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MALE'S HEALTH IN THE OBJECTIVE OF STRESSOLOGY – *BEYOND THE USUAL*

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Male's Health in the Objective of Stressology – Beyond the Usual

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Аннотация

The book *"Male's health in the objective of stressology – beyond the usual"* is an example of talented scientific-educational work, interesting, trustworthy and useful to doctors, psychologists, students, and what is more – to a wide range of readers interested in their own mental problems.

Psychological traumas and disappointments, accumulating, entail a discord between feelings, mind and body. We lose a sense of inner integrity, peace in the soul, freshness of feelings and can no longer admire childishly a flower, the sky and their colors, appreciate simple joys of life. As a result, with age, we increasingly feel the tragedy of existence; we plunge into sufferings or into "appraisal experience of life" which substitutes for us the joy of a truly sensual perception and experience of reality. We are inclined to ponder on life rather

than live, regretting our own losses. This is the concept of life formed in the human mind during the long years of life of mankind on the earth. The proposed monograph destroys this stereotype. The book is distinguished by substantiation and novelty of the view on a number of key problems of psychic and somatic pathology, imbued with the spirit of scientific optimism and humanism. This is a thoughtful and considerate invitation to a reader to think about a complex system called human-male. The main attention in the publication is devoted to stress and how stress is combined with biological factors of the male body, creating a fine border between pathology and borders of the norm. Authors in their analyses and observations smoothly integrate biology and psychology. The theme of human sexuality, touched on by the authors, is also important. Undoubtedly, human sexuality is itself an interesting subject because it includes a whole range of preferences and complex forms of behavior, especially in men. The book is written by proficient specialists, at the same time it is easy to read since it is addressed to a wide readership.

Содержание

ADA (ADEL) TADEVOSYAN
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MALE'S HEALTH
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The Law of Gravity is revealed among people as an attraction of a Man towards a Woman. The attraction often arises suddenly, instantaneously and stays forever, creating a whole new world by combining "mismatches" similar to the puzzles of gravity. Once gravity disappears, the attraction remains in the Universe.

Armen Muradyan, Ada Tadevosyan, 2018

Man is a leader (the Universe), a woman is a follower

(Galathea). Man teaches, takes action and creates the order on the earth, It is him who is only responsible for both Good and Evil. However, the Woman is the one who is responsible of what type of a man he will become, a Teacher or a Creator or a Destroyer. They are looking for each other, sometimes their whole life, and when they meet, then the Love, the only passion that does not recognize either past or future, becomes their supreme power.

Armen Muradyan, Ada Tadevosyan, 2018

Arshil Gorki. “Mysterious struggle”, 1937

ABOUT THE AUTHORS

Ada (Adel) Tadevosyan was born in Tbilisi, in the family of a serviceman. After graduation from the Yerevan State Medical Institute in 1961, she began her professional career as a psychiatrist in the psychiatric hospital of Ijevan (Armenia). Since 1963 for 30 years she taught at the Department of Psychiatry of the Yerevan State Medical Institute (now M. Heratsi Medical University). In 1969 she successfully defended her PhD thesis, subsequently received the Diploma of Associate Professor.

A. Tadevosyan is the direct organizer and participant of the work on rendering help to victims of the 1988 Spitak earthquake in Armenia. Since 1989 for many years she was the organizer and Head of the "Stress" Center. The term "Stressology" belongs to her. A Tadevosyan in the most difficult conditions that prevailed at that time in Armenia, created a new service, thereby ensuring the development of stressology in Armenia and determining the priority of this direction not only in the extreme crisis situation. The most important aspect of A. Tadevosyan's activity was the aspect of developing and introducing a new field of medicine – stressology to students, clinical residents and doctors. For these purposes she wrote a monograph (as the first text-book) "STRESSOLOGY – as a field of medicine on the problem of mental trauma and post-traumatic health disorders". In 1996 in St. Petersburg A. Tadevosyan was awarded the M. V. Lomonosov Gold Medal for her contribution to education and solving problems on human security and life. As a participant of the

National Program for the Development of Psychosocial Aspect "Disaster Management" of the United Nations in Armenia, in 1998 A. Tadevosyan conducted training cycles with rescuers and was awarded a commemorative medal from Hungarian Ministry of Civil Protection. A Tadevosyan is a participant of the Geneva Initiative on Reforms in Psychiatry in 1991–1992 and attendee of many World Congresses.

A. Tadevosyan is the author of more than 100 printed works and several monographs on the problems of mentally traumatized. She proposed a stress-phase-oriented model (SPHOM) of health disorders.

For contribution to the scientific and practical medicine was awarded the Gold Medal of Mkhitar Heratsi YSMU, 2017.

A. Tadevosyan – ScD in Medicine, Associate Professor, full member of the International Academy of Ecology and Life Safety (MANEB), Academician of the RA Academy of Law, member of the Association of Psychiatrists of Armenia, World Association of Psychiatrists, International Association of Traumatic Stress, World Association of Biological Psychiatry, International Association "Stress and Behavior", licensed psychiatrist, psychotherapist, organizer of public health.

Armen Muradyan is Rector of the Yerevan State Medical University named after M. Heratsi (YSMU), Head of the Department of Urology and Andrology, ScD in Medicine, Professor, whose works are devoted to oncourology, andrology, reconstructive and non-invasive surgery. He was born in the family of a doctor and musician. Out of two possible professions, by the call of the heart, he chose medicine, which became a native element for him. His professional career began as a medical attendant, having passed all the stages of becoming primarily practicing urologist.

Professional medical growth covers the period from 1998 to 2006. After graduating from the Medical Institute, having received a narrow specialty of urologist, he began to work as urologist-consultant in Uronephrological Clinic. In 2001–2002

worked as an on-call doctor in the Urological Department of the Republican Medical Center "Armenia"; 2002–2003 – Assistant of Surgery Department No.2, YSMU; 2003–2011 – founder and Head of the Department of Urology at the YSMU; Head of the Urological Clinic of the Republican Medical Center "Armenia"; Chief Urologist of the RA Ministry of Health; 2009 – elected President of the Armenian Urological Association. Since 2004, without leaving his main practical work as an urologist, combined it with work in the Ministry of Health, first as an adviser to the Minister of Health, then in 2014–2016 became Minister of Health of the Republic of Armenia. As Minister of Public Health he repeatedly confirmed his devotion to the "White Doctor's Robe" by his attitude to patients, people who found themselves in difficult situation (war in Karabakh, man-made and technical disasters), disabled people. Throughout all these years he was engaged in scientific activity; in 2005 defended his doctoral dissertation on the theme "Clinical and biological bases of complex treatment of advanced prostate cancer"; Head of 3 candidate and 2 doctoral dissertations, has more than 50 scientific publications, several monographs. Awards: "Gold Medal" of YSMI, Letter of Thanks from RA Prime-Minister, "National Trust" Prize", "Medal after N. Lopatkin" from the President of the Urological Association, Medal for "Services to the Fatherland" of the 2nd degree from President of RA Serzh Sargsyan.

