There is a man in his eighties, if still alive, in France who solved a mystery which supports the Vegan belief that man can live entirely on vegetables. C. Louis Kervran in the 1950s and 1960s worked for the French Government as a scientist doing basic research. The Dept. of Science does not have an American equivalent. It was a combination of NIH, EPA and CDC. He was asked to find out how much calcium a chicken needed to consume in order to avoid laying soft shelled eggs. I remember reading an article about 1965 in the *Toronto Star Weekly* which reported that he was able to get the chickens of Brittany France to lay hard shelled eggs by feeding them magnesium alone. Magnesium was needed in the "fixing" of calcium into egg shells and likewise in all bones and teeth. Kervran used a method in chemistry called *stoichiometry* which determines all the elements going into and exiting from the chickens and also included the cruelty of rendering the chickens down to ash. In the *Star Weekly* report, the results were categorized as puzzling and unexpected. Also, he had an experimental loss of magnesium and a gain in calcium which he could not attribute to his rigorous methodology.
Confronted with a dietary shortage of calcium, a hen no longer retains the ability to produce enough calcium carbonate for formation of normal eggshells, so shell thickness will be seen to decline.

The French physicist C. Louis Kervran (1901–1983) determined that after feeding such a hen a diet of rolled oats rich in potassium, hard eggshells seemed once again to emerge. He attributed this to direct transformation of the element potassium into calcium. Transmutation of the elements—especially lead into gold—is something alchemists had sought (without success) over the course of centuries. Kervran was convinced he had witnessed precisely such an elemental transformation in the hen, which in this case meant in effect that there had somehow been fusion between the potassium nucleus and a hydrogen nucleus, thereby generating a calcium nucleus.

\[ ^{39}\text{K} + ^{1}\text{H} \rightarrow ^{40}\text{Ca} \]

There was only one catch: Nuclear fusion (or fission) entails the need not only that charges be balanced, but that the same be true as well for mass: Indeed, to a precision of many decimal places. For the hypothetical fusion of potassium and hydrogen, the mass balance equations correspond to:

\[ ^{39}\text{K} \text{(38.963707)} + ^{1}\text{H} \text{(1.007825)} \rightarrow ^{40}\text{Ca} \text{(39.962591)} + \Delta m \text{(0.008941)} \]

For nuclear fusion, according to Einstein’s equation \( E = mc^2 \) a loss in mass, \( \Delta m \), must be compensated by an equivalent amount of energy. In producing a single eggshell with 6 g of calcium carbonate, approximately \( 5 \times 10^7 \) kJ would be set free. This enormous amount of energy would suffice to heat the hen from room temperature up to several million degrees—or alternatively to launch her suddenly into near-earth orbit.

Kervran failed to observe either effect, however, so he was forced to postulate a novel low-energy transformation that he called “biological transmutation” or “frittage”.

Kervran presented his wild theories publically in books [1], but never in scientific journals, where referees would of necessity have critically evaluated the content prior to publication. Of course, a “Kervran effect” has never been substantiated [2], although some of his disciples did remain unwaveringly convinced of this bizarre nonsense [3].

In tribute to his fanciful research efforts, Corentin Louis Kervran was posthumously honored in 1993 with a undoubtedly richly deserved Ig Nobel Prize.
Σύμμαχος με μια πρόφοση θεωρία, η
συνισταόμενη ότι μπορεί να
μετατραπεί σε ένα αυτόκελο
σε άλλο, φυσικόλογας
άλλη για την ενέργεια.
Οι εικόνες διαφέρονται
σε ένα από τα επιπεδώματα
της θεωρίας σύνθετης.
Μια κόμη που διαβάζεται
με τον ενεργοτυπικό τρόπο,
γεννά ανάμεσα σε διλυμποφόρος (Α)·
οι προφορές, εντολές,
εμφανίζουν με την κοινή
dίαιτική και κοίλου και χωρίς
κοιλιά να μπορεί να εκμεταλλευθεί
όταν από τον θάνατο
της γενετικής τής
κοίλης (Β)·
οι προφορές στην τροφή της
κοιλιά της κόμης,
σύντομα δρακτορ
η γέννας σάγια.
με φυσιολογικό κέλυφος.
Αυτά ερμηνεύονται
συμβολικά με την θεωρία σάγια,
από την εκδοτική
της κοίλης,
να μπορεί να αναπτυχθεί
ένα πρώτο οργανισμό,
με την πρόφοση κοιλιά και με
την εκμετάλλευση ένατος
ατμός στον σύνθετο (Γ)·
πρέπει να σημειωθεί ότι
eναι ακαματοποιητικός
στη φύση κοπή
tου οργανισμού τις ελλιπών
των σώματα
του σκελετού
tου πουλιού,
και δε έστω
προφορές του σύνθετου
του οργανισμού από έκας (Δ).
EVIDENCE THAT ATOMS BEHAVE DIFFERENTLY IN BIOLOGICAL SYSTEMS THAN OUTSIDE OF THEM TO ALLOW TRANSMUTATION

Madhavendra Puri
The Bhaktivedanta Institute
E-mail: tumle@diku.dk

A number of chemists report that plants, animals and human beings ROUTINELY TRANSMUTE MID-RANGE ELEMENTS (for example, potassium into calcium or magnesium into calcium) AS PART OF THEIR ORDINARY DAILY METABOLISM.

These transmutations obey rules such as: Mg + O => Ca; K + H => Ca. This is revolutionary since, according to current physical theory, the energy levels required for such transmutations are billions of times higher than what is available in biological systems. Equally inexplicable fission reactions such as Ca => Mg + O; Ca => K + H are also reported.

But revolutions in physics have repeatedly occurred, such as the quantum revolution in which the radical property of non-locality, previously considered impossible, is now accepted by physicists (see Aspect and Grangier 1986, Bransden and Joachain 1989, p.671-681, Chiao et al 1993, Squires 1990, p.173, Rae 1986, p.25-44, and Penrose 1990, p.369).

What I am presenting here is not the "cold fusion" of Fleischmann and Pons which, as far as I know, lacks clear evidence of actual fusion. Even if the Fleischmann and Pons effect turns out to be actual fusion, it is only the fusion of isotopes of the lightest element hydrogen under special laboratory conditions which is quite different from the UNEQUIVOCAL FUSION AND FISSION OF MID-RANGE elements found in biological transmutation reports.

Now let us examine the evidence for biological transmutation.

Crabs, shellfish and crayfish have shells made largely of calcium. A crab 17 cm by 10 cm has a shell weighing around 350 grams. Periodically these animals shed their shell and create a new one. This is called molting. When molting, a crab is very vulnerable and hides away from all other creatures so it can not get calcium by preying on other creatures.
According to French chemist C. Louis Kervran of the Conseil d'Hygiene in Paris, seawater contains far too little calcium to account for the rapid production of a shell (the calcium content of sea water is about 0.042% and a crab can form a new shell in little more than one day). If the entire body of a crab is analyzed for calcium, it is found to contain only enough calcium to produce 3% of the shell (even taking into account the calcium carbonate stored in the hepato-pancreas just before molting).

Even in water completely devoid of calcium, shellfish can still create their calcium-bearing shells as shown by an experiment performed at the Maritime Laboratory of Roscoff: "A crayfish was put in a sea water basin from which calcium carbonate had been removed by precipitation; the animal made its shell anyway." (Kervran 1972, p.58)

"Chemical analysis made on animals secreting their shells has revealed that calcium carbonate is formed on the outer side of a membrane although on the opposite side of the membrane, where matter enters, there is no calcium. This fact has left specialists perplexed." (Kervran 1972, p.58)

Seawater contains a sufficient amount of magnesium to form a shell if we accept Kervran's proposition that crabs routinely transmute magnesium into calcium; Mg + O => Ca.

It would be interesting to put a crayfish in water devoid of both calcium and magnesium and see if it can still create its shell.

Normal egg shells produced by hens contain calcium. Kervran (1972, p.41) reported an experiment in which hens were confined in an area in which there was no source of calcium and no calcium was present in their diet. The calcium deficiency became clearly manifested after a few days when the hens began to lay eggs with soft shells. Then purified mica (which contains potassium) was given to the hens.

Kervran (1972, p.41) described what then transpired: "The hens jumped on the mica and began scratching around it very rapidly, panting over it; then they rested, rolling their heads on it, threw it into the air, and began scratching it again. The next day eggs with normal shells (weight 7 grams) were laid.

Thus, in the 20 hours that intervened, the hens transformed a supply of potassium into calcium. ... An experiment of this kind, using the same mica, was undertaken with guinea-fowls over a period of forty days. The administering of the mica was suspended three times and each time a soft-shelled egg was laid ..."
One might suggest that the calcium in the egg shells was borrowed from the bones of the hens. But if this is true, why were soft eggs laid when the mica was withheld and normal eggs laid when mica was given to the hens?

In order to avoid the conclusion that the hens transmuted potassium into calcium, one would have to show that mica somehow stimulates a metabolic pathway in which calcium is removed from the hen's bones and used in the production of the egg shells.

This could be completely refuted by feeding the hens mica (and of course absolutely no calcium) for such a long period of time that all the calcium in their bones would have been completely exhausted. If after that time the hens still produce calcium-bearing egg shells, we must conclude that the calcium in the egg shells is not being taken from the bones. At that point, we seem to have no choice but to acknowledge the transmutation of potassium into calcium within the hens.

