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V.V. Litvyak *

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Possible Explanation of Metabolism Process

V.S. Litvyak* and V.V. Litvyak

All-Russian Research Institute of Starch Products – Branch of the Federal Food Systems Center named after V.M.Gorbatov RAS, Nekrasov Str., 11, Kraskovo, Luberetskiy District, Moscow Region, 140051, Russian Federation.

***Corresponding Author:** V.V. Litvyak, All-Russian Research Institute of Starch Products – Branch of the Federal Food Systems Center named after V.M.Gorbatov RAS, Nekrasov Str., 11, Kraskovo, Luberetskiy District, Moscow Region, 140051, Russian Federation.

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Abstract

Until now, there is no hypothesis explaining metabolic processes. At present, only timid assumptions have been put forward about the possibility of the existence of biotransmutation in microorganisms. We have proposed a hypothesis explaining metabolic processes in a living organism. The main stages of the organization of energy flows of matter (action or effort) and antimatter (counteraction or anti-effort) are shown step by step on the basis of their interaction: the forces of complementary and related attraction. Demonstrated the formation of particle-nucleons (looped energy sweats) → electrons → electromagnetic waves → hydrogen proton → development of the hydrogen atom. The periodic table of chemical elements is considered as the gradual development of the hydrogen atom. According to the hypothesis put forward, any «living» body (subcellular organelles, cell, tissue, organ, organ systems, organism: bacteria, plants, fungi, animals, humans) is a set of proteins-enzymes, hormones and other biologically active substances (water, fats, carbohydrates, vitamins, etc.), is intended for the maximum possible acceleration of atomic (or corpuscular) synthesis (conflict-free ordering of previously separated energy flows of action and reaction) as a result of metabolic processes. The whole variety of chemical reactions (compounds, decomposition, substitution, ion exchange, redox, etc.) can be considered as a means for the classification (separation) of different types of electrons and protons, as well as for their delivery to the place of transmutation (active center of the protein -enzyme or hormone) along pathways built from biologically active substances (water, vitamins, fats, etc.). Any failures in the transmutation process immediately manifest themselves in the form of various pathological conditions (diseases). Consideration of «living» organisms as objects carrying out transmutation of chemical elements will make it possible to understand fundamentally new biochemistry, metabolic processes, therapeutic approaches to the treatment of various diseases, dietology, nutritional science, food quality and safety, etc.

Key words: metabolism; corpuscular synthesis; transmutation of chemical elements; enzymes; hormones; electron; electromagnetic waves; proton; atom

Introduction

Understand and explain the metabolic process in living and inanimate nature, radioactive decay, etc. one can only assume that the atom is a dynamically changing structure, i.e. there is a process of transmutation of chemical elements.

The possibility of biotransmutation of chemical elements in «living» organisms is shown in the works of K.L. Kervran, V.I. Vysotsky, A.A. Kornilova, V.M. Kurashova, T.V. Sakhno and others [1–25]. So, confirmation of the possibility of transmutation of chemical elements in biological objects is the development of Russian scientists V.M. Kurashov and T.V. Sakhno [24, 25].

Most modern researchers reflecting on the problem of biotransmutation of chemical elements, for example V.I. Vysotsky, try to take as a basis the tunnel effect described by G.A. Gamow. It is assumed that the anomalously high probability of nuclear reactions at low energy in biological objects arises as a result of a large number of mutually phased coherently correlated states of the tunnel effect capable of interfering with each other, which very often arise in biological objects. In this case, coherent correlated states are states when not only are they coherent with each other, i.e. phased, but they are phased in a certain optimal way. Then the addition of all these fluctuations leads to the formation of giant fluctuations.

To explain the process of transmutation of chemical elements, the hypothesis proposed by V.S. Litvyak may be interesting. [26, 27]. So, according to this hypothesis [26, 27].

- ✓ in accordance with the spatial (scalar) characteristic, there are eight different elementary particles-nucleons (initially open, and subsequently looped energy flows): 1 – red, 2 – orange, 3 – yellow, 4 – white, 5 – green, 6 – blue, 7 – blue, 8 – purple;

- ✓ in accordance with the time (vector) characteristic, all manifested energy flows (particles-nucleons) are divided into action or effort or matter: +/→ and counteraction or anti-effort or antimatter: –/←;
- ✓ particle-nucleons have:
  - complementarity (striving for greater self-restraint (slowing down) or «complete self-destruction» (annihilation), matter-(actions-efforts) seeks to interact with antimatter-(counteraction-anti-effort), i.e. effort is complementary to anti-effort; while self-restraint leads to manifestation in our world (reality), and «self-destruction» leads to a departure from our world (reality) into a world (reality) lower in energy) and
  - kinship (the desire to leave our world to another higher energy level of development by obtaining additional acceleration (energy), i.e. the desire to accelerate over 8 units);
- ✓ In each material object there are seven particle-nucleons, and one of the nucleon particles is absent (there is a void in its place).

Particles-nucleons in accordance with the principle of complementarity (attraction to their opposite in scalar and vector) and affinity (attraction to their analogue in scalar and vector) are combined into 16 different types of electrons in accordance with the location of the void (8 types) and in accordance with the difference in the amount of action and the amount of opposition (8 types). Two identical electrons in spatial (scalar) characteristics (i.e., with the same location of the void) and temporal (vector) characteristics (i.e., with the same amount of action and reaction) according to the principle of complementarity and affinity are combined, and then divided along (horizontally) into two equal parts and across (vertically) into two unequal parts, forming two unequal subunits (the masculine principle is a large subunit and the feminine principle is a smaller subunit). Complementary particles interact with each other according to 3 rules:

- ✓ Rule №1: «Only complementary particles are connected; only half-particles (half a particle) take part in the connection. One part of the particle (its half) «works», the other (its half) «rests»; the connection is carried out by means of power slings».
- ✓ Rule №2: «The far sections of one semi-particle are connected to the distant sections of the other, and the near sections are connected to the near ones».
- ✓ Rule №3: «When connecting half-particles, all power lines are rotated 180º, as a result of which a focus is formed; connection through focus is possible when connecting: in the cross, with the cross and through the cross».

As a result of the interaction of particles, 16 types are formed, depending on the location of the void, as well as the amount of action and reaction, special structures of electromagnetic waves designed to separate action (effort or matter) from reaction (anti-force or antimatter), consisting of two subunits (subunits of the feminine and subunits of the masculine). The subunit of the feminine principle (forming the structure of the «diamond-shaped body» capable of separating action from reaction at a strictly fixed angle of 90º) takes on the reaction and splitting it forms the reaction force – space (length and width) and the anti-force of the reaction – static time (present), which is modular power quantity without dedicated direction. The subunit of the masculine principle (forming the structure of a «spiral or broken (not closed) circle» capable of separating action from reaction at any angle depending on the applied force) takes on the action and splitting it forms an action force – movement around an axis (electric force) and anti-force actions are past time. The jointly interacting male and female subunits of the electromagnetic wave form the dimension of space, height (action) and future time (reaction), as well as the function of compensating asymmetry – forward movement (magnetic force). The formation of an electromagnetic wave structure leads to the transformation of the existing emptiness into an asymmetry of masculine and feminine principles and its compensation (i.e., the formation of symmetry) through the creation of movement, space and static time (force value).