ABOUT THE PUBLICATION

Rector of the East European Institute of Psychoanalysis, Honored Worker of Science of the Russian Federation, Doctor of Psychology and Candidate of Medical Sciences, Honorary

Professor at the Vienna University named after Sigmund Freud
Mikhail Reshetnikov

Life expectance of the male population, although traditionally lagging behind the female population for 4–6 years, is steadily increasing in all developed countries, reaching in some cases, as in Japan, 85 years. Therefore, the problem of male general, mental and sexual longevity acquires special significance, which has been repeatedly emphasized in international forums held under the aegis of WHO. Due to this, the monograph prepared by A. Tadevosyan and A. Muradyan is, undoubtedly, an actual and timely study and generalization of the authors' many years of scientific and therapeutic activity. Especially I would like to note the interdisciplinary approach, originally laid in the basis of this publication, as one of the authors is a recognized specialist in psychiatry, and the second – in urology, sexopathology and normal sexology.

Unlike the generally accepted approaches that primarily appeal to the biological patterns of the functioning of the organism and the individual, the main accent of the presentation is deliberately shifted by the authors to the sphere of psychosocial problems of health and longevity. For a long time, medicine and psychology were strongly drawn towards describing some kind of average and even asexual personality. At the beginning of the 20th century, this tradition was violated by psychoanalysts Helen Deutsch and Karen Horney, who first prepared works

devoted to the specifics of female psychology. On the Soviet space this topic was highlighted in the monograph of Abram Svyadoshch "Women's Sexual Pathology", which became a medical bestseller and survived several reprints. However, so far there are not so many systematic works in which an attempt is made to penetrate deeply into the inner mental world of men. It is this penetration that characterizes the peer-reviewed monograph analyzing the links between the neurophysiological and psychosocial mechanisms of male sexual activity, both in norm and in pathology.

I am pleased to note that, unlike most authors who traditionally (mainly because of their ignorance) do not appeal to the brilliant discoveries of Sigmund Freud, the authors actively use the psychoanalytic concept, while not only referring to the works of this outstanding scientist, but also actively disputing with him. On the whole, the book is distinguished by the substantiation and novelty of the view on a number of key problems of psychic and somatic pathology, imbued with the spirit of scientific optimism and humanism. It will undoubtedly be positively welcomed by both the scientific and the general public.

Distinguished GDOU Chair Professor of Neuroscience and Pharmacology of the St. Petersburg State University, Professor

of Neuroscience of the Institute of Translational Biomedicine of SPSU (Russia), Professor of Southwestern University (China), President of the International Stress and Behavior Society (ISBS)

Allan V. Kalueff

The very title of the book "Male's Health in the Objective of Stressology – beyond the usual" did not raise any doubts and promised to be an interesting reading. Indeed, modern biology long ago came to understanding that the body of a man and the body of a woman are completely different in both physiology and neurobiology. This book thoroughly analyzes the male body also from the point of view of psychology and psychiatry.

The main attention in the publication is devoted to stress and how stress is combined with biological factors of the male body, creating a fine line between the pathology and the limits of the norm. The authors organically combine biology and psychology in their analyses and observations.

The theme of human sexuality touched by the authors is also important. Undoubtedly, human sexuality is an interesting topic in itself since it includes a whole range of preferences and complex forms of behavior, especially in men. For example, the authors try to give a rather objective biological picture of homosexuality and include it into socio-cultural frameworks and norms. Perhaps we can say that the authors are a bit conservative-traditional in their conclusions and that it is important for the society (and even necessary) to inculcate even greater tolerance.

However, the reader will have to charge for himself how often the norms themselves changed in the history of mankind.

This also applies to other forms of behavior – aggression, paternity, suicidal behavior. The book gives a deep analysis of both psychoanalytical theories and modern psychiatric diagnostics in these behavioral domains.

Finally, a special, informal language of the material presentation is also of interest: on the one hand, it is clear that the book is written by experts with knowledge of the subject-matter, and on the other hand – it is read easily and comprehensible to any reader. On the whole, the authors' book is not authoritarian conclusions of two well-known medical scientists, but rather, a thoughtful and considerate invitation to the reader to think about a complex system called the male body. The book turned out deep, philosophical and wise.

Head of the Department of Medical Psychology of YSMU, PhD in Psychology им. Гераци, к.п.н.

Khachatur Gasparyan

The monograph "Male's Health in the Objective of Stressology – beyond the usual" is devoted to the study of male health from the point of view of medicine, psychology and psychiatry. A detailed and in-depth analysis of all those stressogenic impacts, factors and peculiarities of male socialization that affect health and longevity of male life has been done. Male's health is seen as the result of the effect of multi-aspect factors including somatic problems, stressful life situations and psychological traumas. The authors demonstrate system and interdisciplinary approach to the problem of male health in which the entire structure of the personality and not just of a man as a carrier of a particular disease, is considered which corresponds to the modern approaches in medicine and medical psychology.

For a long time female gender role and the limitations associated with it have been in the focus of researchers' attention. However, it should be noted that the traditional male role also has a number of stereotypes and limitations that overlap their carriers and men also suffer from gender prejudices and stereotypes. In this regard, the authors consider the historical development of concepts about male sexuality, male gender role and those difficulties that affect the psychological and physical health of men.

The authors pay great attention to phylogenetic and

ontogenetic development of the concept of male sexuality. The phenomenon of body, phallic symbolism and phenomenon of libido energy are analyzed at different stages of the historical development of mankind, as well as within the life cycle of each male. The authors analyze the views of different scientists on the problems of consciousness, spirituality, relationship of ideal and material principles and conduct deep psychological and culturological analyses of the development of male identity. As part of the analysis of life stages of the development of libido energy and sublimation of this energy, the psychological aspects of erectile dysfunction along with the enormous influence that the psychological reasons have on the development of this problem are considered. The system approach to this problem of male health opens new opportunities for doctors, psychologists and patients since only with an interdisciplinary approach and taking into account the whole range of psychosomatic relationships it is possible to effectively treat not only the symptoms but also the disease itself.

Considering the above, it should be noted that this monograph is undoubtedly a valuable contribution to the scientific literature in the fields of psychology, medicine and stressology.

INTRODUCTION

The wisdom of my grandfathers
stuck in my head:
we were born to enjoy work, fight, love,
we were born for this and for nothing else.

Isaak Babel

The Armenian painter Aram Vramshapu Vanetsian in early 1939 began writing I. Babel's portrait which turned out to be the last lifetime portrait of the writer (repressed and shot at the age of 46, January 1940).

Isaak Babel

A serious scientific question can be put to Babel's words. If he is right, then the male mortality at a relatively young age is the result of the biological characteristics of the male body and its functioning.

Further presentation of the material is a search for the answer.

