**Transmutation and Development of the Earth**

**Interview with Dr. Vladimir Krivitsky**

**00:20** “Vladimir, can you tell us when did you start studying cold nuclear fusion and can you dwell a little bit upon the subject?” Well, I must say that historically it turned out that a book by Vladimir Vernadsky, our famous academic and founder of geochemistry, that was published in 1965 and the first chapter of the book was about the geochemical evolution of chemical elements. Vernadsky created a **genetic mineralogy**. In other words, **mineral evolution**.

**01:00** He knew perfectly well that if minerals undergo evolution, then there must be an evolution in chemical elements. And so, at that time Vernadsky stated as an **assumption, that chemical elements are evolving over the course of history of the earth**. That is to say, the decay is present and the process is natural, but we did not observe it with an aided eye back then; meaning that it was still hard to understand and explain it. As a great geochemist, he observed this process both in the history of the earth and in the history of cosmo-chemistry; and so, when I was young it really gripped me and since a very young age I was really interested in nuclear physics: it was all I cared for.

**02:00** So, for some reason deep inside, I felt that this is what I should be doing and so it wasn't a question of choice for me, really. It was a no-brainer. I was certain about what I was going to do. Back then nuclear physics was very popular. In 1961, if you remember, a famous movie came out, called “Nine Days in One Year.” It's about a Soviet nuclear physicist; I must say that this movie must have influenced me quite a bit. I was really fascinated by it, great actors, amazing performances. The romance of that vividly scientific piece of work, written by a nuclear physicist also played a certain role. So, all this put together, laid the groundwork for building my future scientific and geological career. So, I decided that I was going to study mineral deposits search.

**03:00** I was carried away by geochemistry and the genesis of minerals and the very idea of transmutation was hatched and developed in parallel. I should note that some of those large physical discoveries played an important role in the shaping of my belief. For example, in 1979 a whole series of important works in the history of, let me see if I remember right, on a **theory of the quasi-crystalline structure of the atomic nucleus**, was published. In 1980-1982 a series of papers and nuclear molecules were published and in 1984 a fundamental discovery was made both in Russia and in England.

**04:00** A **cluster radioactive decay** of chemical elements was discovered, and those few events that occurred in nuclear physics, have completely convinced me that this process takes place in geochemistry as well as in geology. in our childhood, we were taught that only alpha particles decay. However, physicists at the Kurchatov Institute in Dubna, and in England, showed us exactly the opposite. We learned that **heavy nuclei like trans uranium elements, uranium, thorium, can emit nuclear clusters such as: carbon, nitrogen, oxygen, silicon and magnesium**. And if you look at it from the geochemical perspective, all of them are allied elements that form the crust of the earth.

**05:00** **This provides a whole chain of the origin of rocks**, and so when the decay chain became clear, I began collecting specifically geo-chemical and mineralogical materials or minerals and that allowed to demonstrate that not only a radioactive cluster decay exists, but there's also a dissociation of heavy and super heavy nuclei with mass of up to a hundred Z, or multiple division. So, what is dissociation, or transmutation? It is the decay of nuclei in certain non-rigid conditions when a nucleus is divided into almost equal parts.

**06:00** It is very interesting that a large number of valuable minerals have exactly the same couple of chemical elements, of the so-called isomorphous replacement of a certain element by another element. It turned out that this is not just a replacement process, but that it actually allows for emergence of new atomic nuclei and that it yields an isomorphic mixture. Sometimes those minerals can be found in rocks and minerals themselves. “So, would you say that the whole Mendeleev periodic table emerged as a result of transmutation?” Well, the thing about it is that, not necessarily. It originated from initial **proto-nuclear aggregations,** and **the first nucleus in geochemical terms was, and remains, uranium**.