Features of the formation of a corpuscle are shown in Table 1 and Figure 1. Formation of a corpuscle begins with the unification of the same type of 1836 electrons (or the same type of 918 electromagnetic waves), the voids of which are located in the place of the same missing particle into a proton, which is a sphere with a missing sector. The electromagnetic wave decays into two identical electrons in the form of open circles, which, according to the principle of complementarity, fall on the proton and cover the void that the proton has (a filling void). After covering the filling void of the proton with the electron falling on it, a new void is formed and the outer layer is aligned as a result of dropping off a part of the matter-antimatter of the outer layer, since the particles of the electron are unequal. The alignment of the fallen electron leads to the fact that it becomes a proton, and the proton is transformed into a neutron (its emptiness forms a neutron-generating system, passing into a neutron unsaturation). The unsaturation of the neutron is compensated by gravity. We have proposed a dynamic model of the atom, in which, depending on the stage of synthesis, elementary particles (electron, proton and neutron) pass into each other, and the currently known chemical elements are cross sections of the development of one hydrogen atom. Atomic neutrons can be considered as maximally ordered (alternating oppositely directed looped) energy flows, i.e. energy shells. As a result of multiple syntheses (the fall of an electron onto a proton with the subsequent discharge of a part of the matter), a process of reduction (thinning) of matter and emptiness (i.e., the outer layer of the proton) occurs. The synthesis process can theoretically be carried out for an infinitely long time, but in practice it occurs as long as the external observer is still able to distinguish the difference between matter-antimatter and the emptiness of a proton (the outer layer of an atom), i.e. until the alignment of matter-antimatter with emptiness occurs.

There is a huge variety of possible options for the synthesis of a hydrogen atom (stable: classical and non-classical, not stable: spontaneous, bi-, tri- and n-directional, counter-directional, etc.). In addition, there are malignant anomalies of atomic synthesis caused by the repetition of the void located in the place of the 1st or 8th or 4th or 5th nucleon, as well as benign anomalies caused by the repetition of the void located in the place of the 2nd or 3rd nucleon. Or the 6th or 7th nucleon.

The time of the corpuscle is oscillatory (pendulum-like), has a preferential direction, which coincides with the sequence of its synthesis.

The emptiness has the maximum possible level of structural organization, which will create conditions for the separation of action (effort or matter) and reaction (anti-effort or antimatter) in which they do not lose their essence (i.e. remain action and reaction in relation to each other). With corpuscular (atomic) synthesis of emptiness, there are 2 types of emptiness.

- Emptiness of the outer or surface (proton) layer of the corpuscle: filling and forming voids – form the symmetry of the corpuscle sphere;
- Emptiness of the inner or deep (neutron) layers of the corpuscle: primordial (mother) emptiness – forms the symmetry of the corpuscle ball.

Continuation of table 1\E

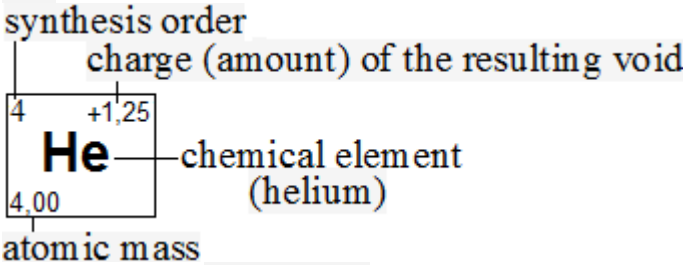
1	2	3	4	5	6	7	8	9	10
Ga → Ge	11→↓		68 +1,0147 X38	69 +1,0145 X39	70 +1,0143 Ga 69,72	71 +1,0141 X40	72 +1,0139 X41	73 +1,0137 Ge 72,61	74 +1,0135 X42
As ← Br	12↓←	81 +1,0123 X46	80 +1,0125 Br 79,90	79 +1,0127 Se 78,96	78 +1,0128 X45	77 +1,0130 X44	76 +1,0132 X43	75 +1,0133 As 74,92	
Kr → Sr	13→↓		82 +1,0122 X47	83 +1,0120 X48	84 +1,0119 Kr 83,80	85 +1,0118 X49	86 +1,0116 Rb 85,47	87 +1,0115 X50	88 +1,0114 Sr 87,62
Y ← Nb	14↓←	95 +1,01053 X54	94 +1,01064 X53	93 +1,01075 Nb 92,91	92 +1,01087 X52	91 +1,01099 Zr 91,22	90 +1,0111 X51	89 +1,0112 Y 88,91	
Mo → Ru	15→↓		96 +1,01042 Mo 95,94	97 +1,011031 X55	98 +1,01020 Tc 97,91	99 +1,01010 X56	100 +1,01000 X57	101 +1,00990 Ru 101,07	102 +1,00980 X58
Rh ← Ag	16↓←	109 +1,00917 X62	108 +1,00926 Ag 107,87	107 +1,00935 X61	106 +1,00943 Pd 106,42	105 +1,00952 X60	104 +1,00962 X59	103 +1,00971 Rh 102,91	
Cd → Mc	17→↓		110 +1,00909 X63	111 +1,00901 X64	112 +1,00893 Cd 112,41	113 +1,00885 Nh 113,00	114 +1,00877 X65	115 +1,00870 In-Mc 114,82-115,00	116 +1,00862 X66
Ts ← Sb	18↓←	123 +1,00813 X69	122 +1,00820 Sb 121,71	121 +1,00826 X68	120 +1,00833 X67	119 +1,00840 Sn 118,71	118 +1,00847 Og 118,00	117 +1,00855 Ts 117,00	
I → Te	19→↓		124 +1,00806 X70	125 +1,00800 X71	126 +1,00794 X72	127 +1,00787 I 126,90	128 +1,00781 Te 127,60	129 +1,00775 X73	130 +1,00769 X74
Xe ← Ba	20↓←	137 +1,00730 Ba 137,33	136 +1,00735 X78	135 +1,00741 X77	134 +1,00746 X76	133 +1,00752 Cs 132,91	132 +1,00758 X75	131 +1,00763 Xe 131,29	
La → Nd	21→↓		138 +1,00725 X79	139 +1,00719 La 138,91	140 +1,00714 Ce 140,12	141 +1,00709 Pr 140,91	142 +1,00704 X80	143 +1,00699 X81	144 +1,00694 Nd 144,24
Pm ← Sm	22↓←	151 +1,00662 X86	150 +1,00667 Sm 150,36	149 +1,00671 X85	148 +1,00676 X84	147 +1,00680 X83	146 +1,00685 X82	145 +1,00690 Pm 144,91	
Eu → Gd	23→↓		152 +1,00658 Eu 151,97	153 +1,00654 X87	154 +1,00649 X88	155 +1,00645 X89	156 +1,00641 X90	157 +1,00637 Gd 157,25	158 +1,00633 X91
Tb ← Ho	24↓←	165 +1,00606 Ho 164,93	164 +1,00610 X95	163 +1,00613 Dy 162,50	162 +1,00617 X94	161 +1,00621 X93	160 +1,00625 X92	159 +1,00629 Tb 158,93	
Er → Tm	25→↓		166 +1,00602 X96	167 +1,00599 Er 167,26	168 +1,00595 X97	169 +1,00592 Tm 168,93	170 +1,00588 X98	171 +1,00585 X99	172 +1,00581 X100
Yb ← Hf	26↓←	179 +1,00559 X104	178 +1,00562 Hf 178,49	177 +1,00565 X103	176 +1,00568 X102	175 +1,00571 Lu 174,97	174 +1,00575 X101	173 +1,00578 Yb 173,04	
Ta → Re	27→↓		180 +1,00556 X105	181 +1,00552 Ta 180,95	182 +1,00549 X106 +1,00549	183 +1,00546 X107	184 +1,00543 W 183,85	185 +1,00541 X108	186 +1,00538 Re 186,21
Os ← Ir	28↓←	193 +1,00518 X113	192 +1,00521 Ir 192,22	191 +1,00524 X112	190 +1,00526 Os 190,20	189 +1,00529 X111	188 +1,00532 X110	187 +1,00535 X109	