Kervran (1972, p.52) described experiments performed in 1959 by the French government in the Sahara desert. The government was interested in determining the nutritional requirements of petroleum workers in the extreme heat prevalent in the desert.

In the first experiment, conducted near a place called Ouargla, the total amount of magnesium ingested per day per man was measured and compared with the amount excreted. It was found that, on the average, each man daily excreted 117.2 milligrams of magnesium more than he ingested. Thus, each day, each man lost on the average 117.2 milligrams of magnesium.

Now we must consider how much magnesium is on reserve in the human body: it turns out that the body is not able to mobilize more than 5000 milligrams of magnesium. Thus, at a daily loss of 117.2 milligrams, it is clear that after 50 days the bodies of the petroleum workers should have been completely depleted of magnesium. But the experiment was conducted for 180 days and each day each man excreted on the average 117.2 milligrams more than he ingested.

The second experiment lasted for 240 days and was conducted near Tindouf which has a drier climate. This time each man excreted each day an average of 256 milligrams of magnesium more than he ingested. Under these conditions, after 20 days, each man should have been completely depleted of magnesium; but somehow they survived for 220 days thereafter. It seems difficult to avoid the conclusion that the human body is able to create magnesium.
Biochemist H. Komaki of the University of Mukogawa in Japan reported that a number of different families of microorganisms such as Aspergillus niger and Saccharomyces cerevisiae create potassium during growth. (Komaki 1965, 1967)

Kervran described a germination experiment using ryegrass seeds (type Rina) performed in 1971 by the Laboratory of the Societe des Agriculteurs de France (Kervran 1972, p.107). Out of an initial group of 2000 seeds, 1000 were set aside as a control batch and the other 1000 were germinated.

The control batch weighed 2.307 grams before drying and 2.035 grams after drying. These 2.035 grams were analyzed and found to contain 3.02 milligrams of magnesium, 6.97 milligrams of potassium, 6.00 milligrams of calcium and 0.021 milligrams of copper. The magnesium, calcium and copper contents were determined by atomic absorption spectroscopy and the potassium content was determined by flame emission.

The 1000 seeds to be germinated were germinated for 29 days in Petri dishes under a plastic sheet to insure that no dust could get in. Aside from 430 milliliters of Evian water, absolutely nothing else was supplied to the seeds during germination. 430 milliliters of Evian water was found to contain 10.32 milligrams of magnesium, 0.39 milligrams of potassium, 33.11 milligrams of calcium and 0.00 milligrams of copper.

After the 29 day germination period, the plants were converted to ashes under high temperature and the ashes and residual Evian water in the Petri dishes were found to contain 3.20 milligrams of magnesium, 16.67 milligrams of potassium, 36.50 milligrams of calcium and 0.10 milligrams of copper.

Before germination there were 6.97 milligrams of potassium in the seeds. During germination 0.39 milligrams of potassium were added to the growing plants (this came from the Evian water). If atomic nuclei can not be altered in biological systems, we expect that after germination there should be 6.97 + 0.39 = 7.36 milligrams of potassium in the plants and residual Evian water. But this was not the case.

After germination the plants and residual Evian water were found to contain 16.67 milligrams of potassium. Thus 9.31 milligrams of potassium were apparently created during germination.

Before germination there were 3.02 milligrams of magnesium in the seeds. During germination 10.32 milligrams of magnesium were added to the growing plants (this came from the Evian water). If atomic nuclei cannot be altered in
biological systems, we expect that after germination there should be \(10.32 + 3.02 = 13.34\) milligrams of magnesium in the plants and residual Evian water.

But after germination the plants and residual Evian water were found to contain only 3.20 milligrams of magnesium. Thus 10.14 milligrams of magnesium were apparently destroyed during germination. Before germination there were 0.021 milligrams of copper in the seeds. During germination 0.00 milligrams of copper were added to the growing plants.

Assuming that atomic nuclei cannot be altered, we expect that after germination there should still be 0.021 milligrams of copper in the plants and residual Evian water. But it turned out that after germination the plants and residual Evian water were found to contain 0.10 milligrams of copper. Thus 0.079 milligrams of copper were apparently created during germination.

Before germination there were 6.00 milligrams of calcium in the seeds. During germination 33.11 milligrams of calcium were added to the growing plants (from the Evian water). Assuming that nuclei can not be altered, we expect that after germination there should be 39.11 milligrams of calcium in the plants and residual Evian water.

However, after germination the plants and residual Evian water were found to contain 36.50 milligrams of calcium. Thus 2.61 milligrams of calcium were apparently destroyed during germination.

The following challenge can be made: no one knows how much potassium, calcium, magnesium and copper was in the seeds before they were germinated. It was assumed that the amounts of these elements was not significantly different from the amounts of these elements in the control batch.

How do we know this is true? What should have been done is to start with a 100 grams of seeds, mix them around thoroughly, weigh out 50 batches of 2.000 grams each, randomly select 25 of these as control batches, determine the amounts of potassium, calcium, magnesium and copper in these batches and note the maximum variation in these elements among these batches.

The remaining 25 batches can then be germinated and the plants analyzed for element content. In this way we would have some measure of the variation among different batches (both germinated and control).

On the positive side, it can be argued that since the seeds of the control and germinated batches were of the same type, the variation in element content
between these two batches was not significant. Some support for this idea can be found in the data provided by chemist D. Long of the Michaelis Nutritional Research Laboratory in Harpenden, England.

Long analyzed (using atomic spectroscopy) six batches of ryegrass seeds (each of which weighed 5.4 grams before drying) and discovered that the difference in potassium content between the batch containing the greatest amount of potassium and the batch containing the least amount of potassium was 0.054 milligrams of potassium per gram of dry seed weight. Similarly, the maximum difference in magnesium content was 0.033 milligrams per gram of dry seed weight, that of calcium was 0.091 milligrams per gram of dry seed weight, and that of copper was 1.19 micrograms per gram of dry seed weight. (Long 1971, p.7)

Kervran proposed that the plants performed the following nuclear reactions: Mg + O => Ca; Ca => K + H. Kervran did not discuss the reaction involving copper.

Based on experience derived from similar experiments, Kervran said that if the seeds are germinated in doubly-distilled water, the amount of transmuted material is much smaller and may fall within the range of experimental error and therefore not be significant. The reason for this is that each kind of plant is only able to transmute certain elements into certain other elements.

Thus the experimenter must provide the plant with a certain amount of certain elements if he wants to observe a large amount of transmuted material. For germinating ryegrass seeds, Evian water is the perfect growth medium because it provides this particular kind of plant with the elements it needs.

Kervran (1972, p.132) also described a series of experiments in which wheat and oat seeds were germinated "on porous ashless paper saturated with a fertilizing solution of salts dissolved in water. The solution was free of calcium."

In the case of wheat (Roux Clair) there was 3.34 times more calcium in the plants than in the seeds; in the case of one kind of oats (Noire du Priéure) there was 4.16 times more calcium in the plants than in the seeds; in the case of another kind of oats (Panache de Roye) there was 4.51 times more calcium in the plants than in the seeds.

The calcium content was determined by two independent methods (conventional chemical analysis and atomic absorption spectroscopy); both methods agreed closely. Kervran performed more than 20 such experiments, mostly on oat seeds.
Kervran (1972, p.133) mentioned that the moon plays an important role in the production of calcium. The above huge increases in calcium were obtained in experiments in which the germination started at the new moon and stopped on the second full moon (after 6 weeks). This is an important consideration for those who attempt to duplicate these results. A lunar influence on the metabolic activity of various plants and animals was also reported by biologist Frank A. Brown. (Gauquelin 1969, p.131-133)

D. Long questioned Kervran's methods of analysis. Long (1971, p.9) said that Kervran had made (in some of his earlier experiments) the mistake of comparing the ash weight of the control batch with the ash weight of the plants after germination. Kervran may have made this mistake in some of his earlier experiments but he did not do so in the ryegrass, wheat and oat germination experiments described above.

In these experiments, he rightly compared the weight of the control batch with the weight of the seeds to be germinated. In other words, the weight comparison was done on the two batches of seeds before one batch was germinated. This is the correct procedure as acknowledged by Long himself.

Long germinated ryegrass seeds in deionized water and reported that he was unable to observe a transmutation of elements. As discussed above, this is to be expected since without a sufficient input of certain elements, there is insufficient material to be transmuted.

A more serious criticism is Long's claim that he corresponded with Kervran who advised him to germinate green lentil seeds (Leguminaceae) in water containing certain minerals. Long reported that although he did this he was still unable to observe a significant transmutation of elements.

But Long did not attempt to duplicate the best of Kervran's germination experiments, namely the ryegrass, wheat and oat experiments described above. I hope that many scientists will do these experiments and report the results to the scientific community.

In the 1950s Pierre Baranger, a professor and the director of the Laboratory of Organic Chemistry at the Ecole Polytechnique in Paris, performed a large number of germination experiments and concluded that plants routinely transmute elements. Baranger did his experiments independently of Kervran.

Baranger said: "My results seem impossible, but here they are. I took every precaution. I repeated the experiments many times. I made thousands of analyses.
for years. I had the results verified by third parties who did not know what I was investigating. I used several methods. I changed my experimenters. But there is no escape. We must submit to the evidence: plants transmute elements." (Michel 1959, p.82)

I tried to get more information by writing letters to the Ecole Polytechnique, the Societe des Agriculteurs de France and the Agronomie Research National Institute, but I received no reply.