We searched for the answer proceeding from the following provisions:

1. "Human evolution is an important part of the universal evolution as an open nonlinear system, and the most complex one" (V. E. Klochko, 2017).

2. "A person is such a level of system research, when the not very favorite word "system" can be quite adequately replaced by the more euphonic concept of "integrity" (I. Prigogine, 1986).

3. "A person is an integrative entity" possessing the brain and higher nervous activity (HNA) owing to which an internal notional subjective world is formed, including:

Conscious triunity (biological/psychic/social);
"appropriate" part of information from outside, from the collective unconscious;
the soul of a particular person ("affective/emotional clot");
will and faith.

4. The psychology of the development of culture and religion led us to the need not to ignore the stages of development of the

studied paradigms both in phylo- and ontogenesis.

5. The analytical interdisciplinary system adaptive approach was used.

Analyzing the phenomenon under study or the psychic paradigm, metaphors were often used. "In the era of changing paradigms and great breaks, the science starts to use the language of metaphors. To denote new phenomena, established concepts are insufficient" (T. Kuhn, 1975).

6. Research material:
rich clinical experience of working as urologist/sexopathologist;
rich clinical experience of working as psychiatrist/stressologist;
achievements of science in the field of studied paradigms

A. Muradyan, A. Tadevosyan, 2017

Patient's drawing[1]

Where there is the tree of knowledge,
there is always Paradise

Nietzsche

[1] With a feeling of deep gratitude we remember our patients. Communication and working with each of them enriched our experience. They left a particle of themselves in drawings that we used in this book. Patients' names are not indicated here because of compliance with medical ethics.

And you will know the truth,
And the truth will make you free
(The Gospel of John, 8:32)

Part One
MAN IN THE SCIENTIFIC PICTURE OF THE WORLD

The "father" of humanistic psychology Abraham Maslow was engaged not so much in sick people and causes of diseases, as in study of healthy people (who have "realized themselves"), trying to understand where human health comes from. His long-lasting observations resulted in a conclusion that the source of health lies in the person himself. A person is healthy if he uses all his abilities, strengths, and talents (self-actualization). He reveals his feelings to the fullest, outward-oriented on the perception of the surrounding world and inward-directing experiences of external impressions. No human emotions are alien to such a person; he is open to all forms of their expression. These people, according to *John Powell*, see the beauty of the world, hear its music and poetry, perceive a unique flavor of each day; they know the admiration of any moment of existence. Practically healthy people will not live mindlessly in a strange world. They are well aware of the wise saying of Socrates: "It is not worth living without thinking" and we will add "and acting". They are able to correctly question the life and flexible enough to let it raise questions and tasks before them. To live life to the full means to have developed imagination and sense of humor, retain

spontaneity and liveliness of emotions and sensitively listen to the voice of nature, which in its constant development subjects human to it too. Care and love – this is the main content of the relationship of these people to everything and everyone. And when they encounter the shady side of the life they understand its objectivity and try to perceive its reason; and to perceive means to forgive. Forgiveness for them is restoration of internal harmony which is actually the basement the health rests on. Healthy people truly love and truly respect themselves and respecting themselves they respect others. Every tomorrow – is a new opportunity, which is eagerly awaited. Life and death find meaning for them. And when the hour of death, their hearts are full of gratitude for what has been, for "The Way They Were," for the whole life experience.

MAN IN MEDICINE
MENTAL HEALTH

In medicine it is accepted to speak about individual approach to a patient but behind this concept there is no content that a beginner doctor could learn. Individual has evolved from specimen (biological being) to individual and then to the upper stage of evolution – personality. Carl Rogers was the first who disclosed the difference between the concepts "personality" and "person" – individual. The concept "individual" refers to a carrier of physiological peculiarities of Homo sapiens as a rational being endowed with consciousness and will in whom psychic and biological constitute a single unit and individual actualization – for myself – prevails. For the purposes of medicine, we shall accept the following definition of "personality": personality is a human who climbed the top step of evolution and has become a social person. His actualization already lies mainly in the sphere of society, in his relationships with other people at all levels of his activity. As the core of the personality appear relations between people in any social medium, for the benefit of which he consciously positively thinks and acts. Individual as an object of doctor's professional activity is the product of several complex variables, each being complex by itself. These variables are:

- biological component – the body;

- mental component – human psyche;
- social component – the environment.

Each component changes depending on the temporal factor and external effects retaining at that its specific features, its basic function, its mechanisms for realization of existing capabilities and its range of improvement and development.

Example: consider the human organism, his body. It has relatively rigid boundaries and limits of variation. But if we recall bodybuilding, abilities developed by the person practicing yoga, it becomes clear that it is within a person's power to change also his body despite its biological boundaries. Each variable has a tendency to change and to develop as it is built in the informational combination of bio-psycho-social reflection of the reality.

Human has acquired a huge resource of variability and evolution at the expense of consciousness and will. To date there is no uniform concept of human. We will adhere to a concept that treats human as a developing conscious volitional trinity in both phylo-and ontogenesis. Actualization as a psychological phenomenon manifests itself in realization of possibilities and capabilities ensuring personal growth, self-perfection and self-respect that comprise the main purpose of life for a male. Actualization in contrast to the tendency towards equilibrium (homeostasis) is often due not to a decrease but to an increase in strain. Being optimally actualized, such a person lives a full and

bright life every new moment of it. He personally chooses his way of life, as a source of information uses his perceptions, feelings and thoughts rather than other people's advice. Having made his choice, he is responsible for the consequences of the choice and never blames others but himself. Such people make up the fully functioning human formation that "adjusts life of humanity on the earth". It is mainly male formation at the age of 35–60.

Today we can speak of a new trend in health care, the trend of studying the role of psyche and brain in human health and illness.

In regulations, programs, and in general it has become popular to talk not only about the bodily but also about the mental health. Behind the facade of popular terms, there is no common understanding of "what the mental health is". Often, the activity of reforms is reduced to the replacement of just a name, for example, "Center for Mental Health" instead of "Psychiatric Hospital". As a result the accumulated problems of mental health are not solved, but on the contrary become veiled and deeper, not removing stigma, not improving the state of patients with mental problems, moreover not improving their health. The problem of health and illness, norm and pathology is complicated; their boundaries are relative and depend on many factors and reasons. This is the consequence of the complexity of the very object of study – psyche, its characteristics and properties, criteria to be guided to determine "mental health".

Study of the population of practically healthy people showed that about 50 % of adults had one or more symptoms of mental

register manifested in the form of anxiety, irritability, constant strain, alarm, chronic fatigue, asthenia, insomnia, bad mood. The majority of these people did not apply to a specialist: 71 % – did not undertake whatsoever, 1 % – shared their fears with friends or relatives and only 17 % applied to a doctor. Early symptoms are not well pronounced because more frequently they are connected with deadaptation, functional by their nature and do not much worry a person, his environment and doctors. This is the first level of change in mental health, which should be the object of great attention of primary care doctors. Being in the very focus of attention, these states when timely diagnosed and correctly handled, are reversible.

