey died in 1665, during the great plague. According to some his death occurred in the debtors' prison; but the more sensational story was that he caught infection when engaged in the autopsy of a victim of the sickness. Dr. George Thomson, who wrote a book on the plague, mentions Starkey's illness and death, and also that of another friend, Dr. Joseph Dey, and adds: "They are gone, and rest from Persecution, Slanders and Obloquies of their enemies, and have left me behind to deal with those that are always supplanting and contradicting the Truth." From these remarks and an allusion by Astell to certain of Starkey's "moral failings," there seems to have been some sort of cloud over him, but whether deserved or not there is no way of proving, so far as I know.

Of Eirenæus Philaletha, the Cosmopolite, nothing is definitely known, except that he is said to have written the *Introitus apertus ad occlusum Regis Palatium* in 1645, when he was 23 years of age and had already acquired the reputation of an adept. He is said, indeed, to have made projection before Charles II., who was rather fond of physical science.

It is unnecessary to notice the confusion which sprang up over him and Thomas Vaughan, who, under the name of Eugenius Philalethes, wrote a number of little books and had a controversy with Henry More, of Cambridge.

The distinction was pointed out by Will. Cooper, who was a contemporary, and he discriminates between the author of the *Anthroposophia Theomagica*, Thomas Vaughan, and "Eirenæus Philoponos Philalethes, alias George Starkie," and between Eirenæus Philaletha, Cosmopolita, author of *Secrets Reveal'd*, and Eiren. Philop. Philalethes, author of the *Marrow of Alchemy*.

According to some authorities his true name was Child, but Baestrom asserts that it was Winthorp, and that he was Starkey's patron. Starkey himself says in the dedication to Boyle of one of his books, that he had been introduced to him by their mutual friend Dr. Robert Child. He may or may not have been the Cosmopolite.

I have already quoted Starkey's laudation of Philaletha's books, and similar opinions are expressed by others. Fictuld, however, strikes another note when he says that the Cosmopolite is the "most horrible lying spirit and sophist that was ever heard of or read about."

It is perhaps anticipating what would come more appropriately later, if one were to make a remark or two on this preface. One is that here, as in various parts of the text itself, there are references to sophisters, envious persons, ignorant persons, writers of theories without any experimental knowledge, who, some out of malice, others perhaps undesignedly, but none the less effectively, lead beginners into error, to the loss of time, labour, money, patience and belief in the reality of the Art. Another is the commendation of the books above quoted for their clearness, simplicity, and convincing instruction. Any one who has turned over the books aforesaid will hardly confirm this opinion without a stouter "Ariadne's threed in the Labyrinth" than these books furnish.

The fact is that without a good deal of assumed interpretation,—in plain English, of guessing,—very little could be made either of the present poem or of these other works. To some extent I have had the help of a manuscript commentary which has made the obscurity not quite so dense, though in certain places it is

nearly as confusing as the original text. More than once, indeed, the commentator himself has been constrained to confess that he is at a loss to know exactly what the writer intends. That being so, and as I can make no claim to being better informed than the commentator, I hope I shall not be severely blamed if I fail to convey a clear notion of the author's meaning. So far, however, as the thing is possible it may be worth while to consider as briefly as may be the contents of the several books.

After the usual invocation to those ancient deities, Phoebus, the sun, and Minerva, both specially connected with the art,—though, why Vulcan, who, one would have thought, has most to do with it, is omitted, is not quite clear —the author reaffirms the then-accepted view that metals are produced from a homogeneal matter, mercury, which is altered by long digestion and gives rise to bodies of different degrees of perfection. Further, there is an art known to few only, by which these can be converted into perfect gold and silver, so that it is wonderful to see this change effected on lead, copper, tin, or iron, in less than half an hour's time. This art depends on natural principles and is therefore quite certain, though it is derided by most, and though ignorant persons, under its guise, cozen the credulous of their money. That, however, must not be considered a proof of the falsity of the art.

One of the evidences of the truth of the art, is the number of witnesses to it of good credit, and if they are not to be believed then we may doubt of any statement. For the witnesses are not two or three, but many hundreds have affirmed its reality, and all ages, countries and nations afford testimony in men noted for skill and learning. It cannot be supposed that such men who affirmed the reality of the art with sacred protestations would knowingly incur the infamy of a reputation for deception after they were dead.

The author enumerates a few of the leading lights of Alchemy, beginning with Hermes, who summed up the whole art in the Emerald Table. There were Geber, and Haly, Calid and Bernard of Trévisan, great in skill, who after long errors wrote a book to refute Sophisters and help true searchers, Sendivogius, Flamel, Espagnet, and he adds

"To whom these named authors wont suffice,
Say what he list he is more nice than wise."

