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## Adept Alchemy by Robert A. Nelson.

Part II. Chapter 3. Transmutations of Carbon.

[Back to Adept alchemy contents.](#)

### Chapter 3

## Transmutations of Carbon

(1) G. Ohsawa & M. Kushi ~ (2) M. Jovivitsch ~ (3) De Boismenu ~ (4) J. B. Hannay  
~ (5) References

Nuclear physicists bombard targets with high-energy particles in order (or chaos) to prove the schematic of their mindset with appropriate experimental results. In recent years, however, the discovery of cold fusion has quite upset the world view of conventional physicists, who generally deny the possibility that Nature allows for other means of transmutation. Yet, there is considerable historical evidence that many types of transmutations have been accomplished without particle accelerators, long before Pons and Fleischman announced their discovery of cold fusion. There is so much credible documentation of low-energy transmutation

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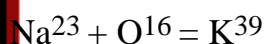
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that, in the words of Rupert Gould, "did it relate to any more probable event, we should be compelled either to accept it or cease putting any faith in recorded testimony."

Among the many examples that can be cited, "biological transmutation" is the best developed and well-known. About forty years ago, Dr. Louis Kervran presented the idea that sodium, potassium, and dozens of other elements change into each other under certain natural conditions in the mineral, vegetable, and animal kingdoms. Biological transmutations have been demonstrated, crucial experiments replicated, and the theoretical principles verified by many scientists who are finding new industrial, medical and agricultural applications of the discoveries.

### (1) G. Ohsawa & M. Kushi

Inspired by the pioneering work of Dr. Kervran, Dr. George Ohsawa sought to transmute sodium into potassium *in vitro*. The method revealed itself to him in a symbolic dream. Thus inspired, Dr. Ohsawa and Michio Kushi, *et al.*, constructed an experimental electric discharge tube with copper (Yin) and iron (Yang) electrodes and a valve through which to draw a vacuum or admit oxygen (Fig. 3.1). The first transmutation with this equipment was achieved on June 21, 1964. After applying 60 watts of electricity for 30 minutes to heat sodium to a plasma, a molar equivalent of oxygen was introduced. Viewed with a spectroscope, the orange band of sodium gave way to the blue of potassium, according to the formula:



Analysis of the reaction product confirmed the result and revealed an unexpected extra: a trace of gold was produced by the combination of Na, O, and K with the Cu and Fe electrodes. Several different metals were tested as electrode materials. Neon and argon atmospheres were found to enhance the yield of potassium and other elements. External heating of the reaction tube also served to ionize the sodium.

Dr. Louis Kervran noted these experiments in his book *Transmutations A Faible Energie*:

Professor [Masashiro] Torii, on a circuit designed by Prof. Sakurazawa, and under the control of Prof. Odagiri, observed in the spectroscope the passage of sodium to potassium upon the adjunction of a small quantity of oxygen to sodium vapor...

Prof. Torii [of Musashino Institute of Technology, Tokyo] has informed

me of having observed on 21 June 1963, in the spectroscope, the passage of sodium to potassium, the disappearance of the yellow line of sodium being replaced by the red-violet ray of 7699 Å potassium; the experiment was repeated June 22 before five scientists...

In the production of steel in electric furnaces, the incomprehensible appearance of boron [has been observed]. We see now that we cannot exclude, under the effect of a powerful electric field and of the high temperature of these furnaces, the 'reduction' of carbon from the loss of hydrogen and in keeping with:  $C - H = B...$

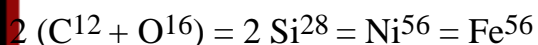
The experience is simple to realize, as it suffices to take a plate of steel --- or of iron --- an anode of magnesium, place them in a jar containing distilled water rendered conductive by a salt of magnesium --- in order not to introduce any metallic ion other than magnesium, and these two electrodes are reunited by a metal wire, to the exterior of the jar; thus they realize (in part) a battery with magnesium at the negative, iron as positive; through the production of hydrogen at the electrode, magnesium is at a potential of 1.9 volts more negative than iron. Leave it for two or three months; from time to time add a little distilled water in order to compensate for evaporation. On analysis, calcium is obtained... in an operation in which calcium was not introduced!

The calcium (as oxide) accumulates in scales on the cathode.

