

# YAGODINSKIY VICTOR NICOLAEVICH

The graduate of Naval Medical Academy (1947 - 1953), the epidemiologist – the microbiologist, the developer space – genetic theory of cyclicity of biosphere and an origin of a life, the scientist, the popular writer of a science.

## Short biographic information

Graduate from the Naval Medical Academy (1947-1953), epidemiologist, microbiologist, former of the cosmo-genetic theory of cyclic biosphere and life origin, scientist, science popularizer.

Born on February 9, 1928 in Mishkino station, Kurganski region, Russia, in the family of Russian teachers. He spent his childhood in Kazakhstan and in Omsk. He went to school in Berezaika station, not far from Bologoye. The World War II found him in Belev, Tulouski region. He graduated from school in Plast, Chelybinski region, in 1947 and entered the Naval Medical Academy in Leningrad (now Saint Petersburg) the same year.

During the second year of studying at the Naval Medical Academy V.Y. joined the microbiologic society and published his first scientific research study in 1953.

After V.Y. graduated from the Academy he was appointed to the position of the Head of the Medical Service on *Sokrushitelny* (“destructive”) torpedo boat in Baltiysk. After one year and a half he was confirmed to the post of bacteriologist in SEL DKBF. In 1957 V.Y. was appointed to the post of the Head of the Anti-plague Service in Sovetskaya Gavan’ (harbor). He defended his Ph.D. thesis *Encephalitis in Severnoye Primorier* in 1964.

In 1965 V.Y. filled the position of bacteriologist in PSEO DKBF in Liepaya. He was transferred to the reserve in 1969. He worked at the Institute of Parasitology in Rostov-on-Don on the problem of haemorrhagic fever. In 1970 V.Y. moved to Moscow to manage the Sanitary Epidemiological Laboratory. In 1971 he won the competition to fill the position of the Head of the General Epidemiology Department in the Central Institute of Epidemiology of the Ministry of Health of the USSR, where he started working on creating of the ASU SanEpid (automatic system control for Sanitary Epidemic Department) for the Ministry of Health.

Due to the developing of the subject research V.Y. was promoted to work at the Computation Center of the Ministry of Health, where he worked on projects for the Ministry of Health and the Sanitary Epidemiological Laboratory of Moscow and Moscow region. He also supervised the work on creating and installing the

ASU SanEpid (automatic system control for Sanitary Epidemic Departments) in the former soviet republics.

In 1965 V.Y. followed A.L.Chizhevski's advice and started working on the doctoral thesis *Cyclic of Epidemical Process*. His doctoral thesis defense in 1972 was a success. The full version of it was published by Medicina publishing house in 1977 as a separate monographic book *Dynamic of Epidemical Process*. The revised and enlarged edition of it, *The Teaching of Cyclic of Epidemics. Helio-epidemiology: Strategy and Prognosis*, was published in 2006.

After the Soviet Union separation V.Y. focused on writing and popularizing of the scientific literature.

## ***THE CURRICULUM VITAE***

Was born on February, 9, 1928 on station Mishkino of Kurgan area, Russian.

### ***Ancestors***

Father – Jagodinsky Nikolay Viktorovich – the average son from eight children Decent, that is the manager of group of church arrivals in Uralsk edge. Has ended Perm (can be Tomsk) University. Taught Russian, the literature, if necessary – geography, a history and other subjects.

Mother – in Turovskaja Valentine Iljinichna's girlhood – the daughter, from six children, the chief of mail of the Cossack village Ilya Mihajlovich Turovsky probably, from exiled of Poles.

Parents have met in village Presnogorkovskaya where father was the teacher, and mother – the disobedient and naughty schoolgirl.

My grandmother Maria Iosifovna (in Botchkarev's girlhood) worked by telegrapher and was the woman of this trade first in Russia on what it was informed in magazine " NIVA ".

I bring these data to emphasize, what even in a deaf person, apparently, provinces (hundreds kilometers from the railway) there was rather cultural layer of a society. So my parents were friends of children of the priest Preobrazhenskiy and doctor Bljahera (probably the German or the Jew). That is this local Intelligency in a miniature reflected the basic cultural and national layer of a society of Imperial Russia which was distinguished with cleanliness of thoughts, thirst for knowledge and noble internationalism.

On the prosperity this layer of educated people was, probably, less provided, than (in this case) cossacks, but only one detail: in Turovsky's family to each of six children it has been given on a horse (to younger kiddies - foals). The family contained a flock of sheeps and cows.

## *The childhood*

The first bright memoirs of the childhood (probably about 3-4 years): the Kirghiz horse has struck me a hoof in a jaw and has beaten out a teeth. Probably, I pulled her(it) a tail and she(it), probably, легонько « in one contact » have rejected human детеныша. Otherwise she(it), for certain, has split me a head.

It happened in settlement the Aryk-balyk (the fish river) in territory of present Kazakhstan. But at that time all local inhabitants called Kirghiz and about any Kazakhs I up to high school had no concept.

The second memoirs: the corpse in a sheepskin coat and hat on a head in the street rolls. The stomach is inflated, and around of the deadman – the whitish circle is louses crept away from the cooled down body ... Probably, this beginning of 1930th years ...

Father worked in system of railway schools and it similarly to « labour mobilized » threw from one place in another – more necessary. I do not know, whether paid to it those years the salary, or business was limited to a ration.

I remember, how pleased father once has brought a bag of a flour and at us began a feast. In the Russian furnace пекли bread also got mixed up any tasty flour weight – "kulaga" in clay cups.

The life of the teacher in national suburbs can be compared with missionary work when each lesson becomes a holiday of knowledge for children – the natives who have touched to Russian culture.

Frequently we did not have habitation and we lived in any adverse room of school. So was at station Kulomzino (nowadays the Kirov area of Omsk) where father was the principal №1. Precisely I know, that it was 1934 as Kulomzino have renamed into the city of Kirovsk.

Mum edified in elementary grades and was the basic initiator of the invitation of teachers of school to us on a visit « on pel'menis », « on tea ». Never behind a table it happened alcoholic drinks. Sang songs under a guitar, danced, as the teacher of music the brother of mum Vsevolod Turovsky (and his son Henry, by the way, has finished the Leningrad Conservatory and supervises over two ensembles in Petrozavodsk which many years go on tour across Europe, Asia and America) was.

The most joyful impression of that time – trips with the father on sponsored air station where it(he) read lectures for pilots and red soldiers. Since then I began to dream of military service and to me even have sewed an red soldier's overcoat and "budenovka".

I have gone to the first class at station Berezajka near Bologoe, and to the beginning of war we already lived in Belev of the Tula Area, whence have left with the beginning of war and occupation to the grandfather to Ural.

In military time my little sister Ritochka has died of a diphtheria and was lost under the obscure circumstances father. Mother has literally terrified

from burning and I have undertaken efforts on moving. I remember, that we went by military lorry on *траншее* in a snow, completely hiding movement of transport (deep that winter of 1942 the snow even in an open field was such). Shots constantly sounded, tracer bullets shined, in a distance explosions were audible.

