VTORTEX[TM] – SUPERIOR FORM OF FLUID MEDIUM STRUCTURIZATION IN NATURE

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...le hasard favorise l'esprit prepare ("chance favors the prepared mind")
Luis Pasteur

Introduction

The text was written "at a breath", and as such may contain errors though not fundamental, easily correctible and described with respective comments in further works of the author.

VTortex[TM] *(from words **V**ortex and **To**rus) is a self-supported toroidal eversible/enveloping or explosive/implosive structure being a source of energy and information at the same time.*

Being a practical engineer rather than a science popularizer, the author somewhat in a "coarse" and "peasant-like" manner, uncharacteristic of "pure" physicists, tries to provide "killing" arguments in favor of existing *"free" energy and information, i.e. structurization energy and information* based on torus technologies and elastic mechanics.

Convincing examples of natural " perpetual motion machines" that do not operate based on "physicslaws" are Self-Acting Implosion-Explosion Systems (SAIES), or natural VTortex systems such as galaxies, whirlwinds, small comets, etc. moving in an unsupported or self-supported manner.

A self-supported VTortex system is actually *a closed self-supported vortex or Shikhirin soliton* [1 and further in this paper].

The mechanics of such natural self-acting systems or those that were artificially developed [2] or are currently under development [3, 4] is based on toroidal motion [5] that is the basis of a VTortex structure and the most complicated of **typical forms of fluid medium (matter) existence in Nature** (see "Typical Forms…" below) maintained by **structurization energy E_S,** incoming from outer space environment and having definite flow rate values.

In the author's opinion, the term *"extraction of free energy or natural field energy (?!), from outer space for its (i.e. the system's) self-support or self-operation"* [6] is not correct, since **it is the outer environment itself that may give (direct) or take away (suck off) "life"** to/from everything inside it. Perhaps, it is the key and principal error of "free" energy adherents.

Natural working technologies that ensure "putting things in order", i.e. automatic structurization (recovery) of the primary form of VTortex fluid medium following its controlled destruction (disturbance, unbalancing) are realized in self-acting systems created by John Worrell Keely (1827-1898), Nikola Tesla (1856-1943), Thomas Henry Moray, Victor Schauberger (1885-1958), Richard Clem, John R.R. Searl, Wilhelm Reich (1897-1957), Bruce de Palma, Viktor Grebennikov (1928-2001) and others.

Recently, an avalanche of new developments has appeared in the "democratic" Internet for everyone to see that offer absolutely new design solutions rather than only reproduce working samples created by "fathers" of free energy or qualitatively develop them.

A short excursion of the author
In 1995-2000 the author as General Director and Project Leader of "Graderika LTD" research and production company, in cooperation with Energia rocket-and-space corporation and Usmar R&D company (see the photo below), designed and commissioned in Moscow and Moscow Area (Russia) Potapov's thermal generators in which a flow of liquid was fed into a Ranque tube (Archimedean Screw) by a pump that was made based on torus technologies (Fig. 1).

Compared with its counterparts, the torus pump is more cost-efficient and "unrestricted" by volume of pumped liquid [7] having various physical characteristics.

The torus-shaped shells for this pump were fabricated by a direct hot molding method (mold cure) using CKN-40 butadiene-nitrile rubber as the main component of the rubber mixture to enable their operation under static and dynamic deformation conditions at a temperature range of -40°C to +100°C in vacuum or under ambient conditions containing air, petrol, different oils and fuel, water, acid or alkaline solutions as well as other aggressive media.

The above toroidal shells were also used in manufacture of a torus jack, gate, hermetic input, a grab vacuum relocating conveyor, media separator, etc.

Some time later the author understood that even the most perfect pump used for pressure pumping through the Archimedean Screw is not needed at all for obtaining additional circulation energy since systems similar to Potapov's generators are only of an explosion type, that is, the implosion function is performed by the pump.

Systems like the Domestic Power Station created by Victor Schauberger are self-supported ones (a tornado, a galaxy), i.e. he used an activator for starting up the closed implosion-explosion loop. By analogy, the accumulator is the activator for the internal combustion engine.

© Photos from the author's collection.

April, 2000, RKK Energy International Payloads Science Technology Center, Russia, Moscow Area:

Left picture, left to right: inventor Yuriy Potapov, President of Usmar company (Moldavian Republic, city of Kishinev) and the author near Potapov's thermal generator; right picture, left to right: Vladimir Nikitsky, Deputy Chief Designer of RKK Energy, Vladimir Dzhanibekov, astronaut and Deputy General Director of RKK Energy, and the author.
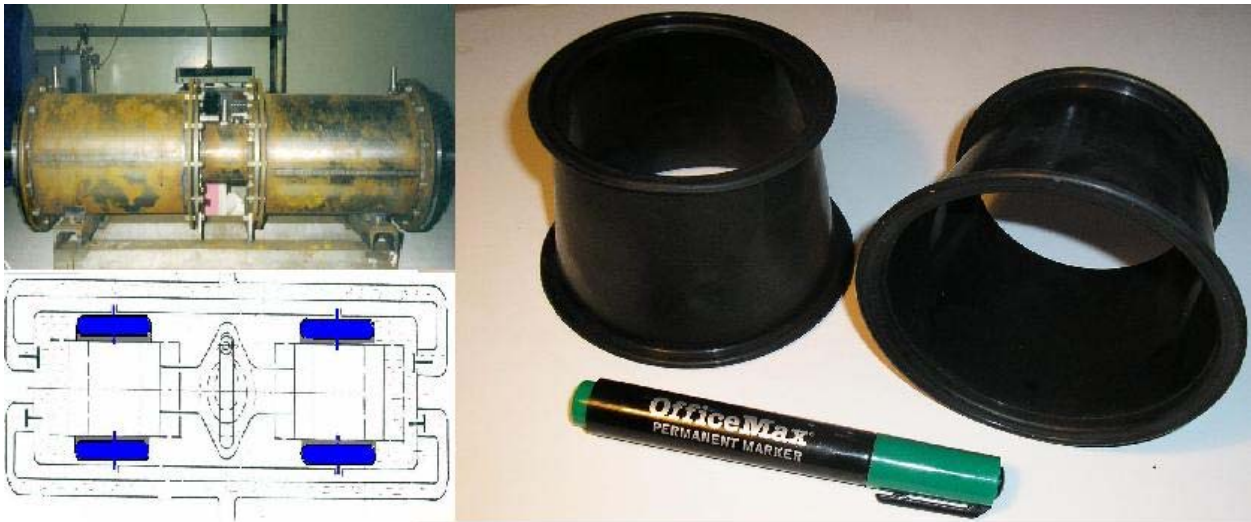
Fig. 1. One of the torus pump operation modes [8] (twin vacuum piston pump) for use in fluid media transfer. To the right are two cuffs (hoses) for formation thereof of a closed cone-shaped toroidal shell.

The end of the excursion

Unfortunately, the above-mentioned **natural** technologies fell into a "pseudo-science" category due to the following reasons:

- the existing "knowledge base" is based on beautifully-looking theories, hypotheses, ideas, etc. that, however, do not work in Nature;

- promotion of "substituting", "alternative", "religion-friendly" false development trends tends to discredit natural technologies and thereby causes private corporations, businessmen and simply daring and independent people as drivers of everything new on the Earth to stay away from investing into or otherwise supporting these activities;

- unawareness of the structurization energy mechanism and often ignorance in designing such systems make it impossible to develop sensors capable of "feeling" and quantitative evaluation of the structurization field and energy. There are, however, simple techniques to "feel" them, for instance, by using unsaturated hydrocarbons having unstable phase transition boundaries [9] for fabrication of sensors.

Promising developments in this field were made by Valentina Sokolova, a biology researcher the author cooperated with in 1990-93 (Moscow, Zelenograd, Russia) in creation of systems for water purification and recovery with pre-determined

properties as well as systems for acceleration of southern plants vegetation period in northern environment.

Moreover, without understanding these mechanisms there is no sense discussing such processes and phenomena like structurization energy conversion to "additional" circulation energy, pressure field as well as vortical, magnetic and electric fields.

As a result of such unawareness, the efficiency of a tool "suddenly" becomes n-times greater than 1 or the output energy allegedly exceeds the input energy;

- lack or disuse of instruments for measuring other constituents (harmonics) of an existing power network;

- violation of natural hierarchy or role change between the external dominating environment and the system residing in it, namely: **it is the external environment that gives and takes energy away rather than the system takes away and returns energy to the external environment**.

- failure to understand the mechanism of activating and maintaining a closed self-supported vortex (tornado), etc. by inventors.

For instance, formation of a soft/elastic smart vortex in a Potapov's generator occurs under unnatural (for the vortex) conditions: Potapov forced it through the Archimedean Screw into a cast-iron tube and "tied up" the tube. Therefore, the machine is always working in the vortex "super-heavy", energy intensive activation mode preventing the vortex from switching to the self-supported mode. By analogy, it is like a car moving (with "sneezing") by means of the starter (the accumulator energy to start up the motor) and partial use of fuel (bad or missing spark-plug).

Milovich, Shikhirin and Kozhevnikov Dipoles

Milovich Dipole

Alexander Milovich (1869-1947), an outstanding Russian scientist, a student of Nikolay Zhukovskiy (1847-1921) [14] and "the father" of hydrodynamics, was the first to build a set of equipment for investigation into the Milovich Dipole, or a VTortex structure, as a self-supported natural system being simultaneously an energy source [10-13].

These theories have been recently substantiated and developed [15-19] by my friend and colleague Vladimir Berdinskikh (city of Cherkassy, Ukraine), a theoretical and practical physicist who continued investigations conducted by A. Milovich.

I am grateful to him for his valuable comments and consultations in "physics of self-supported hydrodynamic systems" [19] while I was writing this paper.

The Milovich Dipole (Fig.2) *is an elastic/soft eversible (an explosive radial centrifugal source) and simultaneously enveloping (an implosive radial centripetal sink) toroidal shell made of virtual thin elastic/soft material (pressure gradient) and filled with working/fluid medium (gas and/or liquid) under excess or normal pressure. The Milovich Dipole is "made" of the same fluid medium as the one within which it moves in an unsupported or self-supported manner.*

The Milovich Dipole does not require an anchoring (external) belt and forced extra energy for its forward movement since its recovery and maintenance as a typical natural form of fluid medium existence is ensured by structurization energy, E_S, automatically **inflowing** from the ambient space. This is the physical meaning of this energy.

And only its conversion leads to appearance of "additional" circulation, cavitation, etc. energy taken by experimentalists for **"above-the-unit efficiency"** of the process, when the efficiency factor exceeds 1, and by "genuine" physicists and science bureaucrats for "it cannot be true".

In other words, any natural or man-made Milovich VTortex Dipole is simultaneously a self-supported system and an energy source. The interaction of the kinematically linked eversible and enveloping ends, or explosive radial centrifugal source and implosive radial centripetal sink, results in (see Fig.2):

- formation of a local cone-like zone/pore/cone of lower pressure P^- and lower temperature T^- (Low Pressure Cone) in front of its enveloping end;

- formation of a local cone-like zone/pore/cone of higher pressure P^+ and higher temperature T^+ (High Pressure Cone) in front of its eversible end;

- its forward movement (retraction, sucking in) in the ambient medium (with pressure P_M and temperature T_M) in the direction from the higher pressure zone towards the lower pressure zone.
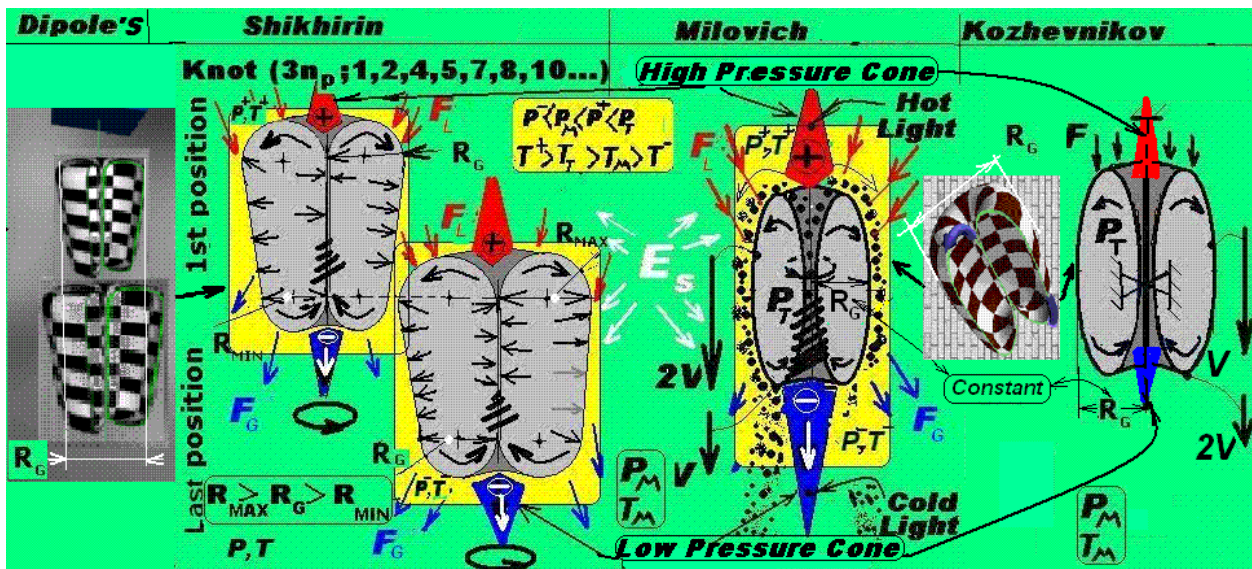
Fig. 2, left to right: Shikhirin, Milovich and Kozhevnikov Dipoles.

Two forces mutually helping each other (see Fig. 3) participate simultaneously in movement of an enveloping VTortex structure as it rolls along an invisible virtual string (i.e. the longitudinal axis) [implemented in Shikar monorail, string, torus transport vehicles, 20]:

1-st force, F^-: falling, gravitation – the lower pressure in front the implosive end generated by VTortex itself sucks the latter into this zone, similar to a Slippery Vermicelli Effect when a slippery piece of vermicelli is sucked into the mouth when the pressure therein is lowered;

2-nd force, F^+: rising, levitation - squeezing the VTortex explosive end by the higher external pressure at the VTortex periphery, similar to a plum bone shot out with two fingers (Plum Bonelet Effect according to Schauberger). The space behind the VTortex explosive end as though "shuts down" (collapses) pushing the VTortex ahead and helping the 1-st Force.