The following characteristics are distinguished in mental health:

- the field of mental health;
- boundaries of mental health;
- quality of human life.

The field of mental health implies the sphere and range of person's activity in which individual is adapted. It is enlarged or narrowed depending on the society's requirements, in other words, the field of mental health due to the specificity of psyche and its laws does not have unique determination. Therefore it is important to specify the concept "Mental health" and define its levels. The boundaries of mental health are the "limits" of

acceptable behavior in the society. ***The boundaries*** of mental health were historically correlated with the ruling basic vision of religion, philosophy, politics. Today the term "***Quality of life***" is widely used. It is characterized by valuation standards adopted by the person for himself. Each person has his own life model that meets his and accepted by the society standards. One is quite satisfied with his domestic needs, interests – to be pleased with life or to consider that he lives full-value life. For the other one it is important to have everything that symbolizes prosperity accepted in the given society. The other seeks to know the world and himself; somebody else lives in the world of illusions. Therefore, the life quality has flexible standards for different people, different societies, different ages and generations. Based on the standards of living before and after illness, personal field of mental health is outlined. Mental health and its disorders can be presented by several levels, definition of which is based on the priority and degree of involvement of brain matter, psyche or personality in the process.

The lower fundamental level – the level of psycho-physiology is determined by peculiarities of the internal cerebral neurophysiological organization of psychic activity. The necessary condition for healthy psyche is safety of the brain as the organ, normal functioning of all blocks (human perception of senses, thinking, memory, emotions, mentality). This level is found in any organic brain diseases (tumors, stroke, atherosclerosis, trauma).

The second level of mental health disorders is ***the adaptation level***. Disorders of this level are the largest and diverse group and make the layer that is to be regarded as true disorders of mental health. Disorders of this level are described as borderline states, anxiety disorders, post-stress disorders, psychosomatic, neurotic. They reflect temporary reduction of human ability to self-actualize, adapt, decrease stress resistance, social competence, purposeful activity. Human character traits are inevitably sharpened and manifested in the activity. The whole "psychic discomfort" is accompanied with somatic troubles (dynamic arterial hypertension, pain syndromes – more often in back, headaches, insomnia, itch, lack of air, vegetovascular dystonia, enteric manifestations, etc.).

The third, ***highest level*** is the level of personal mental health, which is determined by the quality of human semantic relations, hierarchy of his sense orientations to the world, himself and his place in it. Personally mentally healthy person is the one who is able to accept the reality as it is (illness, loss); able to overcome traumas of the past, and remembering them able to search for his new true place in the life and in the world. The one, who is able to reassess values, be aware of their unique vital meaning, to overcome himself and external obstacles while realizing new meanings and values.

Personal health is a result of sometimes painful search for new himself. History knows many names of famous persons who had this or that mental illness that did not prevent them

to adapt socially, realize their purposes and live full, rich life. Remember Caesar's, Napoleon's, Dostoevsky's epilepsy; Darwin's psychasthenia; Freud's and Zoschenko's depressions. People having certain mental disorders, and even diseases, not to mention bodily problems, somatic diseases, can be personality healthy. Often there are people with certain health problems but in the personality aspect, they prove to be healthier than any other one who, according to WHO definition, has "Absolute health". The human in his body image is one with spiritual and mental "I". Therefore violation in any sphere necessarily entails violations in others that are frequently of compensatory or protective nature, e.g. rise of temperature due to infection. In medicine clarification of the primary and secondary role of the factor in cause-and-effect relations is the basis for the adequate therapeutic approach and favorable outcome, hence is the presence of the etiopathogenetic and symptomatic treatment. Often it is difficult to determine the precise feature based on which it is possible to talk about mental illness. So any doctor must have at least minimum knowledge in the field of psychology, its laws, their standard functioning; know regularities of transition states manifested by deadaptation situations, mechanisms of psychological protection. All these issues are successfully solved by a new direction in medicine – stressology. "Mental health" should be understood as the state of person able to correctly (adequately) reflect the outside world, set a goal, plan and fulfill adopted decisions, enjoy lively

and adequate emotions, able to overcome conflicts, tension and preserve a certain degree of stress resistance. Mentally healthy person has enough secure instinct of self-preservation of bodily, mental and social "I".

There are three types of social impacts affecting the state of health.

The first type is historical influence that affects the whole generation. Thus, men whose early childhood fell on the years of the "Great Depression" in the United States throughout their lives showed the difficulties of social adaptation. The whole generation of the former USSR who experienced the "37th year" revealed difficulties of adaptation; the males of Armenia whose childhood and youth concurred with crisis years of the end of XX – beginning of XXI century are still experiencing adaptation difficulties.

The second type – is the so-called "standard events" – life stresses occurring within the regular life flow: entering higher educational institution, moving, marriage, birth of children, retirement. Such factors can go unnoticed, but can become pathogenic, stressful.

The third type is "non-standard events" – disease, psychic trauma, criminal prosecution, participation in combat operations. All these factors as a rule injure a person and can result in one of the versions of post-stress disorders.

The afore-mentioned factors that affect mental health are objective. But mental health of modern males is affected by

much more subjective factors, such as "self-concept" and "self-control" or the ability to govern himself. People do not often ask themselves who they really are. Each considers his personal definition so natural that he cannot imagine to what extent everything he does (consciously and sometimes unconsciously) or how he percepts himself is conditioned by the conception that he created about himself.

On the example of some literary heroes, it is easier to understand what is being discussed. The Chekhov's story "The Death of a Clerk" is about a poor clerk who accidentally sneezed in the theater on the bald head of the General sitting in front. Having apologized, he could not help thinking about that "shameful" fact and his whole life turned into sheer misery, which led him to death. Among the novels of Cervantes there is a story about the man who was sure that was made of glass. When somebody approached him he began to scream and pleaded to keep away so that not to break him by chance. He walked along the very middle of the street with fear looking at the roofs scared if a tile would suddenly tear off and fall on him. Once when a wasp sat on his neck, he did not dare either to hit or shake it off out of fear that he would break himself. He refused to have anything tough like meat or fish and going to bed wrapped in straw.

It is artistically exaggerated but a vivid example of the role of self-appraisal and "self-concept" in life, person's behavior and activity. Mentally healthy people as a rule perceive themselves

positively. They are able to aware and acknowledge their shortcomings, identify themselves, perceive their individuality. In their minds there is a temporary succession in the form of memories of the past, awareness of the present moment and look to the future. And they are able to overcome even seemingly impossible.

The brightest illustration to our narration about man as a volitional conscious and self-directed person can be the biography of the outstanding Austrian philosopher and psychologist Viktor Frankl. He appeared in a concentration camp almost of his own free will. Frankl, as a successful doctor-psychotherapist, could take an advantage of his American visa. But he remained in the Nazi Austria together with his parents and brother who did not have such a visa. As a result they all ended up in a concentration camp.