At station Central we managed to get on a train, and through half-month we have arrived to Chelyabinsk, whence 70 kms by horse reached in city the Layer where Turovsky's family lived. In war at them two sons and the son-in-law were lost. At me are stored funereal certificate and letters from front of commanders of victims.

After arrival on the Layer I have severely had been ill with any "typhus". Has hardly survived. Since autumn of 1942 has gone to the sixth class, but has soon understood, that it is necessary to get a job, earn on livelihood and clothes. Therefore the further training went without attending lectures. Few times in a week came in school, received tasks and answered questions of teachers. Worked all over again horseman in state farm, and then worker in prospector for gold artel at a factory of a name of Artem. The tenth class has stopped with a silver medal and « under the permit of Komsomol » - from a military registration and enlistment office has been directed to military - chemical school in the city of Sartavala.

After arrival there has learned, that it does not give higher education, and has left for Leningrad where veins and ate under the food certificate on Moskovsk station, has not arrived yet in Military - mechanical Institute and has not received a food-card.

All went well and I would become the engineer on an ammunition while once has not met the gallant cadet with five ticks on uniform cloth. On tapes of his(its) peakless cap silver сияла a tremendous inscription: « Naval Medical Academy ». The word "Academy" has struck me on the spot. Having seen my delight, the cadet has told: take away the documents from Военмеха and бери in our Academy, the selection committee is opposite to Vitebsk station.

The history of my receipt to NMA is described in a separate sketch which I put to the curriculum vitae.

About study in NMA and about friends - comrades I such have separate sketches which I can put on this section. Further I shall stop only on one, the radical moment of the midshipman's lives, defined all my further destiny. I have taken a great interest in microbiology and, maybe, therefore at all did not shine with marks on other sections of training.

### ***Ocurrence in a science***

From the second rate I started to be engaged in microbiological to a mug which was visited also by such future doctors of sciences as Danya Golubev and Roofing felt Vihman (from a rate is more younger than ours).

My enthusiasm for microbes at the first stage was expressed basically study the corresponding literature. In result I have encountered interesting work of the French author on antineoplastic properties of filtrates of ability to live of the some people antinomycets (for perusal of this article I even have undertaken was for studying of French).

There was an idea to try to find among numerous inhabitants of a fungoid empire producers of anticarcinogenic antibiotics (it seems, I then have thought up this term itself). On a case of failure I have decided to make secure and on the basis of doctrine Lysenko and well-known then books of Boshyan to try to bring up antineoplastic properties at microbes.

And I began studying of the theory of variability of microbes. About genetics we had no then any representation, except for firm instructions of a party on harm of this pseudo science of the Wes. Certainly, I have been convinced, that from microbes it was possible to twist cords. This expression so was pleasant to me, that I have brought it, as a basic principle in got then copy-book– a scientific diary. It was unique my diary during all life. It has ended with my marriage, that evidently confirms correctness of that position of the French Academy of sciences on which till 18 centuries there did not accept married, considering, that the married person for a science is lost.

Nevertheless, even after a marriage I continued champ a granite of sciences and, certainly, only on an edge of fundamental problems of mankind and first of them – treatment of a cancer.

With this that "modest" idea I also have come on faculty of microbiology over which Pasterovskiy's pupil of institute of Paris professor A.V.Ponomarev supervised. Has offered education of antineoplastic properties at microbes for reception of corresponding antibiotics. The professor has been puzzled with napoleonic plans, but has not shown a kind. It only recommended to consult at academician N.V.Lazareva – managing faculty of pharmacology NMA to coordinate details of check of action of prospective preparations. And Nikolay Vasiljevich has directed me to Oncological institute with the petition for reception grafted malignant tumours of mice and rats.

Numerous experiences have borrowed three years and their results have been published in the collection of scientific works of students of Academy (see appendices). By resulted materials and the photo of experimental animals, have been received effective filtrates from the some people funguses, the tumoral animals "brought up" in an organism numerous passages. It is easy to read this small article, but to execute the experiments put in its basis demanded improbable efforts, including above itself.

So, from the fourth rate, after reception of an officer rank and the right of removal (for 300 roubles) rooms have appeared temptations of a free barchelor life. To find time and to spend forces for work with microbes and rats - mice, grafted tumours, rather strainedly. Also it is very insulting, when

others after employment instantly evaporate from territory of Academy. With huge work has overcome itself and operated under the made plan.

Today with funguses thousand scientific and industrial enterprises work. And then on faculty of microbiology nobody raised and did not store museum cultures of funguses, not speaking already about definition of their versions. The mould only polluted nutrient mediums. There was a weight of technical problems. The first: where to take a mash for nutrient mediums? Has found on a beer factory. Where to extract infected tumours of animals? Has taken in Institute of Oncology. Three viruses: mouse – Ehrlich's Carcinoma and Croker's sarcoma, and rat – sarcoma MOP. In our Academy before with similar things nobody had affairs. Therefore practically it was necessary to understand all independently.

The following problem – to find a pure line of mice, or, at the worst, even not been subjected to microbiological experiences. Fortunately, in the neighbourhood with our faculty there was a faculty of pharmacology. I test special gratitude to which senior lecturer Salamon. He managed the maintenance of mice on that faculty and selected to me pure animals.

In general I should tell about a remarkable scientific atmosphere of those years. Research establishments was not too much and places in them were borrowed truly with devotees. For the scanty salary in conditions of poverty of premises, the equipment and the personnel, scientific employees and laboratorians were selflessly given favourite business. As the same Frenchmen spoke, the science is done(made) on attics ...

Anyway, working later in various central scientific research institutes of Ministry of Health of the Union, I was convinced, that equipment their expensive import technics and the equipment did not influence at all productivity of the decision of scientific problems. To me fell, as even the import technics remains not unpacked and becomes wet under rains, and called to work on his girls and boys carry out the working day in tea drinking, chatter.

With techniques of test and "adaptation" funguses to manufacture of desirable antibiotics business was not easier. What only inventions it was not undertaken to find effective viruses. First, for expansion of their search it was desirable to take tests from different areas for what I went on a motor depot and I take crops from wheels of motor vehicles, etc., and on a market I ask sellers on pair spuds (cucumbers, carrot, etc.). Then I make from them washouts, I sow on nutrient mediums, I select(I take away) separate viruses, raise under the necessary conditions, I take filtrates and I "fly" them of tumoral animals. First I check their action on separate cells(cages) carcinoma ascid forms, and then and on mice with firm forms of tumours. And all this is necessary to record, keep and cherish animals, pouring them in cells not only a state forage, but also vitaminized I peep own preparation.