This typical state in Nature (VTortex galaxies, whirlwinds), i.e. generation and interaction of the two forces, is supported (self-supported) thanks to a flood of structurization energy, E_s, streaming in from the external environment.
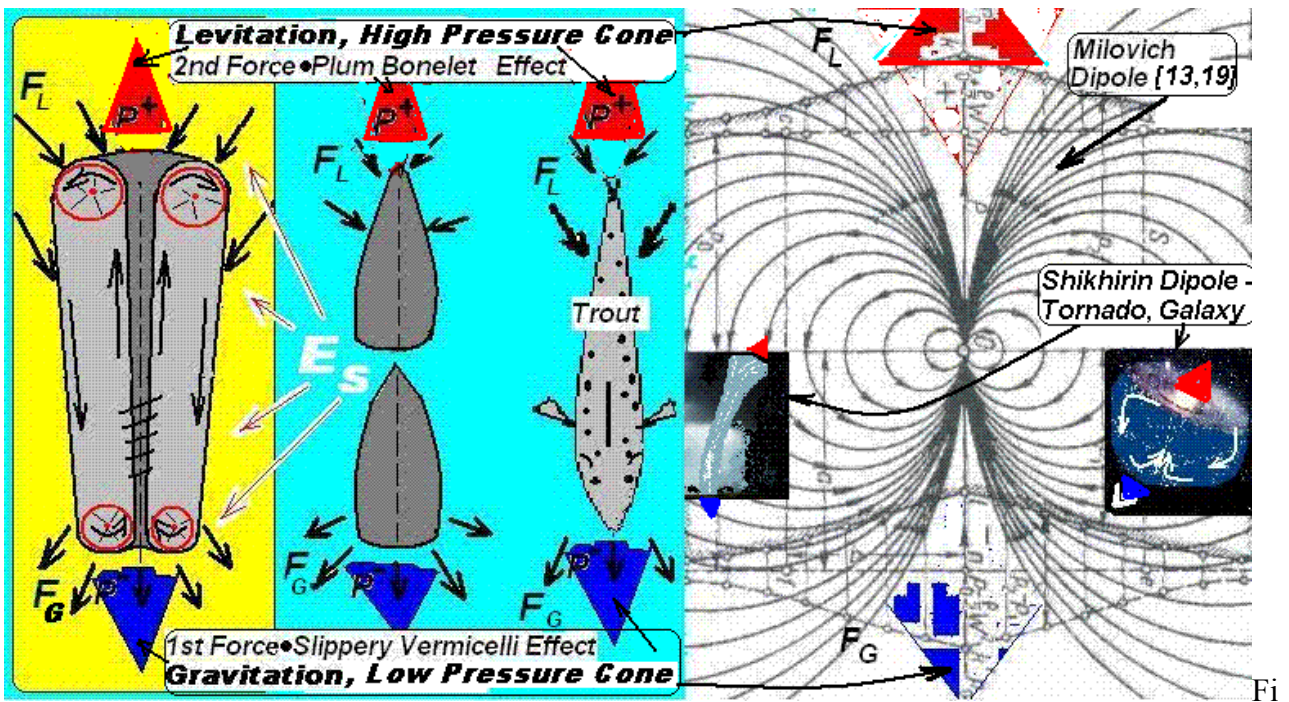
Fig. 3 Two forces, F^+ и F^-, involved in unsupported or self-supported motion of the Milovich Dipole. Notions of "top", "bottom", "attracting force", etc. do not exist in Nature.

That is, a VTortex moves with its enveloping end forwards as if "sinking"/being sucked in by invisible vacuum.

This type of motion is called UnSupported or SelfSupported Motion.

The VTortex ends are linked through the periphery and the central part of its shell filled with fluid medium under excess pressure P_T at a respective temperature T_T.

Shikhirin Dipole

Alexander Milovich formed his liquid VTortex dipole in a hard pipe bend, i.e. having unchangeable physical characteristics such as amounts of incoming and evacuated VTortex fluid medium under excess pressure and hence unchangeable size, weight and power.

The above conditions prevented VTortex from further development, making it impossible to increase in a natural way non-linear consumption of fluid medium under excess pressure and therefore change its dimensions and weight to definite critical values.

In Nature the VTortex explosive end is always bigger than its implosive end; their diameters increase at a permanent cone angle of $\sim 3 - 5^o$, etc.

The author called this phenomenon a "Law of Bloating" [21] and the VTortex itself the Shikhirin Dipole or Soliton. One should also take into account that apart from being an energy system the latter is at the same time an information system – a multidimensional, multi-branch energy-information soliton based on the $\{3n_p;1,2,4,5,7,8,10,11...\}$ torus knot (see section "VTortex… and [21, 22] for details. For instance, a whirlwind descends to the Earth from a thunderstorm cloud created by it with its implosive end forwards (downright) under the effect of **the two forces created by the whirlwind itself,** namely**:**

- a discharge zone in front of its implosive end it retracts itself into, and
- a higher pressure zone in front of its explosive end that pushes it (shuts it in).

The author believed earlier that a whirlwind descends to the Earth only by its weight. Therefore, **the Shikhirin Dipole** is *a cone-like elastic/soft eversible (**explosive radial centrifugal source**) and simultaneously enveloping (**implosive radial centripetal sink**) toroidal shell made of virtual thin elastic/soft material (pressure gradient) and filled (according to the Bloating Law) with over-pressed working/fluid medium (gas and/or liquid) increasing in a non-linear manner. The Shikhirin Dipole "is made" of the same fluid medium as the one in which it moves unsupported or self-supported.* Definition of the terms *"unsupported motion" and "self-supported motion"* will be provided in detail in further deliverables of the author.

Kozhevnikov Dipole

Used mostly for industrial applications, the ***Kozhevnikov Dipole*** is similar to the Milovich and Shikhirin Dipoles. It was created by my teacher, a scientist and experimentalist (with a rural school education) Ruvim Kozhevnikov (1924-2007).

The Kozhevnikov Dipole (Fig.4) is *a thin barrel- or cone-shaped elastic/soft eversible and enveloping toroidal shell made of real elastic/soft material and filled with working/fluid medium under excess pressure (gas) and normal pressure (liquid).*

Fig. 4. Top: the Kozhevnikov Dipole; Botton: ©a photo from the author's collection: R. Kozhevnikov, the "father of torus technologies" and the author's Teacher, and the author at one of multiple R&D exhibitions (Moscow, Krasnaya Presnya Exhibition Center, January, 1997).

Actually, when conducting experiments on his multiple active torus models [5], R. Kozhevnikov quite unawaringly disclosed a number of functional features that provide mechanisms for **self-supported** mega-, macro- and microworld soliton systems such as galaxies, small comets, whirlwinds, ball lightnings, basic components and processes of the floral and fauna worlds, including Mankind, that are driven and exist owing to the structurization energy and information being the primary energy and information in the Universe.

By merits and significance of his works, R. Kozhevnikov ranks with such human genii as Rene Descartes (1596-1650) and R. Buckminster Fuller (1896-1983).

There are multiple "appointed" rather than "natural" genii [Y] that build up "scientific" teams to carry out long-term (decades of years) studies pursuing false goals in natural science in the interests of "sacred cows" - hydrocarbon and atomic pipes.

Unlike the Milovich Dipole, the Kozhevnikov Dipole needs the anchoring belt and a forcibly connected external energy source to provide its forward movement by eversion or envelopment in the surrounding fluid (gas) medium with pressure P_M and temperature T_M.

Given definite design features, motion velocities, appropriate specifications of the shell material and a specific design of its reinforcing layer, the Kozhevikov Dipole may be used as an incubator for generation of a controllable VTortex, i.e. serve as its boosting or activating system comprising:

- the Milovich Dipole in the Kozhevnikov Dipole (barrel-shaped torus);
- the Shikhirin Dipole in the Kozhevnikov Dipole (cone-shaped torus).

The Energy of Energies and the Information of Information - Structurization Energy and Information in Time (First Approximation)

Any fluid medium is structured/"crystallized" in the quiescent state or, when disturbed or moving, tends to setting into one of four **typical forms of fluid medium (matter) existence**, namely "foam^4", "bundle^4", "foam^{VTortex}" or VTortex ("foam^4" and "bundle^7"), respectively (See "Typical Forms…" below).

This is one of laws of Nature and I believe it is the main one. This process does not depend on a fluid medium volume.

As fluid medium (matter) gets structured into one of the 4 main typical forms or disturbed, **two interrelated processes of a similar mechanism are running simultaneously/synchronously therein, such as:**

- inflow/outflow of structurization energy E_s and its conversion/re-conversion to other secondary/derivative energy types;

- inflow/outflow of structurization information I_s and its conversion/re-conversion to other secondary/derivative information types.

The above two processes represent a single eternal energy-information or information-energy (InfEnergy) process regardless of any "energy" or "information" constituents priority. The InfEnergy structurization in time is the basis for the Universe existence.

Structurization Energy

Energy dissipated in matter structurization, i.e. conversion of natural chaos to natural order is the principal energy in the Universe which may be referred to as the Energy of Energies or Structurization Energy with the Structurization Field F_S.

The reverse process, i.e. producing chaos in a natural system is referred to as De-structuring. The de-structuring energy (E_{DS}) dissipated in chaos formation may affect the system both from external and/or internal environment.

The structurization field F_S has the following properties:

- is present in any point of the Universe space;
- is resilient (elastic);
- spreads radially in all directions with a velocity abnormally higher than the light velocity;
- is shielded by nothing, i.e. liquid comes to a quiescent state in an open container just as "easily" as when enclosed in a closed container with super-thick lead walls;
- its action occurs in any place that needs structurization (putting in order) without its quantitative restriction;
- energy vacuum generated anywhere following a structurization action is filled with energy from the nearest energy center(s) depending on energy dissipation needed, etc;
- an under-generated or disintegrated superior typical form of Vtortex fluid medium disintegrates into a "bundle^7" and then into a "bundle^4" and "foam^4". An under-generated "bundle^4" disintegrates, accordingly, into "foam^4";

- has four priority levels (Fig.4), namely F_{foam}^4 → F_{bundle}^4 → $F_{foam/Vtortex}$ → $F_{VTortex}$ (F_{bundle}^7 + F_{foam}^7) and vice versa, $F_{VTortex}$ (F_{bundle}^7 + F_{foam}^7) → $F_{foam/Vtortex}$ → F_{bundle}^4 → F_{foam}^4.

These fields are generated or degenerated as a result of the structurization field F_S (its levels) conversion.

The structurization field F_S (its levels) functionally replicates (always "remembers") the structure of the 4 typical states of fluid medium (substance, matter). Any fluid medium in this case always possess certain physical properties (e.g. mass)

- this is the only and main interaction, after which depending on a natural form a fluid medium sets into (primarily) and under certain conditions such as phase transfers, transitions to different states (secondarily) (Fig.5), energy (sub)fields are generated in a strict sequence by structurization energy.

Quiescent State

- F_{foam}^4 → pressure field F_p
- F_{bundle}^4 → pressure field F_p and electrical field F_e
- $F_{VTortex}$ (F_{bundle}^7 + F_{foam}^7) → pressure field F_p, electrical field F_e, magnetic field F_m and vortex field $F_{VTortex}$.

The vortex field $F_{VTortex}$ consists of levitation field F_l (sucking fluid medium in by the VTortex implosive end) and gravitation field F_g (fluid medium evacuation/pushing out of the explosive Vtortex end) – two forces with account for the Bloating Law.

The design of Victor Schauberger's Domestic Power Station) [23] is based on this natural principle.

- $F_{foam/Vtortex}$ → the sum of fields (the quantity of VTortexes in foam) including pressure field F_p, electrical field F_e, magnetic field F_m and vortex field $F_{VTortex}$. The aggregate vortex field $F_{VTortex}$ (the quantity of VTortexes in foam) consists of levitation field F_l and gravitation field F_g (two forces). The Grebennikov platform's design is based on this principle.

Chaos (disturbed "quiescent state") and Phase Transition

In such cases for all fluid medium states only structurization energy is active that "hurries up" to set the fluid medium into a stable quiescent liquid or solid state and vice versa.

Solid Matter

Structurization energy accumulation is completed.

An excursion of the author

Gas, liquid, solid matter and "smartness" correspond to gas foam, liquid foam, solid foam or smart foam, respectively.

According to structurization energy accumulation, they may be prioritized as follows:

- **Solid state of matter: crystalline and amorphous** - a "solidified" quiescent state or a stream bundle, respectively, – a completed process of maximum structurization energy accumulation in matter.

- **Liquid state of matter**: a quiescent state or a stream bundle – an uncompleted process of maximum structurization energy accumulation with a continuous tendency to the solid crystalline or amorphous state of matter.

- **Gas state of matter:** quiescent state or stream bundle – an uncompleted process of maximum structurization energy accumulation with a continuous tendency to the liquid state including the liquid or the liquid stream bundle states of matter.

- **Smart state of matter**: VTortex or foam^{VTortex} states.

- **Dislocation**: a natural energizer and information disturber of any typical state of matter.

The end of the excursion.

The typical forms of fluid medium existence include the quiescent state, the stream bundle and the closed vortex VTortex convertible under certain conditions to the solid amorphous or/and solid crystalline or/and "smart" states of matter (see the table below).

Table

Typical forms of fluid medium (matter) existence (Fig.4)

State of matter	Quiescent state	Stream bundle[4]	VTortex and

	(Crystalline)	(Amorphous)	Foam[VTortex]
Solid "Solid foam"	Dense pack of crystals	A dense pack of "solidified" stretched dodecahedrons or their variations	
Liquid or/and **gas** ("Foam[4]")	A dense pack of dodecahedrons, or their variations of fulleren type	A dense pack of stretched dodecahedrons, or their variations, such as a stream bundle[4], rotating round their longitudinal axes	Encapsulated "halo" – a dense pack of Shikhirin cells[7], a vortex bundle[7] – a dense pack of stretched Shikhirin cells[7] having base edges rotating round their longitudinal axes.
Smart ("Smart foam")			For instance, formation of an apple-tree and an apple ("solidified" Shikhirin soliton - 3np.5 torus knot)

The amorphous state of matter is also a dense pack consisting of stretched dodecahedrons and their variations twisted around their longitudinal axes.

That is, "amorphous" matter consists of the same unchangeable number of irregular polyhedrons stretched or compressed in different directions.

By complexity or elaborateness and quantity of polyhedrons any material is made of, one can guess whether it is in a gas, liquid, amorphous or solid state: **the denser is the pack and more developed are the polyhedrons, the more "solid" is the matter**.

There is only a single process of solid, amorphous, gas and liquid matter deformation in which polyhedron layers are sliding against each other with their faces depending on a structurization form as follows:

- in a sphere with a finite or infinite radius (the Universe) the polyhedron sliding deformation goes over "straight" surfaces";

- Shikhirin cells[7] in a torus slide helically respective the torus string;

The role of dislocations in giant gas "crystals' is played, for instance:

- in space by dead , active galaxies and other space debris;

- in galaxies by "solar" systems and helical rolling rejects such as the Kuiper Belt, etc.

The end of the excursion.

Where does permanent need for, and therefore energy for this process come from?

If a space filled with fluid medium is periodically disturbed, then structurization events, i.e. attempts to calm this medium and put it into, for instance, a geometrical order, will occur the same number of times. If internal energy is spent for this purpose, then after multiple disturbances the fluid medium will become completely devoid of energy.

From the above it may be inferred that the calming energy "comes" from external environment. Moreover, this energy must come from the outside to establish order in a system that is inside the environment.

To ensure the working/fluid medium structurization process, i.e. putting the medium into an optimum energy state, the external environment does not "spare" "free" structurization energy. Under certain conditions this process may occur an infinite number of times, that is … it is actually a perpetual motion machine.

If a SAIES (see p/1) has a parameter control system it is possible to control under- or over-structurization by controlling definite parameters.

Such principles were used in current SAIES systems or "free" energy running systems developed or being under development.