**07:00** It turned out so that the four uranium mass numbers provide a whole variety of chemical elements that formed the crust of the earth. And if you take a closer look at the ratio of atomic nuclei which are contained in the four atomic masses of uranium and the chemical composition of the ultra-baseite (?) rocks that give rise to the entire geochemical evolution of the earth, those are actually the same in terms of the atomic number and in the ratio percentage. This, in fact, initiates **transformation of heavy, super-heavy and hyper-heavy atomic nuclei which are created as stellar matter and then they evolve, and so that's how that fission process occurs**. Fission can occur according to the masses as one-to-one, one-to-two, one-to-four, and the golden section is one option.

**08:00** I call it Cantor dust. Chemical elements represent a **Cantor set,** which means they undergo a fission into two equal parts. And so, in nature, the simplest symmetry, the division of matter as one into two. More often, isomorphic elements, that can be found in minerals and rocks, are formed by this particular method. For the ore elements, this occurs in a slightly different way. Those are trace elements; for example, the process of nuclear dissociation results in light elements emission, but depending on the geological conditions, **the process of dissociation and cluster decay goes through several stages**.

**09:00** There's a closed loop system resembling a sort of mini nuclear boiler; then the nuclear dissociation process runs until the end, and up to the lightest elements. There are also open systems, like rift systems or a flood basalt, that is when basaltic lavas come pouring out in a natural way. Once geologically launched, whether it be on the moon or on the earth, the system is open. The process is constantly running in the same pattern.

**10:00** When the system is closed, for example for the Earth's crust or the upper mantle, then a substance that is coming from the depth of the earth is, metaphorically speaking pushing right against this lithological roof and so then even more complicated plum upwelling systems occur. Substances are joining in on the fluid level, and those are called lithospheric fumaroles. They enter the surface of the gas state of matter then the so called lithostatic pressure changes which causes the nuclei, proton nuclei split, and again that all depends on conditions. They reach a certain level and depending on how far they go, different minerals emerge. For the most part, those are, just to name a few, those are iron, nickel, cobalt. They belong to one group of metals that undergo a certain process.

**11:00** Those can be rare minerals such as carbonatite. This is a rare, complicated system and it's explosive in nature as it occurs inside the earth and when the process of its nuclear dissociation decay can reach the end, it doesn't have a chance. A large number of rare minerals are produced: uranium, thorium and also deposits of lighter elements. The splitting process divides in two stages. Some are trace elements, others are lighter elements for example **phosphorus, zinc, cerium, strontium** - basically a whole variety of light and rare elements.

**12:00** So, that's one option. And another peculiar thing about this isolated system is, that diamonds are formed and kimberlites. And kimberlite is a rock of the same origin which did not break through the surface of the earth but rather exploded in the uppermost part of the Earth's crust, forming a so-called kimberlite pipe. And the diamonds are formed in the kimberlite pipes; they do not appear as a result of a physiochemical process, but rather due to the nuclear chemical trans -mutational explosion, which follows the **titanium, magnesium, carbon** **pattern**. And so, dissociation of transportation occurs: **1-molybdenum, 2-titanium, 4-magnesium, and 8-carbon, are coming from below and the carbon explodes and that gives rise to a diamond**.

**13:00** If the kimberlite pipe is large, and the process in there goes on and free carbon is released, the diamond begins to grow according to physiochemical laws forming into a fully grown valuable diamond. So, diamonds usually have two generations: a diamond and a diamond so to say. There's always a seed which later gets carbonized. Any crystal always has a primary seed. Kimberlite pipes of this unique way of growing diamonds, within two growth stages. This process can be well observed in science and production industry and in the genesis of diamonds. “Can transmutation occur in live works?”. Yes, there's a lot of scientific proof to that. The first works in transmutation in living organisms belong to the French scientist **Louis Kervran** who devoted his whole life to this subject, and he actually managed to demonstrate a lot of such reactions in living organisms.

**14:00** Like calcium appearance in microorganisms and emergence of silicon in (the) diatoms, where silicon is formed as a result of combustion of carbon and oxygen. Kervran was carrying out experiments on workers in the Sahara and perhaps you know that workers in hot production units drink salt water, and why is that? Well, for the sodium intake of course; and the thing about sodium is that when it enters the body it quickly combines with oxygen, and this process gives rise to the energy that cools the body, producing potassium. So, that was certainly one unique observation.