As I am grateful remarkable to laboratorer Olga Aleksandrovna for disinterested aid! Infernal work eventually started to be justified. Have been

selected cancerolitic funguses mass experiences on which it was already possible to carry out statistically significant estimation of results are put. And in fact nobody learned me to all this, it was necessary to reach all the mind and hands. For example, one of variants of experiences cultivation актиномицетов was direct in a body of animals, even in a fabric of tumours. What it was possible to make in then, primitive conditions? I find an output(exit): in a tumour I sew коллодиевые мешочки with грибами. And the problem(task) is solved.

Joke: than the science differs from пьянки? The answer: пьянка it is conceived on a penny, and it turns out on all purse, moreover for all night. The science is conceived « in what » (stretch(drag out) more widely hands!), and it turns out ... (show кукиш!).

And at me result of three-year, painful searches clause(article) in the collection of scientific works of cadets and students ВММА for 1853 has appeared. As the co-author Jury Zementsky whom I was was has persuaded to rescue mankind from a cancer. It(he) than helped. But constantly "asked for leave" at me « to Louise », and then in general was gone – married. Experimental work is those, that the indifferent sight will not note anything interesting as a result of experiences, will miss the important details. The thin this business demanding persistence, attention and observation.

I was convinced further, that the co-authorship is favourable only in the organizational plan. In particular, that the heads did not prevent and allowed any privileges necessary on a course of scientific work. And that, only at interest in the publication. Not without reason abroad it is accepted to express gratitude only for the technical help. Other business if the person brings the contribution, writes the section of work. Then the co-authorship is quite justified.

(Once there was such funny case already at work in Совгавани. In one clause(article), is more exact in the abstract on half-pages of the text, we have designated already twelve names – all who anyhow was involved in research only one banks of the condensed milk in which dysenteric sticks have been found out. From hygienic magazine to us it is poisonous have hinted, that on all banks of milk a little and it would be better than one, that with this сгущенкой "was fed" is smaller than co-authors).

The first scientific work, I am not ashamed at all she(it) quite corresponds(meets) to canons of scientific publications. Thanks professor А.В.Помомареву that it(he) is very soft, but has persistently cleaned(removed) from a preamble names Башьяна and Липешинской. As it is difficult to distinguish sometimes hack-work from original research!

I shall tell, that I have received some responses in reply to this publication. In particular at me, as by E.N.elm and N.N.Blohin – the future director Onkotsentra letters of such coryphaeuses of experimental and clinical oncology are stored(kept) in Moscow and president АМН the USSR.

By the way, a photo of a rat with huge sarcoma Кpokeпa the same Grisha Zolotnitsky who conducted also operative shootings of us with Oleg Mileskhynm for MГБ has made all.

### **Herald of Sun Hierarchs**

International Institute of Cosmo-Creativities named after A.L.Chizhevski begins to publish a series of scientific biographies *Russian Cosmism: Ideas and Personalities. Our Contemporaries*. The previous issue of this series *L.D.Kislovski: Universe in Drop of Water* undergoes the second publishing.

Victor Nikolayevich Yagodinski's scientific biography occupies a specific place in this series. V.N.Yagodinski as a doctor applies first of all to the authors of naturalistic scientific orientation of cosmism. He wrote the biographies of A.L.Chizhevski (published in 1987, 2004, 2005), A.A.Bogdanov-Malinovski (published in 1989, 2003, 2005). It is important to note that V.N.Yagodinski was acquainted with A.L.Chizhevski himself and A.A.Bogdanov-Malinovski's son. Such private contacts cannot be overemphasized. The same can be said about the biography of the founder of astrobotany G.A.Tikhov (published in 2004), the information for which was given to V.N.Yagodinski by professor V.P.Bedenko, G.A.Tikhov's devoted disciple. The list of well-known persons, with whom V.N.Yagodinski contacted not only by chance or occasionally (N.Viner, D.Shostakovich, M.Sholokhov), but also on a purposeful base can be continued: D.Balashov, A.Berg, L.Gumilev, B.Lichkov (a friend of V.Vernadski) and many other upholders of cosmism. Those contacts and meetings made it possible for V.N.Yagodinski to view the galactic expanse, realize and accept the ideas of cosmic *hierarchs* and their contemporary *apostles*. We can call so the majority of well-known Russian (Soviet) scientists: astrophysicists and helio-physicists, hydro-meteorologists, oceanologists, biologists, zoologists, parasitologists, ichthyologists and cattle-breeders. Suffice it to say that V.N.Yagodinski communicated with the presidents of the Academy of Medical Science and the Russian Academy of Medical Science - N.N.Blokhin and V.I.Pokrovski. Valentin Ivanovich Pokrovski more than once wrote introductions for books on epidemiology by V.N.Yagodinski. Epidemiology, microbiology, virology, parasitology, dangerous infections is his specialization.



العرض الواطئة متوازيا مع تنقل البقع الشمسية من المناطق المرتفعة إلى المناطق المنخفضة على سطح الشمس الهائل.

إن شلل الأطفال ككل الأمراض الوبانية تقريبا يكون على ما يبدو وظيفة أشعاع الشمس الكهرومغناطيسي ويرتبط بشكل متبادل ووثيق بالبقع الشمسية. على هذا، من المهم للغاية اكتشاف طابع دورية المرض.

قام العالم هالي عام 1933 بكشف ثوري مفاده بأن الجهد الكهرومغناطيسي للبقع الشمسية تتغير إشارته بعد كل 11 سنة تقريبا. إذن، ينبغي أن تعادل دورة كاملة للبقع الشمسية 23 سنة على وجه التقريب. هذه الدورة ذات 23 سنة استطعت تحديدها في سهولة ليس بمنحنيات دورات شلل الأطفال في البلاد الاسكندنافية جميعا وحسب بل بمعطيات أوبئة الالتهاب السحاني المدونة في القرن التاسع عشر (1866 إلى 1890) في السويد. عند مقارنة هذا الوباء مع شلل الأطفال (1912 إلى 1932) نجد انه منزاح من حيث الطور ب26 سنة أو تماما بدورة "ماونت-فلسون" المزوجة. والارتباط المتبادل بين هذين المرضين على مدى القرون المختلفة كان حتى أكثر مما كان التوافق بين البقع الشمسية نفسها خلال الفترة المناسبة من الزمن.

إن للفجر القطبي الشمالي بعروضنا الجغرافية حدين اقصىين أيام الاعتدال الربيعي والاعتدال الخريفي وفي هذه الأثناء بالضبط يكون الالتهاب السحاني وشلل الأطفال أكثر انتشارا. لكن هذين الحدين الاقصىين يتقاربان تدريجيا باتجاه منطقة الفجر القطبي الشمالي لتكوين في نهاية الأمر حد اقصى شتوي واحد.