The following investigations provide direct/indirect proofs of structurization energy existence the main purpose of which is "total establishment of order in raging disorder":

- a torus and a sphere inscribed into it are "starting points" of Pi, the golden ratio, "number 7", etc., as well as the basis of the scale effect [21, 22];
- dissymmetry as a moving force [23]
- a law of chemical equilibrium shift (Le Chatelier –Brown principle)
- the Gibbs effect;
- synergy – a theory of self-organized systems [26], etc.

This universal natural law has been worded by the author as follows:

Structurization is automatic recovery of a system by an external force (structurization energy) **into a quiescent state after the system was disturbed** (with energy vacuum resulting from de-structuring) **by internal and/or external forces.**

Energy for order recovery in any "point" of space comes automatically from external environment, which results in disturbance of the quiescent state in an adjacent "point". To restore the quiescent state of the adjacent point already being internal with respect to the next energy level, the energy of its nearest "point" of external environment is automatically provided, etc., etc.

In other words, every event of structurization energy transfer is a result of a preceding process impact that leads to appearance of energy vacuum.

Therefore, an infinite number of process cascades is generated in the Universe without initial or end points.

It comes natural that further investigation (the author is carrying it out) is needed to explain the following:

- a mechanism of automatic quiescent state recovery;
- why and how "energy vacuum" is generated?
- where does energy for the recovery come from?
- what happens to the energy source after giving away energy to fight a disturbance? How is the energy source re-charged?
- if an energy source gives energy away it is cooled down while a system receiving energy is heated, etc.

Structurization Information

Structurization Information, I_S, is the basis of any and all information.

Like Structurization Energy, Structurization Information I_S has four interdependent levels, namely $I_{foam}{}^4$, $I_{bundle}{}^4$, $I_{foam/VTortex}$ and $I_{VTortex}$ ($I_{bundle}{}^7 + I_{foam}{}^7$) (see Fig.5).

In [21,22] the author showed that all energy exchange processes that involve structurization energy are automatically followed by their "mathematical environment including π, "1", "4", "7" "numbers", square roots of 2, 3, 5, 7; "golden ratios", etc., constantly adjusting (suddenly "appearing" or "disappearing" like a phase transition) to their changing shapes:

- [a sphere, spherical π, "1" and "4" colors] $\rightarrow$ [polyhedron inscribed into or circumscribed by the sphere, e.g. dodecahedron and its variations, and the spherical "golden ratio"] $\rightarrow$ [the sphere, spherical π and '4' colors],

- [a sphere, spherical π and "4" colors] $\rightarrow$ [torus, spherical and toric π and "7" colors] $\rightarrow$ [a polyhedron^7 and its variations inscribed into or circumscribed by a torus; $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, $\sqrt{7}$, "3"; *toric "golden ratio";* torus knots] $\rightarrow$ [the sphere, spherical π and "4" colors],

- Mobius band, Mobius π and "6" colors] $\rightarrow$ [a band, "1" color], etc.

- The area ratio of a closed torus and a sphere inscribed into it is the first and the foremost natural ratio, namely "**π Goldenest Ratio**" or "Shikhirin Ratio", which is the source of both the spherical π and the torus π and, consequently, *the source of the "golden ratio", φ.*

In other words, the toric **π** and the spherical π are primary with respect to φ.

By its hierarchical natural level, the Golden Ratio φ is a "special" case or a derivative from a set of "interacting" spherical π and toric **π** in a sphere inscribed in a torus.

- The "as is" Golden Ratio is absent in a torus, sphere, Mobius band and projective plane as well as in their elements, such as Shikhirin cells^{4,6,7}, their volume is comprised of.

- The "as is" Golden Ratio φ and/or its elements are present only in "non-circular" (without π) linear, surface and bulk bodies, e.g. in Plato or/and Archimedean bodies, their variations or in a pack consisting thereof inscribed into or circumscribed by a sphere, i.e. is "in charge of" only "faceted" linear, flat and bulk bodies.

Linear dimensions or polyhedron elements expressed through angular parameters, i.e. through π, cannot be a result of "direct π effect".

An excursion of the author.

It is known that, for instance, Plato's bodies including dodecahedrons and icosahedrons have three spheres accompanying them:

- 1-st internal sphere is inscribed into a polyhedron, contacts its faces and makes its volume "bulge out";
- 2-nd medium sphere contacts its edges and "keeps/maintains" its volume;
- 3-rd external sphere circumscribes a polyhedron, contacts its vertexes and "closes its volume.

By analogy with dodecahedrons and their variations, a set of seven polyhedrons[7], or deformed Shikhirin cells[7] making up a torus also has three toruses accompanying it:

- *1-st internal torus is inscribed into a set of seven polyhedrons[7], contacts the faces of their honeycomb cell bases and "bloats out " its volume;*
- *2-nd intermediate torus contacts the edges of honeycomb cell bases and "holds/maintains" its volume;*
- *3-rd external torus circumscribes a set of seven polyhedrons[7], contacts the vertexes of their honeycomb cell bases and "closes" its volume.*

Let us call this process **sphere- and torus accompaniment of respective polyhedrons.**

The term "dodecahedron and its variations":

A polyhedron (A{B}), where A is the number of faces, B is the number of angles in the polyhedron (B-angle) may be denoted as follows:

- dodecahedron - 12{5};
- icosahedron - 20{3};
- beta-tetrakaidecahedron - 4{6} + 8{5} + 2{4};
- truncated icosahedron - 20{6} + 12{5}, etc.

The end of the excursion**.**

- In "foam[4]" comprised of a dense pack of dodecahedrons, icosahedrons, etc., each having a "golden ratio", the spherical π is present directly only in spheres accompanying polyhedrons. Polyhedron element sizes expressed through angular parameters, i.e. through π, cannot be thought of as a "direct π effect".

- In foam[7] comprised of a dense pack of Shikhirin cells[7] where there is no "as is" "golden ratio" the torus $\boldsymbol{\pi}$ is directly present only in toruses accompanying

polyhedrons; besides the torus $\boldsymbol{\pi}$ and the spherical π are directly present in Shikhirin cells[7].

- The spherical π and the torus $\boldsymbol{\pi}$ present in common expressions together with $\boldsymbol{\varphi}$, e.g. in calculations of flat, "golden", "sacred" and other triangles elements, are not directly connected with them, i.e. these parameters are only expressed through them and they are absent in actual parameters of real "golden" objects.

- During "interaction" of a sphere and a torus the sphere is inscribed in, a triangle set is formed where each triangle has a certain physical purpose, i.e. formation of $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, $\sqrt{7}$, $\sqrt{10}$ "numbers" and combinations thereof along with *1, 2, 3, 4*, regular and irregular fractions, the "golden ratio" and its derivatives, seven "colors" and a dense pack of Shikhirin cells[7] that make a torus, etc.

- When a torus is produced out of its flat layout the honeycomb cells are transformed into the bases of a dense pack of seven Shikhirin cells[7] while the line along which the dense pack is formed is a *(3.1)* torus knot. Seven "colors" may be formed in three directions.

- Swapping *p* and *q* parameters in the $(3n_p; \{n_q + [(n_q - 1)/2]\})$ torus knot, i.e. $(\{n_q + [(n_q - 1)/2], 3n_p\})$ also leaves $7n_p$ colored zones/honeycomb cells that have common boundaries covering the toroidal surface.

In this case formation of the 7 "colors" occurs in another direction, and, visually, the torus surface layout turns by 90°.

- A "working" VTortex torus, besides the spherical π and the torus $\boldsymbol{\pi}$, has also "knot π's" (a knot bundle[7]).

Totally, a VTortex torus has five (!) functional π's, or π^5, functioning in three-dimensional space as a set of:

- $\pi 1$ and $\pi 2$: spherical π and torus $\boldsymbol{\pi}$, resp., that are "responsible" for the FORM (of the torus);

- $\pi 3$: $3n_p$ – spherical π; $\pi 4$: $\{n_q + [(n_q - 1)/2]\}$ – torus $\boldsymbol{\pi}$ and $\pi 5$: knot π. These are "responsible" for ENERGY and INFORMATION. This is a $(3n_p + \{n_q + [(n_q - 1)/2]\})$ torus knot, or energy-information Shikhirin soliton.

- Every thread of a "stream bundle[4]" as well as of a "vortex bundle[7]" has its own π, etc.

State	Crystalline				Amorphous				Smart							
	Foam⁴				Stream Bundle⁴				VTortex (Foam⁷, Bundle⁷)				Foam^VTortex			
Tipical Form	Fluid Medium		Phase Transmition	Solid	Fluid Medium		Phase Transmition	Solid	Fluid Medium		Phase Transmition	Solid	Fluid Medium		Phase Transmition	Solid
	Rest	Chaos			Rest	Chaos			Rest	Chaos			Rest	Chaos		
Energy / Structurization — Field F_s and its levels																
Foam⁴																
Bundle⁴																
VTortex Foam⁷																
Bundle⁷																
VTortex Foam																
Structurization — Fields (Levels) generated by them																
F_p																
F_e																
F_m																
F_L																
F_q																
Information — "Laws" generated by I_s																
π_T, 5,7 Colors																
Torus π_K, Knots																
π_{sp}, 4 Colors																
π Bundles																
$\varphi = 1,618..$																
$1,2,3,4..$ $\sqrt{2},\sqrt{3},\sqrt{5},\sqrt{7},\sqrt{10}$																
Structurization — Information I_s and its levels																
Foam⁴																
Bundle⁴																
VTortex Foam⁷																
Bundle⁷																
VTortex Foam																

Fig.5. Work of structurization energy and information as well as of fields (levels) generated by them in definite states of typical fluid medium forms. For more details see "Typical Forms of Fluid Medium Existence", "energy Knots" and [21, 22], where π_T is a torus Pi, π_{SP} is a spherical Pi, π_K is a knot Pi, π_B is bundle Pi, φ is the golden ratio.

Some conclusions to Fig.5

- on completion of structurization energy formation of typical forms of fluid medium **quiescent** state or **solid** state of matter the energy first level is formed – pressure field F_P, and simultaneously with it all levels ("basics") of structurization information are generated automatically, namely: all Pi's; the golden ratio; numbers 1, 2, 3, 4; $\sqrt{2}, \sqrt{3}, \sqrt{5}, \sqrt{7}, \sqrt{10}$; "colors" and torus "energy" knots;

- in the "**chaos**" and "**phase transition**" states when structurization energy is trying to restore order, information processes are either absent or "waiting for the order to come".

In other words, **structurization energy is active (working) it makes structurization information deactivated (not working)** and vice versa.

This is only a portion of information "bases" that are always present/exist or/and appear/disappear in continuous movement of fluid medium (matter) irrespective of anything, and "freeze" when fluid medium is converted to a solid (crystalline and amorphous) or smart state, which phenomenon is referred to as **Energy Phase Transitions** of matter (see the Table).

Further development of next natural (DNA, molecules, fullerens, etc.) and man-made (information technologies) information levels secondary to/derived /converted from structurization information continues simultaneously with development of typical forms of fluid medium (matter) and its conversion to a solid or smart state that are secondary to/derived/converted from structurization energy - Information Phase Transitions.

The above two co-existing processes (energy and information) may be referred to as InfEnergy Phase Transitions in the process of time structurization of fluid medium (matter).

The principles of making devices (keeping balance between the electronic, information and energy parts) on the basis of structurization energy and information are described in [27,28].

In [22] the author showed that:

- the "relationship" between a sphere and a torus the sphere is inscribed in result in "degenerate" numbers – spherical π and torus $\boldsymbol{\pi}$ – which apart from the same characteristic irrational numerical value have neither dimensions, nor space coordinates nor reference to anything; they are not a point;

- their dimensions may range between "0" and + infinity, etc.;

- in transition from a more complicated to a less complicated figure, such as torus → sphere → plane → line segment (which is also a figure but without surface) →

point (which is also a figure but without surface and length), the first to "disappear" are multipliers (factors), "flat/spherical" and "bulk" spherical π and then line segments (already without π);

The only thing to remain is the "twisted" torus π specific only for a torus the physical purpose of which is (to provide) its simultaneous rolling along the longitudinal and traverse axes or eversion/envelopment (rolling about its transverse circular closed axis) with simultaneous twisting/rotation (rolling) of the torus round its polar/longitudinal axis. In other words, the spherical π looks as if it were inscribed into the torus π and is the primary natural "proportion" towards which all natural structures and processes are continuously striving notwithstanding anything.

According to the author, the torus Pi is the starting point of two energy and information processes brought together, i.e. of the InfEnergy fundamentals.

Typical Natural Forms of Fluid/Working Medium Existence, "Energy Vacuum" Mechanism and Filling

Plato Channels

In real polyhedral foams, film interfaces (polyhedron faces) or polyhedron edges look like lengthy thickenings and are referred to as "Plato-Gibbs channels" [29].

The pressure maintained in these channels is lower than in the films and inside the polyhedron, therefore:

- liquid is sucked into the channels from the film until a certain equilibrium is achieved;
– a 120° angle is generated between three films that form a Plato's channel due to the balance of forces caused by surface tension, this is the only option existing in stable foam;
– the amount of energy contained in the foam is minimized;
– various forces impacting any foam element are damped;
– intersection of 4 Plato channels leads or tends to formation of a tetrahedral vertex with $109^{\circ}30'$ angles between two Plato channels, i.e. tetrahedron edges (a Shikhirin cell[4] – 4 "colors");
– Three dodecahedron vertexes, when linked, also lead to formation of a "tetrahedral" vertex with $109^{\circ}30'$ angles between two Plato channels, or

tetrahedron edges, which makes 4 tetrahedrons that form the 4-dimensional Universe space [30] tightly filled with dodecahedrons or their variations, etc.

Actually, the above-described is a typical form of fluid matter existence in Nature that corresponds to the **quiescent foam[4] state**.

The author is convinced that Plato channels are an integral part of four forms in which fluid matter exists (Fig. 6), namely:

- **quiescent foam[4] state** - steady polyhedral foam (dense pack): tetrahedral $\rightarrow$ icosahedral $\rightarrow$ dodecahedral foam consisting of dodecahedrons or their variations made of fluid medium. The channel has a cylindrical shape.

- **stream bundle[4]** - a dense pack of deformed (stretched) dodecahedrons or their variations made of fluid medium.

  The channel is shaped as a cylinder tube having deformed dodecahedrons inside rotating round their longitudinal axes;

- **VTortex** - a dense pack of heptahedrons, or Shikhirin cells[7], made of fluid medium.

  The channel may have the following shape:

  o at the VTortex periphery it is a cylinder having deformed heptahedrons, or Shikhirin cells[7], inside rotating round their longitudinal axes.

  o in the VTortex center the channel is a knot bundle[7] consisting of 2 (galaxy) or 4 to 5 (tornado), 7, 8, etc. cylinders located in a circle and having deformed heptahedrons, or Shikhirin cells[7], inside that rotate round their longitudinal axes. In the middle of every cylinder there exists one more coaxial cylinder-shaped Plato channel that has a central body inside rotating in the opposite direction. The body may be water or ice column to become later a source of hailstones in a tornado or stellar matter in galaxies.

- **Foam[VTortex]** - a dense pack of VTortexes made of fluid medium (a group of "interacting whirlwinds, galaxies or Benar cells).