The Dachau Concentration Camp.

One day, Frankl completely exhausted walked through the snow, not feeling frozen legs and thought that that was the real end to everything. And then he, barely alive, created a situation in the head that clarified the meaning of all his previous and present sufferings: as if fellow-psychologists entrusted him with the task to conduct ***participant observation*** *of the psychology of people in the concentration camp! And when this horror is over, he will report on this theme at the World Congress of Psychologists in a black suit and bow tie. And when he imagined this, he had strength to live on against all the odds. He survived and after the*

concentration camp he lived for more than fifty years, having become a truly world-famous psychologist and philosopher. And his book about the life in a concentration camp was declared by the USA Congress Library one of 10 books that had the greatest impact on Americans.

It is a vivid example of how a person, changing his view on "here and now", looking at the situation from the other side, mentally constructing a new "psychic reality" is able to survive even in the hell. Perhaps more than once on the pages of this book we will repeat Frankl's words "***If there is something to live for, one can bear any how***". Often it is really impossible to change and leave the psychotraumatic situation, and then the only way is to create a favorable situation in your thoughts; to design a situation in which what is happening would have some meaning, at least the meaning of sacrifice "for someone, for something; to attach meaning to what is happening".

The second important condition for mental health is the ability to control oneself – self-control. That is to control your thoughts, feelings and actions, not to yield to the power of your drives, desires or emotions, to keep them within the socially acceptable limits, to resist the pressure of others, to be able to establish and maintain relationships with surrounding people, to hold back angers, postpone funs if necessary. A common source of self-control violation is excessive excitement and strain, fatigue. Some people when experiencing violent anger, fright or enthusiasm have spasms, foam on the lips, involuntary

urination, sometimes defecation. With the loss of self-control the memory does not fix person's behavior and state, everything happens at an unconscious level, and therefore, a person does not remember what he did, when was "outraged". Decline of self-control often occurs in conditions of collective excitation – in the crowd, in a riot, in mass panic. Strong emotional reactions remove self-control and increase person's suggestibility. In a person who is not able to cope with internal strain, it can erupt like a volcano in the form of aggressive impulsive action. In a crowd people are so absorbed in each other and the object of hate that they lose personal identity and commit acts of unnatural inner "self" that later becomes a source of internal stress.

When determining mental health in each specific case, it is necessary to take into account peculiarities of ethnic culture, existing customs, religious orientation, behavior patterns of the society, age, situation. "You can diagnose a broken leg not knowing the patient's cultural background, but to call the Indian boy psychopath because he says that has visions in which believes is a great risk. In a peculiar Indian culture the ability to experience visions and hallucinations is considered as a special gift, blessings of spirits and the ability to summon them is deliberately stimulated as something attaching prestige to their owner" (I. Kon).

Ignorance of the language and linguistic characteristics can lead to various incorrect diagnostic conclusions. Thus, after the Spitak earthquake the majority of those who experienced first

hours and days in Leninakan were in the state of psychogenic trance, emotional shock. Later telling about themselves, they noted with surprise that had felt nothing. They were looking for an explanation for this in the fact that possibly helicopters scattered some powders so that they should not have gone mad. In the scientific publications of visiting specialists this was regarded as mass psychosis with hallucinations.

In modern person intrapersonal conflicts play a great, if not a leading role: discontent with a wife, work, chosen specialty, place of residence and so on. This discontent often becomes a source of irritation, strain, hot temper, bad mood. Frequently it is a subjective evaluation of reality, personality nature of intrapersonal conflict. In this case there is a great probability of its chronicity resulting in one of versions of deadaptation disorder of mental health. To live in harmony with yourself is the main criterion for providing mental health.

LIVE IN CONSENT WITH YOURSELF IS A STATE, PROVIDING NOT ONLY MENTAL AND PHYSICAL HEALTH, BUT ALSO A FEELING OF FULL VALUE OF LIFE AND ITS SENSE

Ada Tadevosyan at Noravank, 2015.

SYSTEM ADAPTATION APPROACH TO THE PROBLEM OF HEALTH-ILLNESS

The story of life is not more than a movement of consciousness veiled by morphology.
Teilhard de Chardin

Nonlinear open systems, which include a person, at all levels are carriers of the universal evolution, which ensures that life will continue its motion into increasingly new dynamic complexity regimes. Microcosm and macrocosm are aspects of a single evolution and human evolution is its important component, and the most complex one. The author of the theory of nonlinear open systems Ilya Prigogine points out that human systems are considered as creative worlds with incomplete information and changing values rather than as "mechanisms" or something from the standpoint of equilibrium. With such an approach, human values and meanings rather than being ignored, perhaps, for the first time reveal their true role – to act as parameters of order, opposing the destabilizing effects generated by the social system itself. In addition, there is such a level of research systems, when the not very popular word "system" can be quite adequately replaced by the more euphonic concept of "**integrity**".

Most of the systems that are of interest to us, are open – they exchange energy or matter (it could be added: and information) with the environment. Biological and social systems undoubtedly belong to open systems, which means that any attempt to understand them within the framework of a mechanistic model is deliberately doomed to failure. V. E. Klochko (2014), the author of the theory of psychological systems, underlines that he studies a person with his capabilities in the environment in which he lives. The human psyche, according to his point of view, does not "reflect the objective world" but allows a person to create his own reality while exchanging with the external environment. All open systems live by exchanging information and energy

with the outside world. But it is not a random exchange, but rather a self-selection based on the principle of correspondence. The interaction occurs where compliance is found as the reason for the selective interaction of a person with the environment targeted at finding in the world something "his own, which has not yet become his own". Where there is a correspondence, a meaning is born. Thus the sense reality is born.

"Integrity" is the unity of man and environment. If we use the terminology of I. Prigogine, then we can say that all systems are complex and contain subsystems that constantly fluctuate. Sometimes a separate fluctuation or a combination of fluctuations can become (as a result of a positive feedback) so strong that the organization that had existed before cannot withstand and collapses. At this critical moment in the bifurcation point it is practically impossible to predict in which direction the further development will occur: will the state of the system become chaotic or will it shift to a new, more differentiated and higher level of order (I. Prigogine, 1986). Having reached the bifurcation point (fork), the essence of which is more vividly illustrated by a fairy-tale knight standing at the crossroads, dissociation (from Latin: dissociation – separation) of a single path for 1–2–3… takes place.

V. Vasnetsov, “The Knight at the Crossroads”.

Dissociation is the universal principle of development both in the physical and biological world. Dissociation in the field of psychosociology is specific, since in the bifurcation point the choice can be “random” or be defined by the Logos according to the principle “might be so, might be differently”.

The further presentation of the material is based on the two, from our point of view, fundamental provisions defining life, human health and illness.

