Occult Chemistry

Investigations by Clairvoyant Magnification into the Structure of the Atoms of the Periodic Table and Some Compounds

Contents: The Nature of Matter; The Hydrogen, Spike, Dumb-bell, Tetrahedron, Cube, Octahedron, Bars, and Star Groups; Compounds; Catalysis, Crystallization; Conclusion; Analysis of the Structure of the Elements; Table of Atomic Weights; Notes and Reports of Certain of the Investigations; Index; Illustrated.

C.W. Leadbeater

&

Annie Besant

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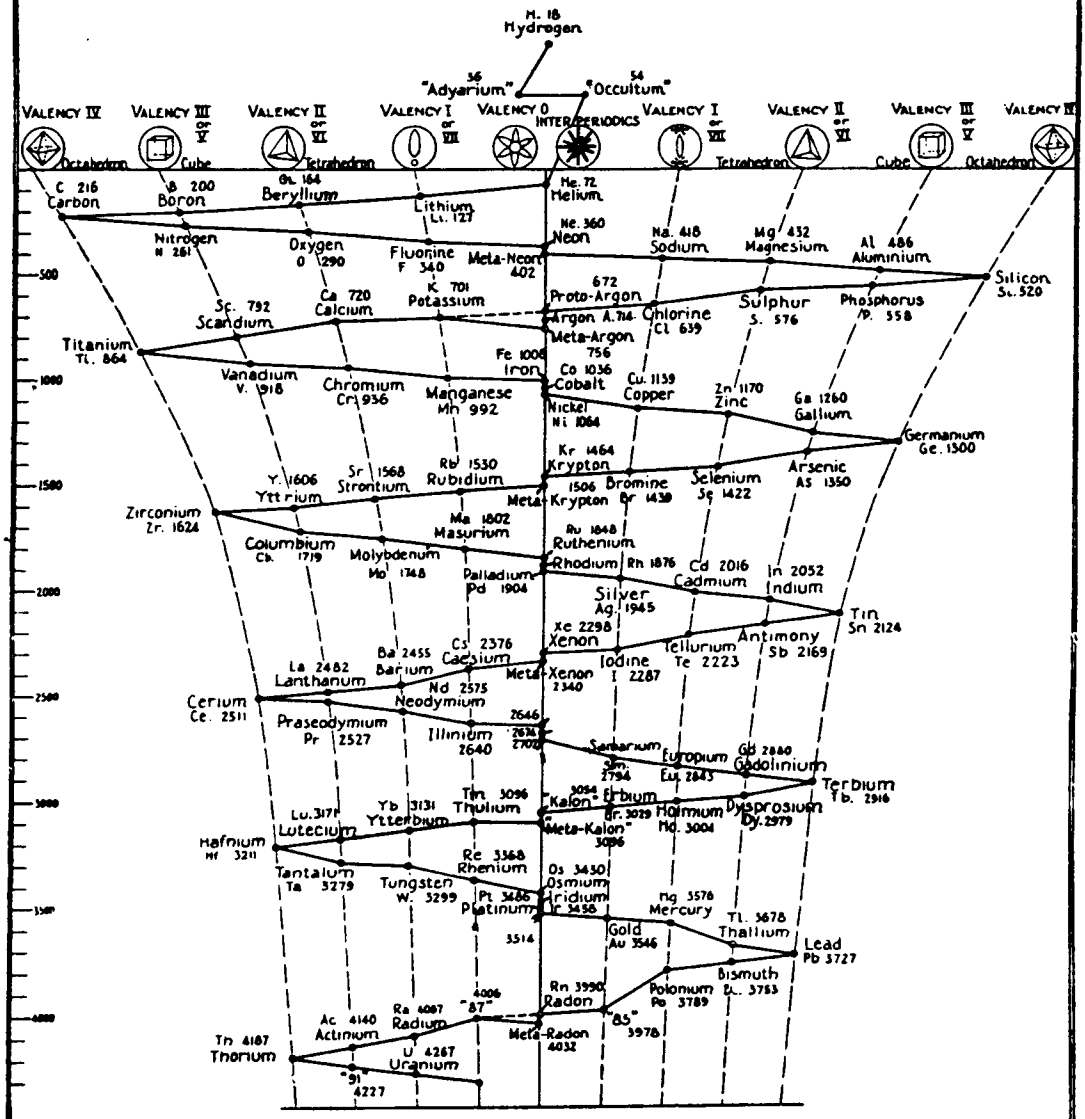
With 230 Illustrations

THE PERIODIC LAW

(after Crookes)



The number affixed to an element is the number of "Anu" (the ultimate physical particles of which matter is constituted) which compose the element.