The channel surrounding a VTortex group (or every VTortex) has a shape of a cylindrical tube inside which VTortexes interact by their peripheries. In doing so they do not rotate respective their mutually parallel longitudinal axes.
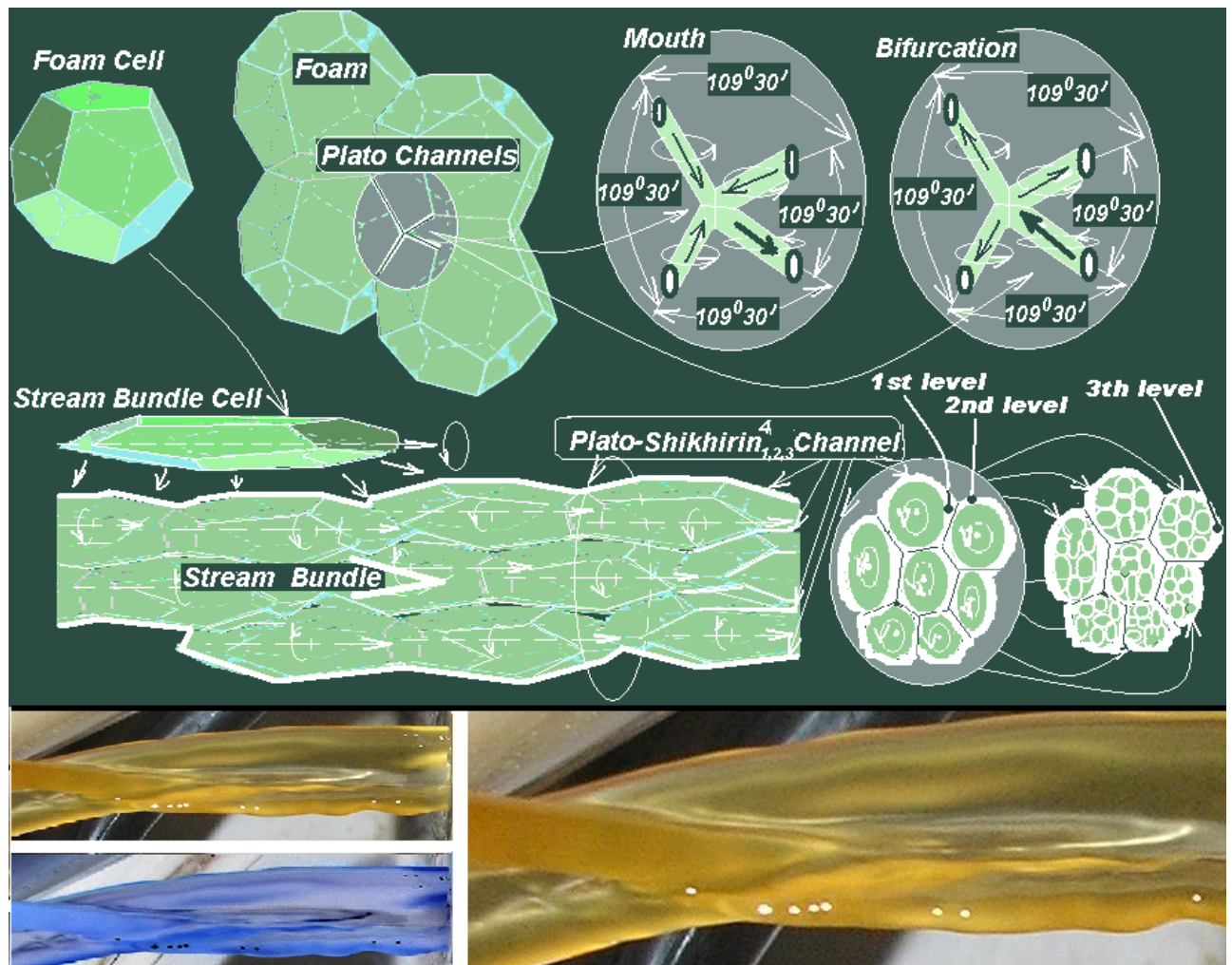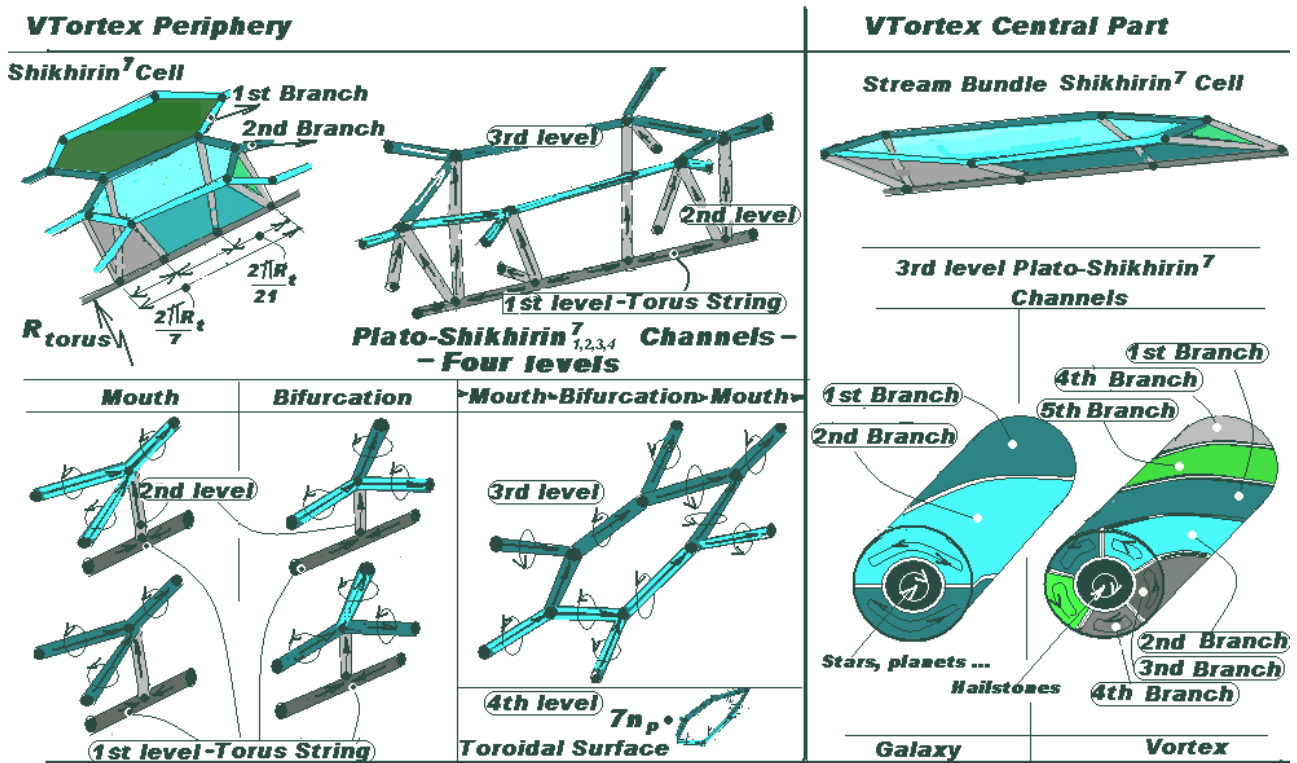
Fig. 6. Location and shape of fluid medium Plato and Plato-Shikhirin[4] channels in a quiescent state and in a stream bundle[4], respectively. **Foam$^{\text{VTortex}}$** is not shown.

The photopicture shows a liquid bundle[4] in gas space. One can clearly see the bundle[4] elements – stretched liquid dodecahedrons or their variations rotating round their longitudinal axes.

The foam[4] and the stream bundle[4] have three Plato channel$_{1,2,3}$[4] levels:

- 1-st level surrounds one cell;
- 2-nd level surrounds a system of densely packed cells (more than 2) combined into a cluster[4] or a stream bundle[4];
- 3-rd level surrounds a system of densely packed clusters[4] (more than 2) or a stream consisting of stream bundles[4] (more than two).

Plato-Shikhirin channels$_{1,2,3}$[7] of the 1-st, 3-rd and 4-th levels are closed loops (Fig.7). Communication between them is performed through 2-nd level channels.

Fig.7. Location and shape of fluid medium Plato-Shikhirin channels$_{1,2,3,4}$[7] in a quiescent state and in a stream bundle[7], respectively.

The difference between Plato-Shikhirin channels$_{1,2,3,}$[4] rotating in one direction round their longitudinal axes and reinforcing the stream bundle[4] (electricity) and Plato-Shikhirin channels$_{1,2,3,4}$[7] reinforcing the stream bundle[7] is that the latter channels have a central body (electromagnetic field) rotating round its longitudinal axis in the opposite direction respective Plato-Shikhirin channels$_{1,2,3,4}$[7] rotating round their longitudinal axes.

There is one more, the fourth, typical fluid medium state supported by structurization energy – **Foam$^{\text{Vtortex}}$**, generated only in fluid medium meanders, i.e. in a stream. The Foam$^{\text{Vtortex}}$ consists of two interacting VTortex groups:

- VTortexes rotating in one direction gather into one large VTortex (like a tornado or an expanding galaxy) or, on the contrary, break into smaller VTortexes having common boundaries and rotating in one direction;

- VTortexes rotating in the opposite directions push away from each other and "look for" similar ones to gather into a large VTortex or, on the contrary, break into smaller VTortexes rotating in one direction.

A VTortex structure exists by self-support in a Plato channel[4] (Foam[4]). The Foam[Vtortex] is an expanded Plato channel[4] filled with interacting VTortex groups.

For instance, a tornado moves vertically against the Earth surface in a stretched integral Plato channel[4] laid by itself that consists of dodecahedron edges – single Plato channels[4]. To a viewer it might seem strange that there is almost no movement around the tornado body since it is in fact inside the Plato channel[4] encapsulation.

A lightning lays a movement track in a similar way in Plato channels[4] (Fig.13) and so does the Grebennikov platform (Fig.8).
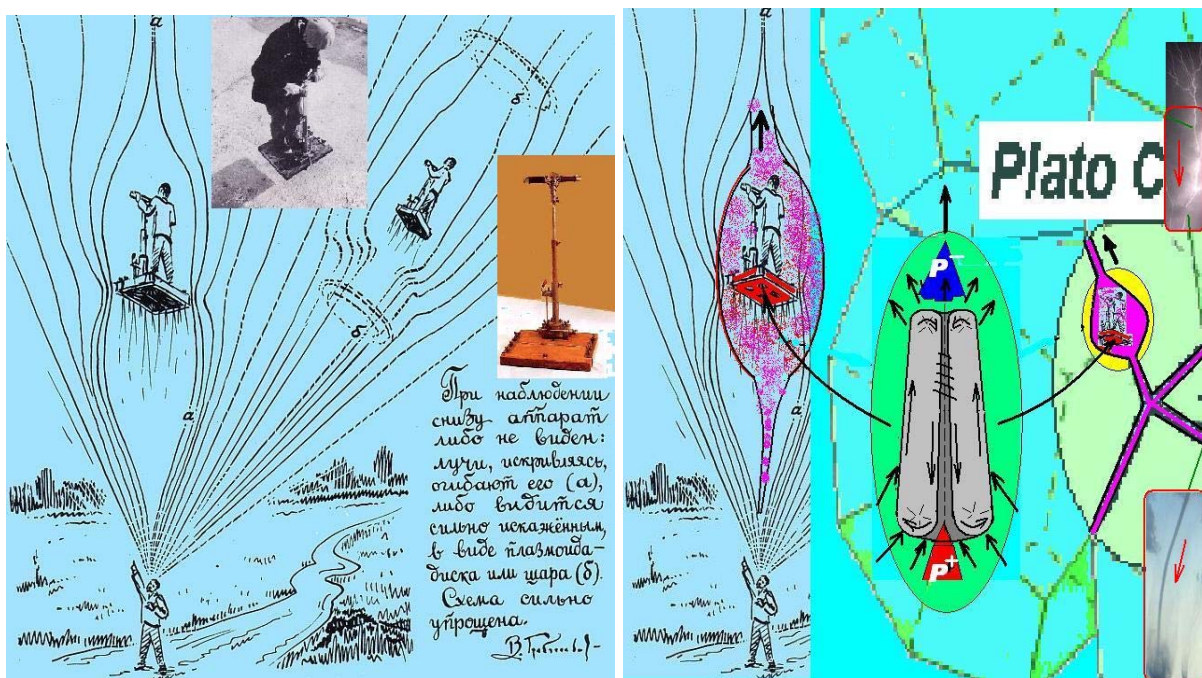

Fig.8. Left: a picture from Viktor Grebennikov's book "My World" [24] illustrating self-supported (unsupported) movement of a flying vehicle (Grebennikov's platform) created by him in fluid (gas) medium; right: graphical explanations of the author and a lightning and tornado movement along Plato channels[4] in a quiescent foam[4] state of the fluid (gas) medium).

In further deliverables the author will explain how ambient environment (super-rarefied gas) impacts a live organism seated in a cavity by an example of the Grebennikov's platform moving with the inventor under the latter's control along

Plato channels where at a 300 meter altitude the pilot felt as if he were blown about by flower-smelling air going upwards (the flights were performed in summer). Moreover, to be described are formation principles of:

- *a pentagon and other figures based on depositions of solid matter in a container with liquid (water) rotating around its longitudinal axis during its rotation followed by braking (Fig.9), as well as regular polygons formed based on liquid rotation [31-34];*

- *a hexagon around the North pole http://en.wikipedia.org/wiki/File:Saturn_hexagonal_north_pole_feature.jpg and a tornado at the South Pole of Saturn http://www.jpl.nasa.gov/news/news.cfm?release=2006-137 [35];*

- *two-sided symmetrical ebbs (convexity) and tides (cavities) at the Earth with respect to its longitudinal axis irrespective of " gravitational attraction of the Moon".*
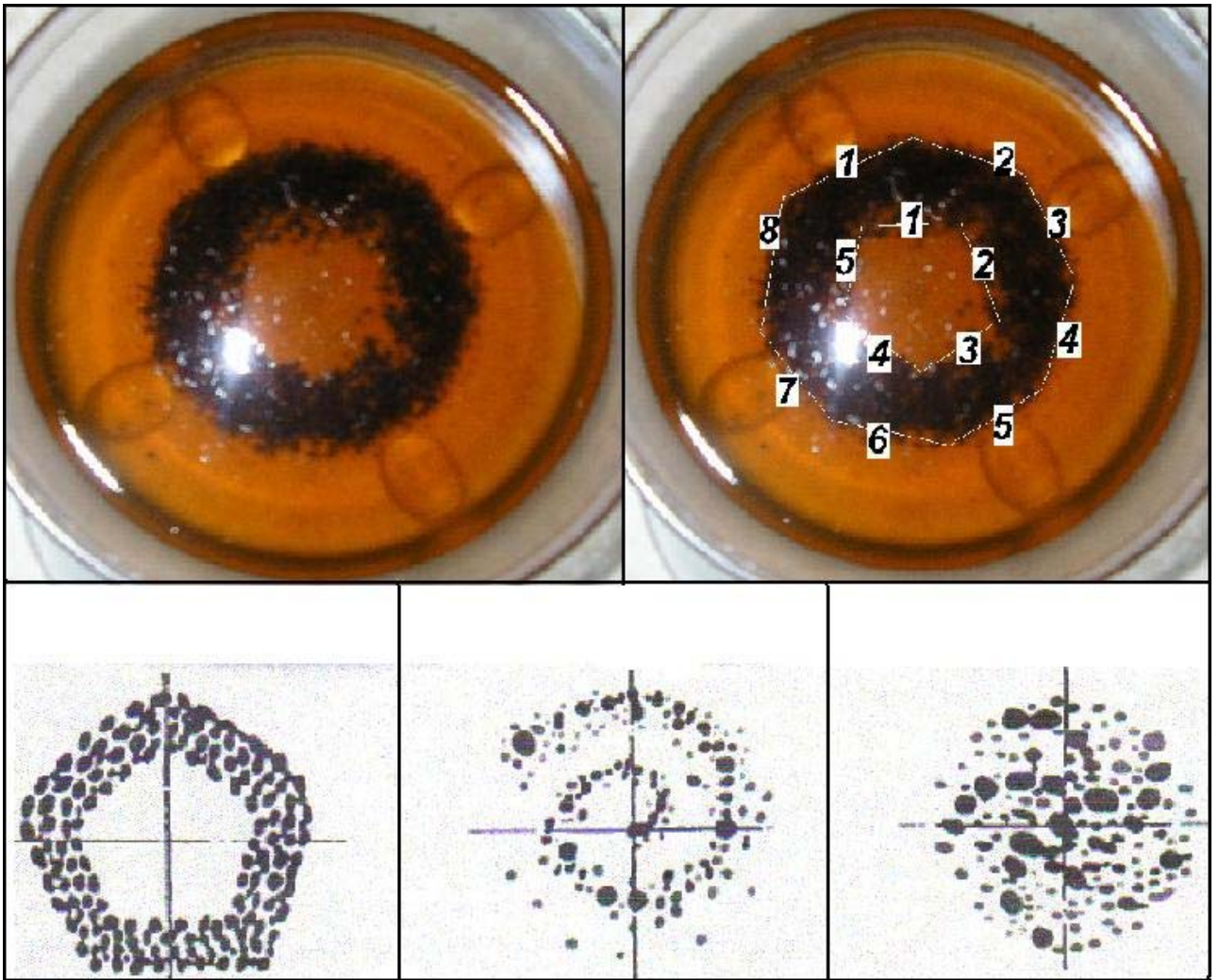
Fig.9. Top: photo from the author's archive (2006)©, four edges of a transparent "basin" rigidity are seen, bottom: [34].