7. The leading role belongs to the pervasive evolution as a result of the implementation of the basic function of living systems (including humans) – function of adaptation in a constantly changing world. The mechanism of dissociation

(splitting), which is universal since provides adaptation and development of systems of both biological (SBA) and psychological adaptation (SPA) of a person should be recognized as the main mechanism of adaptation.

8. Dissociation is particularly evident in the psyche, the evolution of which seems to occur according to the principle "maybe this way and maybe some other", creating the impression of dominance of "randomness" in psychology.

This principle is based on the *theory of randomness and its role in the evolution. However after discovery of the Einstein's theory of relativity (three* dimensional space + time), "randomness" as groundlessness loses its meaning. The frequency of "randomness" in nature – as "coincidence" depends on the category of time during which we are searching for causal relationships in a three-dimensional space, causing the emergence of something new. The narrower the diameter of the considered temporal causal world, the more "randomnesses" there are. As the considered causal space-time expands, the more open become causations of a particular phenomenon and emergence of something new. Clearly appears "PATTERN OF RANDOMNESS".

Moreover, it is not only in physics, but especially in psychology. The pattern of randomness in the field of psychology and psychopathology opened to us Freud, who wrote that adult problems are rooted in his early childhood, discovered the role

of early childhood psychic trauma on the subsequent formation of personality, behavior and activity.

Dissociation. In psychiatry and psychology dissociation means decay.

In psychology, this mechanism is referred to the protective mechanisms of the psyche, meaning "detachment" from personal unpleasant experiences that is manifested by different memory changes (amnesias). In psychiatry, analogue of dissociation has long been known under the name of splitting – schizis. Hence the name of the mental disease schizophrenia. Schizophrenia (from the ancient Greek. ***Σχίζω*** – Split and ***φρήν*** – mind, intellect).

Eugen Bleuler (1857–1939) for the first time used the term in 1908 when describing schizophrenia. Splitting was considered a specific sign of this mental disease. One of the founders of the scientific approach to research of dissociative phenomena, an American psychiatrist Morton Prince (1909–1975) characterized dissociation as "a basic regulating element of the normal neuro-mental mechanism".

Van der Kolk, Van der Hart and Marmar (2000) include the term "dissociation", in general terms, to the processes of information processing and determine the dissociation as a way of its organization, as break of connections between certain areas of the contents of memory, their relative separation and independence. Rycroft (1995) in the "Critical Dictionary of Psychoanalysis" defines dissociation as 1) a state at which

two or more psychic processes co-exist being not connected or integrated; 2) a protective process leading to a particular state. West (1967) defined dissociation as a "psychophysiological process whereby flows of information incoming, stored and outgoing are actively deviated from integration with its usual or expected associations". Many forms of dissociative states and their prevalence give the reason to believe that they occupy an important place in the functioning of the psyche and possess great value in terms of adaptation to changing environmental conditions.

To imagine the range of dissociative manifestations, contemporary researchers both theorists and experimenters use the concept of dissociative continuum. According to this concept, the whole spectrum of dissociative phenomena is located along a certain continuum, at one end of which are placed normal symptoms of dissociation, often encountered in everyday life, while at the other end of this continuum are "heavy" forms of dissociative psychopathology, observed in patients with dissociative disorders, post-traumatic stress disorders (PTSD), schizophrenia.

Normal dissociative processes in daily life are manifested as absent-mindedness, scattering or absorption in any occupation. More abnormal states, but not yet symptoms, are trance states, for example, with deep hypnosis.

The problem of dissociation with its manifestation variations becomes a leader in understanding the changes in the psyche,

determining the key tendency in shaping the mentality, world-view and behavior in a person's life. It is one of the leading mechanisms in the development of a variety of clinical manifestations. Studying the dynamics of dissociative relationships, in fact, is the core of psychoanalytic counseling.

Interdisciplinary approach. The desire to examine a modern male's life in an attempt to understand the cause-effect relationship between the factors determining the current state of males' health and their relatively early mortality compared with females', logically led to the choice of an interdisciplinary approach that allowed us to consider the studied issue from the positions of psychology, physiology, neurophysiology, neuroendocrinology.

Humanistic psychology or the "third force" in psychology as a scientific trend emerged in the fifties of the twentieth century opposing itself to the two already existing trends – behaviorism (behavior psychology) and psychoanalysis. It treats a person as an open self-developing system that has phylo- and ontogenetic history. In each of us there lives a great story – the history of the life of mankind, about which C. Jung figuratively has written that behind each of us, as behind a running wave, the pressure of the ocean of world history is felt. Small history is an individual real life story of a specific individual. In key moments of each history there occur quantum leaps determining subsequent development of a person. Thus, in the great history these are development and improvement of

the higher nervous activity (HNA), appearance and development of the second signal system, consciousness, mental adaptation; in the small history these are age crises, overcoming mental traumas. These crucial points (critical periods) are like "waking-up experience", refreshing perception and behavior after which a person "acquires new space, new skin, new start and new life; even at the age over 75" (I. Yalom, publ. Eksmo, Moscow, 2014, p. 511).

Now scientists are engaged in "a riddle of neuroevolution" with its basic question: "How in the ways of biological evolution have emerged mind and human brain?" The problem of neuroevolution connects biology to psychology. And today, scientists realized that the main efforts of the evolution of the animal world have been spent just to create the human brain. They found the genes responsible for the key functions of the brain – learning and memory formation. It is in the course of natural selection, which affects functions and structures increasing survival or reproduction, that population changes in the gene frequencies associated with these functional systems occur.To understand the psyche as a function of certain dynamic organization of the brain structures, it is necessary to understand how these structures and their organization emerged in the course of biological evolution. It is part of the problem of morphological evolution. By the molecular cloning techniques it became possible to calculate that out of approximately 80–100 thousand genes composing the genome of the rat about 50–

60 thousand are expressed in the brain, the expression of more than half of them being brain-specific. In the usual state of the brain these genes are "silent" but as soon as there is something that requires memorizing, they are activated and then, having done their work become "silent" again. But unlike other somatic organs, many of these genes are activated in the brain again in the situations of novelty and learning.

The two phases of the evolutionary cycle – maturation and adaptive modifications of functional systems providing survival, are closely related at the level of gene expression regulation mechanisms. In fact, the processes of morphogenesis (biology) and development never cease in the brain, but only pass under the control of cognitive and volitional processes (psychology). This similarity makes you think about the intense evolutionary interactions and transitions between these two domains. There is the reason to believe that it is the study of these interactions that can answer one of the most complex and challenging issues of modern science – how in the course of phylogenesis the brain became the organ that determines not only behavior, activity, health, illness, but also the evolution of genome.