Indeed he goes farther and says the shortcoming is in the critic:

"Admit I for a thing no ground can see,
'Twere folly in me straight for to conclude
The negative, since many things there be
In which I have no skill, there's none that's rude
In anything, but it to him appears
Impossible, which yet its Reason bears.

"And what I cannot with my wit perceive,
Because they are removed from my Sphear,
Another knows, then shall I not beleeve
A knowing man, nor deign to give an ear,
Because his words are quite above my reach,
Because I cannot learn can he not teach?"

which is not the view now held by the ordinary learner.

He gives instances of those who from being opposed to the art have been converted to its reality by experiments which they have either witnessed, or themselves performed, and quotes the cases of Hoogheland, and Van Helmont, who got a gift of a red powder, one grain of which transmuted three pounds three ounces of mercury into gold.

Having the support of these adepts, the author adduces various reasons that the Art is possible and exhorts those who begin the work to see to it how they proceed if they will be successful.

The first thing to be understood is that kind produces kind. It is a law of Nature that each thing should draw its form from its like. Plants and animals are endowed with a seminal virtue; the question is whether metals are similarly furnished, so that they can increase their kind like other things. Now metals are engendered by unctuous sulphur, which coagulates and fixes a fluent mineral moisture, called mercury by the philosophers. This mercury is a dry fluent humidity which does not wet the hand. There is a mighty force in it, for its parts are so firmly knit that they cannot be dissevered. It is the progeny of water, but there must be a hidden virtue in it to bring about such a condensation; this virtue proceeds from the seed placed by God in nature. There must be an inward Agent, else a thing would remain unchanged; the Agent is form wanted by water while it retained its proper nature. The form, clothed with matter begets a seed, which forthwith changes the matter, stamps on it its character, the matter lives and co-worketh with the form to attain the aim intended by the seed.

"The seed is then the mean that doth unite
The form unto its matter, and doth raise
An appetite i' th' patient, and invite
The active vertue to its work, and laies
This Law on all its actions, that it shall
To its own end direct its motions all.

"The end attained once, this life is hid,
And hedged in with senses corporall,
Where it preserves its body; but doth bid
Adieu to future working, till it shall
Revived be, and ferment new receive,
New operations in't then you'l perceive."

It is an error, therefore, to suppose that, because metals are so firmly knit that the seat where the seed is placed cannot be discerned, therefore there is none. In animals and vegetables there is constant change, but metals are of such perfect composition that they outlast all change, unless by an agent consonant to their principles.

For example, the meanest metal, lead, although sublimed to vapour, or changed to litharge, or calcined to ceruse, or glass, is not "untied", for lead it remains, and may be easily brought to assume its former shape; if lead then be so firm more perfect metals presumably are more permanent.

"Conclude we then and that on certain ground,
That metals do possesse metalline seed,
Which though retired far, may yet be found,
By such who search the right way for to speed:
Else could they not engendered be, nor kept
In this their Being, of Seed alone the effect."

The place where the seed lies hid is in water of its own kind, and is active as long as the water is active, but if this be "slain" by congelation it lies hid in a passive state. But its life is not extinct, for it can be quickened, again stirred to new motion and linked to a substance a very small part of which may transcend its mineral Concrete. The reason why the seed in animals and vegetables is apparent, but most secret in minerals, is that the two former consist of dissimilar parts which are all inclined to constant change. But metals and all metalline bodies are engendered from a most stable root, Mercury, which has no distinct parts but is entirely one, linked to "Sulphur". Not *vulgar* sulphur but essential to Mercury, both needing mutual help and virtue. These are so conjoined that they cannot be separated.

"Therefore because the Atome least of gold
Is gold, and hath of it the form intire,
Its Elements together so do hold,
And all its parts so firmly do conspire
The seed of it is therefore by no Art
From its own body to be made to part.

"So then its seed in truth is nothing else
But its own water, which in fetters lies
So chain'd within its center where it dwels
That it is not apparent to the eyes
Ne to the minde, but of a mental man
Who knows a key this lock which open can."

The author discourses of the nature of Seed and warns the reader not to "conster" his words too literally when he says that Mercury, the water of gold, is its seed, but it is so-called because in it it is most of all contained. The body (the metal) is the "water's" rest, the water is the spirit's "habitacle," where rests the heavenly off-spring, sought for by many but not found. So it is in plants and animals The visible seed or sperm is not the vital fire, for that is a spirit which a "mental man" is inspired by Nature to perceive.

"For sense doth teach the substance soon may lose
The life which it to motion did dispose."

If an egg be shaken enough it will not hatch, if the seed of a plant be heated in an oven it loses its vegetative virtue.

The substance or the sperm is not the seed which is "indeed a life of light."