Instant "head-on" disruption of the shell of gas or liquid foam[4,7] bubbles or of stream bundles[4,7] , or/and "unprepared" large-scale short-lived expansion of Plato channels leads to formation of "cavitation" holes.

Almost instant restoration (collapse, shut-in) of the shell is followed by peculiar sound (a peal of thunder, a bang, noise, howling).

Such phenomena as disruption of gas or liquid foam[4] shell integrity as well as large-scale and short-lived expansion of Plato channels are demonstrated by supersonic flying vehicles, lightning discharges, plasma weapons testing and application, screw- or other-type propulsion devices, simultaneous longitudinal/vertical and transverse/horizontal rolling/sliding of whirlwinds in the Earth's atmosphere, water falling from a big height (waterfalls), water envelopment of solid surface (tides, waves), liquid mass agitation, etc.

Particularly dangerous are:

- shell integrity disruption of foam[4]"bubbles" combined in a chain or/and large-scale expansion of Plato channels combining these bubbles, in the direction from the Earth to the near-Earth space. This causes parts of the Earth atmosphere (that was formed throughout millennia) to be thrown away through cavitation holes into the near-Earth space while Space "atmosphere" mortal for the life on the Earth will rush to the Earth reversely through the same channels;
- man's intervention (by super-high drilling, "investigation" into the Earth's center, etc.) into "conserved" cavitation holes in the Earth's center that were generated in the process of the Earth helical rolling formation by the central part of the Galaxy. In this case part of bracing strings that couple the Earth surface with its center will be damaged (because of super-high vacuum in the Earth's center). Having lost its integrity, the Earth will break into pieces [21].

The author is convinced (in the first approximation) that:

- fluid medium that fills cavitation holes at super-low pressure and temperature (super-deep vacuum) is super-rarefied gas and hence an object moves in it (gas) with minimum friction against its particles;
- it is not unlikely that artificial or natural entrance of different objects into cavitation holes makes them invisible;
- when a foreign body gets into foam it becomes "pupated" by the same film that makes up faces and walls of Plato channels and then pushed to Plato channels to be evacuated through them into the media interface adjacent to the shell of the piece of foam[4]. Should the "piece" of foam have an infinite size, like the Universe, movement of foreign bodies (galaxies, stellar matter, etc.) is performed:
  o in a direction towards Plato channels, i.e. towards the lower pressure zone;
  o depending on the foam[4] wave motion, i.e. in a direction from the foam compaction zone to its decompaction zone, respectively;
  o towards 4 infinite-length "evil axes" [26] (Fig.10) – main/primary Plato channels of the Universe tetrahedron having infinite axes located at an 109°30¹ angle against one another

- acceleration of evacuation processes with subsequent rigid fixation of a foreign body (dislocation) in the foam "body" occurs at phase transitions of matter:
  - from gas to liquid – foam[4,7], stream bundle[4,7] and Vtortex;
  - from liquid to solid matter - foam[4,7], stream bundle[4,7] and Vtortex;
  - from solid matter to crystalline matter (foam[4,7]), amorphous (stream bundle[4,7]) and "smart" matter (VTortex and foam[Vtortex]), respectively.

The principles of pushing out or evacuation of foreign bodies beyond the media interface with its subsequent "polishing" (deposition of dislocations and their localization) make the basis for not only natural phenomena such as pool freezing but also for man-made processes such as metal and plastics technologies, liquid and gas purification or, on the contrary, introduction of foreign bodies into "foam" of a substance;

- there are conditions allowing controlled "extension" (decompaction) and "collapsing" (compaction) of Plato channels to move systems through them with minimized friction (scientific and engineering experience of extraterrestrial civilizations and our ancestors who immigrated to a new (our) Earth;
- a comprehensive method of Plato channel "extension" or medium "decompaction" is to create a lower pressure zone in front of a moving system with its (the system's) controlled envelopment by Plato channel walls into which the system sucks itself in (increase of the mass - gravitation) along with an auxiliary process of creating a higher-pressure zone behind (reduction of the mass – levitation).

Natural examples of unsupported and self-supported moving systems are VTortex structures of the mega-, macro-, micro- and nonoworlds, such as galaxies, whirlwinds, ball lightnings, etc., while man-made unsupported and self-supported systems are "flying" Schauberger's, Grebennikov's platforms, UFO's, etc.

It should be noted that to minimize friction in any atmosphere, including the Earth's atmosphere, that is for generation of rarefied gas around a moving object more energy is needed "to extend" Plato channels

In open space minimum, if at all, energy efforts are needed for Plato channel extension, since Space itself is filled with super-rarefied gas.
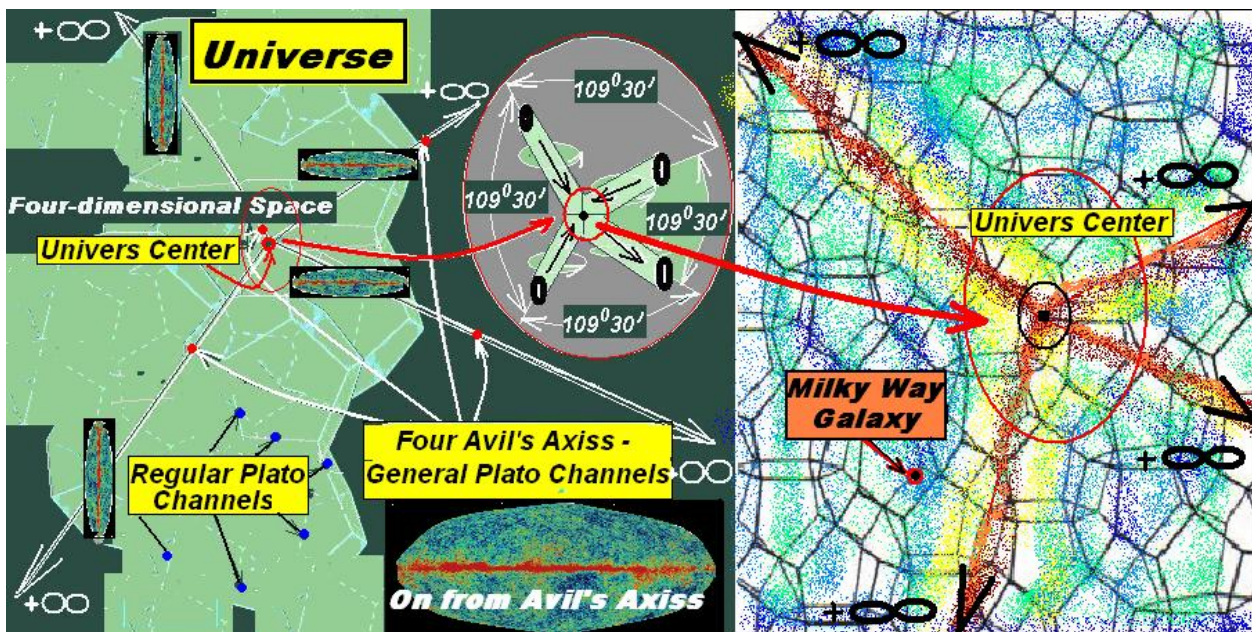
Fig.10. The structure of the Universe: gas foam[4] (four tetrahedrons/colors filled with dodecahedrons or their variations) with general/primary/mainstream Plato channels that collect (the mouth) and distribute (bifurcation) streams with galaxies and stellar matter by secondary/regular Plato channels in the Universe.

In further deliverables the author will consider these phenomena in detail including non-operability of the universal gravity law taking, for instance, megaworld examples:

- The Universe stellar matter tending to infinity disregards (ignores) the so called "gravity law" and automatically tends to concentrate along the "Evil's axes" – infinite edges of Shikhirin cells[4], or in primary Plato-Shikhirin chanels[4] as well as along dodecahedron edges in regular Plato-Shikhirin channels[4];

- Stellar matter of any mature active galaxy having, according to the author, a giant weight about 4×10^{50} tons ignores the so called "universal gravity law" and automatically tends to concentrate along edges of torus honeycomb cells – Shikhirin cell[7] bases.

River-Channel processes

A wise man swims across the river at the river bend, and all the rest do it anywhere. At the river bend the river itself carries the man to the opposite bank (Tao Te Ching).

The latter may be referred to meandering as one of the primary specific features of river-channel processes.

All typical forms of fluid matter existence converted to the solid or/and smart state under certain conditions - phase transitions - are the result of activities of the so-called "river-channel processes (or channel processes).

A channel process is a group of processes occurring during interaction of the channel streamflow with the channel soils. The channel process determines the river-bed relief development and conditions of its seasonal changes such as bed and bank movement and offshore motion of sediments [37].

The author has a wider view of channel processes. In his opinion, **a channel process is a group of processes occurring during interaction of a fluid medium (gas or/and liquid) channel streamflow with ambient space that "makes up" the channel** (Fig.11).
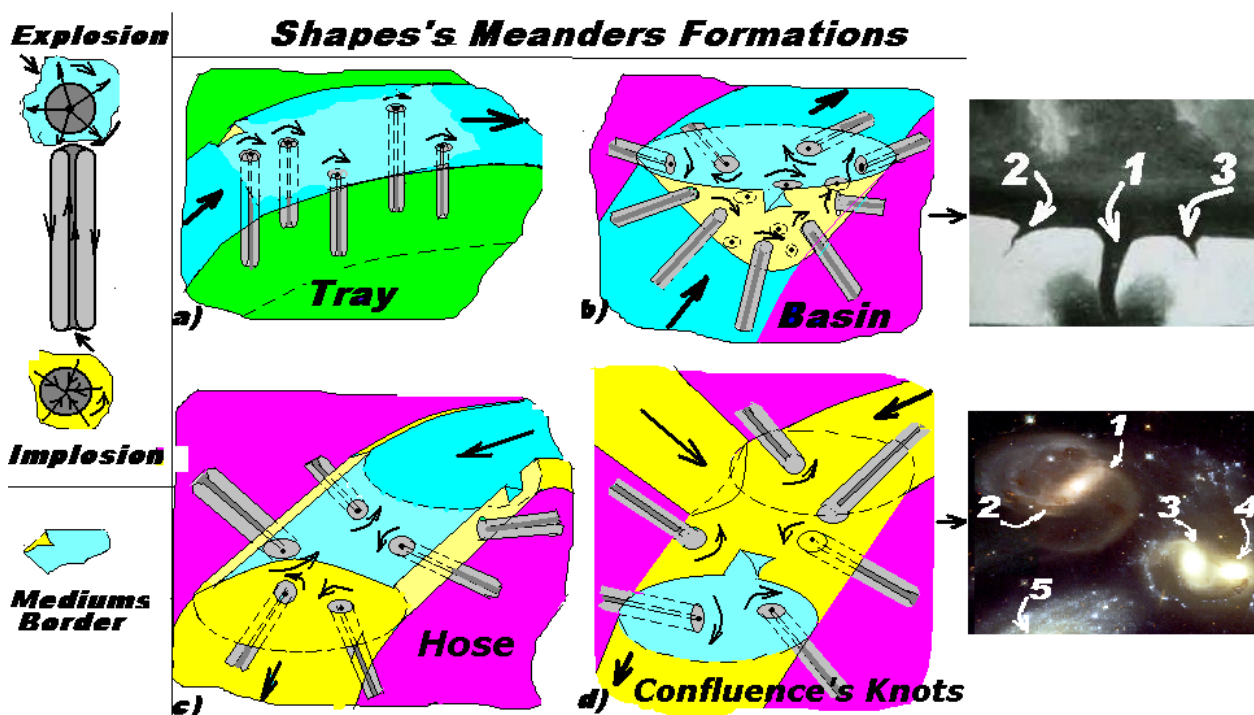

Fig. 11 Channel forms and meanders

а),в),c) Tray, Basin, Hose. A fluid medium flow interacts by part of its surface with a denser environment (the river and the channel), or interfacing fluid media with different physical characteristics interact with each other such as whirlpools in rivers or the ocean, or whirlwinds in the Earth atmosphere.

For instance, Hadley cells generate VTortex cyclones in the atmosphere to evert in the Earth-to-atmosphere direction, while Hadley-Ferrel cells generate VTortex anti-cyclones eversible in the atmosphere-to-Earth direction.

In the top right-hand corner of Fig. 11 there is a well-know photograph dated 28.08.1984 that shows a group of three interacting whirlwinds generated as a result of meandering in atmospheric streams;

d) Merge points of Plato channels [29], or merging and bifurcation: a fluid medium flow interacts by all its surface with a more solid environment (a pipe). Or interfacing fluid media with different physical characteristics interact with each other. In this way, for instance, galaxies are generated in Plato channels[4] of Space as shown by a photo in the bottom right-hand corner of Fig.6. This is "Stephan's Quintet, Gemini Lab).

To the left are VTortex functional elements and a boundary between fluid media with different physical characteristics.

Any channel process has the following functional features:

– presence of "quiet sloughs" or fluid medium areas in a quiescent foam[4] state.

– any moving fluid medium tending to get structured in **stream bundles[4]** consisting of flexible dense and elastic threads rotating in one direction respective their longitudinal axes followed by stream bundles grouping.