**15:00** He also studied suntanned stones; the Iron and manganese, they consisted of, were constantly changing, which is also a form of biological transmutation, if you will. Also in microorganisms, boulders and rocks such transmutations occur under the influence of solar radiation. “What experiments have you carried out personally?” I've spent many years experimenting with heavy medical. Some of my first experiments were related to the body’s silica, (which) as a biological transmutation; and as for phosphorus, there is a very interesting story. Once there was a very famous Russian academic Vasilis William.

**16:00** He developed a so-called grass rotation system. The principle was that for three to four years, the land was supposed to be covered completely in clover. Over the course of that period the soil was supposed to get richer, whether phosphorus and nitrogen the main biogenic chemical elements. The idea behind it was that cereals enriched the soil with phosphorus because cereals contain a large amount of silicon. **If we assume that plants fractionate, or in other words, split isotopes of silicon, then one of the isotopes easily turns to phosphorus**.

**17:00** Then when the growing season ends, plants emit phosphorus into the soil, thereby enriching it with this element. A clover is a nitrogen fertilizer; its root system enriches the soil with nitrogen. These were the first experiments carried out to study this reaction. And so, the second experiment was carried out with diatoms I wrote my first work on biological transmutation. Everyone believed and still believes that diatoms build their silica skeleton, using silicon dissolved in the sea water. So, I collected all the data on this topic and it turned out that it was 10^-7 of silicon in seawater.

**18:00** Diatoms live only for a few weeks; they're not physically able to process such amounts of silicon to create a skeleton. OK, you might as well say that there are admixtures of clay fraction, but that’s not possible. The clay fraction can go through the membrane hull, it can be absorbed. So, I started making comparisons. It turned out that during the flowering of diatoms, CO2 as a gas component, disappears from the oceanic upper layer and phosphorus remains. It became clear to me that diatoms absorb CO2; some oxygen goes for nutrition, photosynthesis and other CO2 combustion yields silicon.

**19:00** And so this silicon is used to build the diatom’s skeleton. The experiment was carried out and an article was written. It was back in 1975. Of course, nothing was published but I managed to finish my work, however. And weirdly enough during that period of time a very good article was published by Maria Glazovskaya and a professor soil scientist Barice Palino, also a very popular biochemist. And so, she wrote almost the same work, but only on phosphorus and soils and so then she published it and if I remember correctly, this was one of the first works on transmutation published in the Soviet Union, but of course she took her bit of suffering for that, as you can probably imagine, poor thing.

**20:00** I knew her well actually we used to talk a lot. So, then there was a long period of collecting materials, theoretical generalizations, scientific physical discoveries and in the late 80’s and early 90’s and almost up until 2005, I finally started conducting cold fusion experiments with heavy metals, taking lead and its alloys as a basis. So, by that year many things became very clear to me: structure of nucleus, a method of impact on the substance in order to demonstrate how the orogenesis bronze end occurs, basically.

**21:00** And so I've figured out that chemical elements are not brought from out of nowhere, but rather that there (is) nothing else than a deep substance that has undergone the evolutionary process. **Then an installation was created which remotely resembled the lithospheric shell of the earth**. In particular, the magnetic field into which the amount of those elements was poured, which underwent an **impulse action with an amperage of 7 to10 kilo Amps and with a frequency of 450 kHz and 1000 Volts**.

**22:00 The results were absolutely amazing, they were stunning**. Three very important discoveries were made. First of all, **we managed to synthesize natural minerals**. Can you imagine that! We managed to get cuprostibite. It's a rather rare mineral; It was discovered in Greenland and then it was discovered in the southern part of the Ural. It's Cu-Sb-Pb, plus admixtures. When we conducted analysis of our mouths (?) and studied the structure, it turned out to be cuprostibite, by the composition of isomorphic admixtures and the crystal structure.