Just a few decades ago, scientists believed that the brain is unchanged and "programmed" and that most forms of its damage are incurable. The book by Norman Doidge "*Brain Plasticity. Startling facts about how thoughts can change the structure and function of the brain*" (translation, publ. Eksmo, Moscow; monograph, 2011, p. 539) – is a remarkable and

hopeful description of infinite capacity of the human brain to adapt. Dr. Doidge, a prominent psychiatrist and researcher, was struck by the transformations occurred with his patients.

Discovery of the fact that thoughts are able – even in elderly age – to change the brain structure and functions, is the greatest achievement in neurology for the past four centuries.

Norman Doidge suggests a revolutionary view on the human brain. He talks about brilliant scientists, promoting yet a new science of neuroplasticity, and about astonishing successes of people whose lives they have changed. He gives examples of stroke patients recovering their facilities; the case of a woman born with a half of the brain, which reprogrammed itself to perform the functions of the missing half; stories of overcoming learning disabilities and emotional disorders, increasing the level of intelligence and restoration of the aging brain. His first reports contradicted the generally accepted view about the brain and its functioning, so he began studying the new science – neuroplasticity. He wrote: "The idea that ***the brain is capable of changing its own structure and functioning thanks to the person's thoughts and actions*** – is the most important innovation in our ideas about the human brain since its anatomy and work of its substantive structural unit – neuron was first outlined in general terms. ***This is a revolution!***

Revolution associated with the brain neuroplasticity, among other things, cannot but exert influence on our understanding of how love, sex, grief, relationships with people, education,

addictions, culture, technology and psychotherapy are changing our brain…". But neuroplasticity is capable of forming both flexible and rigid behavior – the phenomenon of "plastic paradox". Plastic change once occurred in the brain structures as a result of its fixation may interfere with other changes. Only the understanding of both positive and negative impact of plasticity on our brain allows us to fully realize the limits of human capabilities.

His discovery was based on the work of, first of all, Alexander Luria (1902–1977) – famous Russian psychologist, one of the few major theoretical psychologist and experts, well-known in the West. Luria proved the plastic possibilities of "higher mental functions" as far back as in the 40-ies of XX century. During World War II, he worked with a group of colleagues in rehabilitation of wounded with severe brain injuries (contusions and brain injuries). Then the psychologists achieved striking results: completely hopeless and paralyzed people began to move normally, walk and talk. He obtained practical results that were quite expected! They corresponded to the known in the Soviet Union since the 30-ies theoretical developments proving plasticity of brain and psychological functions (the work of physiologists N. A. Bernstein, P. K. Anokhin, brilliant psychologist L. S. Vygotsky, fundamental works on the psychology of S. L. Rubinstein, A. N. Leontiev and others) and only confirmed the psychological concepts in practice. A. R. Luria became the founder of quite a new direction

in the world psychology – *neuropsychology*[2].

Paul Bach-y-Rita was an American neuroscientist in the middle of the last century, whose most notable work was in the field of neuroplasticity. Bach-y-Rita was one of the first to seriously study the idea of neuroplasticity (although it was first proposed in the late 19th century), and to introduce sensory substitution as a tool to treat patients suffering from neurological disorders.

Paul Bach-y-Rita was one of the first who has discovered that our sensory systems have a plastic nature, and that in case of damage of any of them, the other from time to time can take over its functions. Paul Bach-y-Rita called this process "*sensory substitution*" and developed methods for bringing it into operation, as well as devices that give us "extrasensory perception". Having discovered the possibility of the nervous system adaptation to the vision via chamber of eye, not the retina, Bach-y-Rita gave blind people the greatest hope for the emergence of retinal implants that can be introduced into the eye surgically. This is the ability to adapt and suggests that the brain is plastic, i.e. is able to reorganize its sensory-perceptual system. In 1977 by means of a new technique it was proven that (contrary to the Brock's statement that a person speaks with the help of the left hemisphere) 95 % of healthy right-handed persons

[2] Neuropsychology – the branch of psychology at the intersection of psychophysiology and neurology, studies the brain mechanisms of higher psychological processes (speech, thinking, perception, attention, memory) on the material of brain lesions and possibility of their recovery. – Editor's note.

processed the language information in the left hemisphere, while the remaining 5 % – in the right one. 70 % of lefties process this information in the left hemisphere, but 15 % do so with the help of the right hemisphere, and another 15 % use for this both hemispheres (S. P. Springer and G. Deutsch, 1999).

Barbara and Joshua Cohen in 1980 opened the Arrowsmith school in Toronto. Then, very few have taken the idea of neuroplasticity and believed that the brain can be trained as muscles, giving it loads, so the work of Barbara rarely found understanding. She developed various training exercises for different patients. There are exercises for people with disorders of the frontal lobes of the brain. These people differ from others in impulsion, or have difficulty with planning, developing strategies, determining priorities, setting goals and their achievements. They are often considered disorganized, frivolous and incapable of learning from their mistakes; whereas Barbara believes that many of the "flighty" or "unsociable" people have problems with the weakening of certain brain functions. Exercises for the brain transform people's lives.

Among experts in neuroplasticity with a serious track record in the world of the natural sciences, Mertsenih, to whom belong the boldest statements in this area, is well-known. He believes that in treatment of serious illnesses such as schizophrenia, brain exercises can be as effective as drugs; that the brain plasticity exists since the birth of the person until his death; and that a

radical improvement in cognitive[3] functioning – how we learn, think, perceive and remember – is possible even in old age.

"The brain does not just learn; it always "learns to learn". In the view of Merzenich, our brain is not a soulless vessel that we fill; it is more like a living being, able to grow and change due to proper nutrition and training. Before him, the brain was regarded as a complex mechanism that has severe limitations in terms of memory, speed of information processing and intelligence. Merzenich proved the fallacy of these ideas. He came to the idea that, perhaps, plasticity is the main property of the brain, which has evolved in the course of evolution to give people a competitive advantage, and that this can be a real "miracle". His most recent patents were granted to promising techniques enabling to develop language skills without tedious memorization. Merzenich argues that under the right conditions, ***practicing a new skill*** can change hundreds of millions, perhaps billions of connections between nerve cells in our brain maps. If you simply perform those dances that learned many years ago, it does not help you to keep the motor cortex in due form. So that your brain can continue to live, ***you have to learn something really new*** requiring high concentration. In fact, to introduce human (not an animal) into the study, does not require artificial rewards and punishments. Motivation for learning creates a natural for a person interest to a new, interest in life in general.

[3] Cognitive means informative, mental, intellectual (from Lat. cogito – think, cognize). – Editor's note.

If such interest does not disappear in adulthood, it serves as a "reward" for full-fledged work of the brain.

In the last decades experimenters actively worked in the same direction. During this time, the laboratories of Rosenzweig and other scientists obtained a lot of data showing that stimulation of the brain causes it to grow virtually by all possible ways. They came to the conclusion that mental training or life in stimulating conditions increases the total volume of the animal cerebral cortex by 5 % and by 9 % – the volume of those regions that are immediately stimulated by training. Trained or stimulated neurons form 25 % more neural branches increasing also the number of connections per neuron and blood supply of the brain.