Table 1: *Genesis of the hydrogen atom*

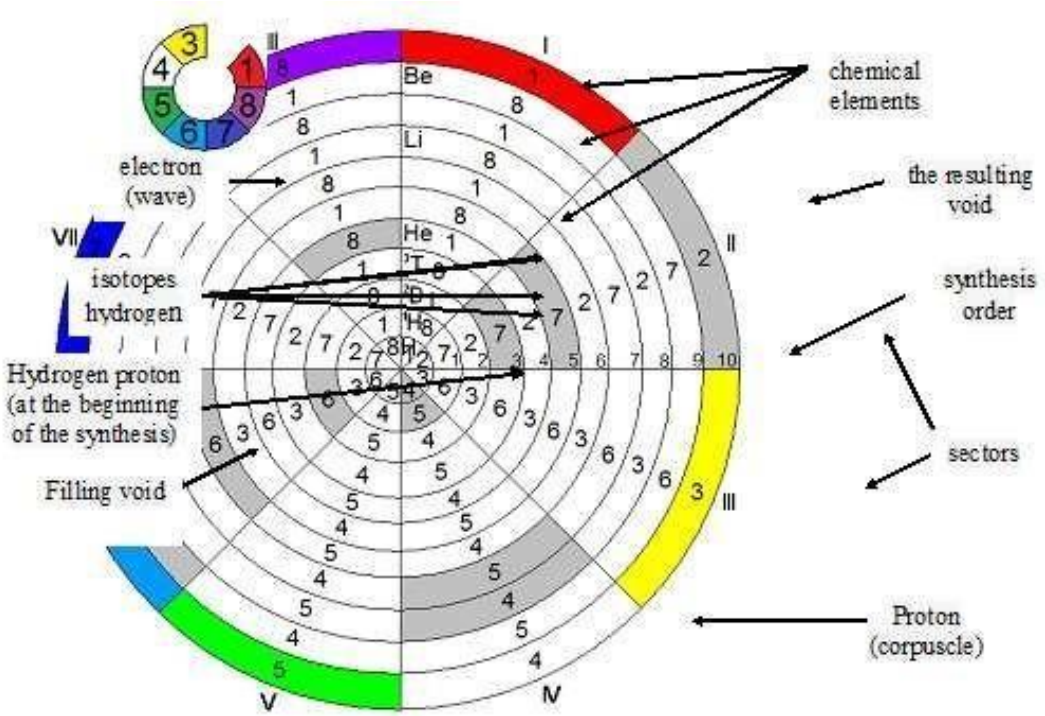
End of table 1.

1	2	3	4	5	6	7	8	9	10
Pt → Au	29→↓		194 +1,00515 **X114**	195 +1,00513 **Pt** 195,08	196 +1,00510 **X115**	197 +1,00508 **Au** 196,97	198 +1,00505 **X116**	199 +1,00503 **X117**	200 +1,00500 **X118**
Hg ← Pb	30↓←	207+1,004831 **Pb** 207,20	206+1,004854 **X122**	205+1,004878 **X121**	204+1,004902 **Tl** 204,38	203+1,004926 **X120**	202+1,004950 **X119**	201+1,004975 **Hg** 200,59	
Bi → At	31→↓		208+1,004808 **X123**	209+1,004785 **Bi-Po** 208,98-208,982	210+1,004762 **At** 210,00	211+1,004739 **X124**	212+1,004717 **X125**	213+1,004695 **X126**	214+1,004673 **X127**
X128 ← X134	32↓←	221+1,004525 **X134**	220+1,004545 **X133**	219+1,004566 **X132**	218+1,004587 **X131**	217+1,004608 **X130**	216+1,004630 **X129**	215+1,004651 **X128**	
Rn → Ac	33→↓		222+1,004505 **Rn** 222,02	223+1,004484 **Fr** 223,02	224+1,004464 **X135**	225+1,004444 **X136**	226+1,004425 **Ra** 226,03	227+1,004405 **Ac** 227,03	228+1,004386 **X137**
Pa ← Th	34↓←	235+1,004255 **X142**	234+1,004274 **X141**	233+1,004292 **X140**	232+1,004310 **Th** 232,04	231+1,004329 **Pa** 231,04	230+1,004348 **X139**	229+1,004367 **X138**	
Np → U	35→↓		236+1,004237 **X143**	237+1,004219 **Np** 237,05	238+1,004202 **U** 238,03	239+1,004184 **X144**	240+1,004167 **X145**	241+1,004149 **X146**	242+1,004143 **X147**
Am ← Cm	36↓←	249+1,004016 **X151**	248+1,004032 **X150**	247+1,004049 **Cm-Bk** 247,07-247,07	246+1,004065 **X149**	245+1,004082 **X148**	244+1,004098 **Pu** 244,06	243+1,004115 **Am** 243,06	
Cf → Es	37→↓		250+1,004000 **X152**	251+1,003984 **Cf** 251,08	252+1,003968 **Es** 252,08	253+1,003953 **X153**	254+1,003937 **X154**	255+1,003922 **X155**	256+1,003906 **X154**
Fm ← (Ns)	38↓←	263+1,003802 **X157**	262+1,003817 **(Ns)** 262,11	261+1,003831 **(Ku)** 261,11	260+1,003846 **(Lr)** 260,11	259+1,003861 **(No)** 259,10	258+1,003876 **Md** 258,10	257+1,003891 **Fm** 257,10	
X158 → Xn	39→↓		264+1,003788 **X158**	→	→	→	→	n **Xn**	↓
[∞=0]	**0.0** ←↑(±)↓→	EMPTINESS (physical vacuum or ether, or «causal ocean») $b \to X_{x} = \pm xc \to X_{x-1}$: [±1*b*=±1*c*, ±2*b*=±2*c*, ±3*b*=±3*c*, ±4*b*=±4*c*, ±5*b*=±5*c*, ±6*b*=±6*c*, ±7*b*=±7*c*, ±8*b*=±8*c*]; [±8*b*=±1*c*]							
±xc [x=1−8]	**0.9** →(+)	+1*c*	+2*c*	+3*c*	+4*c*	+5*c*	+6*c*	+7*c*	+8*c*
	0.10 (−)←	−1*c*	−2*c*	−3*c*	−4*c*	−5*c*	−6*c*	−7*c*	−8*c*