Isotopes are not given.

Elements not yet discovered by chemists :- 36, 54, 2646, 2674, 3054 - 3096.

The Theosophical Society
Adyar, Madras, India
May 6, 1933

INTRODUCTION TO THE THIRD EDITION

By C. JINARĀJADĀSA

THIS work contains a record of clairvoyant investigations into the structure of matter. The observations were carried out at intervals over a period of nearly forty years, the first in August 1895 and the last in October 1933. The two investigators, Annie Besant (1847-1933) and C. W. Leadbeater (1847-1934) were trained clairvoyants and well equipped to check and supplement each other's work.

Method of Investigation: The method is unique and difficult to explain. Many have heard of the word "clairvoyance" (clear-seeing), connoting the cognition of sights and sounds not perceived by ordinary people. In India the term *Yoga* is sometimes related to faculties that are beyond ordinary cognition. It is stated in Indian Yoga that one who has trained himself "can make himself infinitesimally small at will". This does not mean that he undergoes a diminution in bodily size, but only that, *relatively*, his conception of himself can be so minimized that objects which normally are small appear to him as large. The two investigators had been trained by their Eastern Gurus or Teachers to exercise this unique faculty of Yoga, so that when they observed a chemical atom it appeared to their vision as highly magnified.

When using this method the investigator is awake and not in any form of trance. He employs his usual faculties for recording what he observes; he maps out on a piece of paper a sketch of what he sees and may describe his impressions so that a stenographer can take down his remarks. Just as a microscopist, looking into the microscope and without removing his eyes from the slide, can describe what he observes so that it can be recorded, so the clairvoyant investigator watching an atom or molecule can describe what he sees in front of him. What he sees is not subjective, in the sense that it is a creation of the imagination; it is as objective as is the paper on which I am writing this and the pen which I use.

The object examined, whether an atom or a compound, is seen exactly as it exists normally, that is to say, it is not under any stress caused by an electric or magnetic field. As each object is in rapid motion, the only force brought to bear on it is a special form of will-power, so as to make its movement slow enough to observe the details.

The earliest investigations were made in England in 1895. The first atoms observed were four gases in the air, Hydrogen, Oxygen, Nitrogen, and a fourth gas (atomic weight=3) so far not discovered by chemists. The atoms do not carry their own labels and the first problem was that of identification. Most active of the four gases was one which the investigators considered was probably Oxygen. A somewhat lethargic gas was thought to be Nitrogen. The lightest of all four was

taken to be Hydrogen. But it was only after the fullest examination of the constituent parts of each gas (for each so-called "atom," the "un-cut-able," was found to be composed of smaller units) that finality was achieved regarding the identity of the gases. Hydrogen was found to be composed of 18 units; Nitrogen of 261; Oxygen of 290; and the fourth gas of 54. The weight of Hydrogen, composed of 18 units, was taken as atomic weight 1 (one), and the number of units in Oxygen and Nitrogen was divided by 18. The results agreed closely with the atomic weights given in textbooks and hence the gases were accepted as Hydrogen, Nitrogen and Oxygen. The atoms of these elements were never observed to move in pairs except in Deuterium. The fourth gas with atomic weight 3 was thought to be Helium, of which much had been said in the newspapers of 1894, following its discovery by Ramsay. It was only when the atomic weight of Helium was finally announced as 4, that the gas observed with weight 3 was realized as obviously a different gas. Later it was given the name of *Occultum*.

Diagrams and detailed descriptions of the internal structure of the atoms of Hydrogen, Oxygen and Nitrogen and of the *ultimate atoms*, or *Anu*, of which all the elements are composed, were first published in *Lucifer*, London, November 1895.