**23:00** We sent all the elements we obtained for isotopic analysis. It turned out that there were no isotopic processes, but instead, a redistribution took place, while the isotopic ratio the atom possessed remained unchanged. Secondly the whole active element was targeted by **sensing devices to detect neutrons, alpha particles, gamma rays to see if the nuclear processes occurred, and it turned out there was none**. There was practically no release of neutrons and this indicates that a **cluster reaction** took place. Clusters of oxygens, carbon, nitrogen, silicon and magnesium were emitting, and it turned out that, and nuclear physicist know this perfectly well, tearing one nucleon from a cluster, takes a huge amount of energy.

**24:00** And so it was much easier to tear it apart and pull a cluster out, when there are only 50 to 20 keV in this process, which it's much lower. So, this was also a very important discovery, and we weren't the only ones who came up with it. It was later confirmed in other laboratories that the cluster decay and cluster transformation of nuclear dissociation produced less energy, which means they occur at low energy levels.

**25:00** And so the third thing that these experiments showed was that, **when carrying out ionization by impulse**, **the ionization of the atomic nucleus takes place. A part of the electronic shell is blown off for a moment and when it leaves the nucleus, the nucleus begins to divide more actively**. It was later confirmed that by using many heavy elements, for example **rhenium**, when the electronic shell was blown off by a discharge, **half-life of rhenium was reduced by 10^-6**. It was confirmed that the atomic nucleus and the electron shower are very tightly energetically connected. There is a huge difference in numbers, and somehow nobody seemed to have paid attention to it before.

**26:00** It was believed that it can be observed separately, but there was no way of doing that. So, it turned out that this can be applied for biological systems. And so, the first person who ever drew attention to this was **Kapustinskii**. He published very interesting research in 1958, **showing that the chemical nature of the substance ends within the earth that's deeper than 700 kilometers**. So, a chemical element and its nucleus should be observed as a single system, since there are no distinct mechanical properties. These properties occur only when the lithostatic pressure changes.

**27:00** Then the chemical element acquires independence as an atom, so its nucleus, its electronic shell, its chemical compound, so all of that was shown in those experiments. So later on, when the series of experiments were finished, I started looking for those experimental paths that were closer to nature. That is impact methods through plasma. **A low energy plasma is exactly what leads to a non-equilibrium state of a chemical substance in which stable processes and reactions of nuclear dissociations can be expected**.

**28:00** And so another important conclusion that we made, and that is the one I described in my book, is that on the basis of numerous geochemical studies performed by Alexander Firsman, who created a geochemical stars....? So, groups of chemical elements are always interconnected. On the basis of these experiments and calculations, we managed to **show that the Mendeleyev periodic table should not be considered from hydrogen to uranium, but the other way around**.

**29:00** The process of cluster decay of nuclear dissociation and above all geochemical data, clearly yielded thousands of analyses that show that the interacting elements are genetically connected through certain groups of elements. It exists as a search sign in geochemistry and geology, it's clear that if we have a certain type of deposit then there are certain types of chemical elements, and this genetic type yields a subsequent strictly defined type of elements. And that's why we have a geochemical basis; the ultra-baseite (?) one. Let’s say medium rocks of carbonatites, kimberlites up to granitoids, granites and so all of that is very strictly interconnected.

**30:00 “**Is it difficult to speak and publish the results of your work when most scientists deny transmutation as a phenomenon?” Well, you see I wrote all of my transmutation researches for scientific journals, and that is because I was not allowed to publish in peer-reviewed journals. They sort of have their own way. However, this can be published in the hypothesis / discussion section, and since 1999 a number of works on the subject appeared. Many physicists who studied the nucleus are familiar with it. I know quite a lot of nuclear physicists at Kurchatov Institute and at Dubna, who perfectly understand these processes and don't complain about it, because they have realized the common approaches to these processes.