In 1975 chemists O. Heroux and D. Peter of the Division of Biological Sciences of the National Research Council of Canada conducted a meticulous experiment with rats (Heroux and Peter 1975). They measured the amount of magnesium ingested through food, water (and even air) as well as the amount of magnesium excreted in the form of urine and feces over three periods of time: 69 days, 240 days and 517 days.

In the case in which the rats were fed a diet in which the amount of magnesium ingested was less than the amount of magnesium excreted, it was expected that the total amount of magnesium in the body would decrease. In fact, long before the 517th day of the experiment it was expected that there would be zero magnesium in the body.

However, when the rats were analyzed for total magnesium on the 517th day, each rat contained, on the average, 82 milligrams of magnesium. The method used to determine the amount of magnesium in the body, food, water, air, feces and urine was atomic absorption spectroscopy.

Heroux and Peter verified the accuracy of their determinations by giving samples to two other laboratories (the Division of Chemistry at the National Research Council and the Department of Chemistry at McMaster University); both of these laboratories obtained essentially the same results as Heroux and Peter at the Division of Biology at the National Research Council.

Finally, other methods were used (such as destructive neutron activation and spectrographic emission) and these methods yielded results very similar to those obtained using atomic absorption spectroscopy.

I do not advise the replication of this experiment since it involved killing the rats in order to analyze their bodies for magnesium. Experiments involving animal killing are not required since there are many ways (as described above) to verify biological transmutation without such killing.
In an article in *La Revue Generale des Sciences* Paris, of July 1960, Louis Kervran, then Director of Conferences at the University of Paris, described experiments proving the existence of the transmutation of some elements by biological means. Further details were given by him in a book *Transmutation Biologiques* (Maloine, Paris 1962). These experiments involved measuring the weight of Potassium and Calcium in dry seeds and in germinated seeds, these seeds during germination being isolated from contact with Potassium or Calcium in their environment, say through the water or air. Thus any measured increase in the weight of these elements could only be explained by some transmutation occurring in the living plant.

These publications were received with scepticism by some physicists because such transmutations were not explainable within the laws of physics then admitted. However, other scientists were to confirm Kervran's findings. Among these were Prof. Dr. Hisatoki Komaki, chief of the Laboratory of Applied Microbiology at a Japanese University, Prof. Baranger, Head of the Laboratory of Chemical Biology in the Ecole Polytechnique in Paris. J.E. Zundel, at that time Director of a paper company having a chemical analysis laboratory, pointed out that in germinating oats, there was an increase of Calcium of sometimes more than 100% in a medium containing no calcium. From where was this Calcium derived? Kervran suggested from Potassium, because of a decrease of Potassium (K) quantitatively equal to the increase in Calcium (Ca), and he gave the following formula in 1960:

\[
^{39}_{19}K^{+} + ^{1}_{1}H^{+} \rightarrow ^{40}_{20}Ca^{++} + \sim 0.0085 a.m.u.
\]

After many experiments, hundreds of analyses of tens of thousands of grains or plants J.E. Zundel (then Chemical Engineer of the Polytechnicum School of Zurich) confirmed these findings in a lecture in 1971 at the French Academy of Agriculture (Bull No. 4, 1972). He had then used chemical and physical methods of analysis. Later in 1979, Zundel, using the mass spectrometer at C.N.R.S (the Microanalysis Laboratory of the French National Scientific Research Centre), and neutron activation mass analysis at the Swiss Institute for Nuclear Research in Villigen (Aargau), confirmed the increase for Calcium of 61% + or - 2% (average for both laboratories) that is absolutely beyond any statistical dispersion. (There was also an increase of 291% for Phosphorus and 36% for Sulphur). See the article - 'Transmutation of the Elements in Oats' in *The Planetary Association for Clean Energy Newsletter*, Volume 2, Number 3, July/August 1980. So it now seems that transmutations of a few elements arise as a property of the metabolism of living matter, transmutations obtained in great quantity at a low energy.
Recently a possible explanation for this phenomenon within the framework of modern physics has been evolved by French physicist Oliver Costa de Beauregard, Professor of Theoretical Physics at the Institut de Physique Theorique Henri Poincare (Faculty of Sciences, Paris) who is also Director of the Centre National de la Reserche Scientifique (C.N.R.S.). Costa de Beauregard suggests that such transmutations neither takes place through strong interactions, nor through electromagnetic forces, but through the weak interaction. This takes place through the neutral current of the intermediate vector boson, the so called Z₀, particle recently discovered by particle physicists. Kervran's reaction for a biological transmutation from Potassium (K) to Calcium (Ca) in germinating oats is thus explained as being Initiated by neutrino capture (from cosmic rays) and the weak interaction follows mediated by the Z, neutral current (the Z₀ probably existing as a virtual particle):

\[ \nu + ^1_1H^+ + ^{29}_{19}K^+ \xrightarrow{+Z^0_{\text{neutral current}}} ^{40}_{20}Ca^{++} + \overline{\nu} \]

It would seem that this formula has brought the reality of these transmutations into the theoretical framework of modern physics. We thus see that in living matter there not only occurs the chemical reactions (electromagnetic forces) of photosynthesis involving the absorption of photons of light from the sun, but also weak interactions that can effect the nuclear structure of matter, activated through the participation of cosmic energy in the form of neutrinos that stream down upon the earth from the depths of the universe. A full awareness of the consequences of these ideas should have a profound influence upon many domains of modern science, not least in agriculture, dietetics and healing.

In my article on 'The Ethers and the Fundamental Forces of Physics' in the *Hermetic Journal* Number 9, I pointed out that the weak interaction bore a relationship to the transforming ether known in esotericism. Indeed, I there related that this transforming ether "promotes the multiplicity of forms within the material realm through its transmutative quality of etheric force". Thus with Louis Kervran's profoundly important work we could stand upon the threshold of a turning point in the physical sciences, and we seem to have the meeting ground between contemporary Physics and an esoteric science of the ethers. One can only hope that such research is fully followed up and the profound implications for the present rigid view of the mechanism of living matter are not missed. Indeed can it be that the transmutations of the ancient alchemists may again gain scientific respectability?
EXTRAORDINARY BIOLOGY

Kervran's Proof of Biological Transmutation

In orthodox chemistry, one of the strongest dogmas is the stubborn insistence that it is impossible to create another element by chemical reaction. Most chemists also insist that all reactions occurring in living systems are chemical in nature. They believe fervently that chemistry can and must explain life itself.

In the early 1960's, a French researcher named Louis Kervran published work which flew directly in the face of the accepted chemistry dogma. Kervran reported the astounding results of his research showing that living plants were able to accomplish limited transmutation of elements. Kervran was then the Conferences Director at the University of Paris, and his first paper was published in La Revue Generale Des Sciences, July 1960.

What was so revolutionary was that, according to the prevailing wisdom of science, you can't transmute elements (permanently change the nucleus) except with enormous energy - certainly not with the microvolts and millivolts (and microwatts and milliwatts) that living systems can muster electromagnetically.*

Rutherford, the British physicist who discovered the nucleus of the atom, had shown in 1919 that you can bombard elements with alpha particles and transmute them. The accepted wisdom of today is exactly the same, except that the physicists have used heavier and heavier "bullets" in their artillery approach. No one has tried a controlled approach, for the catechism is that you have to use the wham it harder! approach.

In other words, to most scientists the whole thing had to be preposterous, and Kervran had to be deluded.

Kervran published further details of his work in a book, Transmutations Biologiques, Maloine, Paris 1962. But the initial reaction of most scientists was disbelief and skepticism. Few scientists would stoop to repeating Kervran's experiments, which of course they knew could not work anyway.

Actually the effect is widespread amongst living systems. As Kervran pointed out, the ground in Brittany contained no calcium; however, every day a hen would lay a perfectly normal egg, with a perfectly normal shell containing calcium. The hens do eagerly peck mica from the soil, and mica contains potassium - a single step below calcium in the standard table of elements. It appears that the hens may transmute some of the potassium to calcium.

Further, if one tests this assumption, it is quickly shown to be true. Hens denied calcium but not potassium, stay perfectly healthy and lay perfectly normal eggs. Hens denied both potassium and calcium will be sickly and lay only soft-shelled eggs. If these sick chickens are allowed to peck only mica - which they will frantically do - everything returns to normal again.

*Note, however, that since gravity is infolded EM, one can have extremely powerful infolded EM, yet only have miniscule electrical (outfolded) residues. Thus the actual "available power" in artificial biopotentials may not be quite so small after all.
Most orthodox scientists nevertheless remained skeptical or downright hostile. However, a few other scientists began to repeat Kervran's experiments and replicate his results. Several of these corroborating scientists were (1) Professor Hisatoki Komaki, Chief of the Laboratory of Applied Microbiology at a leading Japanese university, (2) Professor Pierre Baranger, Head of the Laboratory of Chemical Biology of the Ecole Polytechnique in Paris, and (3) J.E. Zundel, then head of a paper company with a chemical analysis laboratory, and later a chemical engineer of the Polytechicum School of Zurich, Switzerland.