Kushi and Ohsawa, *et al.*, proceeded to develop their process for industrial-scale production. They estimated that potassium could be manufactured for 1% of the current price. In a correspondence to Ken Jones (12 October 1980), Michio Kushi stated:

After George Ohsawa and myself succeeded in producing K out of Na and O... we presented the experiment to several chemical corporations. At that time, Pfizer International became most actively interested. We had conferences on several occasions; however, soon after we decided not to become involved with these corporations, as a result of the considerations of the vast effects this would have on the industry.

The researchers also had no patent with which to protect their interests. Ohsawa and Kushi then turned their attention to the manufacture of steel by transmutation of carbon and oxygen according to the formula:



The experimental arrangements worked as predicted, and produced several other elements from combinations of C and O with atmospheric nitrogen, etc:

The Fe produced by this transmutation is stainless; it does not rust easily. Also it reacts much less to heat than does ordinary Fe... All results of the transmutation for Fe have been carefully examined and analyzed by several methods, as: (1) magnetic inspection, (2) spectroscopic analysis, (3) chemical analysis, (4) examination by reagents, etc, and confirmed by authoritative testing agencies.

The new form of iron was called GOS (George Ohsawa Steel). The experimental method is as follows:

*Method 1: Transmutation in Air* [Fig. 3.2] — Two graphite crucibles (approx 2.5" x 5") cover each other top and bottom. The upper crucible has a 10 mm Hole, surrounded by a ceramic ring, which acts as an insulator. Into this hole a carbon rod (0.25" diam) is inserted until it reaches the 2 or 3 grams of carbon powder placed at the bottom of the lower crucible, which has one or two small holes at the lower part of its side wall for circulation of air. An iron base placed under the lower crucible acts as another electric pole. As the carbon rod approaches the powder, the electric arc arises. Continuing the operation for 20 to 30 minutes, the carbon powder changes to iron. In this experiment, the applied electricity is about 35 to 50 volts/8 to 18 amps, either AC or DC.

*Method 2: Transmutation in Water* — Using two carbon rods (0.25" diam.), create an electric arc between them, striking them on one another in water. This operation is performed for 1 to 5 seconds. Then, brown-black metallic powder (which contains iron) falls down to the bottom of the water.

*Method 3: Transmutation in Air* — Carbon powder is placed on a copper plate, approximately 12" long, 6" wide, and 0.5" thick. This plate works as an electrical ground. A carbon rod (0.25" diam.) used as the other electrical pole, is struck repeatedly to the carbon powder on the plate, producing an electric arc. The carbon powder changes into iron.

During the process of this transmutation, nickel is temporarily produced as a short-lived radioactive isotope. The degree of transmutation from C and O is approximately 5% to 20% immediately, with a larger percent of transmutation occurring gradually in the air, which has the effect of cooling the metallic powder to below room temperature.

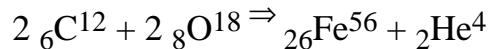
In another experimental configuration (Fig. 3.3), the reaction was cooled by dry

ice. When sparked with carbon rods, the CO<sub>2</sub> vapors also yielded iron, etc..

In 1994, R. Sundaresan and J. Bockris (Texas A&M) reported that they had observed "Anomalous Reactions During Arcing Between Carbon Rods In Water:

Spectroscopically pure carbon rods were subjected to a carbon arc in highly purified water. The arc current varied from 20 to 25 A and was passed intermittently for several hours. The original carbon contained ~ 2 ppm Fe. The C rods remained cool to the touch at >2 cm from their tips. Adsorption of iron from water or the surrounding atmosphere was established as not being the cause of the increase of iron. There is a weak correlation between the iron formed and the time of passage of current.

When dissolved O<sub>2</sub> was replaced by N<sub>2</sub> in the solution, no iron was formed. Hence, the mechanism



was suggested as the origin of the iron. The increase in temperature of the solution was consistent with expectation based on this reaction.

Also in 1994, another group of researchers (M. Singh, *et al.*) at the Bhabha Atomic Research Centre (Bombay) reported their "Verification of the G. Ohsawa Experiment for Anomalous Production of Iron from Carbon Arc in Water:

A direct current arc was run between ultrapure graphite electrodes dipped in ultrapure water for 1-20 hours. The graphite residue collected at the bottom of the water trough was analyzed for Fe content by a conventional spectrographic method... The Fe content was fairly high, depending on the duration of the arcing... The results showed large variations in Fe content (50 to 2000 ppm) in the C residue. In the second series of experiments... with the water trough fully covered, the amount of Fe in the carbon residue decreased significantly (20-100 ppm). Here also there were large variations in the iron concentration in the residue, although the experiments were performed under identical conditions. Whether Fe is really being synthesized through transmutation from C and O as suggested by George Ohsawa or is getting concentrated to different degrees through some other phenomenon is not currently clear. The Fe in the C residue was also analyzed by mass spectroscopy for the abundance of various isotopes... Besides Fe, the presence of other elements like Si, Ni, Al, and Cr was also determined in the C residue, and it was found that the variation of their concentrations followed the same pattern as that of Fe.