**31:00** So, those publications who have managed to compile, were academic. They were aimed at showing the process of this phenomenon as the one occurring naturally. There’s one peculiarity that's coming from many sciences. At some point, everyone reaches some sort of researchers block. It's the point when all the existing hypotheses are exhausted and new ones haven't been established. These days all physical/chemical patterns in the process of orogenesis use no longer work. It's the right time to look for a new approach you see that we must come to the point finally start to assume that a **chemical element is not a solid brick, but rather a process**.

**32:00** The process which begins in stellar matter, emerges from stellar matter, all the way to the Earth's crust. A chemical element evolves under geotectonic conditions it finds itself in. And so, it's crucial to comprehend the idea that a **chemical element is not a brick, but a process, and that it can be transformed**. Since 1700 we've been taught an automatism, that an atom is inseparable. There always was someone who tried to prove this idea wrong. Alchemists were more correct in that regard; they had another task, but they weren't denying such outcomes. But then they decided to let it go somehow. So, it was a different time back then.

**33:00** We have to mention some of our scientists, such as Kurchatov who managed to send an expedition to Kamchatka to find out where the volcano energy comes from. Kurchatov conducted all the experiments himself, but those experiments didn't progress any further.

There are scientists who try to take it to the next level. Nowadays there is a group at Kurchatov Institute who study these phenomena rather successfully and also similar processes have been studied at the P.N. Lebedev Physical Institute. Their main focus happens to be the transmutation phenomenon. Their approach is slightly different; you may say it's purely physical, but they have already achieved some obvious results. So, one small step at a time. We should have patience and one day it'll be a huge step for mankind.

**34:00** “But why when somebody brings up cold nuclear fusion, some scientists and physicists deny that as a phenomenon, mentioning the **Coulomb barrier**.” Oh yes, I know that one. The Coulomb barrier is all about the impossibility to bring two ‘nuclear cores’ together, and the point is that our nuclear physicists, and all the other physicists, still live and operate under the Newtonian principle: strength against strength, whereas the Coulomb barrier is easy to overcome using a so-called resonance isomorphic phenomenon: resonance synchronization. A friend of mine, nuclear physicist Franco Guerello, developed a remarkably important approach.

**35:00** Because a good friend of mine developed and showed the way, better yet he developed a synchronization system for nuclear physics. And so according to Huygens’ principle, we can hang pendulums to a fixed base and then start swinging them in opposite directions, making them keep on swinging. But if we take a rope, instead of the fixed base, and we repeat that exercise, then after a while, all pendulums will start swinging in the same direction. And that's the principle of synchronization. The first one who drew attention to this principle was the famous German physicist Schrodinger and he described the experience for elementary particles and Inugareev for atomic nuclei.

**36:00** When he realized that my experiments were correct, his synchronization worked perfectly well. So, the point is that when synchronization of process occurs, there is no need to overcome the Coulomb barrier, because Coulomb ‘permeation’ occurs: a nuclear cluster gets through the barrier. They can go too far, so a nuclear molecule forms and so it comes to be another element. **There are two different elements:** **a parent element and a child element. And this is the basis for cluster decay and nuclear association.** And many people are familiar with the barrier, maybe they've taken classes and they know about the energy needed. There’s a rather complicated phenomenon.

**37:00** When the first nuclear explosions took place, the energy released from those explosions made people go crazy, and brought the minds of many scientists into a sort of haze. They started believing that we can overcome the barrier only by taking that trade, when the fact of the matter is that the nature is wiser, smarter and that it can adapt. Take biological transmutations for example. For three billion years, the first living organisms on our planet have been evolving in order to be able to create their own habitat, and the habitat is all about mobile biogenic elements, used as a whole. And so, **living organisms have mastered this mechanism**. The evolution process started running at a faster pace and so my point is that no possible combination of elements ever existed. It wasn't enough to evolve, and a special environment should be created in order to initiate the evolution process.

**38:00** “Do you think that transmutation can be somehow used in the modern world?” Well, frankly in the modern world there's still much more to be done regarding this issue. First of all, we have to accept the very existence of the biological transmutation and help any living organism, be it human or animal, just like in the primitive grass rotation system I mentioned earlier. I mean we should introduce into the diet those components that lead to certain transmutations and **we must help the organisms to avoid a shortage of any elements**.