Later work by Zundel was particularly decisive: he utilized the mass spectrometer at the Microanalysis Laboratory of the French National Scientific Research Center, and neutron activation mass analysis at the Swiss Institute for Nuclear Research in Villigen to positively confirm an increase in calcium of 61% to an accuracy of 2%. Such results and instrumentation, of course, removed any doubt that the effect could be due to statistical variation. In the same experiments, the plants increased their phosphorus 29% and their sulphur 36%.

Komaki became head of a research laboratory at Matsushita Electric Company. There he conducted research conclusively proving that microorganisms (including some bacteria and two kinds each of molds and yeast) could transmute sodium into potassium. In fact, he placed a brewer's yeast product on the market that, when applied to composts, increases their potassium content.

Extensive work in the area has been done in the Soviet Union, where results similar to Kervran's have been substantiated.

Thus all doubt (to an open-minded scientist) was removed: living systems are able to change one element into another by some unknown means, using very feeble energy.

A noted French physicist, O Costa De Beauregard, suggested a mechanism for the
transmutations, using weak force interactions and advanced waves.

No one - even Kervran himself - thought of negative energy/ negative time interactions. The jury is still out on the actual mechanism, but it is absolutely clear that the transmutation does indeed occur.

The Japanese researchers, having replicated Kervran's astounding results to their complete satisfaction, recommended him to the Nobel Committee for a Nobel Prize for such epochal work. Thus Kervran became a Nobel nominee, though he was not granted the prize.

Kervran has since passed away, leaving behind his books and papers that point to a revolution in chemistry and physics - transmutation of elements at very weak energy.

**Biological Transmutation Has a History**

Actually biological transmutation - and transmutation of elements (alchemy) in general - has a history, of both results and suppression.

Louis Nicolas Vauquelin, a celebrated French chemist, discovered that chickens could produce more calcium in their eggshells than entered their bodies. Hence they had to be able to "create" the calcium, else their own bodies would have been completely depleted.

One of his contemporaries, however - Antoine Laurent Lavoisier - became the "father of chemistry." Lavoisier laid down the dictum that nothing was created. So chemistry fixed upon the notion that the combinations of elements could be shifted, but the element itself could not be transformed.

Not until the discovery of radioactivity did any crack in this solid wall appear. But still, the basic ideas of chemistry said the element couldn't be transformed chemically. It could only be transformed if one blasted the daylights out of it with an atomic or particle bullet.

Today most chemists still hold that exact same opinion, unshaken.

To resume: Over a century ago, a chemist named Albrecht von Herzeele proved that germinating seeds somehow transmuted elements in the process. In 1873 von Herzeele published a book, *The Origin of Inorganic Substances*, where he showed research proving that plants continuously create material elements.

Even earlier, in 1822 an Englishman named William Prout had studied chicken eggs in incubation. He found that hatched chicks had more lime (calcium) in their bodies than was originally present in the egg!

Another French scientist named Henri Spindler discovered that a kind of algae called Laminaria could create iodine.

A German researcher named Vogel had planted cress seeds in a bell jar. They were fed nothing but distilled water; still, when grown they contained more sulphur than had been in the seeds originally.

Lawes and Gilbert, two British researchers, also found that plants could "extract" more elements from the soil than the soil actually contained in the first place.

Baranger performed thousands of meticulous experiments in plant transmutation of elements. He proved that the transmutations do occur. He also discovered that many things affected the germinating seed transmutation process: the time the seeds germinate, the type of light they are exposed to, the phase of the moon, etc.

None of these experimenters understood the transmutation process used by the living organism. But they proved beyond question that the process existed, and universally occurred.
Surplus-of-Energy Mechanisms Proposed by the U.S. Army

There has also been other very positive support for the thesis that if living systems transmute elements, they can produce a net source of energy in the process.

In 1978 an officially-funded effort of the U.S. Army Mobility Equipment Research and Development Command, Fort Belvoir, Virginia positively confirmed that mechanisms for elemental transmutations could occur in biological systems, from an energy consideration.

The work was performed under the direction of Emil J. York, Chief of the Material Technology Laboratory. Solomon Goldfein was the principal investigator for the effort. Robert C. McMillan, Chief of the Radiation Research Group of the laboratory, provided guidance on matters of physics and nuclear physics.

The abstract of the final report (S. Goldfein, Report 2247, Energy Development from Elemental Transmutations in Biological Systems, U.S. Army Mobility Equipment Research and Development Command, May 1978. DDC No. AD AO56906.) reads as follows:

"The purpose of the study was to determine whether recent disclosures of elemental transmutations occurring in biological entities have revealed new possible sources of energy. The works of Kervran, Komaki, and others were surveyed, and it was concluded that, granted the existence of such transmutations (Na to Mg, K to Ca, and Mn to Fe), then a net surplus of energy was also produced. A proposed mechanism was described in which Mg adenosine triphosphate, located in the mitochondrion of the cell, played a double role as an energy producer. In addition to the widely accepted biochemical role of MgATP in which it produces energy as it disintegrates part by part, MgATP can also be considered to be a cyclotron on a molecular scale. The MgATP when placed in layers one atop the other has all the attributes of a cyclotron in accordance with the requirements set forth by E.O. Lawrence, inventor of the cyclotron."

"It was concluded that elemental transmutations were indeed occurring in life organisms and were probably accompanied by a net energy gain."

The researchers also concluded that elemental transmutations occurring in life organisms are accompanied by losses in mass representing conversion to thermal energy, and that such energy probably is a net gain when compared to the amount required to effect the transmutation.

All in all, they concluded that the little cell with its feeble energy does quite well! It's in control of cyclotrons, and cyclotron forces, and direct conversion of mass to energy. Pretty good for a little bitty beastie, wouldn't you say?

Actually, one should point out that, according to nuclear physics, an atom gets a little heavier when it absorbs (usually by means of an orbital electron) a normal "positive energy" photon. That is, the addition of positive energy results in the addition of a little bit of "positive mass."

Negative energy, of course, does a similar thing to the nucleus - except that it adds "negative mass." Thus the nucleus of the atom, when it absorbs negative energy, gets lighter. This is seen in the external world as "loss of mass."

With our present nuclear physics, only positive energy is assumed except in extremely rare cases.

Thus the Army study - which was conducted and controlled by some excellent scientists - worked out a "loss of mass" the way they're trained to.

By adding some positive energy, the nucleus would gain some positive mass. By adding
some negative energy, the nucleus would lose some corresponding positive mass. The conventional physics then would equate this "loss of mass" as the direct conversion of mass to energy. And so it is, only it's conversion to negative energy!

However, by pointing out the cyclotron mechanism in the cell MgATP, the Army researchers have made a most important contribution.

Note also that the whirling motion may be very much related to Viktor Schauberger's work and to Wilhelm Reich's work. Both of them worked with what they viewed as an unusual kind of living, spiraling energy.

All the orbital electrons of an atom also are whirling around in orbit, in the simplest model. Further, these orbits themselves move and rotate or precess.

Similar orbits and shells occur in the nucleus, at least in some models (several rather independent models are used there for specific things.)

It may be that a whirling, spiraling (cyclotron) energy motion is necessary to connect positive energy to orbital electron (negative charge) shells, and to connect negative energy to positive charge shells in the atomic nucleus.*

Alchemy and Unusual Critters

In ancient times, the old alchemists pursued the dream of making gold. Obviously, if one could do that economically, one could become quite wealthy.

Just as obviously, the kings and rulers of the world took rather a dim view of such proceedings. After all, much of their own power rested on their ability to get and control gold. And if some "loose cannon" could make all the gold anyone wanted, then the national treasury of the king wouldn't be worth a plugged nickel. And that would finish the king, for he would be powerless.

* The spinning/whirling motion may be viewed as integrating the unzipped vacuum flux virtual vectors into zipped observable force vectors - just as great grandma's spinning wheel integrated fibers into continuous threads.

There are some unorthodox researchers today who take the view that the alchemists were stamped out - not because they failed, but because they succeeded.

I subscribe to the same view.

T. H. Moray had a process to "recover finely divided gold from quartzite sands." My personal, strong belief is that he possessed a practical transmutation process. His knowledge and techniques, of course, are still possessed by his sons, and reside through them in Cosray Research Institute, Salt Lake City, Utah.

The possession of such a technical secret may be one of the major reasons why the Morays have met with such intrigue, harassment, and suppression over the years.

To speak further on "making gold," we first have to present some details on some special "critters" that live, but that can't be observed through a normal microscope - even an electron microscope.

In that vein, toward the end of this chapter, we will present some of Royal R. Rife's fundamental discoveries. Pay particular attention to his discovery of "finer" living forms - which today we could only refer to as "living energy, virtual-state forms."
Let's call them critters for short.

At one time, when the earth was young and the radiation from the sun was different, conditions on earth were much hotter. Great volcanic activity and fiery eruptions were commonplace and nearly continuous. Huge storms, of size and magnitude undreamed of today, swept the primitive atmosphere. The oceans were frenzied.

Under those conditions, many types of "critters" were highly active. Most of the critters, for example, lived in and worked on the atomic nuclei of matter.

After all, the critters are living, virtual-state organisms. There's a continual exchange between the virtual state (the vacuum, or spacetime) and mass (the observable state). An atomic nucleus is like an island in the "virtual state ocean", and the flux interchange is like waves breaking onto the island and then washing back to sea. The critters live in that ocean, and wash upon, so-to-speak, the mass-islands and interact with them.

In those primal days, many of the present great mineral deposits of the earth were created due to the transmutation activities of the critters.