– meandering - seeking by bundle threads and later by a bundle set of the most suitable existence in terms of energy consumption, i.e. a tendency to a serpent-like wiggling in space similar to wiggling of a loose fire-hose with water escaping it under excess pressure;

– fluid medium cross circulation in river turn/bend areas leading to appearance of vortex generation zones such as VTortex vortex groups (**foam^{VTortex}**) and single VTortexes, including:

- closed VTortexes – self-supported systems and energy sources;
- open VTortexes - unsuccessful closed VTortexes, i.e. energy dissipaters.

Global "channel" processes running in the gas atmosphere of the Earth or Space also generate the following in VTortex bend/meander areas (Fig.11):

- tiny vortex whirlwinds (foam^{VTortex}) which, when combined, generate a tornado;

    – tiny vortex groups of interacting galaxies (galaxy groups, or foam^{VTortex}) which, when combined, give rise to formation of a galaxy similar to our galaxy or Andromeda Nebula;

– all "exotic" elements of channel processes such as rifts, forks, mouths, merge points, sloughs and whirlpools, bifurcations, "stretches", "bends", development of the channel relief and channel cyclic change modes such as channel retrogression, sedimentation and sediment transfer, etc. being an integral part of the river "landscape".

Examples of Meandering in Nature

1. An example of a controllable meander form is a digestive tract sheath of living organisms the bends of which adjust to physical specifics of fluid medium. Food (lumps of food) moves in a peristaltic manner [38,39] as follows:

- a local region of the elastic digestive tract sheath stretches and envelops a food lump;

- then the sheath shrinks and the food lump is pushed out by eversion performed by the same digestive tract sheath region, etc.

Any disturbance of the "channel" process in the digestive tract leads to typical diseases (stomach ulcer, duodenal ulcer, intestinal obstruction, etc.).

2. Identical "channel" processes run in any vessels conducting biological liquids. Violation of a "channel" process, e.g. in blood vessels, results in their "meandering". i.e. appearance of "knots" and clots in their "meanders, respectively.

3. Movement of serpent-like creatures over the Earth's surface as well as their over- and sub-water movement is a "channel" process with automatic meandering in space with no shores or sheath/tract/hose.

In Nature VTortexes are activated and formed by meandering as the key functional feature of "channel" processes that are present in any moving fluid (liquid or/gas) fluid, namely

- in rivers, sea currents and in rivers of artificial origin (Fig. 11a) at "air-water" media boundaries.

  These are whirlpools, old river-beds being actually separated river meanders, "liquid" meanders moving together with the current, ring currents (ring

meanders) in ocean currents, bio liquids of the floral and animal world moving in vessels/channels/tracts, etc.

- as cyclones and anti-cyclones in the atmospheres of the Earth, Mars and other planets at boundaries between denser and less dense gas or between gas and liquid (Fig. 11 b, c);

- in Space at boundaries of galaxies and small comets: the boundaries between them and Space actually represent boundaries between denser and less dense gas (Fig. 11d).

Electricity and Magnetism

The following is not a question of electricity generation or occurrence by, e.g. friction of a body against wool or using equipment to transform, say, falling water energy.

Electricity and magnetism are considered here as a result of a natural phenomenon inherent to the mega-, macro-, micro- and nanoworld, and appear and disappear along with the phenomenon occurrence and cessation.

The author is convinced that **electricity and magnetism are products of structurization energy[4,7] and integral parts of any active "channel process" (as a plurality of processes occurring during interaction of a fluid medium channel flow with ambient environment) continuing on the Universe mega-, macro-, micro- and nanoworlds. Channel processes include hyper-currents in Space and currents in the atmosphere, rivers and the World Ocean, fluid medium flows in bio-channels of the vegetable and animal worlds as well as in the man's neural system**.

The primary products of channel activities are fluid medium bundling and meandering followed by automatic generation of self-supported VTortex energy-information systems such as galaxies, whirlwinds, eddies, toroidal biological and smart "packs" that generate Information in parallel with electricity and magnetism.

Physically, the process of electricity generation/accumulation occurs as a result of friction of stretched dodecahedrons (or Shikhirin cells[7]) combined into a stream bundle as they are rotating in Plato-Shikhirin channels[4,7] and moving along helical line respective their longitudinal axes. Plato-Shikhirin channels[4,7] are simultaneously electricity sources.

Every Plato-Shikhirin channel[7] contains central body acting as a rotor that rotates opposite to the direction of deformed Shikhirin cells[7] rotation, while the Shikhirin cells located in a circle act as the starter. The above is actually a configuration of a natural electromagnetic motor or electromagnetic energy generator.

The generally accepted "strong, weak, electromagnetic and gravitation interaction" or "four (independent, autonomous) fundamental interactions" considered by today's "physics" are nothing but a designed Centaur devoid of any sense and contradictory to Nature.

Attempts to invent new "interactions" and/or their integration on the basis of the so called "theory of single field" are just another "Super-centaur" project that further aggravates the status of fully confused modern "physics".

Aura and its Identification

According to the author, the Aura, or Kirlian effect, looking like a colored halo glowing around various biological and non-biological objects in which channel processes are running. The aura glow intensity is directly proportional to the channel process intensity, that is, the glow intensity visually replicates the channel process intensity.

Transformation of structurization energy rushing to support stream bundles[4,7] as a typical natural form of fluid medium existence not only results in extra circulation energy generation but also generates electricity (and magnetism), such as the balloelectric effect observed in river currents and waterfalls (negative charge), in tide waves (positive charge), and produces thermal, light (white, blue, yellow light), colored (rainbow), sound radiation, etc.

Moreover, the bigger is a quantity of "rivers and currents" and/or their concentration on any object or its part, the more intensive are channel processes (meandering) and hence the larger is structurization energy inflow and its transformation to other energy types, primarily to extra circulation energy.

For instance, the aura has always a more intensive glow around the person's head, his key centers, finger pillows, etc., since these parts of the human body are saturated with neural, blood and other vessels and hence emit more thermal and light energy obtained from structurization energy transformation.

In other words, when a person loads his (her) brain heavily for a short or long time by thinking, believing in something or somebody, dreaming, deceiving, inventing, loving, etc., his (her) channel processes work just as intensively but at the same time have some specific features that help to differentiate between the truth and lies, namely, whether the person really believes or simulates belief, is sincere or has evil intentions, etc. Multiple photographs of aura and "plasmoids" of different shape "floating" above the head of a person or any other living being or a plant only demonstrate photo or video imperfections (insufficient frame frequency, shooting with highlighting that does not fix the entire image, etc.), i.e. only separate freeze framed are fixed that are later tailored to obtain a desired result.

One should know that:

- the primary energy to power a plant or a living being control system is structurization energy that inflows from space to restore 4 typical natural forms, particularly stream bundles[4,7] and VTortexes;
- energy generated by food (food products for people and animals, ground for plants, etc.) is only a construction material for the frame (the skeleton) and muscles (power actuator);
- human ability to use structurization energy for protein introduction into the human organism allows long-time existence without food.;
- possession and use of natural energy-information technologies makes it possible for a person to live for a long time (100-150 years).

In case of a channel process failure, i.e. disturbance of the 2-nd and 3-rd typical fluid medium state, or a stream bundle[4,7] or VTortex, respectively, and their conversion to the 1-st quiescent foam state,

- structurization energy[4,7] to sustain these forms ceases to come;
- transformation of structurization energy[4,7] to extra circulation energy is terminated;
- thermal, light, electromagnetic energy is no longer generated;
- the aura (the soul, bio-field, etc.) is separated from a quiescent (dead) object, etc.

The Sun

Maximum structurization energy is used for recovery/maintenance of the 3-rd, i.e. superior form of fluid medium structurization in Nature (VTortex) along with its maximum transformation – generation of extra circulation energy including thermal, light, electric and other energies.

The above is best illustrated by the Sun surface formed or granulated by many millions of self-supported VTortexes, or Benar cells which are unsupported or self-supported drives moving to the Sun center by their enveloping (implosive) ends forward and creating a discharge zone and lower temperature in front of them.

In other words, the system of Benar solar cells is an elastic spherical shell permanently compressing the Sun in which shell increased pressure and temperature are generated at eversible (explosive) ends of VTortex Benar cells.

That is, the temperature and pressure at the Sun surface are higher than the temperature and pressure of the sub-surface layer and these values drop to minimum temperatures and pressures in the direction to the Sun's center.

So, the key functional feature of structurization energy, E_S and information, I_S, is ability to restore/calm/put into order a "turbulent" state of any typical fluid medium form: Foam[4], Stream Bundle[4], VTortex and Foam[VTortex] interacting with each other and converting to one another under certain conditions (Fig.12).
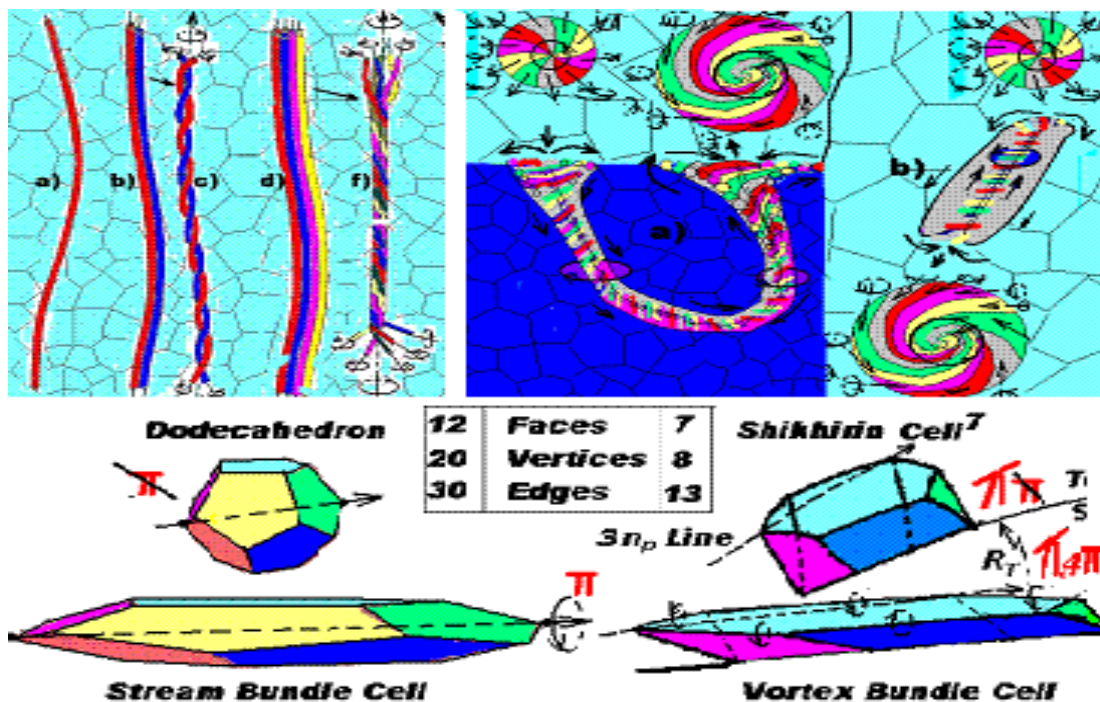

Fig. 12. Typical forms of fluid/working medium existence in Nature. The bottom left are elements of the quiescent and stream bundle (a streamflow) states – a dodecahedron and a stretched

dodecahedron, respectively. The bottom right are VTortex (Shikhirin cell[7]) and VTortex vortex bundle (stretched Shikhirin cell[7]) elements, respectively.

1. Quiescent State of Fluid Medium

The fluid medium quiescent state (shown in Fig. 13 as the background) corresponds to "Foam[4]" comprised of a dense pack of regular polyhedron bubbles, namely dodecahedrons and their variations. A bubble is an elastic/soft sphere-like shell filled with fluid gas or liquid medium under excess pressure.

A "turbulent" fluid medium contained in an opened or hermetically sealed container is formed into foam and comes to a quiescent state.

When the fluid medium is stirred the dense pack consisting of regular polyhedrons or their variations begins to change its form, i.e. polyhedrons are beginning to stretch, compress, etc., and on the contrary, after its calming down the deformed polyhedrons are converted to regular polyhedrons.

The solid crystalline state of matter is "solidification" of fluid medium tending to the quiescent state supported by structurization energy.

Faces/films of dodecahedrons are made of surface active materials. "Foam[4]" is a discontinuous and composite structure that does not possess properties of so called continuous (virtual) media.

Moreover, the results of a study [6] testify to a two-phase state of water: steam (gas) and liquid existing in definite proportions. I should like to add that the faces/films are Plato channels consisting of compressed steam which, when stirred, expands, apart from phase transitions, and produces voids/pits/holes mainly in polyhedron edges and vertexes. The latter are nothing but lower "suction' pressure zones or "energy vacuum" zones for liquid to rush to with support of structurization energy to fill that vacuum and create thereby a discharged zone behind itself (the liquid) with a less vacuum potential since part of energy spent on "discharging" is lost.

This short-lived process will go on as long as "discharging" and suction energies will come to equilibrium.

Foaming and Foam Flow

The deformation process is the same for solid, amorphous, liquid and gas substances, i.e. sliding of polyhedron layers respective one another over their edges depending on the structurization form:

- in a finite and infinite (the Universe) radius sphere, polyhedrons slide over "straight" surfaces;
- in a torus, Shikhirin cells[7] slide helically respective the torus string.

Dislocations in giant gaseous "crystals" are represented, for instance, by:

- dead or active galaxies and other space debris in 3-dimensional outer space; or

- "solar" systems and spoilage of super-cold helical rolling, such as the Coiper belt, etc. in 4-dimensional space of galaxies.

The "foaming" and foam flow processes are well described by an example of beer foam in [29] where the best filling for the three-dimensional space is a set of dodecahedrons and their variations.

There may be other examples [40-43] of dense packs, e.g. polyhedrons made of **n** vertexes that form only penta-, hexagonal or other angular faces. The key pre-condition for a dense pack is availability of pentagonal faces as main structurizers in Nature.

Both gas and liquid "tense" foams contained in a boundary shell, e.g. static spherical or eversible toroidal shell, have a "wet", convertible to "dry", form of existence:

- "wet" form: the walls between bubbles/structural spheres are thick; the structural spheres have a spherical/ovaloid shape and do not affect one another, and

- "dry" form: the walls between bubbles/structural spheres are thin; being affected by one another, the structural spheres are shaped as regular or irregular polyhedrons.

At the outset of the process the bubble spheres increase in size because their shells are bloated by fluid/working medium under excess pressure contained within (***π-generation - a spherical π** is generated) and tend to form a regular polyhedron (**π is "degenerated", the spherical π** disappears)

The flow of "tense" foam in a static spherical non-eversible/non-enveloping shell with a finite or infinite (the Universe) radius corresponds to progressive movement during which spheres/bubbles move/slide layer by layer in a single direction and

occupy places of adjoining spheres/bubbles with geometrically unchanged pressure centers that do not change their position (Fig.10).

Lightning

The configuration of lightnings in the Earth's atmosphere or of similar processes occurring on other planets provides a direct proof of fluid gas medium structuring into a "quiescent" state (Fig.12).

A lightning is a discharge between static magnetoelectricity (+) accumulated in the upper part of a whirlwind/tornado and the Earth (-). The electric charge is accumulated as a result of friction-rolling between five linked branches/rolls, i.e. tight and elastic gas threads rotating round their longitudinal axes, and a cylindrical central body rotating round its longitudinal axis in the opposite direction (see "Electricity" above).