هكذا، يكون في منطقة لينينغراد، أبو، إستوكهولم، ورتشستر ونيوهامبون في الولايات المتحدة الأمريكية حدان أقصىان للفجر القطبي الشمالي في شهري آذار وأيلول، وعلى العكس، في منطقة ايليزوند، نيوبوري ونيوفاوندلند حدان أقصىان للفجر القطبي الشمالي في شهري شباط وتشرين الأول. في هاميرفست بالقرب من منطقة الحد الأقصى للفجر القطبي الشمالي، يتحد الحدان الأقصىان السنويان المذكوران في شهر كانون الأول الى حد اقصى شتوي واحد.

سجلت الحالات المتفصلة الأولى من الالتهاب السحاني الوباني في السويد عام 1854 في منطقة بليكينغ، من ثم زاد هذا المرض انتشارا خلال الأشهر الشتوية عام 1855. بلغ عدد الحالات عدة الآلاف. ووصل الالتهاب السحاني ذروته في شهر آذار. أصيب بالمرض خلال هذا العام أكثر من 3000 انسان وتوفي ما لا يقل عن 800 منهم. ولم يظهر المرض في اشهر الصيف على الإطلاق، بل عاد يظهر خلال الشتاء وبلغ حده الأقصى من جديد في شهر آذار عام 1857. هكذا، بما أن الالتهاب السحاني (كشلل الأطفال أيضا) يبلغ الحد الأقصى له بالإرتباط بالحد الأدنى من البقع الشمسية (كان عام 1856 أحد أكثر الأعوام ذات الحد الأدنى للقرن التاسع عشر ظهورا)، استطعت الافتراض بأن الالتهاب السحاني يظهر بأشد قوة في السويد بعد كل 5 سنوات تقريبا، اي عام 1899، 1905، 1910، 1915، 1921، 1926. بعد هذه سنوات ضعف المرض و تدنت حدته بصورة مستمرة.

بههدف دراسة المرض في أدق تفاصيل في فترة ظهوره العفوي التلقائي في منتصف القرن التاسع عشر رسمت منحنيات توالي دورات المرض في الفترة ما بين عام 1860 و1899، وقمت بكشف مدهش: يتفق هذا المنحنى % 100 (مائة في المائة) تقريبا لا في النوع وحسب بل في الكم مع منحنى شلل الأطفال في الفترة ما بين عام 1906 و 1945. إن الشئ الملفت للنظر بنوع خاص هو مطابقة الفترة ما بين عام 1866 و1890 والفترة الواقعة ما بين عام 1912 و1932، اي ان دورة "ماونت-فلسون" المزوجة الكبرى للبقع الشمسية التي تشاهد في منحنيات دورات شلل الأطفال في الفترة الواقعة ما بين عام 1912 و1936 هي التي تظهر بوضوح من جديد في منحنى الالتهاب السحاني في الفترة الواقعة ما بين عام 1866 و 1890 وتساوي 46 سنة (أو دورتين مزدوجتين، و يعادل كل منهما 23 سنة).

في اي أوضاع، يكون توالي الدورات لهذين المرضين المختلفين على مدى عدة قرون أكثر مطابقة من توالي الدورات البقع الشمسية نفسها خلال الفترة الزمنية نفسها.

## شلل الأطفال والفجر القطبي الجنوبي.

يحدث "الفجر القطبي الشمالي" في نصف الكرة الجنوبي أيضا ويقع تماما داخل "الدائرة" المركزة حول القطب الجنوبي. على هذا، يمكننا الافتراض بأن هناك ارتباطا متبادلا بين شلل الأطفال والإشعاع الكهرمغناطيسي في أستراليا ونيو زيلنده. في هذا الحال فإن منحنيات دورات شلل الأطفال بشمال أوروبا الغربية ينبغي أن تطابق في مجملها المنحنيات الأسترالية، بالطبع، بفرق في الطور قدره 6 شهور وان تكون واقعة في العام المقبل (او السابق).

في الواقع يحدث كذلك. وقع الوباء الشدة لشلل الأطفال في نيو زيلنده عام 1925 و1937، اى يكون مزحجين بعام واحد تماما عن الوبائين المناسبين في السويد (عام 1924 و1936). كذلك يحدث في أستراليا أيضا. وقعت الحالة الأولى من انتشار بالغ الشدة للمرض عام 1925، وبلغ ذروته عام 1937 كما هو في نيو زيلنده. وتكون "قمم" تقع ضمن هذه الفترة الزمنية (من 1929 إلى 1932) وتخص هتين الجزيرتين الكبيرتين الواقعتين بعضهما عن البعض على مسافة كبيرة نسبيا تكون مطابقة.

في إستوكهولم ظهر المرض في عام 1887، 1895، 1905 و1911، في حين ظهر في أستراليا لأول مرة عام 1887، ثم عام 1895 (بورت-لينكولن)، عام 1904 (سيدنى، كنبرا، بريسيباين، ستينمور) وعام 1908 (فكتوريا).

يظهر الارتباط المتبادل الوثيق بوضوح بين الدائرة الكهرمغناطية للفجر القطبي الجنوبي وشلل الأطفال في نصف الكرة الجنوبي عند مقارنة منحنيات دورات المرض الخاصة بالجزء المركزي لأميركا الجنوبية (أورغواي) مع المنحنيات المناسبة الخاصة بنيو زيلنده. حدث انتشار بالغ الشدة للمرض للمرة الأولى في أورغواي عام 1925 وتوافق بالتالي انتشار بالغ الشدة للمرض في نيو زيلنده عام ذاته. سجلت "القمتان" التاليتان للمرض في أورغواي عامي 1929 و1932 في نيو زيلنده وأستراليا على حد سواء. بعد ذلك، حدث عام 1936 الوباء الكبير في أورغواي الذي إنطبق على انتشار المرض في نيو زيلنده. (الشكل 2).

## ***Concept of Life Cosmogenesis***

Historical excursus. In 1939 the prominent Russian scholar Alexander Leonidovich Chizhevsky (1897-1964) was recommended for the ***Nobel Prize Award*** by the International Congress on the biological physics and biological cosmogony, held in New York on the 11-16 September of 1939.

The ***Memorandum on scientific works by Prof. A.L.Chizhevsky*** read: “Professor Chizhevsky owns priority in a number of capital discoveries in bio-physics, electro-physiology, medicine and other natural sciences. Those discoveries possess practical importance of top priority for the mankind and open broad horizons in the sciences of life”.

This document was meant for Chizhevsky’s recommendation for the ***Nobel Prize Award*** and contained in particular the following parts:

- Discoveries in the field of bio-physics and electro-physiology with development of the theory and practice of aeronization for improvement of natural environment and for usage in cattle-breeding and plant-growing;

- Development of theory of the helio-biology stating dependence of the biological processes of the solar activity. Study of space phenomena in microbiology, epidemiology, including establishment of reasons for fluctuations of the human mortality (first of all due to coronary and cancer diseases), as well as establishment of relation between frequency of mental disturbances in people and frequency of transport and other catastrophes with fluctuation of geo-magnetic activity.