Work was resumed in 1907 when 59 more elements were observed.

When the element to be examined exists in a pure, easily obtainable state, as for example the elements Sulphur, Iron and Mercury, there was no difficulty as to the identification, even before mapping its structure. But a difficulty arose in the case of Lithium and other elements. A request for specimens of these elements was made to Sir William Crookes, a friend of both the investigators, and a member for some years of the Theosophical Society. He replied on July 18, 1907 to the mutual friend in London who contacted him, "Leadbeater's requirements constitute a large order. Of the list of requirements he sends I can give metallic Lithium, Chromium, Selenium, Titanium, Vanadium and Boron. Beryllium I can give him as an oxide. But Scandium, Gallium, Rubidium and Germanium are almost impossible to get, except perhaps in a very impure state."

It was then found by the investigators that it was not essential for the purpose of investigation to have an element unmixed or uncombined with any other element. In many compounds, the constituent atoms do not exist in juxtaposition, each retaining its atomic individuality, as is the theory in chemistry. Each atom breaks up into smaller parts and unites its parts with similar broken-up parts of the other atom or atoms, as the fingers of the right and left hands can interlock. In salt, Sodium and Chlorine are interblended in such a manner as to give to the compound the outline of a cube. By the exercise of will-power, the force holding the parts together as a molecule can be nullified; in such a case, the separated parts of each atom instantly group themselves as the atom was before combination. When, therefore, a salt molecule was "broken up," the parts composing Sodium came together, as the atom of Sodium; similarly the parts of Chlorine united to form a Chlorine atom.

As the investigations developed, many atoms were thus examined. The two investigators were spending a summer holiday at Weisser-Hirsch, near Dresden in Germany. My task was to record and draw diagrams of the elements as they were mapped out. There was in the city of Dresden an excellent museum, one section being devoted to minerals. I made a list of the wanted elements as they existed as compounds;

this could be obtained by consulting an encyclopaedia. I went with the list to the Dresden Museum, and noted down in which of the show-cases the elements needed existed as compounds. Soon after my return, C. W. Leadbeater and I went to Dresden and I showed him the minerals I had noted. He examined them quickly and obtained a picture of the complex configuration of the mineral in which existed the element he needed. After returning to Weisser-Hirsch he was able at leisure to evoke by clairvoyance the picture he had seen at Dresden. Exercising, then, his will-power on a mineral molecule, he dissolved the complex structure. On so doing, the separated parts of each atom united and formed an individual unit. Thus the pure element which he desired was before him for examination and for drawing. As each element was mapped and drawn the rough diagram of it was passed on to me, to draw carefully the essential parts of the element (for final half-tone line block), to count the units in it, divide the number by 18 (the number of units in Hydrogen), and to see how near our weights came to the weights given in the latest book on Chemistry.

During the investigations at Weisser-Hirsch in 1907, 59 elements (*not counting several isotopes observed*) were drawn by me. These were printed month by month in the magazine *The Theosophist*, published at Adyar, a suburb of Madras, beginning with the issue of January 1908.

In 1907 three unrecorded elements were described, to which the provisional names Occultum, Kalon and Platinum B were given, also a new group of three inter-periodics labelled X, Y and Z. Observations of Radium, with a diagram, were made at Adyar in 1908. The diagram was sent to me when I was in the United States, and there I drew the diagram which appeared in *The Theosophist* for December 1908.

The diagrams of all these elements were drawn by me and appeared in the first edition of *Occult Chemistry* published in 1909, which also included the article on *The Ether of Space.*

In 1909, the work was resumed by Mr. Leadbeater at the Headquarters of the Theosophical Society at Adyar, Madras. Twenty more elements were mapped out. The rough drafts of drawings were made but they were not published, though a general description was given in *The Theosophist* of July 1909. Three more unrecorded elements and an isotope of Mercury are described there.

In 1919 in Sydney, Australia, the first compounds, salt and water, were investigated and very rough models made.

A second edition of *Occult Chemistry* was issued in 1919, but it contained no additional matter and gave no record of any work after 1907. Mr. A. P. Sinnett, who edited this second edition, merely wrote an introduction.