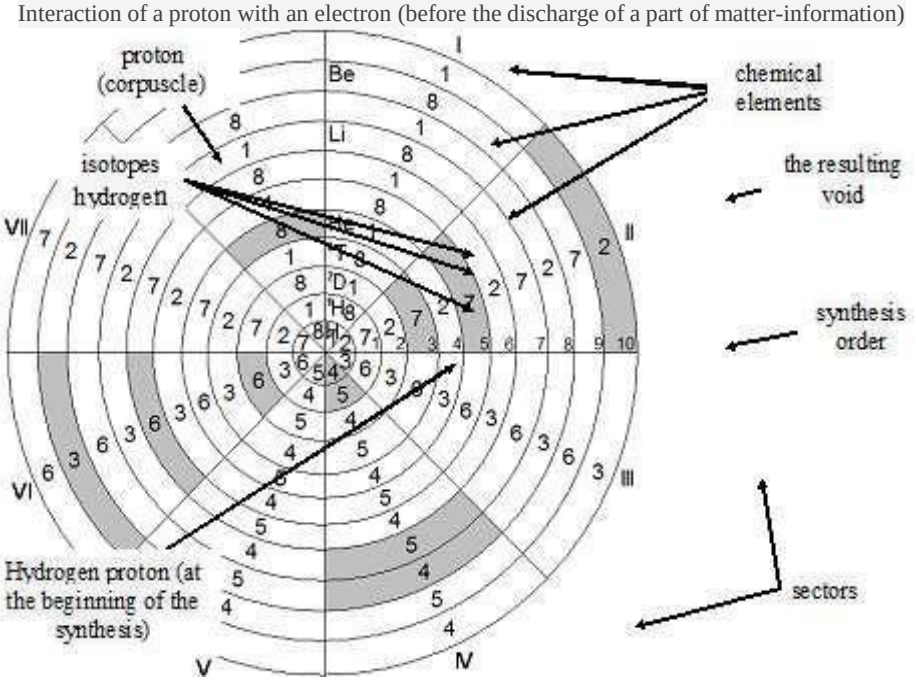
Note:



1, **2**, **3**, **4**, **5**, **6**, **7**, **8** – particle-nucleons;
xч.***b*** – even particle-nucleons (**2*b***, **4*b***, **6*b***, **8*b***);
(+) – Action or effort, or matter: →;
(–) – Counteraction or anti-force or antimatter: ←;
e – Electron;
2e – electromagnetic wave;
p – Proton;



Interaction of a proton with an electron (before the discharge of a part of matter-information)



Proton (after dumping some of the matter-information)

Figure 1:– Genesis of hydrogen (1–10 synthesis: formation of 0H, 1H, 2D, 3T, He, Li and Be)

a – first (lower) energy level;
b – Second (considered) energy level;
c – Third (higher) energy level;
^{0}H–(Ns) – known (discovered) chemical elements of the energy level ***b***;
X_1–X_n – unknown (undiscovered) chemical elements of the energy level ***b***;
n – Synthesis serial number;
X_{n-1} – unknown (undiscovered) chemical elements of energy level ***a***;
X_{n+1} – unknown (undiscovered) chemical elements of energy level ***c***.

Only the void built up in the process of the first synthesis (the void of the outer or surface (proton) layer of the corpuscle) is filled, and the primordial (maternal) void remains intact and is a kind of the only possible «ideal plan» for the organization (location) of the action (effort or matter) and counteraction (anti-force or antimatter).

Manifested objects of matter-antimatter, in the form of corpuscles, possessing neutron unsaturation (gravity), and also due to the presence of a void (black hole) are able to concentrate (group) into stars, galaxies, universes, etc. for the largest possible elimination of the existing void in the primordial matter-antimatter. Each newly formed manifested object of matter-antimatter has corpuscular-wave properties.

An exploded star (a corpuscle transformed into a void) gives up all the manifested particles (atoms and electromagnetic waves) it has to the nearby exploded stars. In their place, voids (black holes) of certain characteristics are also formed. The presence of a void (black hole) of a certain characteristic in the center of an exploded star makes it possible to obtain new manifested particles (i.e., makes gas and radiation contract and form a spherical shape), and also determines the further internal structuring necessary for the start of atomic fusion. The number of stars that have entered into the exchange of manifested particles, based on the number of primary particles-nucleons, should be eight. Exploded stars emit manifested particles not for themselves, but for others, and in return receive from others not their own, but alien from other exploded stars manifested particles. At the center of the entire system is the central star, and around it there are seven other stars. A total of eight stars participate in the system, one of them is central. If we consider the system more broadly, then each of the stars of the environment will also occupy a central position, because their number can be, if not infinite, then close in a sphere. In total, eight stars participate in the formation of a star, which emit eight streams of material particles, however, only seven streams of manifested particles enter the central star, which subsequently undergo internal structuring, form a new star and create conditions for the start of atomic synthesis. During the initial internal structural transformation of the star, the required number of hydrogen protons is formed from the part of the electromagnetic waves at its disposal. The process of hydrogen proton formation in the center of the star is stimulated by a high concentration of the required type of electromagnetic waves and close distances between it (causing complementary-related interactions of particles of electromagnetic waves), as well as the presence of a void (black hole) in the center of the star. The characteristic of a void (black hole) determines the type of hydrogen protons produced, i.e. all the hydrogen protons that are formed will have a void in the same place. All forming stars can be classified into eight types according to the primordial void (black hole) or the type of hydrogen protons formed and subsequently involved in atomic fusion. In the further development of the star, it is completely determined by its mass (the number of collected manifested particles). To provide atomic fusion with energy, the stars translate the electrons of the corpuscular world into the electrons of the wave world (electromagnetic waves) and vice versa.

The formation of molecules occurs in the initial stages of the explosion of a star. Immediately after the explosion of a star, atomic fusion begins to rapidly decay due to the lack of electromagnetic waves and a sharp increase in the distances between the manifested objects of matter-antimatter. To compensate for the lack of electromagnetic waves, chemical elements, using their gravity, begin to compete with each other for the necessary types of electromagnetic waves. As a result of this competition, two or more chemical elements simultaneously capture the necessary (complementary) types of electromagnetic waves, socializing them among themselves. Trapped electromagnetic waves interact complementary with the outer voids of protons of competing chemical elements, i.e. the simultaneous fall of protons of competing chemical elements on the voids is observed, which is felt in creating the illusion of the continuation of atomic fusion. The formed molecules, getting into the stellar (solar) system, begin to be exposed to the void in the star (sun). As a result of the influence of the emptiness of the star (sun) at the periphery of the stellar (solar) system, molecules begin to concentrate (group) into gaseous (the ratio of the distances between particles is 1:10), liquid (the ratio of distances between particles is 1:1:1) and solid (the ratio of distances between particles 1:1) state of aggregation.

Corpuscles are able to interact with each other in order to advance their synthesis as much as possible. For this, various rearrangements are carried out, exchanges of socialized electromagnetic waves, etc. chemical interconversions are carried out. Currently, all chemical reactions are classified as follows [28]:

1. According to the phase composition of the reacting system:

- homogeneous homophase reactions – the reaction mixture is homogeneous, and the reagents and products belong to the same phase; heterogeneous heterophase reactions – the reagents are in a different phase state, the reaction products can also be in any phase state, and the reaction process takes place at the interface;
- heterogeneous homophase reactions – proceed within the same phase, but the reaction mixture is heterogeneous;
- Homogeneous heterophase reactions – reagents and reaction products exist within one phase, but the reaction proceeds at the interface.

2. According to the thermal effect of the reaction:

- exothermic reactions – go with the release of heat into the environment;
- Endothermic reactions – go with the absorption of heat from the environment.

3. by the type of transformations of reacting particles:

- chemical reactions of the compound: A + B = AB;
- chemical decomposition reactions: AB = A + B;
- chemical substitution reactions: A + BC = AC + B;
- Chemical reactions of ion exchange: $[A + B^{-}] + [C + D^{-}] = [A + D^{-}] + [C + B^{-}]$.

4. by changing the oxidation states of the reagents:

- redox reactions, in which the atoms of one element are reduced, i.e. lower their oxidation state, and the atoms of another element are oxidized, i.e. increase their oxidation state (a special case of redox reactions are disproportionation reactions, in which the oxidizing and reducing agents are atoms of the same element in different oxidation states).

