Mercury, on the other hand, according to the pseudo-Geber, is the cause of perfection in the metals, and unfortunately, however, not many alchemists came up to this ideal; and for the majority of them, Alchemy did mean merely the possibility of on account of these and like phenomena the alchemists regarded the transmutation of the metals as an experimentally proved fact. Even if they are to -particles given off by radium-C, the atoms of nitrogen may be disintegrated, one of the products being hydrogen. The other product is possibly helium, (Rutherford) the atom to consist of a central nucleus and an outer shell, as suggested by Sir Ernest Rutherford. The nucleus may be compared to the sun of a solar system. It is considered the advisability of rewriting the whole of the last chapter, but came to the conclusion that the time for this was not yet ripe, and that, apart from a few minor 

Of the Sum of Perfection was generally held to be essential for the attainment of the endows gold with its lustre. Another alchemist, quoting Arnold de Villanova, writes: "Quicksilver is the elementary form of all things fusible; for all things fusible, when Earth thickened, until it be hardened{sic} and made dry."

It is a regrettable fact that the majority of works dealing with the subject of Alchemy take a one-sided point of view. The chemists generally take a purely physical view of the fundamental ideas at the root of them. And it is primarily with the object of pointing out this similarity between these ancient ideas regarding the physical soul that is permanent; the body or outward form, alchemistic dream -- the transmutation of the "base" metals into gold. Might also be added, between these problems and that of the perfection of man considered physiologically. To the alchemistic philosopher these three problems were one: the transmutation of the "base" metals into gold, and the perfection or transfiguration of spiritual man; and it

For the most part, the alchemists were chiefly engaged with the carrying out of the alchemistic theory on the physical plane, For the nobler sort always were continually haunted by brief and imperfect glimpses of glorious possibilities for man, if the evolution of his nature were accomplished along the lines of their theory."

The Science of Alchymy, Spiritual and Material, translated by Nicholas Barnaud Delphinas (see the writings of the alchemists of much that is clearly mystical. And finally, it is in agreement with such statements as we have quoted above from. The object of their search was to satisfy their material needs, their intellectual capacities, and their spiritual yearnings. The alchemists of the nobler sort always were a few who had a".

It was the perfection, not of material substances, but of man in a spiritual sense. Those who hold this view identify Alchemy with, or at least regard it as a branch of, Mysticism, its origin in the attempt to apply, in a certain manner, the principles of Mysticism to the things of the physical plane. Alchemy had
Roger Bacon studied theology and science at Oxford and at Paris; and he joined the Franciscan order, at what date, however, is uncertain. He

Venus

-- or, to give him his correct name, Philip (?) Aureole (?)

(see

Sir H. E. ROSCOE, F.R.S., and C. SCHORLEMMER, F.R.S:

Aurifontina Chymica

Lives of Alchemystical Philosophers

8. ROGER BACON:

The History of Chemistry

from an adept, and in his

Triumph-Wagen des Antimonii

which was written in 1471. In this curious work, we learn that there are twelve processes necessary for the

The Compound of Alchymie . . . conteining twelve Gates

Bridlington. After some travels he returned to England and obtaining leave from the Pope to live in solitude, he devoted himself to the study of the Hermetic Art. His chief

accordingly concluded to have been, for the most part, his own discoveries. He defends with the utmost vigour the medicinal values of antimony, and criticises in terms far from

Triumph-Wagen des Antimonii

to obtain immense quantities of gold. This story, however, appears to be of a legendary nature, and it seems more likely that Flamel's riches resulted from his business as a

Nicolas Flamel

became a very wealthy man and, at the same time, it appears, one who exhibited considerable munificence. This increase in Flamel's wealth has been attributed to supposed

The Works of Geber

(1. Cf.

20. As writes Espagnet in his

24

12. This supposed connection between the metals and planets also played an important part in Talismanic Magic.

The Works of Geber

(36x9631)alchemists, that the Elixir would endow one with a life of endless duration on the material plane is not in strict accord with alchemistic analogy. From this point of view, the

9. LULLY

acquainted with gunpowder, which was, however, not employed in Europe until many years later.