One kind, for example, lived in copper. In an "energetics" sense, this critter "ate" copper and "excreted" gold, so-to-speak. Much of the gold that occurs in great copper deposits today was formed this way in the old days under primal conditions.

When conditions on earth changed, these little "copper critters" ceased their incessant activity and became dormant, just as viruses can do. But the critters are still there in the copper ore, waiting to be activated.

Arid activate them you can! You can even get the critters into a solution, and then crystallize them out as crystals.

These crystals are what the alchemists of old called the philosopher's stone, with the power to transmute base elements into gold. There are several kinds of philosopher's stones; this kind is for copper.

At any rate, you can then place these special crystals on some copper (and add another thing or two), and restore them to a similar primal environment as of old. That is, heat them in an electric furnace. Blast them with terrible electrical bolts. Bathe them in intense ultraviolet light. That's just a nice, refreshing spring day for the critters!* 

That stimulates them and revives them. They wake up after a long sleep - and they're immediately "hungry." So they go right to work on the copper. Boom! In a little bit there isn't any more copper, just mostly gold, with a little other miscellaneous residue thrown in, such as black ruby and silver (in the experiments of one of my close colleagues).

The gold is radioactive when first made. Fortunately, all isotopes of gold are very short-lived: just minutes suffice for the radioactivity to die away. So you wait half an hour and everything's okay.

That's all there is to it.

Arid if you do that and try to capitalize upon it, your life expectancy is about 24 hours.

I don't know whether or not biological systems, in their Kervran-transmutations at weak energy, deliberately manipulate similar "critters". I suspect, however, that they do, at least to some extent.

---

* Note the probable similar effects involved in the Miller-Fox-Urey experiments in biogenesis.
The Cell Also Lives and Functions in the Virtual State

Obviously, to transmute elements the living system has to be able to directly affect and influence the atomic nucleus.

It has been shown that this is a cellular capability, for single-celled organisms can do it. As we shall see, Rife's work showed that the living cell is connected to at least 16 internested deeper levels of reality than a relative "point" under an ordinary microscope. Further, all levels are structured and organized.

Think of it! Each one of those levels is to the preceding level as microscopy today is to the normal world. Sixteen levels!

I think it's reasonable to state that the life of the cell is patterned and dynamically structured and functioning all the way into the virtual state; indeed, to very deep internested levels of the virtual state. That is, it also functions hyperspatially.

We shall also see that the mind and thought involve these more subtle physical (though virtual) levels.

Thus the living virtual-state levels are a reality, for Rife proved it.

The living organized structures at each level are a reality, for Rife proved it.

The living ordering and control of dynamic functions on all those levels is a reality, for Rife proved it.

Those living virtual-level parts of the living organism - plant or animal - thus affect, function in, and reside in the atomic nuclei of the material that composes its bodily structures.

Beasties like bacteria and viruses also have living, organized energy structures in multiple levels of virtual state. Apparently, for these more primitive life forms, the virtual-state "energy part" can be separated and pass through a filter, then re-engender the physical form and/or itself cause the disease in a host! At least that is what Rife and other scientists showed.

"Bigger fleas have smaller fleas to bite 'em, And so on, ad infinitum."

Of course the living system can "work on" the nucleus and change it a little bit! If it couldn't do so, it couldn't stay alive and function in there in the first place!

The Kaznacheyev Experiments

Dr. Vlail Kaznacheyev is Director of the Institute for Clinical and Experimental Medicine in Novosibirsk.

For 20 years he has been directing highly unusual experiments with twin cell cultures. These experiments are vital to understanding disease and healing on a more fundamental basis than is presently utilized by orthodox medical science.

The Kaznacheyev experiments (several thousand) in the Soviet Union proved conclusively that any cellular disease or death pattern can be transmitted electromagnetically, and induced in target cells absorbing the radiation.

In the experiments, two sealed containers were placed side by side, with a thin optical window separating them. The two containers were completely environmentally shielded except for the optical coupling.

A tissue was separated into two identical samples, and one sample placed in each of the two halves of the apparatus.

The cells in one sample (on one side of the glass) were then subjected to a deleterious agent - a selected virus, bacterial infection, chemical poison, nuclear radiation, deadly ultraviolet radiation, etc. This led to disease and death of the exposed/infected cell culture sample.

If the thin optical window was made of ordinary window glass, the uninfected cells on the
other side of the window were undamaged and remained healthy. This of course was as expected in the orthodox medical view.

However, if the thin optical window was made of quartz, a most unexpected thing happened. Some time (usually about 12 hours) after the disease appeared in the infected sample, the same features of disease appeared in the uninfected sample.

This startling "infection by optical coupling" occurred in a substantial percentage of the tests (70 to 80 percent). From an orthodox medical view, these results were unexpected and unheard of.

Further, if the originally uninfected cells were in optical contact with the infected
Figure 73. The Kaznacheyev effect. Thousands of experiments proved that (1) cellular disease is electromagnetic, and (2) it can be induced electromagnetically at a distance. Also called the cytopathogenic effect.

Figure 74. A photon is one oscillation of an electromagnetic carrier. It may have substructures that are modulations. Such a structure is called a "giant photon," or a "compound photon."
cells for 18-20 hours or so, and then were correspondingly exposed (optically coupled) to another uninfected cell sample, symptoms of the infection appeared in this third sample an appreciable portion of the time (20 to 30 percent).

Guided by A.G. Gurvitsch's work that showed that cells give off mitogenetic radiation (photons) that can affect other cells, the Kaznacheyev team sought an answer by looking for photons given off by the infected culture sample as its cells died.

They found that the cells in the infected culture gave off photons in the near ultraviolet when they died. The normal window glass was opaque to these near-UV photons and absorbed them. In that case, the uninfected culture on the other side of the glass was not exposed to radiation by the UV "death" photons from the dying cells, and they remained serenely healthy.

However, the quartz window was transparent to the UV "death photons". When the quartz window was installed, the UV "death photons" passed through it and were absorbed in the uninfected culture on the other side of the window. Most of the time, the uninfected culture which absorbed "death photons" sickened and died with the same disease symptoms.

The Kaznacheyev experiments proved conclusively that cellular death and disease patterns can be transmitted and induced electromagnetically.*

*We point out that this effect has been investigated in both the infrared and ultraviolet. IR to UV may be taken as a single harmonic interval - an octave, musically speaking. The same effect can be reproduced in any other "octave" (single harmonic interval) of the electromagnetic frequency spectrum. The reversal of the effect can also be achieved in any harmonic interval. The mechanism for these effects involves the cellular biopotential, Popp's master cellular control system, and the deterministically-tailored substructure of photons.

**Structuring and Charging a Biopotential**

Kaznacheyev thus demonstrated that a photon information/regulatory system exists in
biological systems due to a continual influx of EM energy from outside the system. That is, the cells of the biosystem are charged with an electromagnetic potential, and additions and changes to the potential are continually received. The cell is thus in minute disequilibrium.

Usually the myriad of continual inputs from the external environment into the cell's potential charge pattern (in its atomic nuclei) may be taken to be potential changes whose substructures are disordered. In that case, no specific environmental effect is observed except slight fluctuations without order - a miniscule form of "heating."

However, if a continual ordered substructure exists in the input from the external environment into the cell's potential, the cell's potential will gradually "charge up" with that pattern.

An analogy will prove helpful. Imagine an accumulator, a large pot, that holds a volume of water. Several pipes are connected to the pot, some are inputs for water coming in, and some are outputs for water flowing in.

Imagine the inputs all containing "blue" water, just in slightly varying shades. The water in the pot is blue, and may slightly rise and fall in level as the input flow rates vary. The water in the pot may also vary slightly in its blueness as the inputs vary. However, it will still be blue.

Now suppose that yellow water starts flowing through one of the input pipes, and at a goodly rate. Slowly the water in the pot will start to turn greenish as a greater percentage of yellow builds up. In other words, the pot slowly charges up with some of the "yellow" charge, in the process acquiring a "green" charge.

The biopotential in the cell experiments works the same way.

A cell has a biopotential built up, which represents the "nominal equilibrium" of the scalar charge on the cell. This biopotential, being mostly a "sum-zero" of virtual state vectors, is centered in and on the atomic nuclei of the cell, constituting charge patterns in these atomic nuclei. The biopotential extends out of the atomic nuclei, through the electron shells, into and through the molecules, through the internal cell structures and membrane, and outside the cell.

From the atomic nucleus on out through the cell, every layered structure or organization of the cell will layer, structure, and organize the biopotential accordingly.

This organized, structured cellular biopotential is continually receiving "charge patterns" contained in incoming photons absorbed by the cell. The biopotential is also continually exhausting some of its biopotential charge pattern in the photons (heat, light, etc.) that the cell emits.

**The Cell's Electromagnetic Breathing**

Via structured photon exchange, the biopotential of the living cell thus "breathes in" the virtual state charge structure of its environment, and "breathes out" its own internal virtual state charge structure.

So, in the experiment, the uninfected cells are continually absorbing photons from their surrounding environment, and emitting photons back to it as well. According to our scalar EM view, each photon it absorbs has a substructure that depends upon the part of the environment from whence it came.

These "substructures" are actually patterns of the sum-zeroed virtual vectors comprising the potential of the absorbed photon carriers.