In the concluding part of the recommendation of Chizhevsky for the Nobel Prize was stated among other things: “Professor Chizhevsky started his scientific activity very early at the age of 19 in 1915, he is 42 years old now, and he is entering the most fruitful age of the scholar. This gives us the right to expect this genius to make a lot of new remarkable discoveries. By now the number of works published by Chizhevsky in many languages reached 400. They are displaying not only progressive scientific innovation, depth and bold flight of thought, but a great skill of narration and refined perfection of the mathematical basis.

But to complete characteristic of this remarkable man it only remains to add that he, as described in his biographies written by Prof. Ledberg, MM. Regneu, Pontani and others, was an outstanding painter and refined philosopher, impersonating for us living in 20<sup>th</sup> century another legendary monumental personality – Leonardo Da Vinci”.

“With this Memorandum we, scientists from a lot of countries of Europe, America and Asia, who gathered to the First International Congress on Biological Physics and Biological Cosmology in New York in September of 1939, point out and stress the greatest scientific and practical importance of the works by Professor Chizhevsky, our Honorary President and his merits before the whole mankind”.

*Signed by:*

*Prifessor, Dr. D'Arsonval, member of the Institute Professor Dr. P.Langenin, Professor Dr. L.Boraile, Professor of Columbia University Dr. V. De-Smith, Professor Dr. A.Epton.*

*The Secretary – General of the Congress – Dr. Du Pen.*

***(The document is reproduced here in abbreviated form. The original document is in the Archives of the Russian Academy of Sciences, Fund 1703. Op. 1, f. 1-672).***

Unfortunately the USSR Government of that time banned the scholar not only from attending the Congress where he was elected the Honorary President, but forced him to refrain from sending the “Presentation” to the Nobel Committee... Oppression of the scientist was organised, he was declared “enemy of the people”, fired from his job, then arrested and put into a concentration camp in Siberia where he spent long 16 years. Only in 1958 Professor Chizhevsky could return to Moscow with initial stage of throat cancer, provoked obviously by his containment in the zone of nuclear tests. Thus the prominent scholar was crushed morally and physically by the inhuman system of repressions. The remaining years of his life the scholar was looking for followers of his cause. In 1962 he read some works by V.N.Yagodinsky making his research in the cyclic character of epidemics. At their last meeting in 1964, only half a year before his death A. Chizhevsky set a number of tasks needing solution for completion of the theory of cosmo-biospherical links. In fact it was scientific and spiritual Will of the prominent nature explorer to the young scientist Yagodinsky. And the ancestor performed the Teacher’s Will.

We also provide here principal stages and results of the research work by V.Yagodinsky.

### ***The completing stage of development of Chizhevsky’s ideas in Space Ecology***

**1. To study Space-Earth links** the modern principle of space ecology is adopted that envisages consideration of the whole complex of influence of Solar and other Space objects on the terrestrial natural processes. Such as for example, effect of the tide-forming force of the Moon upon terrestrial processes including psychological state of human individuals.

**2. Cycles – a foundation of the Universe.** The top priority task here is establishment of the Laws for cyclic recurrence of the terrestrial processes in biosphere, and in the socium. By the year 1974 in his monograph “Space – Earth. Forecasts.” Yagodinsky for the first time in the scientific literature accomplished complex study of space ecology in all levels of biosphere: development of plants and animals, dynamics of birth and mortality of population (see attached Diagrams). Principally new in that work were the following data and phenomena:

- definition of the multiple recurrence of biological phenomena similar to the structure of the natural cycle recurrence (Diagram 1);
- establishment of mechanisms of formation of recurrence in the biosphere processes;
- search for methods to forecast development of the biological processes by means of study of the solar activity forecasts.

Several scientific magazines published in 1965 super long-term forecast of the influenza epidemics to 35 years ahead up till the year 2000, which proved true in 70% of cases. The forecast is based upon fact of link between variations of the virus types and extremes of the solar activity. (Diagram 1).

**3. Study of the celestial mechanics details** or rotation of Earth around Sun and specifics of the seasonal character of the terrestrial phenomena showed that seasonal recurrence of the biosphere processes lays foundation to their multiple year recurrence.

**4. Energy-information field of Earth** provides impact on the biosphere of the weak magnetic fields. It may be linked with their electro-magnetic components. (Diagram 2).

**5. Cosmo-generic theory of origination and development of life** was initiated in the works by Svante Arrhenius, Swedish Academician who in the 1920es invited Chizhevsky to work in the Nobel Institution under Arrhenius guidance. In the beginning of the 20<sup>th</sup> century Arrhenius put forward hypothesis of “panspermia” – i.e. of the introduction of life to the Earth from Outer Space. This hypothesis is currently developing into theory due to the works by Francis Crick, the discoverer of DNA. The virologist Yagodinsky detailed: principal role in origination of life on Earth played viruses that existed in the crystal-like form, capable to survive under open Space conditions.

Upon study and summarization of the scientific materials it was established that:

1. Irrespective of the existing theories of the origination of life on Earth (introduction from Outer Space, or formation of coacervates of the terrestrial non-organic substances) those processes finally were defined by impact of solar radiation. It is considered proven currently that the primary elements of Life were micro-organisms – pro-cariots that laid foundation to the biosphere, its micro flora, which was followed by development of plant and animal life forms (eucariots), and finally – a human being.

2. Just thanks to the solar cycles evolutionally first and principal element of the life processes is their recurrence. V.N.Yagodinsky was the first to display unity of structure for all life cycles at all levels of the biosphere “warehouse” – from micro organisms to the human society, with the whole set of seasonal and long-term fluctuations of the biological processes basically corresponded with hydro-meteorological and other natural cycles. (Table 2).

3. It was also established that long-term cycles of the life phenomena are consequence of the change of the duration and amplitudes of their seasonal fluctuations. Consequently a search for the real factors of the long-term cycles in biosphere and socium should be made at the relatively narrow seasonal part of the year. So it may be said that evolutionarily conditioned genetical link exists of the whole rhythmic of the life and still nature, based upon cosmic conditions (solar cycles, lunar tides etc.).

**The human spirit as trigger of the terrestrial cataclysms.** Among summarising fundamental directions of the contemporary natural science apart from synthesis of such fields as information systems and antropous principles, new cosmogonic ideas emerge (V.P.Kaznacheev). The mankind enters into

certain contradiction (if not competition) with the Universal Intellect, with the information field of the very Planet of ours. The disaster is breeding inside Near Space, in atmosphere, in the water elements. This, obviously is a “cosmogony” that gradually became “Earth-bound” due to creation of space-missiles, satellites etc. ***This is why in the new cosmogony the human responsibility should be formulated not only for ourselves and for the biosphere, but for conservation of the micro- word of Earth organically entering into biosphere of our space Home .***

A search for noosphere model of the future mankind in the 21<sup>st</sup> century includes definitions of the healthy nation, of the generations as parts of the unitary civilisation of the whole Planet Earth. Health is primarily balanced symbiosis, conjunction of our activities and of our inner word with inner and outer bacterial-viral protozoan word and the word of the field forms of life. They co-exist with us and define our genetic programs, they drive our chemical, molecular processes... More of that, bacterial-viral, protozoan, prion word is the parallel word co-existing with prokaryote, it is eukaryote world, heterotrophic world forming new ways of evolution. This is why contradictions between prokaryote and eucaryote worlds emerge from the fact that prokaryote world is basically autotrophic, it penetrates deeper into field, Cosmo physical, fluctuation procedures, faster adjusts, adapts, self-guides itself. The conflict is brewing between autotrophic world of prokaryote and our heterotrophic word of eucariots. The green mass is made a victim more and more extinguished by humans: the algae is destroyed by pollution of oceans, seas, rivers, lakes.