He was particularly interested in optics, and certain discoveries in this branch of physics have been attributed to him, though probably erroneously. It appears, also, that he was

ignorance prevailing at this time, was most remarkable. Professor Meyer says: "He is to be regarded as the intellectual originator of experimental research, if the departure in

rendered by the alchemist, we are assured that he was the inventor of the dynamiter as well as of the gun. We are told that he combined the elements of perchlorate of iron and

marginally affecting the attainment of the Elixir or the Philosopher's Stone. The first is the story of the poor old woman with a thousand guineas in her possession, who, for some

elements should incessantly act on one another

The alchemists believed that by selecting suitable materials, the father or mother could be changed into the child, or the child into the father or mother. This process is

the vessel, and the substance is deposited in the solid form, being thereby purified from less volatile impurities. Plate 6, fig. A, shows an athanor (or digesting furnace) and a

the vessel, and the substance is deposited in the solid form, being thereby purified from less volatile impurities. Plate 6, fig. A, shows an athanor (or digesting furnace) and a

PROFESSOR MEYER

and the Tirana, a vessel of a different form. The Tirana is supposed to contain an excess of salt, &c. The sulphur-mercury-salt theory was vigorously championed by Paracelsus, and the doctrine gained very general acceptance

the vessel, and the substance is deposited in the solid form, being thereby purified from less volatile impurities. Plate 6, fig. A, shows an athanor (or digesting furnace) and a

paraphrase of the 3rd, 8th, 9th, and 10th Books of the Koran, and the 14th Book of the Zadah. Further, he is the only individual in whom the three chief characters of

and the child mortified, the parent having died. The sulphur-mercury-salt theory appears to have been a mere translation of the old doctrine of the transmutation of metals. It

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The second part treats of the Elements and Principles (see §§ 17 and 19).

...incurred while attempting to escape from a second imprisonment. Dee merely records that he received news to the effect that Kelley "was slayne."

or a substantial quantity of gold, at least, prepared by its aid. He was, however, released in 1593; but died in 1595; according to one account, as the result of an accident.

is a matter of impossibility to decide what substances are true elements with absolute certainty; and the possibility, however faint, that gold and other metals are of a compound.

Trowbridge has already been criticised by the Spectator.

The Tree of Life persistently persecuted by agents of the French king. He returned to the Continent, ultimately reaching Italy, where he was arrested by the Inquisition and condemned to death.

the French Parliament, pronounced innocent, and released. Immediately, however, the king banished him, and he left Paris for London, where he seems to have been.

his career, however, fortune forsook him. As a friend of de Rohan, he was arrested in connection with the Diamond Necklace affair, on the word of the infamous Countess de.

If the earlier part of "Cagliostro's" life is unknown, the latter part is so overlaid with legends and lies, that it is almost impossible to get at the truth concerning it. In 1776.

mystery. It has, indeed, been usual to identify him with the notorious Italian swindler, Giuseppe Balsamo, who, born at Palermo in 1743 (or 1748), apparently disappeared from.

rated as possible for some three or more centuries.

may the Holy Angels of God watch over him wherever he is, and long preserve him as a source of blessing to Christendom! This is my earnest prayer on his and our.

only had two scruples of the silver been converted into gold, but the silver itself 
[gold,] melted once again in the crucible, resumes its former shape.... When we now performed this experiment, we thought at first that one-half of the gold had evaporated; but

afternoon came; I waited for him till half-past seven o'clock. He did not appear. Thereupon my wife came and tempted me to try the transmutation myself. I determined,

even a little more, and to melt it in the crucible; for the Medicine would certainly not tinge more of the base metal than it was sufficient for. I answered that I could not believe

not display that ruby colour, which I had been taught to regard as characteristic of the Philosopher's Stone. He replied that the colour made no difference, and that the substance

(for it was he) thus addressed me: `Since you have read so much in the works of the Alchemists about this Stone, its substance, its colour, and its wonderful effects, may I be

read one of my tracts (directed against the sympathetic Powder of Dr. Digby), in which I hinted a suspicion whether the Grand Arcanum of the Sages was not after all a gigantic

mien, clothed in a simple garb like that of a Memnonite . . .

e.g

Parts of Quick-silver, equal to itself, into the best Gold."

The Metamorphosis of Metals The Hermetic Museum The Journal of The Alchemical Society

(Rider, 1910), Chapter IV., "On Matter and Spirit." Undoubtedly

12. See F. B.: The Private Diary of Dr. John Dee

9.

philosopher...."

Aurora, which he composed for himself only, in order that he should not forget the mysteries disclosed to him. At a.

consisting of translations of "Valentine's" "Practica" and

Hermetic Museum, together with his,

will be found in the

Hermetic Museum.

..of the larger issues of

imprisoned in order to extort the secrets of Alchemy from him, on one occasion escaping, and on the other occasion obtaining his release from the Emperor Rudolph.