Normally, since a large number of very different substructures are continually being "input" into the cell's potential from the absorbed photons, the substructure of the cell's potential receives an essentially disorganized continual input from the environment. This equates to the fact that
the environment does not normally specifically influence or change the cell’s potential with ordered information (organization).*

*There may be sufficient ordered input from the environment, however, to have something to do with territoriality in living things, salmon returning to a fixed place to spawn, turtles returning to the same beach to lay eggs, the migration of birds, etc.

When a cell dies, it ceases to maintain the bio-dynamics that sustained its artificial potential (that part due to bio-ordering by its organized life processes, above the background level of its "inert matter" potential). The dead cell's built-up artificial potential then "discharges" by emitting a structured photon.**

Since this photon (energy) comes from an organized potential drop, the virtual substructure of the emitted photon is organized. The photon, then - among other things - carries the exact organized virtual charge pattern of the dying cell's disease.

We strongly insist on the quantum mechanical view here: All physical changes - chemical, material, mechanical, whatever -at root level are constituted and caused by virtual state interactions, in direct patterns of virtual particle exchanges.

In the full QM view, what's really going on in primary physical reality is just a complex set of patterns and changes in potentials anyway.

The Summed Virtual Structures of Kaznacheyev's "Death Photons" Physically Kindle the Disease

At any rate, the Kaznacheyev experiments showed that the dying cells from the infected culture emitted photons in the near UV that contained artificial (structured) potentials. The virtual-state, patterned-substructures in this photon flux directly represented the cellular disease pattern caused by the original cell's specific infection.

In other words, as the infected cells died, they emitted "death photons" which contained the template pattern of their death condition.

When these "death photons" are absorbed into uninfected cells, their deterministic substructures gradually diffuse into the cell's bio-potentials. Gradually the biopotentials of the new cells are "charged up" with the integrated pattern of the disease.

**Note that this photon is emitted from an atomic nucleus. Hence it is a phase conjugate (time-reversed) photon. It will interact with the biopotential of targeted cells, and thus reach their own atomic nuclei. This is the mechanism for Kaznacheyev's cytopathogenic effect. See particularly C.W. Rietdijk, Found. Phy., 7(5-6), Jun. 77, p. 351.

---

**Table 43.** THE LIVING AURA: THE CELL'S ELECTROMAGNETIC BREATH.

- **VIRTUAL EM FIELD**
The master cellular control system of the biosystem is itself a dynamically changing, ordered pattern in the biopotential of the cells, which is centered in the atomic nuclei comprising the cell materials. As the bio-potentials of the cells gradually acquire the "death photon's" substructure pattern, this pattern is also diffused throughout (modulates) the master cellular control system. All the cells in the sample (or in a biosystem) are now slowly charging up with the "death photon" pattern.

As Popp discovered, photons continually "leak out" of the virtual photon master control system of the biosystem. Some of these leakage photons are observable photons, but most are virtual photons.

Further, they are structured photons.

In other words, as leakage photons spill out of the master control system, observable change is now being slowly initiated in the physical structures, biochemistry, etc. of the biosystem's cells - and these changes are in consonance with the integrated "cellular death pattern" of the originally infected cells.

Note particularly that it is already well-known in quantum mechanics/electrodynamics that, when a photon is emitted from the surface of a dielectric body, the entire dielectric body participates in that emission. If a photon is absorbed on the surface of the dielectric body, the entire dielectric body participates in that absorption.

Thus as irradiation by the "death photons" continues, the "death structure" in the irradiated cells increases. It is spread throughout the cell culture by the master communication system, gradually charging the virtual state structure of that system with the death pattern.

Spillage photons from the cellular control system occur throughout the culture. These photons are structured with the death pattern, and gradually affect the cell and its biochemistry physically. The previously uninfected cells thus physically start to acquire and exhibit the symptoms and characteristics of the disease pattern that killed the infected cells.
**Electromagnetic Infection Results in Physical Disease**

The new cells are now electromagnetically infected and physically diseased.

After all, that is all a cellular disease is in the first place - physical, electrical, and biochemical changes in the normal functioning of the cell.

For a given pattern of changes in the cells, a specific "disease" exists in them.

It absolutely does not matter what causes this exact pattern. If the specific physical pattern is there, the specific disease is there.

Note that any ghost pattern in the virtual state flux can charge up physical matter - that is, the atomic nuclei of a mass. All that is necessary is that a continual flux of this virtual pattern continually bathe (irradiate) the mass's atomic nuclei.

The eventual emergence of this "ghost template pattern" into observable physical reality is called kindling. Kindling is charging up one or more atomic nuclei with an integrated virtual charge pattern until the integrated pattern breaches the quantum threshold, resulting in emergence of that pattern into observable physical change.

**A Possible Cure for AIDS**

One of the things going for the "good guys" and EM defense against AIDS is that cells are a lot tougher than viruses. Thus even non-structured EM signals can be used to effect cures in many disease cases.

In fact, ordinary ultraviolet (UV) irradiation of the blood has already been utilized to cure or control severe infections, including severe viral infections. I am indebted to Dr. William C. Douglass for pointing this out to me, and for permission to reproduce the following information from his important newsletter, *The Cutting Edge*, Nov. 1987, p. 3. The following material is quoted verbatim, with no editing.

"It's amazing what you can find by nosing around in the dusty archives of a good medical library. I came across another remarkable therapy that the AMA and drug industry (or whoever is in charge of suppressing non-toxic treatments that work) have shoved down the memory hole."

"Back in 1933, Doctors Hancock and Knott treated a patient dying of septicemia (blood poisoning) with ultraviolet irradiation of the blood.¹ The patient was moribund with a blood stream infection and obviously near death. (Remember that this was before antibiotics and there was nothing to lose.) The patient made a complete and uneventful recovery."

"Searching further, I found that in 1928 a similar terminal infection was treated by ultraviolet light to the blood. This patient also made a complete recovery.²"

"So in 1928, practically in the middle ages, an incurable disease, blood stream infection, was cured with ultraviolet light. With such a breakthrough why wasn't it tried again for 5 years? According to the record, another 6 years passed before it was tried for a third time.³"

"Back in those days infection was the number one cause of death. You can't help but wonder how many lives could have been saved if doctors weren't so resistant to new ideas. Just imagine a cure for AIDS being set aside for 11 years. Yet bacterial infections of the blood were uniformly fatal in 1935, just like AIDS is today."
"Finally, in 1940, 110 cases treated with ultraviolet spectral energy were reported. The results were uniformly good. Between 1940 and 1948 many other conditions were successfully treated, including vein inflammation (phlebitis), polio and asthma. Up to the late 40's over 40 thousand treatments were given with ultraviolet blood irradiation."

"And now for the most interesting part. In 1947, Dr. G. P. Miley reported on 79 cases of virus infection. Miley stated that ultraviolet blood irradiation therapy could be relied upon consistently to control an infection of a virus in a safe and efficient manner."

"AIDS is a virus. AIDS-II is a virus (the HTLV-IV leukemia and lymphoma now sweeping the world). Remember that these killer viruses are within the cell and any chemical agent that enters the cell to kill the virus will often kill the cell as well. But ultraviolet irradiation kills the virus without harming the cell."

"A fine piece of crystal can be shattered by exposing it to just the right frequency. You can be standing in the room and the energy from that frequency won't harm you in the least. Viruses have the same characteristics, and so, in my opinion, frequency irradiation of the blood in the ultraviolet range is our greatest hope for curing AIDS."

"But the treatment is simple, safe, inexpensive and unpatentable. That doesn't bode well for its future, at least until a few senators get AIDS."

---


---

**The Mirror Cytopathogenic Effect and Factors Influencing It**

The cellular disease induction effect was called the mirror cytopathogenic effect (CPE for short) by the Kaznacheyev group. Mirror CPE appeared only when the quartz or mica window was no thicker than 0.8 mm. A. F. Kirkin also duplicated the experiments using a thin plexiglas window.

There are conditions which enhance the effect, and others which inhibit or degrade it. Irradiation of the detector-culture with a low dose of UV prior to its optical contact enhances the effect, increasing it to certainty (99-100%). Increasing the temperature to 38.5 degrees centigrade also enhances the effect (from 37% to 90% for example).*

---

*This is very important. Preconditioning the cells by "dithering" them in the frequency band of interest, or in a subharmonic band, "livens" the cells for developing the irradiated pattern. This is similar to a dither voltage placed on a missile fin, making it much easier and quicker for the fin to move when an actual order is placed on it.
A necessary condition for the success of the experiment is the rotation of the holder with its two optically-coupled samples at a rate of about 24-25 revolutions per hour. Optical contact between the inductor and detector cells for a minimum of 4-6 hours is necessary, after which the cell cultures can be separated. A longer contact time is necessary for complete development of the irreversible effect.

Both cultures must be maintained in complete darkness throughout the experiment. Use of the detector as a new inductor in a successive state reduces the effect by 20-30%. Three or four such stages is sufficient to eliminate the effect.

There is a seasonal variation in the results. In more than 15,000 experiments, monthly variations and daily variations were noted. (The present author's interpretation of this is that it is due to the monthly variations in the virtual photon substructure input from the moon to the substructure of the cell's bio-potential. The daily variation is due to the daily variations in the virtual photon substructure input from the sun to the substructure of the cell's bio-potential.) Negative results appear more often in winter. (The present author's interpretation of this is that it is due to the fact that the scalar potentials of the earth and the biopotentials of each living cell on earth are lowered in winter by the weaker flux from the sun.)