"Or if you rather list it for to name
Of Concrete things the vertue seminall,
Which in each Kingdom doth its likenesse frame
In matter due dispos'd, and there withall
Doth in the Compound daily motions cause,
All which are bounded by their proper Laws.

Therefore a matter duly fitted, then
According unto nature well dispos'd,
And govern'd rightly, doth from secret den
A centrall fire stir up, which being los'd,
Uncessantly its task doth never cease
Unlesse some errour Nature doth displease."

In going through this introduction, one remarks the struggle made by the author to arrive at a theory of the origin of matter, which would justify his efforts to attempt

transmutation. It is no blame to him that he failed, nor is it to his discredit that he was unable to accept the metals as individuals, and tried to account for their characters by the theory of a common composition from the same elemental bodies.

If I have failed to make his meaning clear, or have misinterpreted him, I must plead the vagueness of the ideas themselves, and the by-no-means-exact expression of them by the author. They were impalpable and slipped through his grasp before he could give them definite form. Occasionally, however, there are luminous observations which show that the author was deficient neither in insight nor in generalizing power, and allowance must be made for him on the ground that like everyone else he could not get beyond his own time and the views he enunciated were the concepts of his time.

The Second Book is interesting, for in it the author details his own experience in his endeavour to effect transmutation. He says that he once knew an Artist intimately, who excelled in his skill and who had both the red and white elixirs. From him he got a portion of the white, more than two ounces in weight, which was capable of converting into pure silver 120,000 times its weight of mercury.

Instead of being contented with this, he became so possessed by greed that he spent most of it in attempts to make the red, a thing of which he was ignorant. He affirms, however, that he made several hundred ounces of the finest silver, by merely projecting a small quantity of the white elixir upon mercury. The mercury was changed to about an equal weight of silver; lead also was transmuted with some waste, but tin was a wonder, for its weight increased. The explanation given of this is that "tin contains an air, which makes it lighter, just as ice loses weight when it is converted into water."*

He tried the "medicine" on copper, iron, even on brass, and pewter, on spelter, solder, tin-glass and regulus of antimony and could assert with truth that they were all brought to perfection.

Even into gold this white tincture penetrated and turned it white, and the product gave all the tests for gold. It was not attacked by aqua fortis, it stood the trial of antimony, in weight it equalled gold, so that it was either white gold (*sol*), or silver (*luna*), equal to gold in perfection. This luna was gold indeed, and was of corresponding value, but he did not discover that till he had sold eighty ounces of it at the price of silver. Projected on pure silver

* A similar view was held at a later date in connection with Phlogiston.

a brilliant metal was obtained, but the virtue of the "medicine" was only diffused, not altered.

The author describes the adept in the following passage:—

"This man who gave this gift to me possest
Both red and white, his Name shall not be known,
For living he's I hope, long be he blest
With happy daies, for his life as mine own
I do esteem, he was so sure a friend
To me, and will be so unto the end.

"His present place in which he doth abide
I know not, for the world he walks about,
Of which he is a Citizen, this Tide,
He is to visit Artists, and seek out
Antiquities on voyage gone, and will
Return, when he of Travell hath his fill.

"By Nation an Englishman, of note
His Family is in the place where he
Was born, his Fortunes good, and eke his Coat
Of Arms is of a great Antiquity,
His Learning rare, his years scarce thirty three,
Further description get you not from me.

The person here alluded to is apparently Eirenæus Philaletha Cosmopolita (Winthorp or Child, already mentioned), and the writer goes on to say that he saw the transmutation of mercury into gold by the "red stone".

Having witnessed this, he foolishly imagined that one process led to the white and the red, and he set to work accordingly, which ended in loss of his material and no success. Having reconsidered his method, he deemed it prudent not to waste any more of his white tincture, but to retain a few grains of it. Thus, as he says himself, "the saddle for to win, he lost the horse; and, for a silly pin, many pounds did lose."

He then proceeds to deal with the Sophic Mercury* which he had also got from Philaletha, and succeeded so far in tinging an amalgam of mercury and silver, but no further. At this stage he again fell in with his friend to whom he frankly confessed all he had attempted and, generally, the mess he had made of it. Hereupon his friend read him a pretty severe lesson, told him that he was not yet one of the elect and that he could not grant him what Heaven had evidently refused. The author admits that he rather

* If one dared hazard a conjecture as to what this was, it may have been corrosive sublimate.

resented this "lecture on divinitty" and told his friend that as he had been granted so much, he would go on whether he refused him help or not. Upon this the adept expounded the method by which he could have attained his aim, at the same time pointing out that, even with the directions he gave, the operator might make many mistakes and never reach the end, unless by the favour of Heaven. The author was then made to swear that he would not attempt the work within a given time, and, this having been done, the mystery was revealed to him and he was witness of certain rare secrets, presumably the transmutation into gold.