The cylindrical body consists of ice and/or water and is actually a preform to obtain polyhedron hailstones or snowflakes both regular and irregular but prone to symmetry. A combination of the five branches/rolls and the central body makes a super-cold helical rolling mill.

The fur-tree configuration of a lightning consists of the main "broken" trunk and branches located in Plato channels.

The trunk is the shortest discharge distance between a cloud and the ground or between oppositely charged clouds. The discharge flows through edges of a super-dense pack of structural spheres-dodecahedrons or their variations.

The thickness of lightning discharge trunk and branches increases towards the foot of the discharge "fur-tree", and polyhedron dimensions increase with the height in the atmosphere.

A discharge moving along polyhedron edges may take three directions:

- vertical (top down) - between an electrified cloud and the ground;

- lateral - between two electrified clouds having opposite charges; in this case branches of the lightning discharge are normally directed under an acute angle to the trunk.

- a combination of the vertical and lateral types.

The formation of the lightning trunk and branches follows the Fibonacci sequence.

By analyzing the parameters of the discharge trunk and branch bends from at least three sides, it is possible to calculate polyhedron types and sizes.

Such phenomena as "red sprites" [44] and Aurora Borealis are other direct/indirect visible proofs of existing structured space elements, such as edges and faces of deformed dodecahedrons or their variations at the interface between the Earth's atmosphere and diluted gas that "blows" its surface as the planet moves in outer space.
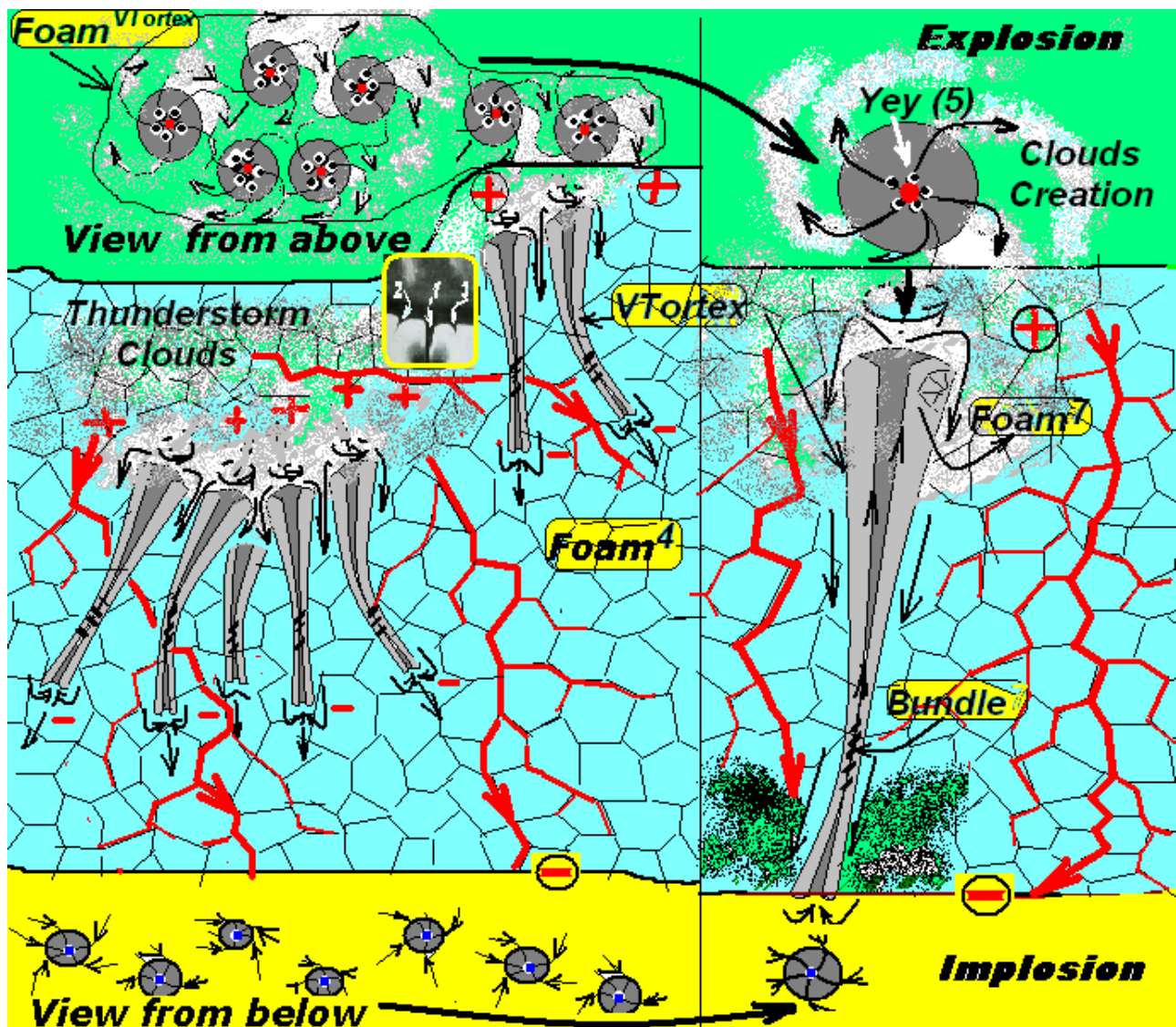

Fig.13. A discharge between clouds electrified by a VTortex whirlwind and the ground (vertically directed), and between VTortex whirlwind-electrified clouds located at different levels above the Earth or having opposite potentials (laterally directed). Also a mechanism for combining small vortices into a large vortex, such as a whirlwind/tornado, is shown.

2. Stream Bundle[4]

A moving fluid medium is structured into bundles consisting of "stretched" foam[4] – "stretched" flexible and elastic gas or liquid threads. The threads are comprised of stretched regular polyhedrons, e.g. dodecahedrons, rotating in the same direction respective their longitudinal axes (Figs. 6, 12).

The author believes that:

- every thread has its own π number;

- 6 (six) stretched dodecahedrons are formed around one stretched dodecahedron, each of which rotates round its longitudinal axis since the cross-section is a hexagon;

- one of the 8 vertexes of a dodecahedron is the dodecahedron's beginning while the vertex opposite to it is its end, respectively.

- a vertex is formed by three pentagon faces.

Therefore, visually the surface of a moving stream bundle has a "faceted", angular appearance, unsmooth and made of "shapeless" pieces of fluid medium (water).

Let us consider formation and behavior of an unbreakable stream bundle exemplified by water (a creek) escaping from a lake or dammed river (from a higher to a lower level) into a created opening (funnel) and further following the slope of the river channel.

The water flowing out of the opening gathers near the narrow part of the opening and starts to gain speed. Along with that, a dense pack of liquid regular polyhedrons existing in the lake begins to distort near the sink mouth: liquid polyhedrons stretch out and shrink in width, i.e. form specific elastic chains – resilient and tight liquid threads. As the speed of the flow increases, chains of stretched polyhedrons are beginning to slide against one another and actively seek their individual and optimum positions in the flow among similar "competitors". In other words, in each of them, like in a microflow, channel processes are activated based on meandering, "energy" vacuum and structurization energy.

As a result, the chains formed by resilient and tight threads sliding against one another start to twist simultaneously in one and the same direction respective their longitudinal axes, which leads to their further stretching out and tightening. Thereby

a bundle of tight and resilient threads rotating in one direction respective their longitudinal axes is formed.

"... it should be noted that regardless of such changes vortex threads fully retain their uniqueness, they do not merge and remain totally impermeable for one another, reveal apparent forces of attraction and repulsion, etc. in other words, they behave as though they represent not a specific form of liquid (or gas, the author's comment) motion but rather a special form of flexible elastic matter different from surrounding (not rotating) liquid (or gas, the author's comment) [45]".

I was provided with this unique information in January 2006, by Vladimir Kozlovskiy, a mathematician and a student of Yakov Frenkel, currently living in Potsdam (Germany).

A stream bundle[4] is fluid medium in the state of forward meandered motion/flow that rotates round its longitudinal axis and consists of resilient and tight threads/rolls/strings (deformed dodecahedrons or their variations) each rotating respective its longitudinal axis in the same direction. Forward meandered motion of the "Bundle" is not a laminar flow since the latter does not exist in Nature and neither do the so called "continuous media".

It can be said that a laminar flow is a special case of meandered bundle movement/flow where its velocities and distances are not large (less than a single bundle thread thickness), e.g. in a transition zone between a preceding and a following meanders in rivers, oceanic, atmospheric and space flow currents.

3. VTortex and Foam[VTortex]

Foam[VTortex] as a multi-VTortex group and single VTortexes originate in meanders of flows/currents.

A VTortex, or a "Milovich or Shikhirin Dipole", consists of two components having equal field intensities (the source and the sink) due to which one side of the VTortex evacuates liquid (gas) while the other sucks it in. This results in pressure difference that provides the VTortex motive force and moves it towards the sucking side [6].

VTortexs VTortex Functional features

A VTortex is a self-supported toroidal eversible/enveloping structure being at the same time an energy and information source.

A VTortex is a smart $3n_p$ –dimensional $\{n_q + [(n_q − 1)/2]\}$-branch toroidal soliton (Shikhirin soliton) formed of a dense pack of $7n_p\{n_q + [(n_q − 1)/2]\}$ structural spheres/bubbles (Shikhirin cells[7]), while its outer surface is reinforced with a ($3n_p$; $\{n_q + [(n_q − 1)/2]\}$) torus knot having (p, q) parameters, where:

- **$p = 3_p n_p$** is a number of turns around a VTortex meridian (a polar/longitudinal axis); **3_p** is a sequence of 3, 6, 9, 12, … numbers (including 3 and multiples of 3), and **n_p** are natural scale numbers amounting to hundreds/thousands;

- **$q = \{n_q + [(n_q − 1)/2]\}$** is a number of turns around a longitude, i.e. a sequence of 1,2,4,5,7,8,10,... consisting of natural numbers except 3 and multiples of 3, where **n_q** are natural-scale numbers; the *[X]* operation is an integer taking operation (integer division).

Along/in the direction of this torus knot line there are *$7\ n_p\ \{n_q + [(n_q − 1)/2]\}$* color zones/honeycomb cells having common boundaries, they cover the total surface (3 methods) and make the basis of a dense pack of *$7n_p$ structural spheres/bubbles, or* **Shikhirin cells[7]**. This knot is described in more detail in [1,21,22].

Natural VTortex Specifics (Fig.14) and "Panacea"

A. The explosive radial centripetal source, or the eversible end (the corrector funnel⁻) or a spreading whirlwind, is located behind the helical rolling mill and is characterized by the presence of the following:

- electrified gas (charged clouds, dust, fog);

- high pressure and temperature;

- "newly rolled" parts such as a planet, a star, a hailstone, a liquid drop, a reject (Edgeworth-Kuiper Belt), gas and liquid toroids, e.g. small comets, cavitation bubbles, etc.;

- a "regular" coil;

- "an eye", "life torch", yellow hot light;

- "positive" energy;

- noise produced by the rolling mill operation, etc.

Fig. 14. The interior design of Victor Schauberger's implosive machine (Domestic Power Station); to the right is a photograph of the machine used by him in the last century fifties for home lighting and heating [23]. Even by its appearance the machine looks like natural explosion-implosion "galaxy" and "tornado" machines.

An excursion of the author

A genius may also be mistaken, namely: Victor Schauberger made six copper tubes twisting them twice round the vertical axis. These tubes deliver six liquid threads (rolls/branches) rotating round their longitudinal axes.

In other words, he made a VTortex based on a *(2.6) = (1.3)* $\leftrightarrow$ *({n_p* — let me use LaTeX: based on a *(2.6) = (1.3)* $\leftrightarrow$ *($\{n_p + [(n_p - 1)/2]\}$; $3n_q$)* torus knot by "turning" the *(3.1) = (6.2)* $\leftrightarrow$ *($3n_p$; $\{n_q + [(n_q - 1)/2]\}$ torus knot* (the torus layout) by 90° [22]. It means that Schauberger's implosion machine should have (according to its "nature") had five or seven or any other number of copper tubes not multiple of three.

On the other hand, perhaps, it is the author who is wrong because Victor Schauberger could have:

- inverted the (6.2) torus knot into the (2.6) torus knot though it is unlikely he knew this information from the Topology;
- designed his machines by intuition, including their main vortex generator unit, based on "functional features" of channel processes that he discovered in the course of multiple visual observations;
- selected number six as the key characteristic of a honeycomb cell;
- made a mistake in twisting the tubes around their longitudinal axes: the number of turns should be less than 2 since the "remaining turns" with the tube should be placed at the device periphery;
- been unaware that in twisting the tubes round their axes the number of turns might fail to conform to the "natural" number of turns, etc.

From the above it may be concluded that:

- his machines may and have to be reproduced with account for "natural" functional specifics and physical parameters of *($\{n_p + [(n_p - 1)/2]\}$; $3n_q$)* и *($3n_p$; $\{n_q + [(n_q - 1)/2]\}$)* torus knots;
- the VTortex central part consisting of copper tubes may be implemented otherwise than using his *(2.6)* option.

It should be kept in mind that:

- according to the Law of Bloating [21], rolls are cone-shaped, therefore, the tubes should be also cone-shaped;
- a streamflow consisting of stretched dodecahedrons and twisted in a specific way "find itself" in a tube, therefore the tube surface should be soft/elastic and replicate its profile;
- the tubes should not be made of electric current conducting material;

- significant problems will arise in definition of physical parameters and fabrication technologies of the tubes.

The end of the excursion.

B. The implosive radial centrifugal sink, or the enveloping end (predictor funnel[+]) or a gathering whirlwind, is located in front of the helical rolling mill and characterized by the following features:

- absence of gas, dust, clouds leading - clear space;
- low pressure and temperature;
- наличие «состарившихся» деталей, увеличивших свой вес и объем в десятки раз (за счет закона набухания), "aged" parts that increased their weight and volume tenfold and more (due to the Bloating Law);
- the distorted rectified coil;
- the "black hole", i.e. the "Death Torch"
- white cold light;
- negative energy;
- suck-in noise, etc.

Control of man-made gas or liquid VTortex parameters (except tornado parameters) makes it possible to use this system for energy extraction an infinite number of times.

В настоящее время автор акуммулирует интеллектуальные и финансовые ресурсы для создания типоразмерного ряда универсальных многофункциональных энергетических систем «Панацея».

At present the author is accumulating intellectual and financial resources to create a "Panacea" family of universal multifunctional energy systems.

The "Panacea" system operation principle is based on controlled **disturbance** of the structurization implosion-explosion process, i.e. attempts of a working/fluid medium to become VTortex structured.

In other words, this principle is directed towards keeping and making use of "Genie in-the-bottle" energy.

In this situation there is no destruction of matter (Nature). Traditional energy sources like hydro- or atomic power stations, hydrocarbon-combustion power stations or cold

nuclear synthesis, etc. are energy sources ecologically harmful for Nature since they are based on principles of uncontrolled explosion/implosion processes, i.e. irreversible destruction of matter.

The design of a domestic Panacea multifunction system is very simple and its price is not higher than the price of an average personal computer.

At present the author is accumulating intellectual and financial resources to create a "Panacea" family multi-purpose multifunctional energy systems.