Effects are correlated with the polarity of the interplanetary magnetic field. Negative polarity of the field usually precedes the appearance of mirror CPE. (This is because of the positive nuclei - which prefer one direction of the magnetic field over another). Disturbance of the geomagnetic field several days before a culture planting also results in enhancing the mirror CPE effect. (Disturbing the geomagnetic field provides a "dithering magnetic disturbance" in the atomic nuclei which "livens" them. Consequently their readiness to charge-up and emit structured virtual state charges is increased).

Kaznacheyev further discovered that the Sun's activity and the Earth's magnetic field greatly affected the results of his experiments. Large flashes on the sun seem to inhibit the effect. (Such flashes cause substantially increased irradiation of the atomic nuclei by sun-emitted substructures, charging them mostly with this disordered substructure pattern and literally "burying" the disease structure several decibels below it.) In a season of active sunspots, the mirror CPE effect becomes highly unstable. (The sun emissions are sporadically jamming the effect.) Under active sun conditions, the effect varies from 90-100% on some days to complete absence on others.

**Some Biological Warfare Implications**

The Soviets reported detecting near-ultraviolet photons - bio- luminescence - as carriers of the death/disease pattern.

However, scientists at the University of Marburg in West Germany also duplicated the effect in the infrared. This shows that bioluminescent photons in the near UV and in the IR can definitely carry "disease and death" information between cells. Further, integrating a continuing input of such photons coherently integrates the disease or death pattern from the virtual state into the observable state.

Note also that portions of the infrared spectrum are a subharmonic of the near ultraviolet. Harmonics are well-known in nonlinear oscillator theory, and biological systems are filled with nonlinear oscillators. It may be that harmonics and subharmonics are directly involved in the death pattern.

If so, the induction of such "death patterns" upon normal electromagnetic carriers is directly indicated. For example, modulations covering several octaves in the region of 10 gigahertz and
above might be constructed that are the analogues of some particular cellular disease. This modulation pattern could then be added to a common microwave carrier - say in the communication band, from 3 to 30 megahertz. Say, that is, to something like the giant Soviet Woodpecker "over-the-horizon radar" signals as carriers.

In that case, a large population could be bombarded, even on the other side of the earth, with "death photons" whose virtual state substructures carry the particular disease pattern. With sufficient time, many of the targeted persons would develop the disease.

Note that, even if the power and/or irradiation time is reduced so that the absorbed "death photons" are insufficient to actually kindle the disease in the targeted population, a heightened change in the substructure of the biopotentials of the cells of the targeted persons is still accomplished.

In that case, a precursor pattern - a predisposition for that disease - exists in the targeted persons.

If the actual disease agent is now loosed on that population, the agent will be far more infectious and lethal than it otherwise would.

In this way, even diseases which normally do not kill or seriously debilitate the infected person can suddenly become very lethal agents indeed.

Influenza, the common cold, etc. can become devastating killers if the exposed population has been electromagnetically "pre-conditioned" for enhanced susceptibility.

What Kaznacheyev Hid: The Role of Phase Conjugation

If cellular disease can be electromagnetically induced, can it not be electromagnetically corrected or healed?

If one could time-reverse the exact signal structure (the information) that kindled the effect, and bombard the diseased cells with that reversed pattern, would not the cell deviate back to "normal" and be healed?

The burning question as to whether cellular disease conditions can be corrected by time-reversed disease signals must certainly have occurred to the Soviet experimenters.

It is highly significant that they did not openly publish those results.*

As we have explained in the sections on phase conjugation and scalar electromagnetics, there are really two major kinds of photons:

---

* Recent information indicates the strong connection of Kaznacheyev with the Institute of Physiology and Biophysics and the Frank Institute in Pushkino, just outside Moscow. Since these institutes are deeply involved in microwave and coherent microwave "directed energy" weapons, it is highly probable that the Soviets are applying Kaznacheyev's "death photons" to microwave weapons -- such as the Woodpecker transmitters. If so, obviously they would develop phase conjugate countermeasure signals as well.

(1) the "normal" photon carries positive energy and positive time. (2) the "time reversed" or phase conjugate photon carries negative energy and negative time.

Further, the Soviets certainly knew all about phase conjugate signals. After all, they discovered and developed the effect. We discovered it only from the open Soviet scientific literature!
Let us assume that the "death photons" in the mitogenetic radiation emitted by the dying cells are ordinary photons. Their virtual state structures (in positive observer time) are exact "templates" for the disease pattern.

Now suppose we detect the "death photons" with a phase conjugator, which by definition will produce a time-reversed counterpart to the input signal detected. In other words, the death photons are allowed to strike a phase conjugate mirror (PCM). Time-reversed counterpart photons - carrying the exact time-reversed template of the death pattern - will be created and emitted by the PCM.

These newly emitted photons now carry the exact "healing pattern" for that specific "death/disease pattern that was received and detected."

Further, if we "pump" the phase conjugate mirror, we can greatly amplify the output pattern, and hence greatly increase the healing pattern!

If one records the pattern of the "death photons" for a specific disease, one could of course modulate that pattern upon ordinary photons/signals - such as the Woodpecker signals - and accomplish disease induction or precursor conditioning.

By phase conjugating the pattern of the "death photons," one can produce an exact antidote. One can modulate this specific healing pattern upon ordinary photons/signals - such as the Woodpecker signals - and accomplish healing induction for that specific disease.

In other words, one can create the healing pattern - the antidote, if you will, for any biological warfare agent. Cancer, leukemia, AIDS, viral diseases, bacterial diseases, whatever. One can create the antidote within minutes after the first symptoms of the disease or death pattern appear.

One can then simply add the negating (healing) signal to power line signals, television and radio signals, special transmitters, etc. - and immediately start to "administer the antidote" to the irradiated population one wishes to protect. Now one can see why the Soviets are so ready to expose the entire world to something like AIDS. It doesn't represent a real problem to them, the instant they decide to negate it.

So they can devastate the rest of the world, with the assurance that their population is safe. They can allow some of their own people to develop AIDS - and even some to die of it - as a deception plan to delude the West while Western populations are succumbing en masse.

Then they can snatch their own population right back to health, from "the brink of the grave," so to speak.

Our government must immediately develop the same capability. It is straightforward. As weapons and counterweapons go, it is enormously cheap. It can be immediately and widely implemented. And it can protect our population against AIDS or any other biological warfare strike by the Soviet Union.

We can save our people from the AIDS knockout already un-leashed upon us by the Soviet Union.

First let us do that. Then let us negotiate.

Remember this: You can negotiate with the Russians only from a position of strength. If you are weak, they will bury you.

If we do not immediately develop this biological warfare counter-measure, we are already as good as dead.
Popp's Master Cellular Communication System

Dr. Fritz Albert Popp has already discovered and pointed out the "virtual state" master communication system that controls all cells in the body, and all their functions.

Based on a thesis derived to best fit experimental results by Ruth and others, Popp postulates that biological systems generally have the capacity to store coherent photons that come from the external world.

In other words, the biosystem is open to environmental communication and exchange.

He has shown that the cell population is in a quasistationary state that is far away from thermodynamic equilibrium, as pointed out by Ilya Prigogine.

Popp also concludes from his analysis that ultraweak photon emission within biological systems can influence chemical reactivity. In fact, his analysis strongly implies that "ultraweak" photon intensity can regulate the whole cell metabolism and related phenomena.

The cell takes up photons from external radiation. This includes both "observable" photons and "virtual" photons. Since it stores virtual photons, it stores charge, or biopotential changes. Since its stored virtual photons may be coherent virtual photons, it effectively "polarizes" or structures its stored photon charge, hence its biopotential.

The cell emits "spillage" photons - both coherent and incoherent - from its stored potential.

Although Popp only uses conventional "unstructured" photons in his analysis, he shows that, at the molecular level, there is a stationary equilibrium, as far as photon storage and emission are concerned, between the molecular photon traps, the cell population, and the external world.

It follows that coherent photon/charge inception from the external world can directly and precisely influence the cell's biopotential, hence its functioning and control, by information input.

Incoherent photon inception, on the other hand, can only grossly affect the cell, such as by heating or sporadic effects.

In his "Photon Storage in Biological Systems," Popp points out the master cellular communication and control system as follows:

"The photons which we have measured can be seen as a sort of "waste" from a virtual electromagnetic field with a high coherence. This field has a tendency to become stationary over the whole organism."

After additional analysis, he adds:

"Consequently, biological systems must exhibit 'holographic' properties to an extremely high degree. The successful trials in finding 'pictures' of various organs in each other organ, such as the ear, the hands, the eyes (acupuncture, iris diagnosis) support these conclusions. Our assumption that the entire genetic information of the DNA is stationarily delocalized over the body in form of genons may be seen as a further striking example."

"From this we can easily deduce that pattern recognition, as, for example, repair mechanisms and immunity, depends finally on the coherence of the photon field within the body."

Finally, Popp states a most important conclusion:

"...In medicine new aspects have developed, and not only for cancer problems. Diseases in general can possibly be understood in terms of electromagnetic interactions within the organism."
Scalar EM Comment on Popp’s Communication System

Popp and his colleagues have produced most important work and results indeed. They only need to add the impact of the zero-summed-multiplied electromagnetics (electrogravitation).