In 1922 the work was again resumed in Sydney and descriptions of compounds were then given for the first time. Water and salt had been examined in 1919, but no diagrams drawn. Then in 1922 they were examined again and diagrams drawn, and several other compounds were examined, all of which were published in *The Theosophist*, March, April, August 1924; March, April, August, September, October 1925; July 1926. Some Carbon compounds of the chain and ring series were among those examined. A complicated structure investigated was the diamond, composed of 594 Carbon atoms. A model was made in Sydney and sent to me in India. A description of the structure and a photograph of the

model appeared in *The Theosophist*, September 1925. Hafnium was described in 1928 and Rhenium in 1931.

After C. W. Leadbeater came to Adyar in 1930 such remaining elements of the Periodic Table, which had not been previously investigated, were mapped out by him.

In 1932 and 1933 more material was published in *The Theosophist*. This included a description of elements 85, 87 and 91 and a list of atomic weights. An element of atomic weight 2 was reported in 1932, and given the name Adyarium, as the discovery was made at Adyar, Madras.

In this *Third Edition* the results of the later researches have been incorporated. All the material has been carefully revised and checked with the original drawings at Adyar. New diagrams have been made where necessary and the whole has been rearranged so as to display the facts more clearly.

In any scientific work progress continues and a text book needs amendments to bring it up to date in accordance with later discoveries. This third edition contains such necessary additions and corrections and represents as accurately as possible the material at present available.

Diagrams and descriptions, hitherto unpublished, of thirty compounds, are here included, as well as all the material published in *The Theosophist*.

This third edition is in three parts, Part I being the general introduction, Part II a detailed study of all the elements, and Part III containing all the information available concerning the combination of the elements into compounds.

From the material the following facts emerge :

The unit of matter. It was noted in 1895 that Hydrogen, the lightest atom, was not a unity, but was composed of 18 smaller units. Each such unit was then called an "ultimate physical atom". Some thirty years later it seemed simpler to use the Sanskrit term for this ultimate particle of matter; the word is "Anu," pronounced as in Italian, or in English as "ahnoo." The word Anu does not add "s" to make the plural but remains unchanged. The investigators knew no way of measuring the size of an Anu. The only difference found was that the Anu existed in two varieties, positive and negative, and that in their formation the spirals wound themselves in opposite directions. Thus, each negative Anu was a looking-glass image of the positive Anu. There was no investigation made as to the nature of positive and negative.

There are at least 100 chemical elements, not counting isotopes. Clairvoyant research in 1907 described a neutral gas, Kalon, heavier than Xenon and lighter than Radon. Two elements, called here Adyarium and Occultum, have their place in the Periodic Table between Hydrogen and Helium. The diagram of Occultum had been drawn in 1896; it was drawn again in 1909. There is among the rare earths a group of three minerals forming a new inter-periodic group. These were found in 1909 in pitchblende, which I sent from U. S. A. to Mr. Leadbeater, and their weights published. In 1907 a fourth member of the Platinum group was found and called Platinum B. Elements "87" and "91" were described.

Isotopes were seen and described as early as 1907. Some elements have a variety which is not a true isotope, since it differs in internal arrangement only, and not in weight. It was in 1913 that Soddy coined the term "isotope"; he had suggested in 1910

that atoms of the same chemical element might possess different mass. In 1907, during the clairvoyant investigations at Weisser-Hirsch, some isotopes were found; the investigators used the term "meta" to denote the second variety of the element. The first noted was the inert gas Neon, with atomic weight 20 (H=1); the second variety of Neon, labelled Meta-Neon, had the weight 22.33 (H=1). Then it was found that Argon, Krypton, and Xenon each had an isotope. At the same time a still heavier inert gas was found, for which the label Kalon was coined, and an Isotope, Meta-Kalon. Each meta variety or isotope of the inert gases has 42 Anu more than the element which bears the name. A variety of Argon lighter than that recorded in chemistry was found and named Proto-Argon.

There was found in the third interperiodic group a second variety or isotope of Platinum. We labelled the normal variety Platinum A, and the isotope Platinum B. The diagrams of both varieties were drawn by me in Weisser-Hirsch and published in *The Theosophist*. In the issue of July 1909, an isotope of Mercury is mentioned, especially notable for the fact that it is solid.