This is a conflict deteriorating resource and ecology crisis of the Planet. This is why the aims and tasks of conservation of the civilization include among other things:

- conservation of the nation’s health, closely linked with conservation of the balance of autotrophic and heterotrophic words;
- necessity to concentrate research, to unify international research centres and think tanks in attempts to conserve that symbiosis of the field structures of environment where the intellect emerged. It’s worth reminding that inside our brain cells (in our intellect) heterotrophic and autotrophic processes permanently co-exist.

The attached diagrams and tables clearly display natural scientific picture of the Universe. But with all materialistic appearance of the scientific description and explanation of the Life Cosmo genesis a thought inevitably appears about certain Supreme Force – “the Universal Will” – as K. Tsiolkovsky put it. I.e. the Plan, the Higher Order of Life exist with the aim and sense envisaged including the field of consciousness (perception).

This principally new position accords with statement put forward by the vitalists of former centuries: *“All organic processes are put in motion and regulated by means of appliances immanent to the organism itself, they are pre-set, predetermined, characteristic by their purposefulness, self-aimed at attainment some kind of pre-established goal, that was established not in the process of life itself, but somewhere at the threshold of life, before that life itself initiated”*.

In this work we do not undertake neither deny nor confirm the opposite, this is why we conclude an unspoken “treaty-agreement” with all preceding authors of the above cited sentences. One thing is clear today: in a number of cases the possibility of indirect but scientific proof of their validity exists.

This cosmic mechanism of initiation and existence of life, tuned by billions of years of evolution, currently went into contradiction with the human being borne by this mechanism, and this Homo Sapiens due to its lack of consideration is now destroying the terrestrial life..

What could be opposed to such catastrophic way of developments?

Only really wise, noosphere mechanism of control over the unwise acts of human society by means of the relevant universal Law.

### ***POSSIBILITY TO OVERCOME GLOBAL CRISIS: SPIRITUAL-ECOLOGICAL CONSTITUTION FOR MANKIND (SECFORM)***

Defence of new scientific concepts always demands from the researcher not only display of firmness of character, personal bravery and assuredness of correctness of his own ideas, but also adequate social maturity. At the beginning of 60es A.Chizhevsky wrote: *“Thousands of scholars and governments of some countries, specifically the Soviet Government realising their highest responsibility before the current and the future of the mankind appeal to the reason. They address wisdom of presidents and hearts of the military commanders, whom so to speak, is enough to just “press a button” to annihilate part of mankind immediately and to leave the rest to be poisoned by the radioactive dust and thus doom the following generations to degeneration and final extinction. It is neither military merit, nor bravery and heroism that define destiny of the world, but wisdom of people steering power of the nations”*.

Following up the idea Russian scholars (author of the idea Liubov Gordina, authorship of the SECFORM Articles L.Gordina and M.Yu.Limonad) suggested a draft of *the Spiritual-Ecological Constitution for Mankind (SECFORM)*, based upon the concept of cosmogenesis of life.

### **CONCLUSION**

Supporters of cosmic thought and of realization upon its basic principles of the Principal Law of Life have a lot of opponents both among people conducting scientific activity and among interested structures, paying services of “legal advisers” compromising this direction of scientific work. But it is well known the practice is ultimate criterion of the truth. Time will reveal merits and disadvantages of the SECFORM project.

*“The history of science shows on every step that some personalities were more right in their statements that the whole corporations of scholars or hundreds and thousands of researchers abiding to the ruling points of view.*

*Vitality and importance of ideas may be measured only by long experience. Significance of the scholar’s creative work can be defined only by measure of time” (V.I.Vernadsky)*

We should note here that the authors do not surpass limits of possible and never build “air castles”. They are standing on the real ground, their scientific views and conclusions derive from immediate demands of our time. Distracting of person

from his bare necessities by promising him welfare in some distant space where his problems won't exist anymore – is not real and is not worth undertaking.

All history of Earth as well as history of terrestrial life does not contradict ideas of cosmic thought. Planetary resources that were created for billions of years are limited and its overwhelming majority are not renewable; while the terms of life support under which homo sapiens may freely evolutionise are possible only on Earth. An attempt to redistribute humanity over other planets at this stage of human life activity could only draw ecological catastrophe closer as such resettlement will consume the last remaining resources of our planet. And unnatural conditions of life in the Space will expedite degradation of man as biological specie.

Some leaders of cosmic thought with their ideas on non-terrestrial Eden distract dwellers of our planet from concerns about safeguarding of the natural environment, are contributing to strengthening of vicious expectation: “Let us fly away into the Space, there we'll acquire eternal prosperity and lasting peace!”...

Our Home is Earth, and possibly there'll never be any other!

...406 years ago on the 16<sup>th</sup> of 1600 under the ruling of Holy Inquisition at the Piazza del Fleur was put to fire cosmist Jordan Bruno, one of the brightest thinkers of the Renaissance epoch.

Are there ides nowadays that are worth to give one's life for?

Yes, there is such an idea: it is cognition of the Laws of Life under influence of Greater Space! Just to such idea dedicated his life and scientific activity Russian scholar Alexander Leonidovich Chizhevsky. His student and staunch follower Victor Nikolayevich Yagodinsky stated in his book under the title “We are governed by Space” (2003): ***“The scientific religion is looming that has put into its foundation Consciousness - internally assumed demands of nature, family and society deriving from antiquity and envisaging common interests of humanity that form themselves genetically at the level of sub-conscious and create personally, alias – the people”. The Spiritual-Ecological Substitution for Mankind is capable to elevate to the rank of the legal environment the SPIRITUAL MAN, whose main and foremost feature will be CONSCIOUSNESS.***

Consciousness is a planetary idea of survival for humanity as Cosmos I.E. (Logos) in other wards Order is a display of Harmony and Truth, upon which all natural processes on Earth are being built. However contemporary mankind has surpassed limits of safe exploitation of litho-, hydro- and atmospheres, and is disturbing Near Space including magneto-sphere and other protective shells of the globe.