Chemical processes are designed to classify electrons and protons by the amount of action-reaction, the order of synthesis (the total amount of neutron unsaturation, i.e. gravity) and the location of the void (missing nucleon).

Star systems and galaxies (star clusters) have a structure similar to a corpuscle (atom). All their manifested moving objects of matter-antimatter can be considered as action or as reaction. The trajectories (orbits) of their movement cause, on the one hand, the formation of a corpuscle (atom), and on the other hand, at different positions (points) of the trajectory (orbit) of movement, the structure of an electromagnetic wave is formed. The solar (stellar) system in which we are located is a corpuscle with a primordial (mother) void in place of the 4th absent nucleon (nucleon of white color).

The development of the atom and the universe are similar: atom = universe. In the development of the atom-universe, two main interrelated and interdependent processes can be distinguished:

- ✓ matter → emptiness → matter → emptiness → ∞;
- ✓ ∞ Energy = emptiness → fragmentation or limitation: (heat (open energy) → particles-nucleons (closed energy)) → electromagnetic wave (proton or electron) → atom (genesis of hydrogen) → emptiness = ∞ energy.

The universe in which we are located is a corpuscle with a primordial (maternal) void in place of the 5th missing nucleon (green nucleon).

Such a complex evolutionary development of matter-emptiness is necessary, apparently, for self-knowledge (comparing oneself with oneself). By self-knowledge, we can understand self-awareness (being), i.e. everything is done to create being.

Comparative analysis established that any «living» organism by its original nature has a wave-corpuscular structure. All «living» beings develop in accordance with two evolutionary principles:

- ✓ try, under certain environmental factors, as a result of the concentration and grouping of corpuscles, to create the most favorable gravitational forms of eliminating the unsaturation of the protons of the atom and to obtain temporary rest (i.e. the feeling of absolute filling (saturation)), which causes the formation of material bodies of «living» beings and completely depends on the available environmental conditions;
- ✓ to try, with a certain type of material body, to carry out fast and accurate rearrangements of material parts of the body into the structure of an electromagnetic wave, which will make it possible to effectively split inseparable pairs of action-reaction (to obtain kinetic energy from internal potential energy).

For the enzymatic action (the formation of new substances) energy is needed. This energy appears as a result of the formation by the protein body of the enzyme of a structure similar to the structure of an electromagnetic wave, as a result of which there is a separation of action and reaction, i.e. transformation of internal (potential) energy into kinetic (temporarily stable asymmetry is created). In this case, various enzymes can form different copies of the structure of the electromagnetic wave and transform the internal (potential) energy into kinetic energy in different ways. So, during the formation of different copies of the structures of an electromagnetic wave, the following can be formed:

-Excessive amount of kinetic energy – exothermic reactions,

-The required amount of kinetic energy – reactions without thermal effects,

-Insufficient amount of kinetic energy – endothermic reactions (missing kinetic energy is extracted from nearby objects, which are also capable of forming structures similar to the structure of an electromagnetic wave).

In «inanimate» and «living» objects, various chemical elements act as active particles to form the structure of an electromagnetic wave (Table 2). The backbone of the structure of an electromagnetic wave in «living» nature is primarily polymers (nucleic acids (RNA and DNA) and proteins). Biopolymers are built from the following chemical elements:

Macronutrients (up to 0,001)	**Micronutrients (from 0,001 to 0,000001)**	**Ultramicronutrients (less 0,000001)**
H, C, N, O, Na, Mg, P, S, K, Ca, Fe	B, F, Al, V, Cr, Mn, Ni, Co, Cu, Zn, Ge, Br, Mo, Ru, I	He, Li, Be, Ne, Si, Ar, Sc, Ga, As, Se, Sr, Kr, Rb, Zr, Nb, Ru, Ag, Cd, In, Sb, Te, Xe, Cs, Ta, W, Re, Os, Pt, Au, Hg, Tl, Pb, Bi, Rn, Ra, Th, U и т.д.

Table 2: *The content of chemical elements in the cells of «living» organisms, %.*

1. Hydrogen (^{0}H) – 0 synthesis (→) with the absent 4th nucleon.

2. Protium (^{1}H) – 1 synthesis (→) with the missing 5th nucleon.

3. Deuterium (^{2}D) – 2 synthesis (→) with the missing 6th nucleon.

4. Tritium (^{3}T) – 3 synthesis (→) with the absent 7th nucleon.

5. Carbon (C) – 12 synthesis (→) with the missing 2nd nucleon.

6. Nitrogen (N) – 14 synthesis (→) with the absent 4th nucleon.

7. Oxygen (O) – 16 synthesis (→) with the missing 6th nucleon.

8. Phosphorus (P) – 31 synthesis (→) with the absent 7th nucleon.

Active particles are also trace elements that are part of protein enzymes, hormones and nucleic acids (Table 3).

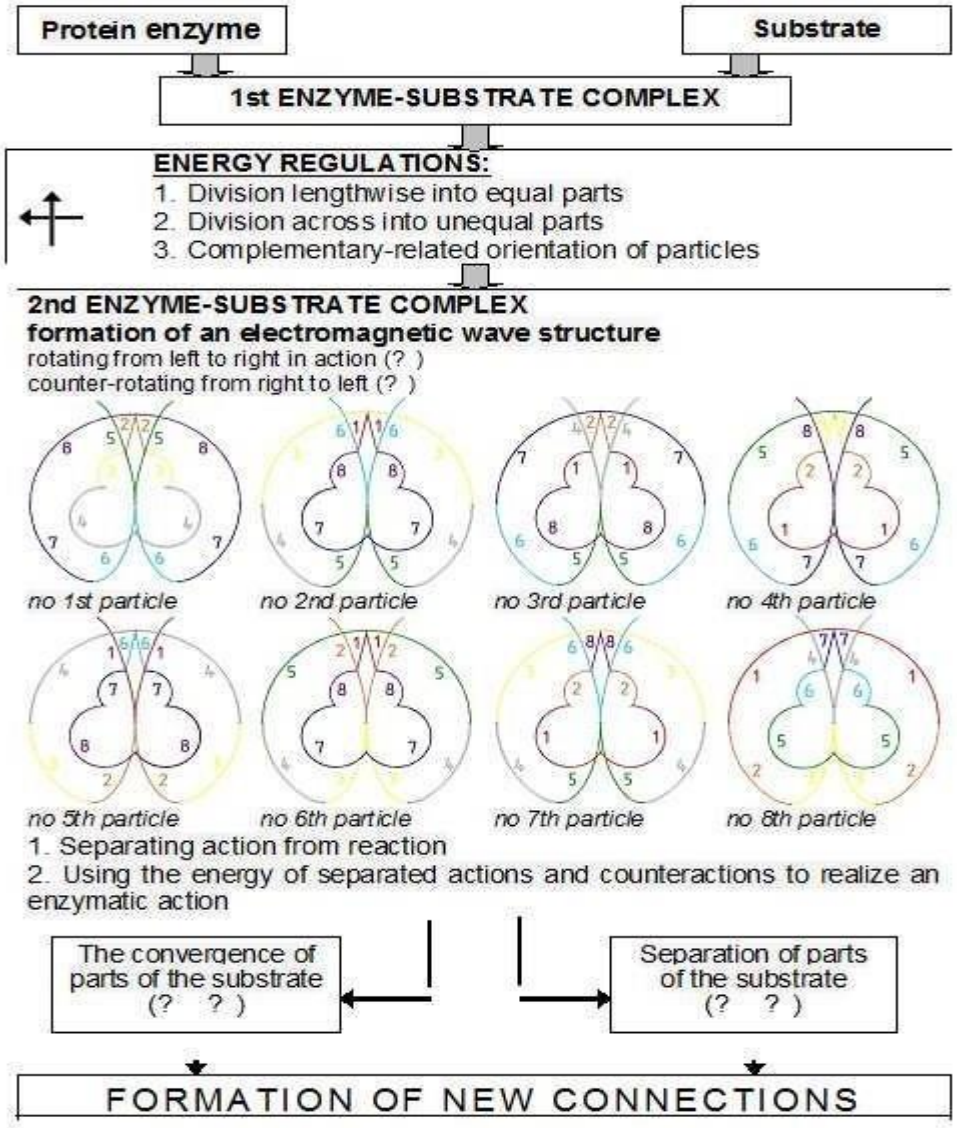
Electromagnetic wave structures that form in «living» organisms from proteins-enzymes, nucleic acids (RNA, DNA), hormones, etc. use the free energy of separated actions and counteractions, first of all, for the process of transmutation of chemical elements (ie, for the advancement of corpuscular synthesis), and the secondary aspect is the formation of new substances (Fig. 2). For example, the Implementation of the enzymatic action of an enzyme protein can be carried out as follows.