In 1996, Kenjin Sasaki reported his successful experimental replication of the carbon arc production of iron. He used a 99.9999% pure graphite crucible and rod with a 100V/10A electric welder. The crucible was cooled. The arc (8-10A) struck high-purity carbon powder 4 times for 1 minute each time. The yield of iron was recovered with a magnet. Further experiments conducted by C. Akbar (Kushi Research Institute) "indicate that voltage potential and current density are important in the formation of iron in chemically pure carbon."

Toby Grotz also conducted this experiment and reported the results in detail in 1996. He tested activated charcoal, activated carbon, and coal. No iron was produced from charcoal, but activated carbon did yield magnetic material. Tests were performed with copper and aluminum plates and rods to eliminate the possibility that the carbon rod and copper plate might be releasing iron:

This amount [0.22 gr] of iron is an order of magnitude less than that which occurs naturally in the sample... The excess weight appears to be due to magnetic material that is part of or encased in particles of carbon... There is a point at which no more magnetic material may be removed from the sample using the arc discharge process. It is proposed here that the high current density of the arc discharge magnetizes magnetic material that exists within the particles of the activated carbon. This then allows separation of the magnetic material from the sample using a magnet...

J. Bockris and associates replicated the experiment using the underwater arcing method, and found only microgram amounts of iron after 24 hours. When the experiment was repeated with the reaction vessel covered to exclude air, no iron was found.

Those results suggest that at least some of the reported yields of iron might be due to the arc coagulating ORMEs (Orbitally Rearranged Monoatomic Elements) existing in the Earth's atmosphere. ORMEs are virtually undetectable by all conventional methods except infrared analysis, which can distinguish a certain characteristic doublet. As David Hudson discovered in the 1980s, ORMEs can be converted to metallic form by certain processes involving carbon or nitrogen, which are used to insert an electron in the *d* orbital shell of the atoms. The complete process is described in his Australian patent.

Dr. Joseph McKibben has published his suggestion that the transmutative production of iron from carbon may be due to what he calls a subquark particle, which has a mass of about 1.15 nucleons:

The subquark, when attached the  $^4\text{He}$  seemed to me to be an ideal candidate for an ideal catalytic agent.

In the 1980s, Michio Kushi resumed his experiments with the "aim of finding methods of mass production":

At that time I shall be able to consider how to present to the world the transmutation of the atom using the principles of Yin and Yang for the future world industry.

The transmutation of the atom can be achieved if elements are changed into the state of plasma, and if these elements are well understood in their antagonistic and complementary relations to other elements, according to the principles of Yin and Yang.

The atomic number, mass, density, and gravity, physical reaction to temperature such as melting and boiling points, chemical reactions to other elements, reactions to specific environmental factors, such as ultraviolet and infrared wavelengths applied to the elements, as well as spectroscopic color analysis — all of these characteristics of the atom can contribute to classify the atom into the Yin group or Yang group...

Nothing is solely Yin or Yang: everything involves polarity. There is nothing neuter. Either Yin or Yang is in excess in every occurrence. Large Yin attracts small Yin; larger Yang attracts small Yang. At extremes, Yin produces Yang, and Yang produces Yin. All physical forms and objects are Yang at the center and Yin at the surface."

Hydrogen, the center of the atomic spiral, is Yang. It gathers particles to itself, forming the first octave of creation. The conditions become apparent upon studying the melting and boiling points of the first eight elements.

Within the first octave, the greatest attraction is between carbon and oxygen, which represent Yin and Yang respectively. It is the fugate interaction of these two that form the other elements. Carbon is often replaced by boron. In terms of Yin and Yang, these are like brothers in that they react in similar ways in forming new elements.