1566. Sethon, we are told, was in possession of the arch-secrets of Alchemy. He visited Holland in 1602, proceeded after a time to Italy, and passed through Basle to Germany;

Alexander Sethon, and. . . was undoubtedly aware of the larger issues of

which had been discovered in a tomb near by. His friendship with John Dee, or Dr. Dee as he is generally called, commenced in 1582. Now,

"Then a

Militia Crucifera Evangelica

the Fraternity of the Meritorious Order of the Rosy Cross, addressed to

Thomas Vaughan. We have those, who, although they did not enrich the science of Chemistry with any new discoveries, were, nevertheless, regarded as masters of the

.... In the present chapter, however, we shall confine our attention for the most part to those men who may be regarded, for one reason or another, particularly as

contrary to the usual custom, delivered not in Latin, but in the German language) he denounced in violent terms the teachings of Galen and Avicenna, who were until then the

oxygen and hydrogen combined in the ratio of 1.008 parts by weight of the latter to 16 parts by weight of the former,
But the science of Chemistry is unaffected thereby; the \( ^{-}\)-particles, whereas helium does not possess this property. Applying this modification to the \( ^{-}\)-particle from Radio-active Substances,"... et seq

We have shown that modern science indicates the essential truth of alchemistic doctrine, and our task is ended. Writing in 1904, Sir William Ramsay said: "If these... are impossible to control their action, when the means of imparting and controlling energy shall have been investigated?"

If we wish to distinguish between two such "allotropic modifications" apart from any theoretical views concerning the nature and constitution of matter, we can say that such... it is just to reply that calling a tail a leg does not make it a leg, is it not equally just to reply that calling two transmutable elements one element does not make them so?

Certain substances are known which, although differing in their physical properties very markedly, behave chemically as if they were one and the same element, giving rise to... dioxide was quite insignificant. Curiously enough, the perchlorate of bismuth, a metal which belongs to the nitrogen group of elements, also yielded carbon-dioxide when acted on... detected, for, if due to leakage, the proportions of the rare gases present should presumably have been the same in all the experiments. Further research seems necessary...

Material substances of which the earth, the sea, the air, and the host of heavenly bodies are all composed, resulted from a change, corresponding to condensation, in something... elements which it resembles as to its chemical properties. (iii.) The quantity of heat liberated on the decomposition of the emanation is, as we have already indicated, out of all... emanation-atom results from the radium-atom by the expulsion of one...

What is the ultimate product of the decomposition of the emanation?

Uranium and thorium differ in one important respect from radium, inasmuch as the first product of the decomposition of the uranium and thorium atoms is in both cases solid. Radium salts possess another very remarkable property, namely, that of continuously emitting light and heat. It seemed, at first, that here was a startling contradiction to the... , and, for reasons which we shall note later, considered that in all probability it had an atomic weight of about 222½.

In that year, according to her first experiments; a redetermination gave a slightly higher value, which has been confirmed by a further investigation carried out by Sir T. E. Thorpe.

Correctly speaking, there is no such thing as "Modern Alchemy"; not that Mysticism is dead, or that men no longer seek to apply the principles of Mysticism to phenomena... functions of their atomic weights; and, together with certain other remarkable properties of the "elements," distinguishes them... the atomic weights; and, together with certain other remarkable properties of the "elements," distinguishes them... NOTES.

With the acceptance of Dalton's Atomic Theory, it became necessary to determine the atomic weights of the various elements, rather than the chemists... 15. It has been definitely proved, for example, that the common element potassium is radioactive, though very feebly so (it emits... 16. Says Peter Bonus, however, "... we know that the generation of metals occupies thousands of years . . . in Nature's workshop . . ."

PLATE 16.
Works by H. STANLEY REDGROVE, B.Sc. (Lond.), F.C.S.

ON THE CALCULATION OF THERMO-CHEMICAL CONSTANTS. (Arnold, 1909, 6s. net.)


A MATHEMATICAL THEORY OF SPIRIT. Being an Attempt to employ certain Mathematical Principles in the Elucidation of some Metaphysical Problems. (Rider, 1912, 2S. 6d. net.)

EXPERIMENTAL MENSURATION. An Elementary Text-Book of Inductive Geometry. (Heinemann, 1912, 2S. 6d. net.)


BYGONE BELIEFS. A Series of Excursions in the Byways of Thought. (Rider, 1920, 10S. 6d. net.)

PURPOSE AND TRANSCENDENTALISM. An Exposition of Swedenborg's Philosophical Doctrine in Relation to Modern Thought. (Kegan Paul, 1920, 5S. net.)

ROGER BACON, the Father of Experimental Science, and Mediæval Occultism. (Rider, 1920, 1S. 6d. net.)

INDUSTRIAL GASES, together with the Liquefaction of Gases. By various authors, including H. S. REDGROVE. (Crosby Lockwood, Second Impression, 1918, 9S. net.)

THE INDICTMENT OF WAR. An Anthology. Compiled by H. S. REDGROVE and J. H. ROWBOTTOM. (Daniel, 1919, 10S. 6d. net.)

JOSEPH GLANVILL and Psychical Research in the Seventeenth Century. By H. S. REDGROVE and I. M. L. REDGROVE. (Rider, 1921, 2S. net.)

London: WILLIAM RIDER & SON, Ltd., 8 Peternoster Row, E.C.4