Metal name	**Metal characteristic**	**Coenzyme of an enzyme that includes a metal**
Magnesium – Mg	24 synthesis (←) with missing 2nd nucleon	Coenzyme: hexokinase, glucose-6-phosphatase
Potassium – K	39 synthesis (←) with missing 1st nucleon	Coenzyme pyruvate kinase (also needs Mg^{2+} ions)
Calcium – Ca	40 synthesis (→) with missing 2nd nucleon	Amylase coenzyme
Vanadium – V	51 syntheses (←) with missing 3rd nucleon	Coenzyme nitrate reductase
Manganese – Mn	55 synthesis (→) with missing 3rd nucleon	Coenzyme: arginase, superoxide dismutase and other enzymes
Iron – Fe	56 synthesis (→) with missing 4th nucleon	Coenzyme: cytochrome oxidase, catalase, peroxidase, myoglobin, hemoglobin
Nickel – Ni	59 synthesis (→) with missing 7th nucleon	Coenzyme: urease, superoxide dismutase
Cobalt – Co	59 synthesis (→) with missing 7th nucleon	Coenzyme methylmalonyl-CoA mutase

Copper – Cu	64 synthesis (←) with missing 4th nucleon	Coenzyme: cytochrome oxidase, lacase, superoxide dismutase, plastocyanin
Zinc – Zn	65 synthesis (←) with missing 3rd nucleon	Coenzyme: DNA polymerase, carbonic anhydrase, alcohol dehydrogenase, superoxide dismutase
Selenium – Se	79 synthesis (←) with missing 3rd nucleon	Coenzyme of glutathione peroxidase and other enzymes
Molybdenum – Mo	96 synthesis (→) with missing 2nd nucleon	Xanthine oxidase coenzyme

Table 3: *Basic metals contained in enzyme coenzymes*

1. First, the complementary connection of seven active particles is carried out. In this case, the active particles are chemical elements (macroelements and microelements). For the primary connection of seven complementary particles, the protein-enzyme specifically (complementary) combines with the substrate.
2. After the primary union of the protein-enzyme with the substrate, an electromagnetic wave structure is formed from the combined protein-enzyme-substrate complex.
3. As a result of the creation of an electromagnetic wave structure from a protein-enzyme-substrate complex, the following processes occur:
   - action is separated from reaction and there is an excess of free energy;
   - atomic synthesis (transmutation of chemical elements) is carried out, i.e. one chemical element is transformed into another as a result of the transfer of complementary electrons from one chemical element to another chemical element;



1, **2**, **3**, **4**, **5**, **6**, **7**, **8** – particle-nucleons

Figure 2: *Features of the implementation of the enzymatic action*

- The energy obtained during the separation of action and reaction is used to bring together or separate parts of one substrate or different substrates with each other, as a result of which new products are formed.

4. Further, the destruction of the formed structure of the electromagnetic wave occurs as a result of the separation of the protein-enzyme and the substrate.
5. At the final stage, after the separation of the protein-enzyme and substrate, their regeneration is carried out by means of metabolic processes. The transmuted chemical elements are removed from the active center of the protein-enzyme and replaced with new ones coming from outside.

Features of the process of transmutation of chemical elements with the help of some protein-enzymes of alcoholic fermentation are shown in Figure 3–5.

In the implementation of the hormonal action, there are no significant differences from the implementation of the enzymatic action. In other words, hormonal activity is realized in a similar way to enzymatic activity.

In each «living» cell, a structure similar to an electromagnetic wave is formed from chromosomes during division, which contributes to the implementation of mitosis and meiosis.

It should also be noted that in «living» organisms there are many biologically active substances, the main purpose of which is, first of all, linear or cyclic transportation through the chemical communication system to the place of transmutation (the active center of the protein-enzyme or hormone or certain areas of nucleic acids) different types of electrons and different types of protons involved in transmutation. These biologically active substances include, mainly, vitamins (water- and fat-soluble), fatty acids (saturated and unsaturated). Such biologically active substances have a special structure that allows them to carry out the transportation function. The structure of these substances can be either a long molecule or contain one or more cycles in its composition. In the structures of transport biologically active substances, a wide variety of functional groups is observed, which can have either the same or different partial electric charges. In addition, the chemical bond can be either single or alternating single and double with conjugation. The structural structure of water-soluble vitamins allows them to transport various types of electrons and various types of protons to the sites of transmutation after their preliminary classification in various chemical reactions.

The most important and main evidence of the process of biotransmutation of chemical elements is, first of all, the exchange of substances (metabolism) – a set of chemical reactions that occur in a living organism to support life (Fig. 6). The series of chemical reactions of metabolism are called metabolic pathways. These processes allow organisms to grow and multiply, maintain their structures, and respond to environmental influences. Metabolism is usually divided into 2 stages:

1. Catabalism is the process of degradation of complex organic substances to simple ones with the release of energy.
2. Anabalism is the process of synthesizing complex substances from simpler substances with the absorption of energy.

The metabolic process is based on the constant maintenance of homeostasis (the required level of macro- and micronutrientss). During the functioning of a «living» organism, it is necessary to maintain constant correct implementation of the transmutation process, i.e. introduce some substances (which will participate in transmutation), and remove others (which have already participated in transmutation), maintaining the balance of chemical elements (corpuscles at different levels of development of the hydrogen atom) at the required constant level.