Since the initial experiments were conducted by George Ohsawa and Michio Kushi in the 1970s, several other researchers have reported the same results and more, thanks to modern analytical equipment, computers, and communication. The worlds of low-energy transmutations have become much more accessible to us. New discoveries are being reported at an increasing rate in the scientific literature, particularly cold fusion and biological transmutations. Perhaps within a few decades we shall see the mass production of elements on demand. (1, 7, 10-18, 22, 23)

### The Fugate of Carbon

1 (C + O) = Si 5 (C + O) = Ce

2 (C + O) = Fe 6 (C + O) = Er

3 (C + O) = Kr 7 (C + O) = Pt

4 (C + O) = Cd After Pt the elements become increasingly Yin

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Classification:	Yin	Yang
Tendency:	Expansion	Contraction
Position:	Outward	Inward
Structure:	Space	Time
Color:	Purple	Red
Temperature:	Cold	Hot
Weight:	Light	Heavy
Catalyst:	Water	Fire
Atomic:	Electron	Proton
Elements:	K, O, P, Ca, N, etc.	H, As, Cl, Na, C, etc.

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### (2) M. Jovivitsch: Carbon to Oxygen

In 1908, Milorad Z. Jovivitsch (Bergau-Akademie in Belgrad) published two unique articles in the journal *Monatschrift fur Chemie*, describing "The Mysterious Deficiency of Carbon in the Condensation Products from Ethylene and Acetylene."

Jovivitsch had been experimenting with electrical discharges in these gases, following the methods used by Berthelot. The latter had shown that the action of a silent electric discharge upon saturated or unsaturated hydrocarbons will split off hydrogen and produce condensation products. (4, 6, 12)

Jovivitsch introduced pure dry ethylene or acetylene and oxygen into an ozonizer containing copper oxide, and electrified the mixture with 100 volts/3 amps for 3 days and 2 nights. His analysis of the resulting compounds showed a deficiency in the theoretical amount of carbon and hydrogen, and an excess of oxygen. Several determinations of the carbon and hydrogen taken together indicated a 7% deficiency in the ethylene reaction product, and a 22% deficiency in the case of acetylene.

Berthelot had accounted for these losses by attributing them to oxygen absorption from the atmosphere. Jovivitsch excluded that possibility by employing pure gases, and he immediately preserved the products in hermetically sealed tubes. There was practically no possibility of absorbing any significant amount of atmospheric oxygen. He also determined that the condensed ethylene loses no carbon on exposure to air, and that the condensed acetylene remains unchanged after many weeks. Comparative analysis of the reaction products preserved in tubes and those exposed to air showed them to be in close agreement.

Jovivitsch attempted to explain the scientific riddle of this chemical anomaly by attributing it either to experimental error or the transformation of elements. Because he took great care and made very precise analyses, Jovivitsch was convinced that a transmutation had occurred. His opinion was reinforced by the fact that the condensation products were radioactive.

### (3) E. De Boismenu: Diamonds

In 1913, the French engineer M.E. De Boismenu, the director of an electric carbide furnace plant in Paris, announced the issuance of his patent for a very easy new method to produce artificial diamonds in an electric furnace. The largest specimens produced at that time was 2-1/2 millimeters in diameter; it was "cut with 32 facets with remarkable dexterity."

The furnace was built of refractory brick and had two carbon electrodes (6-1/2" diam.), one of which could be adjusted manually. The bed was packed with a mixture of powdered lime and carbon; this was found to be the best way to support a trough, made of fused calcium carbide (CaC), in which the carbon electrodes operated. The trough was filled with 8 lb of CaC fragments and melted (34 V/800 A /6 hr). More CaC was piled on the trough, and the whole was covered with more of the lime-carbon mixture, and finally with refractory bricks. The furnace was run for another 12 hours. The negative pole became covered with a black carbonaceous deposit weighing about 700 gr. The mass was soaked in water and the diamonds were picked out; their size varied from 1/2 to 2-1/2 mm diameter. The last reported run of the furnace (12 hr @ 700-800 A/24-25 V) produced over a dozen diamonds, some as large as 1/10 inch diameter. They were

indistinguishable from natural diamonds. (21)

A similar method was developed by Felix Sebba, a chemical engineer at the Virginia Polytechnic Institute & State University (Blacksburg, VA). He improved on the technique developed by Charles V. Burton in 1905 (C dissolved in molten Pb-Ca, then cooled). Sebba dissolved calcium carbide in molten lead. Steam at 550° C was passed over the melt and reacted with the Ca (but not the Pb), forming calcium hydroxide which forms a slag on the surface. Some of the carbon crystallizes as diamonds. Although these methods are not transmutations, they are most interesting allotropisms. (5, 19)

Lea Potts was featured in *Life* magazine (March 1993) for his production of diamonds with a blowtorch.