Now, if all this happened to Starkey, if he was really the author, he could never have put the secret then disclosed in operation; for, eleven years after this publication, Starkey was dead, and he died in poverty, according to the tradition; so that either the time limit set to him had not expired, or else his attempts had ended in failure.

This is rather to be regretted, for according to what is told us in the Third Book, the tincture was of prodigious virtue.

The book opens with the regret that he has not the ability to do justice to the quest of the "Golden Fleece",* which in its splendour is far beyond the wealth of the Indies, for he who possesses it enjoys not riches alone, but freedom from sickness and length of days.

At this point the author exhibits some poetic fervour, considering the nature of the theme and his previous disclaimer.

The principle upon which the perfecting of the metals is founded is that they are all framed of the same matter

Gold, Sol, is the head of them all, it endures the fiercest fire without change and is only made more pure by the process, but it is not in any way decomposed or resolved. Next to it, as being also permanent when heated, is silver, Luna, though it is not so perfect as gold. The other metals, iron or Mars, copper or Venus, tin or Jupiter, and lead or Saturn, are so crude that they are considered to be vile, but nevertheless they partake of the essence of gold. This so far is plain enough, but immediately the author changes his terms to denote quite different bodies. Venus denotes no longer copper; Jupiter, tin, is not "our Jove", but is a son of "old Saturn", but "our Saturn" is not lead. One, therefore, has to try to interpret these terms, by what is declared, or at least hinted at, in other parts of the poem.

* It must not be forgotten that Jason's expedition for the Golden Fleece was interpreted by the alchemists as an allegory of the great work.

Besides the six "Planets", there is Mercury, the god's messenger; who is dull until he receives life. It is the first matter of metals; a dry flowing water, but this is not *our* mercury, not the water which is desired, for in *our* water is "our secret fire."

All metals have a concealed mercury so that this has affinity* to them. It is most allied to gold, then to silver, tin, lead, less to copper and least to iron. Its affinity to gold is shown "first by their equal weight,"† and next by their constant composition:—

> "For neither it nor gold by any sleight,
> Will suffer any one for to divide
> Their principles which may not be unti'de."

They can be divided by one humidity only which unties their elements and resolves them into their first principles. He who can untie mercury can easily unlock gold, a statement which one can agree to without demur.

Then he launches out into an apostrophe to Mercury, "the wonder of the world" and states that Argent vive is gold essential though unripe; but when prepared by art, it yields the secret menstruum, "our oil", "our unguent" "our marchasite", "our bright fountain", "our maydew", and so on, pointing apparently to an oily liquid or unctuous solid, or perhaps to its ability to produce such a body.

This "crystal fountain", flowing from a fourfold spring,§ is that in which the "King" is washed and from which he receives a virtue which never leaves him when he has been fixed.

Next to Mercury in metalline digestion is *Saturn*¶, which, though vile to look at, is the ground of the secret. Thus Mercury is gold in essence, but *Saturnine* in form, earthy and cold.

Ordinary Mercury is of no use for our purpose, for no dead thing (which it is) can make a living thing, nor can

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* Here the word is used in its strict signification of relationship, not in the old chemical sense of attraction and union.

† If the author means equal density, mercury is 13.59, and gold 19.3. This is sufficiently far out to make one distrustful of his other experimental statements, as, for example, what he says about ice "lacking of its own weight" when brought back to water. What became of it?

§ The fourfold spring is interpreted as Stibnite, iron, gold (the King) and corrosive sublimate. The water, therefore, would seem to be antimony chloride.

¶ Saturn, here, is not lead, but is said to be native antimony sulphide, or stibnite.

a thing foul in substance produce transcendent purity, nor a soulless thing make a body volatile.

In Saturn, there is hid a soul which must be freed and when this is done a vapour shining like a pearl appears, which is "our Moon." This is effected by Mars (iron) and by their joint action a wondrous bright water flows from a secret source in which the Sun (gold) sets and is obscured.

In rather involved imagery "Dame Venus" is introduced to unite with Mars in order that the Sun and our true Argent vive may combine. So far as one can interpret this it seems to describe the production of regulus of antimony by iron, the product being "our Moon", "the wondrous bright water" in which the Sun (gold) sets, or melts. Apparently the stellate antimony is also "our true Argent vive." As for Dame Venus she seems to denote common salt, or the acid, or corrosive sublimate got from sea salt by the old process. The description is intentionally elliptical, and the nomenclature involved and contradictory. Having in this way, to his satisfaction, cleared the ground and shown "how from identity of composition metals are capable of purification and perfecting, he proceeds to describe the rare agent for this purpose.