As a result particularly critically affected are biosphere and psycho-sphere (noosphere) due to rapacious attitude towards planetary resources caused by senseless self-destruction and development of modern civilization, impudent toward our ancestors.

Descriptors of inhumane mission of the current world rulers are numerous wars and terrorism accompanying re-division of the world's spheres of politico-economical influence, intensive destruction of basics of spirituality, morals, culture and human ethics, based upon consciousness.

Thus a lot of current problems of scarcity of life support for the global population related to globalization of disturbances in the world economy and to ignorance (duping) of human masses derive from problem of lack of consciousness. ***At the world scale and at the science level this problem has never been put forward and studied. More so there were no attempts to apply this category in capacity of worldwide ideology with co-existence of manifold religions that used the idea of consciousness in their interests, but not for unification of peoples in front of looming danger.*** Apart from that abundance by the rules of behavior of man in the Space is also needed. Problem of consciousness is closely linked with question of destiny – are we alone in the Universe, is it worth to infect the Galaxy?

It is clear that the design of space missiles is becoming more sophisticated. So why not to start “populating” Remote Space with terrestrial bacteria to study their survival potential? It is hard even imagine now what are going to be remote results of such intrusion? In direct sequence of such assumption goes another one: our ancestors will face a problem of cosmic ethic. Do we have a right to violate ecology of other planets? But this may happen even inadvertently. This is why authors of this work stress that cosmic epidemiology should find its expression in the legal acts of terrestrial Law to exclude possibility of infecting other planets. A whole Article of SECFORM is dedicated to this aspect of inter-space relations.

A hundred years ago the family of E. and K. Roerichs hoisted a “Banner of Peace” for salvation of the Culture. This banner is currently being carried by the ***Noosphere Spiritual-Ecological World Assembly***. The supreme goal of this non-governmental organization is development and discussion of the principal provisions of SECFORM by the concerned civil society worldwide. The Spread of the ideas put within Spiritual-Ecological Constitution for Mankind should become the answer of the public consciousness to the violation of the Cosmic Laws.

Full version of the topic: ***“Spiritual-Ecological Constitution for Mankind is realization of the scientific concept of life cosmogenesis”*** is presented in hundreds of articles and scores of monographs written by authors of this brief thesis. Three monographs are attached by the authors to the brief presentation of the main ideas of this abstract:

# **Cosmos is the source of prognostic information**

## **Introduction**

Any theory which enables to make realistic forecasts should, so to say, “put out its head”. This very role has been undertaken in the book about the impact of cosmic factors on the Earth biosphere processes. Unlike other research works of this kind, this research is being made from the position of determining ways and methods for forecasting biological phenomena on the basis of cosmic data. Even the limited success in forecasting can result in considerable saving of resources and most importantly can save people’s health and life.

The experienced doctor epidemiologist V. Yagodinsky devoted his work to the solution of this particular task. The epidemic process is a representative model of the biosphere and socio environment as it expresses a number of aggregate changes in social, natural and biological habitat with all their interactions at all levels of the systems. Thus, everything connected with the epidemic process in relation to the cosmic rhythms can involve many areas of knowledge and in particular practical medicine.

So, what gives us the grounds for using space data for forecasting?

The research of the recent years has proven that traditional approaches which take into considerations only the Earth conditions, which means incomplete information on the causes of changes in natural processes, do not have any perspectives for long term forecasting. The only way to solve this task is to use information on the cycles of the solar activity. This is the scientific credo of the author of this book.

The author has undertaken a challenging task not only to tell his readers about cosmic effects on the Earth, but also to tell about the mechanism of such influence. Even now, we can see that this mechanism can be both direct and indirect, and there is no doubt that the main source of the physical influence on the Earth is the solar activity. This book gives an objective view on the current status of this scientific area at the roots of which were such luminaries in the world science as Herschel, Humbold, Duglas and St. Arrhenius. In 1930 A.Chizhevsky called this field of natural science heliobiology and today it is know as cosmic ecology.

One of the main factors responsible for the impact of solar activity on the Earth is varying magnetic field and its periodic disturbances mainly due to corpuscular parts. Basing on these particular forces, the author of this book builds his forecasting conclusions.

The author gives the same importance to the complex chain of interactions, collateral subordinations and regulations which exist between the Earth and cosmic phenomena. This is particularly clearly demonstrated in the chapters on the research of cycles of biological phenomena as they are often subject to the powerful impact of social factors which interfere into the natural interactions and conceal the impact of the cosmic environment.

The impact of cosmic forces on the Earth phenomena interests experts of the most various scientific areas which invariably leads to new scientific views and ideas. Naturally, this book contains not only tested scientific views, but also some new ideas. Some of them are disputable and even contradict to the traditional views. However, we consider it to be one of the advantages of the book which introduces the reader into the world of the advanced ideas of the modern natural science and prognostics.

If Alfred Bernhard Nobel had known that people of the twentieth century would have learnt – not to forecast, but to research the future, he wouldn't have restricted the range of his Noble Prizes by enumeration of the classical disciplines of his time. He would have included all considerable discoveries in spite of the area of science they belong to. And among them he would have particularly marked the prognostic importance of the rhythms of solar activity.

I.V.Bestushev-Lada

President of the International Academy of the Research of the Future

# Holy Scripture of Nature

## Commandments of Cybernetics

The modern definition of the characteristics of Nature and Society in cybernetics is given by V.T.Marchenko in his book “The Laws of Cybernetics and Group Intellect of Noosphere” (2004). It reveals the interconnections between Nature and Society.

Till recent times the term of *principals of general systems theory* exists in scientific literature. However we consider it to be an anachronism. Time has come to use the term *cybernetic laws* instead. We mean by that the sacred laws of Nature. The first law is the self-organization of life.

## Self-organization of Life

Intellect is the function of living organisms demonstrated in the ability of setting goals and achieving them. This function is present in all living organisms and in viruses as well. The ability of living organisms to coordinate activity to achieve group goals proves that living organisms are a self-organized system.

## System Formation

In the 1950s the phrase that the whole in cybernetics is more than its parts was popular. This statement shakes imagination. Why? We will find the answer in A.Gumbold’s words: “The details excite curiosity, the whole affects imagination”.

Sometimes this is viewed as the quality of cyber-systems.

## Feedback

Definition: “The aggregate of moving objects is a cyber-system, if this motion is regulated by the feedback”.

The example of a big complex system is a living organism, including human beings and groups of living organisms.

In the 1930s academician P.K.Anokhin proclaimed the idea of a functioning system and noticed an important quality in it, namely *feedback*, which he called *back afferentation*.

## Necessary Complexity

“In order to obtain the ability of self-organization, self-education, self-reproduction, a cyber system requires some critical level of complexity” (V.G.Pushkin).

It may seem to be identical to the concept of necessity of system variety, but these are two different phenomena.

The idea of the necessary complexity was brought in by W.R.Ashby, the author of the first model of a self-organized system. The basis of the parameters of system self-organization was variety, and not complexity.