**39:00** We must understand that there were many lifeless areas on Earth. And so, that's why living organisms were forced to develop the ability to transmute, in order to utilize the empty zones. So basically, that's one way. Technologically, of course, there's so much more to be done. First of all, it's the ecology, energy resources; and if we learn how to tame certain isotopes from several components and chemical elements by selecting combinations through plasma and laser impact, results can be applied in electronics, superpower magnets etc.

**40:00** We have a lot of work ahead of us frankly. **Suppose that lead is the initial element**. **It's perfect to work with. It's non-radioactive, it's easy to impact, it has a low melting point, it interacts with many chemical elements. And these interactions can be used to obtain certain combinations for platinum metals, osmium, iridium or even obtain rare elements such as hafnium or zirconium**. I'm talking about the kind of elements that are in high demand from a technological perspective.

**41:00** The problem is that those are very rare, and transmutation can serve as the profound source of such elements, because you don't need to break through tons of rocks to extract them, you see? Our approach is a lot cheaper and obviously, it's a lot more effective. Basically, it's the future; modern technology already allows us to apply this method. We must concentrate on one major thing: we must learn how to implement this technology more efficiently, to be able to obtain a certain chemical element, or more importantly, a certain isotope.

**42:00** For example in medicine, some isotopes are of great importance. Certain isotopes delivery is crucial to affect cancer cells. Some isotopes can be used to heal wounds, or to cure other illnesses related to a shortage of a particular isotope. Molybdenum or other isotopes, active metals or organic enzymes. So, the basis for the energy hub is the metal, and so that's where all isotopes which are scarce in nature, are applied. We can learn how to obtain those isotopes and deliver them to the cancer cell, thanks to the transmutation process, because after all there's an industrial silicon transmutation.

**43:00** It is filled with neutrons which remove all the impurities. Yes, it's a mechanical treatment, but it's still a transformation and nowadays we can easily apply that technology available to us and start implementing such projects in order to obtain specific chemical elements and isotopes through the process of transmutation. First of all, we'll need reliable analytics, high quality equipment for separation purposes, modern equipment is also crucial for the processing of the mouths obtained. So, basically this kind of equipment already exists and you just need to be competent enough to be able to use it.

**44:00** For that matter we need specialists who are willing to learn what has already been established. If you know the parameters of the process, you can always choose frequencies, energy, because these processes take place within a certain setting and it is known to be a specific density of the substance in the reactor. There's a lot of work to be done and people who are willing to finance these projects, they should be patient because obviously, it's going to take quite a bit of time.

**45:00** So, there's not much money in it, it's a lot more like a charity and well, it's science after all. It's unpredictable. It’s kind of fun process, but it takes a strong will and patience and dedication. “And how long do you think the scientific elite will keep on claiming that transmutation is impossible? When can we clearly see the evidence that everything has already been proven and shown?” You know I've been doing this for the past 50 years. Before, I used to think that everyone in 20 years’ time will listen and understand. 15 years have passed and there's nothing. I should say that in geology people have already begun to listen, but there are certain conditions however. The difficulty of the genre, so to speak, is that you must be able to understand where it all comes from.

**46**:00 And the reason why they don't accept that, is because there's an acute differentiation of sciences, physical sciences in particular. And then there's this physical snobbery; physicists like to pretend that they know and understand everything. The Natural Sciences are much richer; they give more food for thought, but they only know one thing: that is how to look straight. This mindset doesn't let them to look at things from a different perspective. (Once) there were naturalists, knowledgeable people in several scientific disciplines and everything moved forward. As soon as differentiation (specialization) occurred, and I know it from Dubna: high-energy physicists and elementary particle physicists don't understand each other.

**47:00** As we say in Russia “push comes to shove”, you know when trouble will come knocking at the door in technological terms, (let's say) only then they'll start searching for those rare chemical elements, because right now there's no necessity for it.