It is metalline of necessity, else it would not agree with metals. It must be of the essence of gold, else it could not tinge Mercury, Saturn, and the others, adding to them both fixation and *pondus* (density?). It must exceed gold in virtue, else it would be itself debased, for

> "Nought can graduate
> An unripe matter to its own degree
> Unlesse in it transcendent ripenesse be."

It is spiritual, so as to penetrate bodies and separate pure and impure. It must be fixed, else it would not retain bodies that are volatile. "Our stone" is, in short, the true essence of gold. It is a powder, white for the white, red for the red projection. Metals tinged by it exceed in purity those from the mine. At first its virtue is small, but by reiteration, by frequent solution and congelation it is enhanced until it is able to transmute innumerable parts into gold. It is ponderous, soft as silk, fusible as wax, and enters the centre of metals as rennet penetrates and coagulates milk.

In order to test it, trial may be made on Mercury. The mercury is heated till it begins to volatilize and that is checked by throwing on it a grain of the powder. The best way, however, is to project a little upon the metal of the powder, as the red on gold, and the white on silver. The metal will be made brittle like glass, and glistening as a ruby. Thus when this is cast on Argent vive, one-part on ten, the most perfect gold and silver will be the result,

One of the most remarkable properties which the essence possesses is by proper nourishment to multiply itself, both in weight and dignity. As an illustration of this the author gives an instance, of which he says he was an eye-witness, and he describes it in order to confute those who deny the possibility of transmutation. His own words may be quoted :—

"But I who oft these secrets have beheld
And have observ'd with curiosity,
Their progresse and their reason are compel'd
To stand up for to clear their dignity,
Nor shall the cavils of the vulgar cause
Me to condemn Nature's most Noble Laws.

"I saw then as I said a powder so
Encreast in verture (scarce to be beleev'd)
That so small quantity as scarce would show
In bulk a grain, nor weigh'd much more indeed,
Which yet to gold so great a quantity
Could well transmute, as may be deem'd a lye.

"No man by Art its number could attain,
So great it was, yet was the tincture sound,
For on an ounce projected was that grain,
In which perfection did so abound,
That all was essence made, of which one grain
Was cast upon ten times as much again.

"That is one ounce on ten, and these likewise,
On ten times more, which yet was med'cine made,
Ten more to one of these would not suffice
To metall it to bring, nor was't allaid,
So with these oft projections made before,
But one at last ting'd ninety thousand more."

I have seen a calculation, which I have not checked, that this amounts to about 470 million pounds sterling. Now supposing that the author's friend, say Philaletha, had had an ounce of the elixir, for if he could make one grain he could also make 480 grains, he would have had something like 225600 million sterling—potentially. He was right to keep it in the form of tincture, for such quantities of bullion would be troublesome to handle and to store. A few grains—not to speak of ounces—of the tincture, would be of some value at this moment.*

* If the calculation be correct a grain of the tincture produced about 320 tons of gold.

This the author says truly is incredible, and just on that account his theory may be accepted as his belief, for I think these people somehow or other misled themselves, though it is difficult to see how that came about. The author founds on "Nature's most noble laws", but here he postulates something to which Nature does not give support, action without reaction. How, on any physical or chemical principle known to us, could one grain of tincture, or of anything else, change an ounce of mercury or anything else into 480 grains of tincture ready to perform the same operation, which the original body did?

After such a practical demonstration, the author advises rash Censors to cease reproaching the art and warns the lovers of truth not to be led astray by the envious. "But," as he says:—

"But a true Son of Art doth wisedom prise
Beyond all earthly good, and his desire
To it is bent, and fondly doth devise
By riches to ambition to aspire:
His studies all to knowledge are inclin'd,
Prizing alone the riches of the minde.

"To such alone these labours I intend,
To them I write, but others I exclude,
Advising them their folly to amend,
And to forsake those fancies which delude
Them, and destroy their works, for why its sure,
No errour can a secret true procure."

If the operator will succeed in this supreme preparation, he must wait with unwearied patience for the result of his experiments, and not spoil all by undue haste, but take example by the husbandman who waits expectantly a whole year in order to gather his crop, the fruit of his labour, after innumerable chances and anxieties that it may at last fail him.

Curiously enough the author enters into the question of expense and points out to the artist how his fuel can be economized, and how his furnace can be made to perform several operations at once. These seem trivial details when one considers the percentage of return. A furnace more or less, or a hundredweight or two of coals, was hardly worth writing poetry about.

The Fourth Book opens with a consideration of the errors into which foolish students of the art lapse, by choosing wrong materials, pursuing fruitless operations and misunderstanding the directions of the adepts, which, considering the obscurity of their directions, it is small blame to the students if they did err.

But the author returns to his fundamental position, that to effect metalline transmutation, the agent must be metalline:

"The poorest Metallurgist knoweth well
Nought but metalline may with metals dwell."