### **Hierarchy of Control**

In view of their complexity cyber-systems consist of a great number of elements and sub-systems. A question arises: what are the principal features of internal connections and relations between them?

*Hierarchy* is a Greek word which means *service subordination*. It is a working term in cybernetics. There is no cyber-system where is no hierarchy.

### **Goals**

The term *Goal* is mentioned when we analyze cyber-systems in different aspects – structural, functional, cognitive and so on.

Hierarchy, complexity, variety of states, self-organization is proved by the purposefulness. Whose purposefulness? The Creator's, of course. However, we will not mix up science and religion. We noticed a disagreement in Marxism and some other philosophies. Here is a quotation from the Dictionary of Foreign Words (Moscow, 1949): "Achievement of the preset goals is the peculiarity of sentient beings, human beings". In Soviet Encyclopaedia (Moscow, 1979) we read: "*Goal* is the ideal mental anticipation of the result of the activity. *Goal* as a direct motivator guides the human activity." However further we read: "Relatively to biology and cybernetics the term "goal" (or "purpose") means the state of system reached with the feedback." Nowadays that is axiomatic.

One more important related thesis is: "The difference of cyber-systems determines forms of displaying of laws in cybernetics".

The main difference here lies between living organisms and artificial things.

### **Necessary Evolution**

This is the law of nature which reflects the basic phenomena in the sphere of self-organization. It contains inevitability of development of ultra-complex cyber-systems during the strengthening of their organized complexity.

From above said we can come to the conclusion that the progressiveness of evolution of living substance contains its main goal - the maximum expansion

of life in the Universe. Can we say that all living organisms – microbes, protozoa, plants, animals, people and many other living creatures – biting, poisoning, hunting each other, have the common goal? Yes, we can. If it was not so, there will be no immunity, no mutation, etc., and viruses, coming through a human being would not change their essence. But they do change, for example, viruses of flu, AIDS. The process of “working out of new adaptations” takes place in every new generation. Mutations, immunity are the creations of evolution!

## Discussion

Cybernetics forces us to see the ability of achieving goals by all ultra complex systems with the only ascertaining of their ability to set goals!

Inertia of boastful self-assured researchers of mental activity and creative activity is still strong enough, as they don't separate ***pre-human and human forms of setting goals***, saying that there were no pre-human forms of purposefulness. This mistake is an obstacle, for example, to study intuition.

The human population is the system of individuals of one species. Genetics usually add: able to self-production. If we want to know everything about a population, we need to collect the facts about its activity in connection with all seven laws of cybernetics starting from molecular and ending with macrostructural-functional.

Speaking about the sphere of viruses Y.Y. Tsilinsky, the former of populational viral genetics, stated that genetic engineering of Nature in the evolutionary process is presented in the most modern way.

If population is a cyber-system and it has no genetic ties between its parts, the informational contacts should be present. This is still a mystery nowadays. The hint of reality of such contacts is given by the fact of change of photons of dividing cells, established by professor A.G. Gurvich in 1923 and called *mito-genetic radiation*.

It is assumed that the phenomenon of informational struggle between cancer cells and healthy cells is a way of extinguishing of mito-genetic radiation of the latter during their dividing. These are the questions first arisen by Kuznetsov and later by academician V.P. Kaznacheev and his followers.

The second stage of realization of viral genetic information is transmission, in the process of which protein is synthesized. It starts from recognition of viral eRNA by cellular ribosomes with the help of special viral initiator factors. (S.A. Pavlovich, The basics of Virology, 2001).

The similarity of aggressive programs is striking: a) invading a medium; b) suppressing healthy forces; c) self-production; d) new generation of invaders leaving a medium.

Population cognition among human beings as well as all bio species is the key factor in achieving goals. Till recent times it was not usual to study human beings as a cyber-system.

Any course of psychology includes researches in sensation, perception, intellect, imagination, specificity and role of emotions, senses, memory, will, etc. Though the category of group cognition appears in science not long ago, the necessity in its studying existed since the dawn of civilization, in connection with the question of controlling armies and emperies. Nowadays it is impossible to work effectively without this knowledge: large industrial complexes, transportation systems, communication, ships, - the special science engineering psychology studies all these subjects.

The following definition of *intellect* is absolutely true: *process of making connections in the starting situation from the point of view of the final situation, which contains the substance of intellectual activity* (D.A.Pospelov, V.N.Pushkin).

Human activity in big systems is one of the realities where the group intellect becomes apparent.

### **Conclusions (for the first unit of scriptures)**

Decision of the task may be shown as follows: a) goal setting; b) finding the mechanisms of feedback, which will lead the beginning situation to the final goal. Such goal is common for all living organisms: Survive! Disperse! Occupy!

To compare: in viral population work out of programs of adaptation to the environment takes place. The cut-and-try approach, transmission of positive outcome to genetic memory of new generations is the evolutionary solution.

Can we call it *intellect*? Yes, we can. From the point of view of outcome, formation of a complete cyber-system is evident in its ideal variant no matter where it is placed: in human mind or in viral genetic code.

Particularly important is the fact that the term of *group intellect* is not in use in studying of cognitive processes, it appears only in cybernetic approach. Even more so if we speak about the group intellect of human population.

Using this line of reasoning we come to the following conclusion: as far as psychosphere and noosphere is a cyber-system and populations of different species (human, ethnic) are elements of this cyber-system, *Group Intellect* in psychosphere and Noosphere displays Super Intellect of Nature.

What are the indicators of Super Intellect of Nature? How does it work in reality? These and many other questions will arise as soon as V.T.Marchenko's concept is widely known.

Indicators of practical use of *Group Intellect* are numerous. First of all we need to study motivation in biological, in other words instinctive, factor of human's and animal's behavior. The influence of environment including cosmic ecology of the Earth, which is determined by the solar activity, is also the subject for further research.

## CONCLUSIONS AND SUGGESTIONS

1. The scientific concept of cycles in epidemic process is formulated. It can be extrapolated onto biosphere's cycles in general.
2. The thesis "Epidemic cycles are sequent of rhythms of the Sun's activity" is proved. Its indicators are the concurrent part of the proposed monitoring and forecast system of population's state of health.
3. The necessary prerequisites for a unified approach in studying of pathogenic influence of different environmental factors on living organisms are created. We call it *global infections study*.
4. The basis of the special scientific discipline *Gelio-epidemiology* is provided. It is recommended to be included into the course of biological and medical education at universities along with *Gelio-biology* (recommended by A.L.Chizhevski).
5. Experts consider that up to 50% of large natural and techno-genetic cataclysms are connected with cosmos activity. We advise to form a *Gelio-medicine of catastrophe* Subdivision in the frame of work of the Emergency Service.
6. Cosmo-ecology of biosphere and society is a fundamental problem of natural science which requires the establishment of appropriate scientific centers, for example, a center of *Gelio-epidemiology*.

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