As we cover in this book, the biopotential of the cell is rooted in the nuclei of the atoms of the cell's constituent materials. To be sure, every internal physical structure of the cell correspondingly "levels" and structures the biopotential. The overall cellular communication system is actually the exchange of "leakage" photons - both observable and virtual - throughout the overall biopotential of the organism.

Further, going beyond Popp's work, both the biopotential and the leakage photons have extensive, complex internal substructures. Leakage and intercommunication occurs laterally at all levels of the biopotential, and vertically among cells and substructures.

The master cellular control system's primary electrical conductivity path is not through the electron shells of the atoms, but is through the nuclei-to-nuclei scalar EM "biopotential levels" pathway.

With scalar EM methods, organized signals (signals with specific internal nonzero vector EM waves, but which externally sum to zero vector resultant E and H fields) can be constructed for essentially any specific purpose. This includes "killing" a cancer or leukemia cell, destroying a virus, changing the DNA, etc.

This approach can directly reach and manipulate all immune and repair system functions. The entire biochemistry and functioning of the cell - including its genetics - is totally engineerable. The Soviets have long known this, and have long since done it.

Further, a specific "charge pattern" of desired specific immunity (antibodies, etc.) can be designed and used to "charge up" the nuclei of the biosystem. This charge is then maintained by the system to provide permanent immunity. Thus one can develop, for example, an "electromagnetic inoculation" for AIDS, one for cancers and leukemias, etc.

Since the cellular control system is holographic, the "charge pattern" of immunity resides in every cell, including the blood cells.

Injecting a drop of blood from a scalarly immunized animal into another non-immune animal carries the scalar EM immunity pattern into the new animal. That charge diffuses throughout the overall biopotential of the organism, and the charge pattern activates the animal's immune system, including causing it to produce antibodies - according to the EM-transferred antibody template.

Antoine Priore demonstrated this effect numerous times. This was one of the great mysteries that confounded the orthodox members of the French Academy of Sciences.

The French Academy did not know of scalar electromagnetics, the cellular biopotential rooted in atomic nuclei of the cellular material, the cytopathogenic effect of mitogenetic radiation from diseased and dying cells, phase conjugation, and phase conjugated electromagnetic healing.

It is little wonder they did not comprehend the operational healing mechanism of the Bordeaux cancer-curing machine of Antoine Priore!
ЯДЕРНЫЙ СИНТЕЗ
И ТРАНСМУТАЦИЯ ИЗОТОПОВ
В БИОЛОГИЧЕСКИХ СИСТЕМАХ

NUCLEAR FUSION
AND TRANSMUTATION OF ISOTOPES
IN BIOLOGICAL SYSTEMS
William Alfred "Willy" Fowler (August 9, 1911 – March 14, 1995) was an American astrophysicist and winner of the Nobel Prize for Physics in 1983.

Born in Pittsburgh, Pennsylvania, Fowler moved with his family to Lima, Ohio at the age of two. He graduated from the Ohio State University, where he was a member of the Tau Kappa Epsilon fraternity, and went on to receive a Ph.D. in nuclear physics at the California Institute of Technology. His seminal paper Synthesis of the Elements in Stars (Reviews of Modern Physics, vol. 29, Issue 4, pp. 547–650), coauthored with E. Margaret Burbidge, Geoffrey Burbidge, and Fred Hoyle, was published in 1957. The paper explained how the abundances of essentially all but the lightest chemical elements could be explained by the process of nucleosynthesis in stars. It is widely known as B²FH.

Fowler (an Ohio-Pennsylvania) boy visited Youngstown State University for a series of lectures. Here he co-authored a small paper with William Nelson on the Transmutation of the Elements In Biology. In this historic (published at YSU but suppressed) paper they proved the capability of potassium being converted to Calcium via slow neutron capture at body temperature. Thus the ability of vegan lifestyle and breatharians was proven. Biology was changed but this threatened Synthetic Chemistry.
\[
\begin{align*}
n^0 & \rightarrow p^+ + e^- + \bar{\nu}_e \\
^2D + p^+ & \rightarrow ^3He + \gamma \\
^2D + ^2D & \rightarrow ^3He + n^0 \\
^1D + ^1D & \rightarrow ^3T + p^+ \\
^3T + ^2He & \rightarrow ^7Li + \gamma \\
^3He + n^0 & \rightarrow ^3T + p^+ \\
^2He + ^2D & \rightarrow ^4He + p^+ \\
^7Li + p^+ & \rightarrow ^4He + ^4He \\
p^+ + n^0 & \rightarrow ^2D + \gamma \\
^1D + ^2D & \rightarrow ^3He + n^0 \\
^3T + ^2D & \rightarrow ^4He + n^0 \\
^3He + n^0 & \rightarrow ^3T + p^+ \\
^2He + ^4He & \rightarrow ^7Be + \gamma \\
^7Be + n^0 & \rightarrow ^7Li + p^+
\end{align*}
\]

**Base Stellar Transmutation**

**Fowler’s Nobel Prize work on Transmutation of the Elements in a Star**
Nelson Fowler work on the Transmutation of the Elements in Biology
The Neutron has no Charge so it does not repel as it approaches the Nucleus

Thus with precise direction at body temperatures a slow neutron can be absorbed by a Potassium Nucleus and make Calcium

Neutron Decay can also contribute to the Transmutation of the Elements
Argon 40 is inert, so it does not chemically react with other elements. Since Argon is usually a gas, it can escape rocks when they are extremely hot. So all the Argon originally in the rock is thought to have escaped before the rock hardens. The Argon in the rock today, is that which comes from Potassium 40, since the time the rock has cooled down. This setup is exactly what is needed to make the dating process work.

Calcium 40 is the most common form of Calcium, which is usually found in minerals. It would be impossible to distinguish what portion of the Calcium 40 that comes from the decay of Potassium 40 versus the Calcium 40 which is already in the minerals inside the rock. So Ca 40 cannot be used in a dating technique.
Biological atoms like Zinc, Selenium, Copper, Nickel can be transmutated by slow neutron capture, so some type of Biological Transmutation is possible. This can happen at body temperature and with Spiritual Mind control it would be more possible for the body to effect transmutation in a healthy young body.

Iron, Nickel, Cobalt, Copper so transmutation is helpful to regulate Blood development during fasting or times of low food harvesting.
Bibliography

- Chiao, R., Kwait, P. and Steinberg, A. "Faster than light?" Scientific American, August 1993, pages 38-46
- Heroux, O. and Peter, D. "Failure of balance measurements to predict actual retention of magnesium and calcium by rats as determined by direct carcass analysis." Journal of Nutrition, 1975, volume 105, pages 1157-1167
- Komaki, H. "Sur la formation de sels de potassium par differentes familles de microorganismes dans un milieu sans potassium." Revue de Pathologie Comparee, Paris, September 1965
- Komaki, H. "Production de proteines par 29 souches de microorganismes et augmentation du potassium en milieu de culture sodique, sans potassium." Revue de Pathologie Comparee, Paris, April 1967
- Michel, A. "Un savant francais bouleverse la science atomique." Science et Vie, Paris, 1959, pages 81-87


• Robert Sheaffer (September / October 1998), "Uncritical Publicity for Supposed 'Independent UFO Investigation' Demonstrates Media Gullibility", Skeptical Inquirer 22.5, "[The Journal of Scientific Exploration has the intention] to publish supposedly scientific papers on '[list of paranormal and pseudoscientific topics], apparent chemical or biological transmutation (alchemy), etc.' Despite the impressive jargon and in some cases the impressive academic degrees of the authors, these papers have been absolutely unconvincing to mainstream scientific journals and organizations, and, far from pointing the way to further research, they have been quite deliberately ignored."

• Winners of the Ig Nobel Prize, Improbable Research

• Louis Kervran, "Biological evidence of low energy transmutations", Maloine, 1975 (See "Final Note" by Costa de Beauregard)


Niels Bohr
Albert Einstein
Desire' Dubounet
the debate goes on
Some of the Scientists that have worked personally with Bill Nelson

Selye János, who's legendary work on stress is the finest achievement in medicine of all time

Linus Pauling, who won 2 Nobel Prizes and helped Bill with Quantic Biology and Ortomolecular

William Fowler, Nobel Laureate, co-authored an article with Bill on the transmutation of the Elements in Biology

Albert Szent-Györgyi, Nobel Prize for discovering Vitmain C, worked with Bill to develop the Quantum Biology electron transport theory

Jacques Beneveniste
Joseph Scogna
Dr. Frank King DC
Dave Polen DC
Dr. Louis Levarati
John Stewart Bell

Richard Gerber
Julian Kenyon MD
Emanuel Revelli
Richard Feynman
Dr. Isaac, Father of Quantum Biology
Brian Green

John Edward Brough Randles
Dr. Glen Klein worked with Bill at the Heartmath lab and Eilee Landaer on mathematic formulas
Artua Grand Pierre worked with Bill to isolate the Promarkers
Billy Horton
Turako Yui and Desire Dubouret
Masaru Emoto

Edgar Mitchell

These famous scientist, Nobel laureates, quantum physicist, doctors, and researchers among many others are those that worked personally with and helped Bill to shape his theories and develop his life's work.

Dr Mike Rezalkov worked with Bill in Kiev on the human-kura detection and correction
"Because I am Outraged
I have become
Outragous"

Your editor and author
Desire' Dubounet