Between animals and vegetables there is a certain affinity, for each may be nourished by the other,

"But gold, or gems, or Stones, or such like things
To man or beast so far remote from food
Appear, they nought assuage fierce hungers sting,
For nourishment they are in no wise good,
This is because the distance is so great
'Twixt thing and thing, that they will never meet.

"For 'twixt things which assimilated are
By transmutation, there must intercede
Precedent likenesse, else no mortal care
Can cause an Union, thus metals seed
Of their own moisture, and not out of kinde,
Consider this and weigh it in thy minde.

"True, Nature knows of water how to make
A body metalline, when once the seed
Of metals it inhabiting doth take
Occasion to work, yet 'tis decreed,
That Natures self throughout her total race,
Shall be confin'd unto her proper place."

Elaborating this theory he comes to the obvious conclusion that gold is the subject of this art, since it is gold that has to be produced. Gold must beget gold, this is Nature's law, but ordinary gold is inactive and must be resolved and made active before it can produce its kind. He gives various illustrations of the failure of those who taking statements literally, and working on ordinary gold and mercury get only ordinary results. Gold stamped is a coin; if corroded with *chrysulcous* water and then precipitated with a solution of *tartar* [*i.e.*, salt of tartar] it gives a powder, "gold sclopetant," which fires with a touch "and thunders with a monstrous fearful crack"; when amalgamated it is used for gilding; but *our* gold is not this, for it is resolved and is "our Sun", "our Marchasite", joined with "our Moon", "our crystal fountain".

In conclusion there is a recapitulation of what has been referred to above on p. 121, and the same bodies are again mentioned: native sulphide of antimony, the stellate regulus got by fusion with iron, common salt under the name of Venus, because like the goddess it springs from the sea, and corrosive sublimate, called crystalline mercury.

How by any or all of these gold was to be "radically resolved" and made into a multiplying essence I do not know, and the author does not explain.

The Second Part of the Poem, published in 1655, deals with the practical side of the pursuit, and the First Book opens with the self-satisfied statement that in the preceding part the reality of the Golden Art had been abundantly proved. Now he bids the reader carefully consider the reason of the work, else he may lose all his costs and labour.

The Stone, he affirms once more, is only gold brought to as high a state of perfection as possible, which, though a compact body, may, by Art and Nature's operations, be made into a tinging spirit. The first substance to be employed is a mineral akin to Mercury, and he harks back to antimony sulphide, and its conversion by means of iron into the stellate regulus, which is the "morning star" that appears out of the Earth, that is, the scoriaceous residue or slag.

So impressed was the author by this that the prepara tion and the properties of the body are repeatedly described. It is volatile and wholly spiritual.

"This is our steel, our true Hermaphrodite,
This is our Moon, so for its brightness nam'd,
This our unripe Gold, for it to the sight
A brittle body is, by *Vulcan* tam'd,
The soul of which if thou with *Mercury*
Can'st mix, no secret from thee hid can ly."

We are again told that common Mercury is of no avail, so that the term is used here apparently to denote what the author calls "the water which contains the secret fire", and by which he *possibly* means corrosive sublimate. The author through many stanzas plays with the subject, now and again being fairly definite and at others vague and contradictory. This may have been intentional in favour of the "true sons of art," but it may quite as likely have been due to his own ignorance of the actions he educed and his inability to understand and explain them.

In the Second Book the practical part is more detailed. The process as described appears to be to take one part of Gold (the red man, the terrestrial sun) and three parts of metallic antimony (the white wife, our Moon), and four parts of the reviving spirit (mercuric chloride?). This mixture is "our Lead", which is to be subjected to a slowly graduated heat until it "sweat". Thus the body and soul are joined and both mixed with the spirit. This has to be sublimed and resublimed until "Phoebus' beams" appear; presumably a yellow body. This product is transferred to

a suitable glass, hermetically sealed and heated. The fire is a great difficulty to many artists, and here he explains that "fire" may denote several things, to which explanations one has hardly a clue. The same is true of "our water" which is threefold and has as many variations as the fire, so that it is the easiest thing to go wrong in the operation. Since external heat, as distinguished from "hidden" or "central" heat, is necessary, a suitable furnace is required to keep it constant and unfailing, for the heat must be quite steady, not forced or slackened. Quite definite directions on this point are given, and if the rest of the poem had been as clear, one could have understood what was meant, although the multiplication of gold and the exaltation of the inferior metals would have been as far off as ever. The furnace, however, is to be of brick and carefully built and should contain coals enough, when continuously fed in, to last for twelve hours at a time.