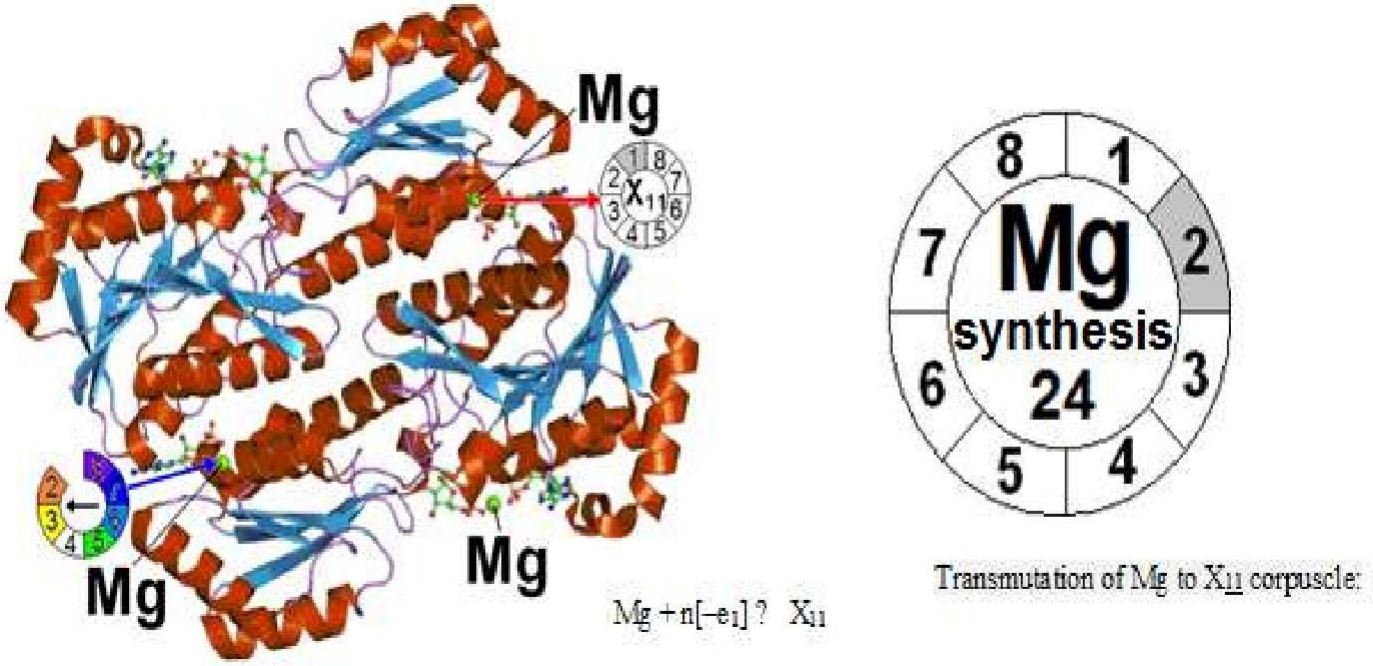


Figure 1: *Phosphofructokinase*

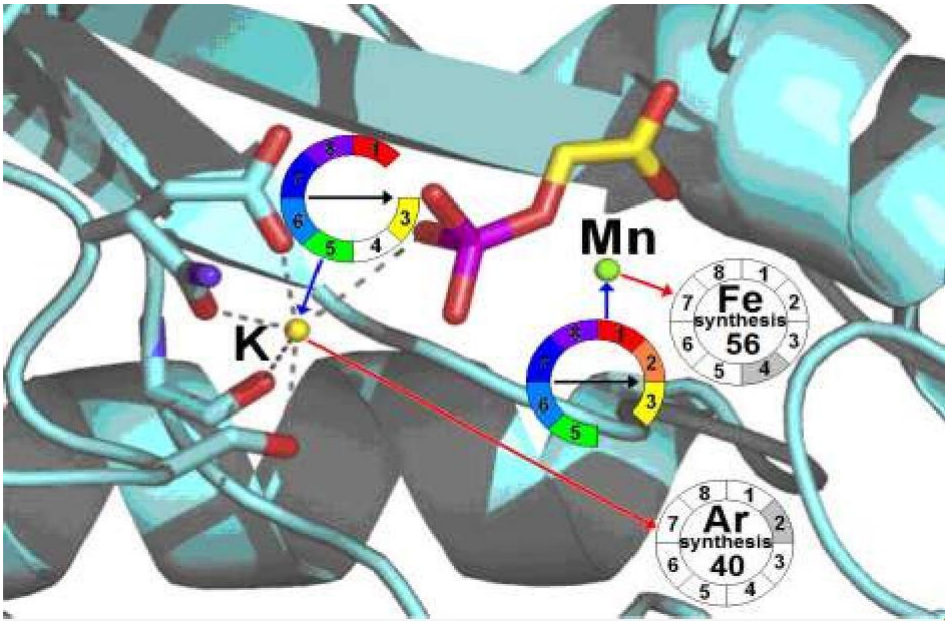


Figure 2: *Phosphofructokinase*

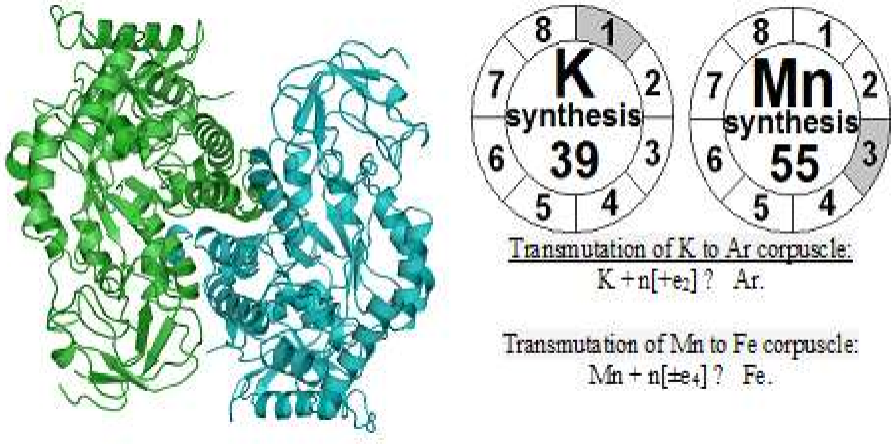
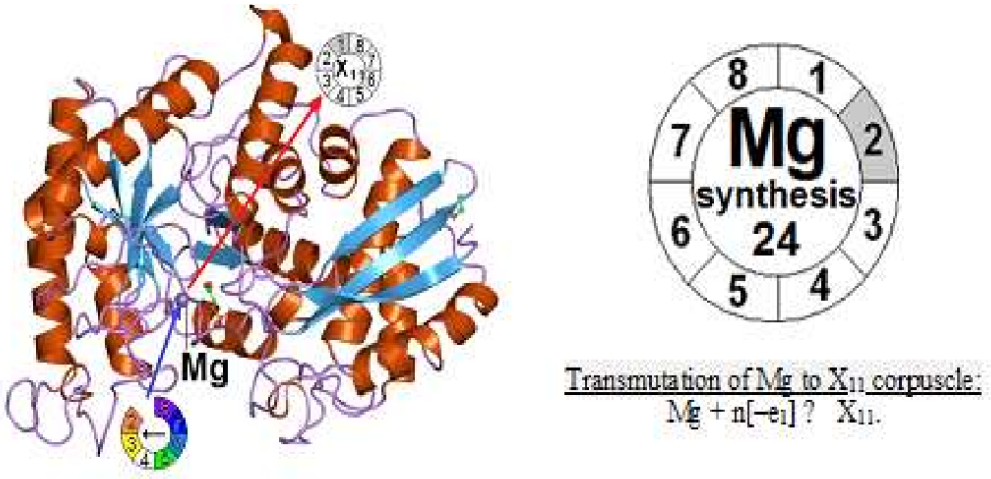
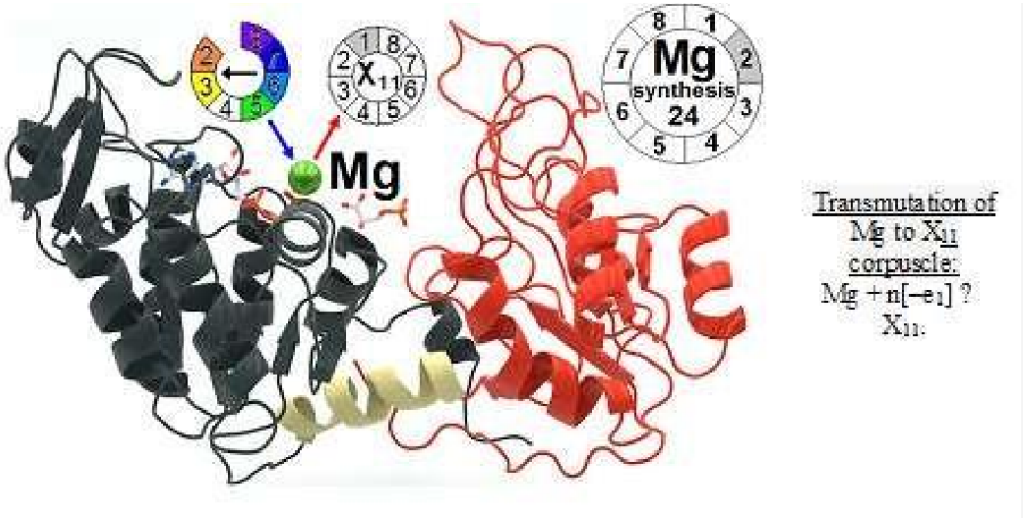