#### (4) J. B. Hannay

In 1880, J.B. Hannay of Glasgow made diamonds from Dippel's Oil, catalyzed by lithium metal in thick iron tubes at red heat. The minute yield (14 mg) of Type B blue diamonds exhibited all the characteristics and properties of natural diamonds. Hannay was attempting to produce nascent carbon. He found that when carbon is liberated from a nitrogenous hydrocarbon in the presence of Li, Na, Mg or K at red heat and high pressure, the metal hydride is formed, and the carbon reacts with (or is stabilized by) the nitrogen and assumes diamond form. No diamonds were found in experiments without N. (8, 9)

Dippel's Oil is a nitrogenous by-product of the dry distillation manufacture of bone char. The principal N-ingredient is pyridine. The iron tubes were 20" x 4" o.d. x 1/2" i.d.. Most of them ruptured during the experiments.

The largest yield was obtained from a mixture of "paraffin spirit boiling at 75° [a mixture of light paraffins], 90%, together with 10% of carefully rectified bone-oil [Dippel's Oil, bp 115-150°]; these were placed with metallic Li (4 gr) in an iron tube" (20" x 4" o.d. x 1/2" i.d.) which was heated to redness for 14 hours. The tubes usually exploded, or the vapors escaped through the porous iron, or combined with it. Only 4 experiments (out of 34) were successful.

In his Bakerian Lecture for 1918, Sir Charles Parsons reported that he had repeated Hannay's experiments without success. He doubted that Hannay had made genuine diamonds. Bannister and Lonsdale, however, obtained samples of Hannay's diamonds from the British Museum; X-ray analysis showed they are genuine. (2, 3, 20)

Hannay's approach to diamonds is interesting, but it is not feasible for industrial

application. Several other methods of manufacturing diamonds have been developed since then, but none are so simple as the technique developed by De Boismenu.

### (5) References

1. Anonymous: *The Order of the Universe* 3 (10): 12, 14-17.
2. Bannister, F.A., & Lonsdale, K.: *Nature* 151 (#3829): 334-335 (20 March 1943); "Lab. Synth..."
3. Bannister, F.A., & Lonsdale, K.: *Mineralogical Mag.* 26: 315-325 (1941-43); "An X-Ray Study..."
4. Berthelot: *Ber. d. Deutschen Ges.* 15: 988 (1882).
5. Burton, Charles V.: *Nature* 72 (#1869): 1 (24 August 1905); "Artificial Diamonds"
6. *Chemical Abstracts* 2 (1): 1410 (20 May 1908).
7. Gardiner, Bruce: *East-West Journal* (February 1975), p. 15.
8. Hannay, J.B.: *Proc. Royal Soc. London* 30: 461 (1880); *ibid.*, 32: 407 (1881)
9. Hannay, J.B.: *Chemical News* 86: 173 (1902)
10. Grotz, T.: *Fulcrum* 4 (3):6-10 (Oct., 1996).
11. Harris, P.M.: Unpublished lab notes (March 1965).
12. Jovivitsch, Milorad Z.: *Monatschrift f. Chemie* 29: 1-4, 5-14 (1908).
13. Kervran, Louis: *Transmutations A Faible Energie*; 1964, Libr. Maloine, Paris; *ibid.*, *Preuves Relatives A l'Existence de Transmutations Biologiques* (1968); *ibid.*, *Transmutations Biologiques en Agronomie* (1970); *ibid.*, *Biological Transmutations*; 1972, Swan House, NY, &c...
14. Kushi, Michio: *East-West Journal* (February 1975), pp. 22-26.
15. Kushi, Michio: *Kushi Institute Study Guide* # 10: "Atomic Transmutation".
16. Mallove, E.: *Infinite Energy* , March-April 1996 (#7).
17. McKibben, Joseph L.: *Infinite Energy* #11 (Nov.-Dec. 1996), p. 37

18. Ohmori, T. & Enyo, M.: *J. New Energy* 1(1):15-22 (1996).
19. Peterson, Ivars: *Nature* (3 August 1985), p. 75; "Diamonds in Nature"
20. Parsons, Sir Charles A.: *Proc. Royal Soc. London* 220-A: 67--93 (1918)
21. *Scientific American* (7 June 1913), p. 515; "A New Way of Making Diamonds"
22. Singh, M., *et al.*: *Fusion Technology* 26: 266 (Nov., 1994).
23. Sundaresan, R. & Bockris, J.: *Fusion Technology* 26: 261 (Nov., 1994).

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