Advice is given what to do in case the furnace should crack, or be exposed to rain or wind. It ought to be in a lightsome place, so that the progress of the work can be viewed; there must be good ventilation of the laboratory, the furnace indeed should be built in a chimney (which seems rudimentary); but the best locality is a room at the top of the house, where the fumes may escape, so that the artist can observe the successive changes without injuring his health; and then follows the quite true statement, that some are better workers than others and attain the results more quickly and surely.

The author recommends also that one should have a special friend who can attend to the operation occasionally. Do not trust servants, he directs; do not tell anyone what you are doing, do not reveal it to your wife, lest she gossips about it, but be quite secret, and pretend ignorance, counting the art as a fable. This "slimness" was not unnecessary, when one considers the fate that befel the adepts who were possessed of the tincture, or who were supposed to know how it was made.

But above all things be patient and do not hurry the work, and invoke the Divine favour and help,

> "And if thou hap so blessed for to be
> As this rare Jewel to attain, which many
> Do miss, few finde, be sure in thy degree
> That God thou honour, neither do to any
> Wrong in the least, for so to God thou wilt
> Obnoxious be, under a heinous guilt.

He concludes this Book with a résumé of the practice, which so far as one can interpret the strangely used terms

was an actual operation which was marked by changes in the bodies used and resulted in something, not very clearly defined, but not in the "Red Tincture" of the potency above described.

The last Book adds nothing new or explanatory, but it is in a manner a summing up of the whole work.

This it does under these heads following: First, *Calcination*; second, *Dissolution*—which seems to mean the dividing of a body into its first principles or "primæve matter", elemental mercury and sulphur, and congealing them again; third, *Separation*—which apparently denotes the sublimation of a body fixed in whole or in part which is separated by reaction with another. The fourth, *Conjunction*, summarizes the reaction apparently of gold, antimony and corrosive sublimate, though it may have quite another interpretation. One can never be sure. The author seems to think that these can be made into a fixed conjoined substance. The fifth is *Putrefaction*, which is the most obscure of these terms, for it is difficult to understand to what metallurgic process it can be applied. The black product is the Toad or Crow. It may mean that a black powder is produced, in which condition it yields its seed and then dies. Out of this the fixed essence was extracted, which, projected on the inferior metals, made of them gold or silver. Finally comes *Congelation*, which is the passage of the first stage of the elixir from the volatile to the solid state. Afterwards it has to be imbibed with more "water", fed (with gold?) and fermented. It is thus increased in virtue and multiplied, and then it is projected in the way referred to above.

It may be convenient at this point to notice difficulties which beset the student of alchemical literature and deter the historians and critics from venturing on its explanation and elucidation. It must be remembered that Alchemy was not only a secret science, but a sacred science as well, skill in which was a divine gift conferred only on the elect, and revelation of which to the unchosen was a sin against high and holy light. If, therefore, the adepts were to communicate with one another without revealing the mysteries, it must be in terms unknown to the uninitiated, who were rigidly excluded. The language of chemistry at the present day, as that of every specialized topic, is also unintelligible to the unlearned; but the difference is that so far from being hindered and hampered, confused and misled, in its acquisition, anyone who desires to know it has ample facilities for becoming as skilled in it as the greatest adept, if he will take the trouble.

Among the palpable difficulties of the literature is that of Nomenclature. In itself that difficulty would be ultimately

overcome, provided the names were used with constancy and regularity, and were not employed to denote different bodies and reactions. Examples have been quoted in the course of the preceding notes and more could be given. Various names are conferred on one body; that would not matter if they were kept for it alone. But the same names not only denote quite different bodies but such different aspects of the same body that it is no small trouble to recognize what is meant and to be certain that the interpretation is correct.

The chemical properties, further, are complicated with allusions to Greek and Latin mythology, as *our* Saturn (antimony sulphide?) is said to devour his offspring, which seems to denote iron, if not all the inferior metals. The physical properties as described bear no sort of relation to those of the body itself, if it be what one infers it is. But, after all, we are only outsiders trying to bring the alchemists' ideas, methods and results to a present-day interpretation in terms not merely of what we know, but what they must have seen and got with the presumed bodies, however they interpreted their results; when, for instance, what apparently is corrosive sublimate is spoken of as a water, it seems to refer rather to what it can do than to what it is and what it is described as being, a volatile crystalline solid. Anyhow the term is not used in the ordinary sense.

Another trouble arises as to the bodies used and whether they are the same as those now denoted by the names. In certain cases undoubtedly they are, but in others where symbolical names are employed it is very difficult to determine what is meant.

Besides, supposing they are the same, it is by no means certain that they were what would now be called ordinarily pure. The progress of knowledge and the requirements of scientific accuracy have so much modified the purification of chemical bodies, that it is not certain that the results obtained by the adepts two or more centuries ago from *their* materials would be identical with what would now be the products of the combinations of the same materials, but purified to accord with present standards. In other words their products must, sometimes at least, have been unknowingly mixtures, when ours are intentionally pure and individual.