Figure 3: *The process of transmutation of chemical elements in the active centers of some protein-enzymes of alcoholic fermentation*



Enolase



Phosphoglycerate kinase

Figure 4: *The process of transmutation of chemical elements in the active centers of some protein-enzymes of alcoholic fermentation*

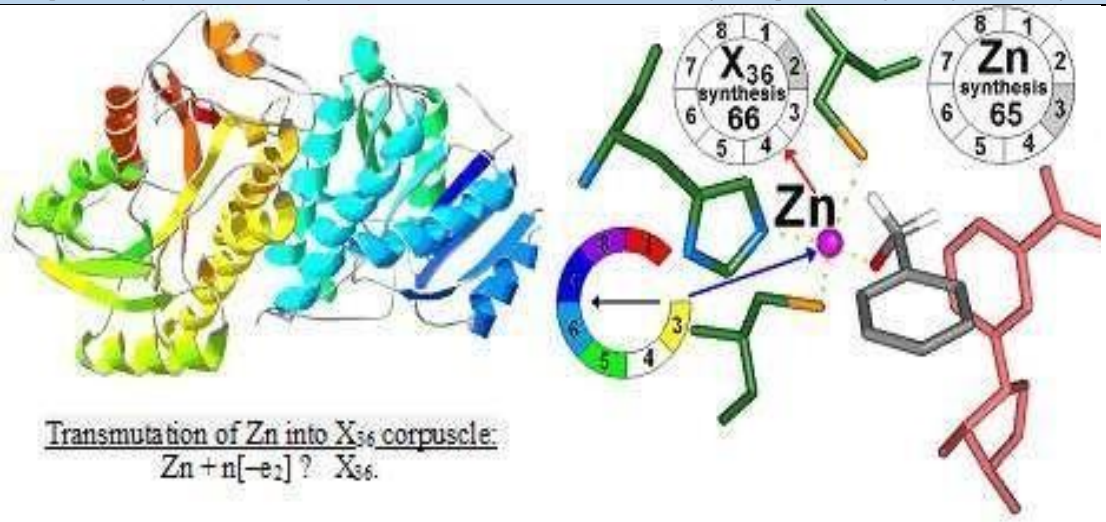


Figure 5: *The process of transmutation of the Zn atom in the active center of the protein-enzyme alcohol dehydrogenase*

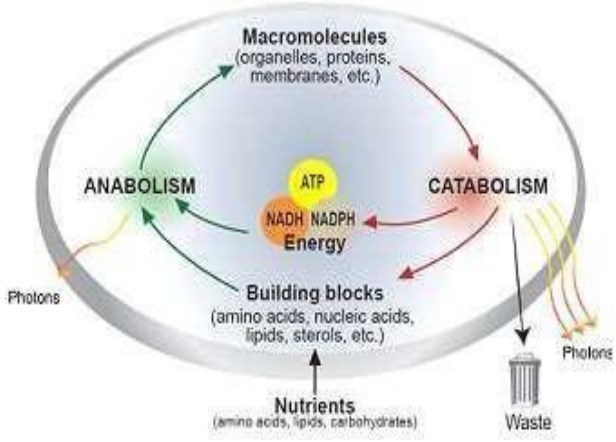


Figure 6: *Modern concepts of cellular metabolism*

An important proof of the implementation of the process of biotransmutation of chemical elements in «living» organisms can be the hierarchical organization of the structure of «life». Each type of «living» organisms has its own unique enzymatic and hormonal status, as well as a special homeostasis of electrons and protons. Living organisms from various systematic groups (empires, over kingdoms, kingdoms, etc.), differing from each other in chemical composition, as well as enzymatic and hormonal status, are able to carry out the process of transmutation of chemical elements at different levels (ecological niches).

It should also be noted that the manifestation of enzymatic activity, as well as hormonal, is a secondary (side) effect of the process of transmutation of chemical elements occurring in a «living» organism. Apparently, the main purpose of the existence of «living» organisms (bodies) is the implementation of atomic synthesis (ie the process of transmutation of chemical elements) with the maximum possible speed and accuracy as a result of metabolic processes. All other aspects and effects of life activity are secondary. Any «living» organism (body) can be considered as an object for the implementation of the fastest accurate (error-free) process of ordering chaotic matter-antimatter (energy of action and reaction).

Consideration of «living» organisms as objects carrying out transmutation of chemical elements will make it possible to understand fundamentally new biochemistry, metabolic processes, therapeutic approaches to the treatment of various diseases, dietology, nutritional science, food quality and safety, etc.

Conclusion

Thus, based on the analysis of the available scientific literature, we have proposed a hypothesis explaining metabolic processes in a «living» organism:

1. According to the hypothesis put forward, at the wave level of self-organization of matter and antimatter by means of complementary and related interaction, the formation of an electromagnetic wave structure is carried out on which the separation of action and reaction is carried out. As a result of the subsequent corpuscular synthesis, actions and counteractions separated in the structure of an electromagnetic wave unite in an atom without conflict and coexist orderly (peacefully) without losing their essence.

2.Any «living» body (subcellular organelles, cell, tissue, organ, organ systems, organism: bacteria, plants, fungi, animals, humans) – a set of proteins, enzymes, hormones and other biologically active substances (water, fats, carbohydrates, vitamins, etc.), is intended for the maximum possible acceleration of atomic (or corpuscular) synthesis (conflict-free ordering of previously separated energy flows of action and reaction) as a result of metabolic processes.

3. The whole variety of chemical reactions (compounds, decomposition, substitution, ion exchange, redox, etc.) can be considered as a means for the classification (separation) of various types of electrons and protons, as well as for their delivery to the place of transmutation (active the center of the protein-enzyme or hormone) along the paths built of biologically active substances (water, vitamins, fats, etc.).

4. Each «living» organism, due to the presence of a certain set of protein-enzymes and hormones, occupies its own niche of corpuscular synthesis.

5. In «living» objects, corpuscular fusion (the genesis of the hydrogen atom) is carried out much faster than in stars and in «inanimate» objects, because the accuracy of atomic fusion in them is very high.

6. Any failures of the transmutation process immediately manifest themselves in the form of various pathological conditions (diseases).

7. Consideration of «living» organisms as objects carrying out transmutation of chemical elements will make it possible to understand fundamentally new biochemistry, metabolic processes, therapeutic approaches to the treatment of various diseases, dietology, nutritional science, food quality and safety, etc.

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