External Shapes. The elements have definite shapes. With a few exceptions all the elements fall into 7 groups or forms: the groups were named Spikes, Dumb-bell, Tetrahedron, Cube, Octahedron, Crossed-bars, Star.

Valency can be subdivided, that is to say an atom with valency 1 can divide itself into two halves each exercising ½ valency. Hydrogen divides itself into 2 or 6 parts each with ½ or ⅙ valency, when it enters into combinations. Similarly, elements having valencies 2, 3 or 4 can subdivide. The valency has some connection with the shape. Divalent elements are predominently tetrahedra, trivalent elements cubes, and quadrivalent octahedra.

When one element combines with another the atoms almost always break up. The combination is not of one atom with another as a whole, but the component parts are re-arranged to form a complex structure.

Periodic Law. Of all the diagrams stating the Periodic Law, we have found that of Sir William Crookes the simplest and the most descriptive of the facts observed. His reasons for a diagram depicting a pendulum swing were given by him in a lecture at the Royal Institution, London, on February 18, 1887 and published by him later. We use a slightly amended form of this pendulum diagram.

The ultimate physical atom. All the elements are found to be built up from units called in the early editions the ultimate physical atom, and to which the name *Anu* has since been given.

Weights. The weights given in the tables are all in terms of Hydrogen. We take Hydrogen=18 Anu as our standard and equal to 1. The relation between our weights and that of the International Tables can be found by adjusting our weights to the standard of H=1.0078.

Of course it was seen at once that the investigations made into the structure of the chemical elements and into a few molecular compounds were nothing more than the scratching of the surface of an enormous sphere. The number of problems that arose and the questions that might be asked are innumerable, but the two investigators led very busy lives, as lecturers and authors, and the researches into Occult Chemistry were only

incidental in their very heavy, labours in the field of Theosophy. While both were willing, when time permitted, to do further investigations, it was impossible to get the time and isolation necessary for concentration for clairvoyant magnification. The two investigators and the recorder were frequently in different countries of the world, busy at their work of Theosophical propaganda, and it was rarely that all three met together for any considerable period.

Throughout the investigations, from the beginning to the end, my role was that of recorder.

It has often been asked whether the Anu is the electron. The answer is definitely, *No.* What it is remains to be determined.

A further question raised has been regarding the relation which these investigations have to the discoveries of physicists. At the moment, no relation can be found. I am reminded here of what happens when a new tunnel is to be pierced through a mountain. Two sets of engineers, with carefully triangulated plans, begin, one at either side of the mountain range, to cut through the mountain. Slowly they come nearer and nearer, till the partition separating them is so thin that the hammering from one side can be heard by the other. In the case of one tunnel that was built, the displacement between the two tunnels at the meeting point was only about one foot. Similarly, the occult investigators and the physicists are working from two sides of a great range. I feel sure that some day in the future they will meet. It must be remembered that the results of the physicists' researches have been from reading of spectroscopic records. The work that has been done is so wonderful in technique that out of the lines of the spectrum new elements can be located and their atomic weight deduced. Work such as Aston's mass spectroscopy, requires magnetic forces to be brought to bear upon the atom. As already mentioned no force except that of will-power is used by the occult investigator.

The recording of the two methods is not dissimilar to two photographs which night have been taken of Piccadilly Circus in London during the war. From five chief avenues of traffic vehicles are passing in various directions. If a photograph were to be taken there would not only be the picture of crowds of vehicles but also of pedestrians. This would be the state of Piccadilly Circus in normal times. But when an air raid alert is sounded, immediately everybody takes shelter and the only objects that might be found to be photographed would be fire engines, ambulances, the police and fire fighters. The second photograph would not be Piccadilly Circus in a normal condition. Similarly, the photographs of electrically excited atoms are not photographs of atoms under normal conditions. Nevertheless, the constituents of the atoms behave in such a regular fashion that the lines of the spectrum can be disentangled as characteristic of one atom, rather than that of another.