From this arises another difficulty, namely, the description and interpretation of the reactions which they produced in their operations. As they had no definite and quantitative explanation they had to fall back upon symbolism and analogy, and as they thought themselves exceptionally favoured by the Supreme Being, a belief wrich has been common in all ages, including the present, religious and

Biblical ideas and analogies were brought into play, and body, soul and spirit were drawn upon to describe what would now be done in terms of the substances themselves and the conditions and agents employed. Matter, moreover, was for them not constant. It could be changed about from one thing to another, and there were, of course, no ultimate elements to which everything could be referred.

A special difficulty for us, therefore, is to get the operator's point of view, to see the phenomena as he saw them, and thus to realize what the aim of it all was, and the rationale of the methods for arriving at it.

While holding in abeyance, as far as one can, the chemistry in which one has been brought up, one must adopt the notions current some three hundred years ago, and make allowance for all their imperfections and the still more rudimentary theories which had been formed and on which the practice was based. This is not easy to do, and under all the drawbacks enumerated I feel very doubtful if I have succeeded in understanding the drift of the poem, much less a vast proportion of the detail. I may have entirely mistaken the author's meaning, and the significance I have attached to his theory and practice, to his materials and apparatus, may be erroneous. If so, I may urge that his poem was not composed for those outside the pale, and he might tell me, if he were able, that I must pray for illumination and give his work much longer and more careful study than I have done. He would caution me not to be led away by obvious and literal descriptions, because it was well known that when the adepts seemed to be simplest they were then most difficult and misleading, and as a comment on this, the only thing one earnestly wishes is that one could see him at work, explain to him in the light of present knowledge the phenomena he regarded with wonder and worship, show him some easy experiments and by a brief course of practical chemistry clear his brain of the notion that it is possible to make gold by the ton.

## REVIEW.

*The Magic of Experience: A Contribution to the Theory of Knowledge.* By H. Stanley Redgrove, B.Sc. (Lond.). F.C.S. With an Introduction by Sir W. F. Barrett, F.R.S. $7\frac{1}{4}$ ins. by 5 ins., pp. xv. + 111. Weight 11 ozs. London: J. M. Dent and Sons, Ltd., Aldine House, Bedford Street, W.C. Toronto: J. M. Dent & Sons, Ltd., 27, Melinda Street. New York: E. P. Dutton & Co., 681, Fifth Avenue. Price 2s. 6d. net.

MANY of the origins of Alchemy are to be found in ignorance and the misinterpretation of the laws of nature, but it

is equally true that many of the origins are also to be found in the experiences of the human soul. In so far as Mr. Redgrove's book is an attempt to analyse the operations of the soul it is an alchemical treatise. I have not met with a popular exposition of Idealism written in a manner so clear and with so few technical superfluities; and if after reading this book a reader is inclined still to accept the untenable hypotheses of materialism, I can only say that I am indeed sorry for him.

In §29 Mr. Redgrove defines "all genuine art" as "the manipulation of the symbols of nature and experience so that their spiritual meaning may be blazoned forth"; this definition will seem to many narrow and inaccurate; but the book is a study in philosophical principles, not a contribution to the exegesis of Art. In §§46 to 51 the relative nature of Truth is symbolised mathematically, and those specially interested should refer to the author's *A Mathematical Theory of Spirit* (Rider, 1912). The readers of this book cannot but realise that an attempt has been made so to coördinate the facts of experience, that Life appears as the happy gift of an Everlasting God, lavish in His bounty.

But perhaps all philosophers are semi-poets and Mr. Redgrove has dreamed a dream! Who knows?

B. R. ROWBOTTOM.

# INDEX.

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**SPECIAL DOUBLE PART.**

*For notice of next General Meeting see inside cover.*



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Edited by

H. Stanley Redgrove, B.Sc. (Lond.), F.C.S.

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# The Alchemical Society.

## *SPECIAL NOTICES.*

### Proposed Increase in Annual Subscription.

The proposal, particulars of which were given on p. 86 of the last issue of The Journal, to increase the annual subscription of members resident in or near London to 15s., is still under consideration by the Council. Correspondence relative to the motion was requested from members, and stamped addressed post-cards for this purpose were forwarded to all members affected by it. As a complete census of opinion is desired by the Council, members who have not yet done so are requested to use these cards for that purpose without further delay.

### Date of Next Meeting.

The next General Meeting of the Society will be on Friday October 8th, at 7.30 p.m., at 1, Piccadilly Place, Piccadilly, W., when Professor Ferguson, LL.D., will deliver a Presidential Address. Visitors are specially invited.

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