The domestic Panacea Multi System like any natural VTortex structure will be equipped with various "attachments" for simultaneous ("all in one") transformation of vortex structurization energy into:

- heat for rooms heating;
- heat for water boiling;
- heat for cooking (a stove);
- cold for air conditioning and food preservation (a refrigerator);
- room lighting energy;
- various energy converters;
- high and/or low pressure (a hair drier, vacuum-cleaner, air blower);
- positive energy for medical treatment and negative energy for neutralization of harmful substances and organisms to preserve the floral and animal world ecology, etc.

The most promising use of structurization energy is development of a family of various vehicle drivers for unsupported and self-supported motion in any medium, such as UFO's, Grebennikov Platform and alike.

The implementation of a project of a total avalanche-scale use of multifunctional Panacea systems by Mankind (similar to Bill Gates's Microsoft) will eliminate the need to buy energy resources (gas and electricity) and hence current designs of refrigerators, air conditioners, fans, gas, electrical and microwave furnaces, vacuum cleaners, air blowers, air "refreshers", transport vehicles, etc. Then Nikola Tesla's dream will come true, namely: **energy (electricity) like air must free of charge for Man.**

Traditional Nature-affecting energy sources may be only used for a short-time (seconds) and low-energy application (not more than 0.01% of today's usage) for implosion-explosion process activation.

Foaming and Foam Flow

7 n_p {n_q + [(n_q – 1)/2]} zones/honeycomb cells mean the bases of densely packed 7 n_p {n_q + [(n_q – 1)/2]} structured equipotential spheres – Shikhirin cells[7] – of which a boundary layer of a virtual toroidal VTortex shell is made.

A Shikhirin cell[7] is an irregular polyhedron – a toric two-vertex upturned pyramid, or a "toric" heptahedron, - consisting of 7 toroidal faces (2 irregular triangles, 4 irregular tetragons and 1 irregular hexagon), 8 vertexes, 13 edges [1].

The "tense" foam in the eversible/enveloping shell is characterized by a toroidal flow when structural spheres/bubbles - Shikhirin cells[7] (heptahedrons, irregular polyhedrons) – move/glide in one direction with respect to the helical line of a (*$3_p n_p$, 2*) knot and occupy places of adjacent Shikhirin cells[7] with geometrically unchangeable pressure centers (pressure centers "stand still").

At the initial period of formation of, e.g. a galaxy, future Shikhirin cells[7] look like "thick wall" spherical bubbles isolated from one another. The bubble wall material (inter-bubble space) consists of loose/softened gas and surface-active material to make future protective elastic films/faces – Plato-Shikhirin channels$_{1,2,3,4}$[7].

As the pressure in the shell increases the wall material (loose/softened gas) becomes tighter and thinner and "superfluous" gas is removed from the wall material structure (Plato-Shikhirin channels$_{1,2,3,4}$[7]) into the bubble space - the G. Gibbs and L. Marangoni effect. The spherical bubble shape is converted to a structural sphere – a Shikhirin cell[7].

During further ramp-up of the fluid/working medium pressure inside the shell, with its volume unchanged, the number of Shikhirin cells[7] is multiplied by *n_p* (clusters), i.e. the number of meridian (triple) turns increases [22].

The Shikhirin cells[7] increase in number until the pressure values inside the shell and in the VTortex environment have equalized. Similar processes also occur in whirlwinds with account for their ($3n_p$;5) "knot" characteristics.

Then, according to the Law of Bloating, the Vtortex size increases in time in a non-linear manner.

VTortex Internal Energy or Dead and Live Torus Knots

Based on a physical approach to mathematics – Jones Polynomial - and discoveries of other scientists [46] the term "Knot Energy" was introduced.
The knot energy represented by flexible and elastic threads twisted before "assembly" of knots and links was successfully put into practice [47, 48].
One of the promising developments in torus technologies is carried out by the author jointly with hid friend and colleague architect Dmitry Kozlov, an expert on Architectural Bionics, on using long closed resilient non-stretchable rods inherently carrying bend energy [49, 50] (Moscow-Zelenograd, Russia] as the basis for:

- reinforcing layers of a toroidal shell material (Fig.15);
- space constructions supporting the toroidal shell or otherwise helping it to move by eversion without using fluid medium under excess pressure to be used in future generations of toroidal transport vehicles [20];
- elimination of the shell , etc.
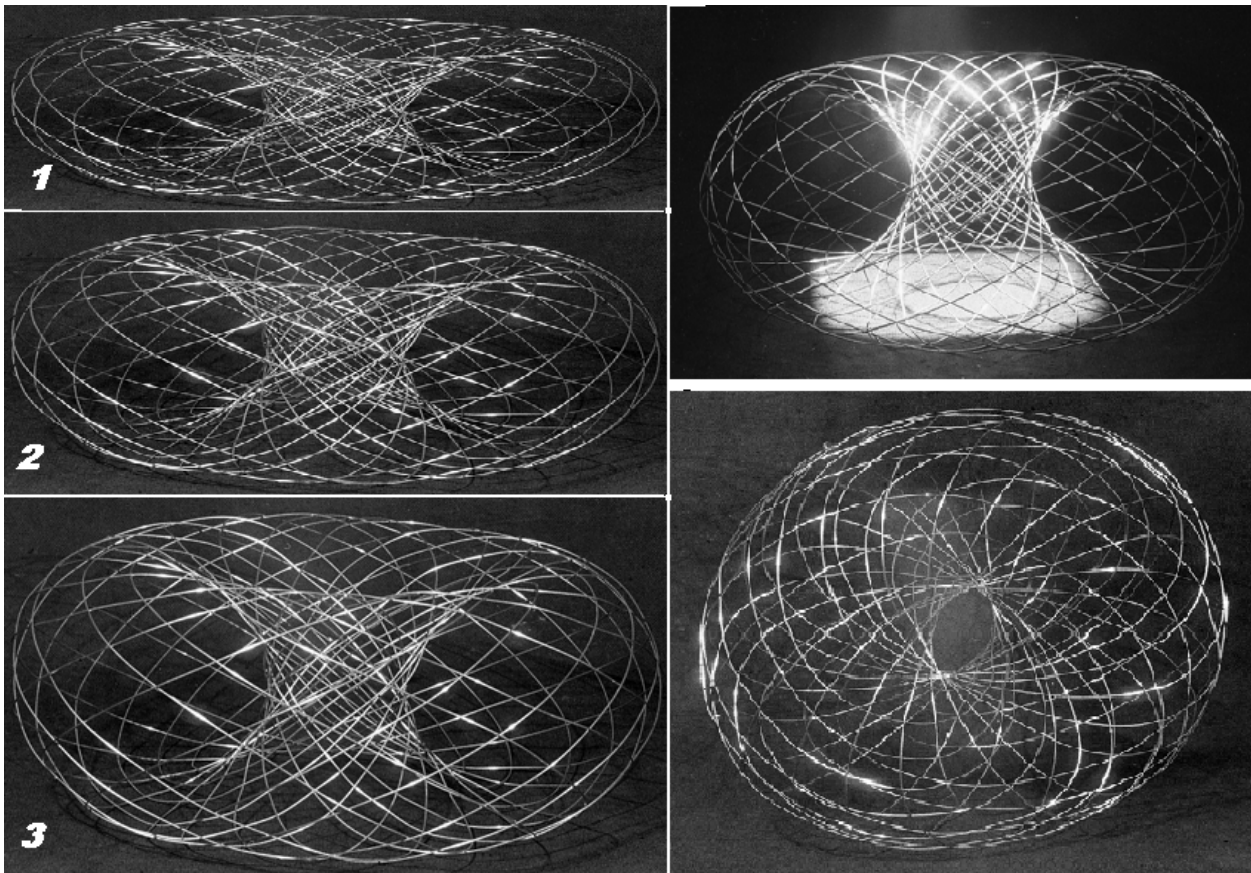
Fig.15. Consistent self-formation of a toroidal surface from a 2-dimensional (flat) structure (pos. 1) into a 3-dimensional (bulk) structure (pos. 2 and 3).
The photographs are a curtsey of Dm. Kozlov.

The author did not find any information on torus knot energy or power characteristics of torus knots that reinforce a VTortex, such as:

- forced rotation of a VTortex thread along the latter's longitudinal and transverse axes;
- maintaining a toroidal shell structure stretched from inside by excess pressure as well as other specifics;
- changing/twisting the knot into a peculiar multidimensional soliton spring;
- transfer of (forced) rotation of a preceding untwisting turn along its longitudinal axis to a next turn;
- untying the knot, etc.

Therefore, according to the author, as a result of external environment energy, or structurization energy ES, efforts to preserve and support a VTortex as one of standard/ typical and the most sophisticated form of fluid medium existence, this energy is to the maximum degree converted to internal energy E_I of a VTortex knot/Shikhirin soliton, which energy consists of:

$E_I = E_{LB} + E_{DB} + E_{TM} + E_C,$ where:

1. E_{LB} is longitudinal bend energy, or the "economic" Euler's bend which means a longitudinal bend of a flexible and resilient rod when it is bent along the longitudinal axis (Fig.16) [51]. For a VTortex structure like a galaxy or a tornado it means folding/twisting the thread $3n_p$ times around its longitudinal axis thereby resulting in acquiring by the thread material of bend deformation so that respective strains occur in it.

2. E_{DB} - **transverse bend /twist energy** identical to "economical" Shikhirin bend which means transverse bending of the flexible and resilient rod twisted in the direction of its longitudinal axis (Fig.16).

For a VTortex structure, it means twisting the thread ends by $(3n_p + \{n_q + [(n_q - 1)/2]\})$ full turns respective each other around its meridian and longitude with their subsequent connection, which introduces additional bending and twisting tensions.

For example, for an active galaxy the thread is twisted by *(3$_p$n$_p$+2)* turns, while for a tornado – by *(3$_p$n$_p$+5)* turns, resp.

3. *E$_{TM}$* – **shell material tension energy** or meridian (pole-to-pole) tension of the knot thread due to interior arching of the VTortex toroidal shell effected by working/fluid medium under excess (gas) or normal (liquid) pressure and simultaneously squeezed by outer environment [50].

4. *E$_C$* - **"bloating" or "conical torus" energy** (Fig.16, right) characterized by constantly increasing VTortex "motive efforts" [21] through non-linear increase of incoming structurization energy to support its typical natural shape and volume/weight, respectively. The cone angle remains unchanged.

Since the VTortex moves forward by eversion, the *(3n$_p$; {n$_q$ + [(n$_q$ − 1)/2]})* torus knot thread that "reinforces" the shell material – the external toroidal surface of the VTortex - also everts with the latter. While doing so, the thread is forced to untwist i.e. rotates round its longitudinal axis under effect of accumulated **E$_{LB}$** and **E$_{DB}$** energy. Moreover, a single untwisting instance, i.e. releasing the tension created in a twist made by one turn, leads to sequential untwisting of all (starting with (i+1) subsequent twists by one turn and backing the last (i-1) twist with the i-th twist to energize it for the next twists to come undone.

The above is a description of a continuous process of VTortex forward movement by eversion followed by constant release of energy and imparting it to the next turn/twist along with parallel receipt of energy from the preceding turn/twist. Simultaneously, *(3n$_p$ + {n$_q$ + [(n$_q$ − 1)/2]})* energy transfer/receipt instances occur. For example, in a galaxy about ~ *3n$_p$*, or hundreds of such events occur every hour with linear velocities of hundred thousands miles per hour.
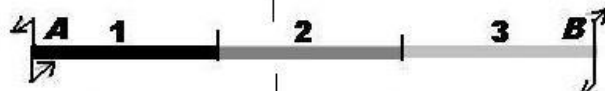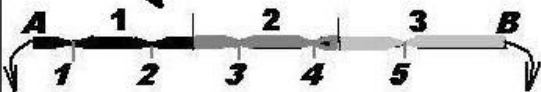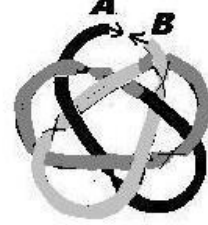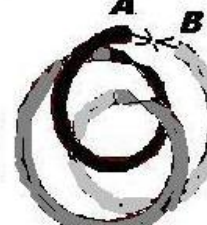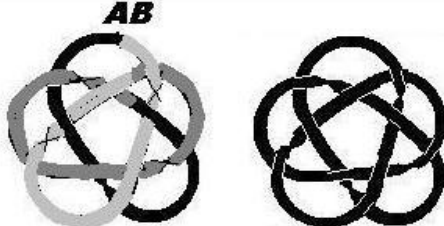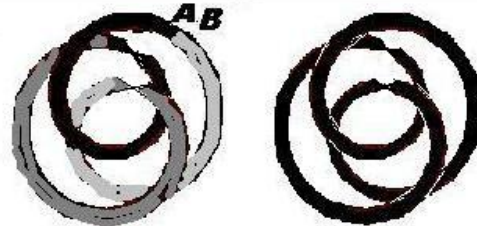
Fig.16. E_{LB} – longitudinal bend energy and E_{DB} – transverse bend/twist energy based on whirlwind and galaxy examples. The procedure of bend energy accumulation is shown (Pos. 1 → 4).

Siphon Process

The ability of liquid or gas dodecahedrons or their variations to extract from fluid medium and shape into elastic and flexible threads rotating into one and the same direction, in other words, into a tight braid (bundle) is similar to siphon processes no matter whether with "the pipe" or without it. The presence of a soluble polymer lump (of a polyoxyethylene type – "polyox") in the fluid medium noticeably enhances the siphon process [53, 54]. That is, when flowing in any direction, polymer molecules stretch out/draw themselves up dragging fragments (dodecahedron packs) of fluid medium (gas or liquid) behind themselves.

The process of "polyoxed" self-pulling" helps structurization energy and information to realize its capabilities to a maximum degree and hence to extend capabilities of extra circulation energy obtained via its transformation and "hurrying up" to restore a typical form of a stream bundle[4,7].

The formation of a "polyoxed" bundle[4,7] in a tube of a smaller diameter than the bundle itself forces the bundle to go up the tube even if the latter is separated from the surface of fluid medium.

A siphon process is visible activity of extra circulation energy (and information) and a proof of its existence and hence the existence of structurization energy and information.

In natural VTortexes the role of the "tube" is played by the Vtortex central part – the **bundle**[7] – consisting of flexible and elastic liquid or gas threads rotating in parallel around their longitudinal axes in the same direction and moving away from the implosive towards the explosive end while carrying water, debris and the super-cold rolling mill waste behind themselves.

As a result of anthropogenic activity soluble polymers are accumulated in the Earth atmosphere in excess amounts, which contributes to formation of more numerous superstable whirlwinds/tornados in their activation areas, e.g. in the Mexican Gulf or Sea of Japan.

Conclusion

I made an attempt to describe the most elementary natural structures. To keep them in order, external, or "free", energy "spares no efforts".

Everything that surrounds us in the Universe, such as vegetable and animal world, also represents multi-level natural structures whose generation and keeping in order is also due to structurization energy that uses all its resources for this purpose. In other words, everything surrounding us is (was and will be) strictly specific, optimally built and not subject to mutation since structurization energy cannot follow a more costly way and generate, for instance, such monsters as a centaur. The centaur cannot be regarded a typical natural structure, and should it come into being it is doomed to perish like degenerates and freaks of nature do under the effect of de-structuring InfEnergy.

The description of this natural technology and vibration/resonance processes with "tortech" positions will be contained in future deliverables of the author.

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