During the course of the many long years that I have been connected with *Occult Chemistry* as recorder, as I studied each new atom as it was mapped out, I have been profoundly impressed by two ideas: one, ingenuity, and the second, beauty. I have been strongly reminded of the maxim of the Platonic School: "God geometrizes". If, as they propounded, the universe is the result of the action of a Demiurge, "the Fashioner," then it is obvious that the Demiurge is not only a Great Architect of the Universe, but also a Grand Geometrician. For in some manner or other, whether

obvious or hidden, there seems to be a geometric basis to every object in the universe.

It is apparent from the diagrams in this work that the main thesis of Crookes of a " Genesis of the Elements " is borne out, since in a particular family the heavier element is built after what might be termed a pre-fixed model. It is in this slow building up that there appears what we can only term the working of a Divine Mind that introduces some incalculable factor for a heavier element. After I had drawn the diagrams of Iron, Cobalt and Nickel ; Ruthenium, Rhodium and Palladium ; Osmium, Iridium and Platinum ; I could not help feeling that in the gap between the second and third groups in the Periodic Table there must exist another inter-periodic Group among what are known as the " rare earths ". Working from the diagrams before me, I reconstructed theoretical diagrams for the missing group. This was in 1908. Later when I sent some minerals to Mr. Leadbeater from Montana, U. S. A., he found the missing inter-periodic Group. In my theorizing I gave for the new groups the weight of each " bar " as 185, 187 and 189. When the missing group was found, the weights were found to be 189, 191 and 193. In my diagram I had not calculated for something unexpected, which the Demiurge would do in constructing the new elements. All throughout it is this sudden emergence of a new idea from the mind of the Demiurge that is of the utmost fascination.

I have long desired complete leisure to construct a large circular room, on the walls of which would be placed enormously amplified diagrams of each element. Then, sitting in the middle on a revolving seat, I should like to meditate upon the diagrams before me, for I would then come into touch with the operations of the Divine Mind, which the Greeks postulated as not only Truth, but also Goodness and Beauty.

As a result of fifty-five years of pondering over the diagrams in *Occult Chemistry*, my mind has sought correlations with other natural objects. I have minerals showing the five Platonic solids in their structure. Why should a mineral, composed of diverse atoms, crystallizing under heat and pressure perhaps two thousand millions of years ago, crystallize into tetrahedra, cubes, octahedra, dodecahedra or icosahedra ? Was it because in some unexplainable way the " form " or root-base of the mineral-to-be was influenced by the Platonic solids structure inherent in all the elements, with the exception of very few ? When we see a dandelion in flower, the blossom is flat ; when the flower has been fertilized and produces its seeds, why are the seeds arranged as a sphere ? Many a time when noting such spherical seed-balls, my mind has pictured the sphere at the centre of Radium. There is a weed growing on Adyar Beach, which helps to hold the sand from drifting ; it creeps to long lengths, and presently produces a seed-cluster like a stiff brush. We can separate the seeds and count their number, over one hundred. But why that particular number ? Throughout the vegetable kingdom, geometrical forms appear in one form or another. But why ? Of course, it is not for the strictly " scientific " mind to ask these questions. Yet did not Jeans say, " from the intrinsic evidence of His creation, the Great Architect of the Universe now begins to appear as a pure mathematician ". And again, " the motions of electrons and atoms do not resemble those of the parts of a locomotive so much as those of the dancers in a cotillion ".

When all is said and done, " Occult Chemistry," with its geometrical basic structures, is the source of all substances, and of all organisms built of those substances. A

day will come when a great synthesizer endowed with high mathematical and imaginative gifts will link physics and chemistry to the vegetable and animal kingdoms, and so to the human. Shall we then have a far-away glimpse of the Demiurge, the Fashioner, who builds in Beauty for everlasting ?

C. JINARĀJADĀSA

November 17, 1950.

NOTE

Nearly all the diagrams have been redrawn during the last three years, under the supervision of Miss Elizabeth W. Preston, who has been in touch with the work of *Occult Chemistry* for the last twenty years. I have put her in complete charge of the shaping of this Third Edition, and I desire to express to her my deepest obligation, since I am unable, with my heavy tasks as President of the Theosophical Society, to give adequate attention to supervision of the work myself.

C. J.