The results of pathoanatomical studies in humans indicate that training increases the number of neural connections, thereby neurons expand, causing an increase in the brain volume and density.

The method of monitoring brain mapping helped John Kaase and co-workers to overcome the prejudice of specialists against existence of brain plasticity in adults previously disseminated among researchers involved in visual perception. He charted the visual cortex of an adult and then blocked the access to the information incoming from the eye retina. With the re-mapping he managed to demonstrate that only in a few weeks new receptive fields emerged on the map of the damaged area of the cortex. One of the reviewers of the Science rejected the article describing the Kaas study, considering his results

impossible. In the end it was published (J. H. Kaas, L. A. Krubitzer, Y. M. Chino, A. L. Langston, E. H. Polley, and N. Blair. 1990. Reorganization of retinotopic cortical maps in adult mammals after lesions of the retina. Science, 248 (4952): 229–31. Merzenich assembled the scientific evidence for plasticity in D. V. Buonomano and M. M. Merzenich. 1998. Cortical plasticity: From synapses to maps. Annual Review of Neuroscience, 21: 149–86.

From the structure the researchers came to the search for chemical compounds (neurochemical system of the brain) that cause and provide work of adaptation mechanisms. The research of Rita Levi-Montalchini (1909–2012), Italian neuroscientist and the 1986 Nobel Prize winner in Physiology and Medicine, led to the discovery of a number of nerve growth factors, one of which attracted attention of Mertsenih. It was a brain-derived neurotrophic factor, or BDNF- magic elixir of the brain. BDNF plays an important role in underpinning the changes occurring in the brain during a critical period. According to Mertsenih, it occurs in four different ways.

When we perform an action that requires the simultaneous activation of certain neurons, they secrete BDNF. This growth factor reinforces the connection between the neurons and helps to connect them together to ensure their co-activation in the future. BDNF also promotes the growth of a thin shell of fat around each neuron, which speeds up the transmission of electrical signals. During the sensitive (critical) period BDNF activates the basal

nucleus – the part of our brain that allows us to focus attention and *keeps it in the activated state throughout the critical period*. N. Doydzh describes this process as follows. The basal nucleus helps us not only to focus attention, but also remember what we are experiencing, helps differentiation of the brain map. Here's how Merzenich says about it: "It is like in our brain there is a teacher who says: "That is really important – you must know this to pass the exam called life". Merzenich calls the basal nucleus and the attention system "modulating system of control of plasticity" – a neurochemical system that when activated, transfers the brain to the state of ultimate plasticity.

The fourth and final function of BDNF: it ends up strengthening key relationships – helping to complete the critical period. After establishing basic neural connections, need arises in the stability of the system and thus a lower level of plasticity. When BDNF is released in sufficient quantities, it disables the basal nucleus and completes the magical era of learning effortless. Subsequently, the basal nucleus can be activated only with emergence of something important, unusual or new or in the case when we make an effort to concentrate.

The idea that the brain like muscles can grow and be strengthened through trainings ceases to be a metaphor.

We live in an age of new technologies, speed and discoveries that lead to understanding the great importance of the human mind which makes it possible to control not only external physical processes, but also an opportunity of self-reconstruction

underlying health (and illness) and longevity.

"Homo sapiens sapientis" is the specific name of the person – acquires a concrete content, which is not to be ignored. There are no pills for longevity; even changing his genome a person is doomed to illness and death in a relatively young age because his life is getting fuller of stress. Anthropogenic psychoemotional stress (APES) is a factor causing an invisible epidemic, about which at the beginning of the last century, psychiatrist Muller-Lier wrote: "… Our science has weighed and measured both the smallest and extremely large… while what is so strongly connected with our flesh and blood, what is closest to us and strongly affects our vital interests – human suffering and disasters – science has punished with complete disregard, blindly passed by them. The fact is so paradoxical that we must be amazed" (Mueller-Lier, F., 1935). While "stress – the child of the brain", this quiet killer, often choosing the best, carried and carries away thousands of men, earlier than women.

The most striking, and probably the most powerful emotional force of Freud is a passionate love of truth, uncompromising faith in mind. The mind for him was that unique ability that could help solve the problem of human existence, or at least alleviate the suffering inherent in human life. The mind, as Freud felt, is our only instrument, or weapon with which we can get rid of illusions (religious shackles, according to Freud, are only one of them) and give meaning to life, to gain independence from the shackles of foreign power, and thus to install its own power on them. This

faith in mind was the basis of his ceaseless quest for the truth – since in the complexity and diversity of the observed phenomena he opened a theoretical truth. Even if the results seemed absurd from the point of view of common sense, it did not bother Freud.. This belief in the power of mind proves that Freud was the son of the Enlightenment, the motto of which – "Sapere aude" ("Dare to know") – fully identified both a person of Freud and his work.

EVOLUTION OF ADAPTATION AND ITS SPECIFICITY IN HUMAN

The system of biological adaptation (SBA)
The system of psychosocial adaptation (SPA)

The system of biological adaptation (SBA). Adaptation – is the basic function of human life support, functioning and development. The mechanism of adaptation was discovered in the middle of the last century by H. Selye who named it "general adaptation syndrome" (GAS), which is an endocrine and humoral regulation of human psychophysiological state in response to changes in the environment. It is caused by a single mechanism, let's call it "stressogenesis", which is genetically programmed and passed from generation to generation.

This kind of adaptation is inherent in all living beings as a mechanism for implementation of self-preservation instinct and provided by a biological adaptation system (BAS). GAS can be considered an algorithm of the system which provides personality adaptation at the level of the body and actually performs adaptation of the body to the environment. According to Selye, it consists of two groups of effects: specific and non-specific psychosomatic effects.

This division is conventional, since the response symptoms is an interlacing of the non-specific with the specific. The non-

specific stereotypical effects result from the activation of neural and humoral axes manifested through the GAS. According to H. Selye, stressogenesis is specific because of its psychosomatic response to the stressor which is a three-phase process: alarm reaction (A-R); stage of resistance – strain (S-R), and stage of exhaustion – asthenization (S-E). The body's adaptation capabilities are limited, since it is all about the biological adaptation having quite rigid borders. It supports the first basic level of adapting a living organism to changing environment, that process being relatively passive: variation – alarm (first phase of GAS) – adaptation.

Example: *A training session is under way. The audience is in a session situation, their attention, thinking and behavior are adequate to the situation. Besides getting situational information, the audience can also perceive background sensory stimulants having no adverse effects. Suddenly there is a clatter. All those present momentarily turn their heads towards the sound, half-rise, with a question on their face, bodies strained, eyes opened wide. This phase of alarm is estimating. In case the estimated situation suggests no threat, the stressor response is terminating at this phase and the audience laughing and joking (relaxation) return to the previous condition resuming training session. In case the situation is estimated as threatening (earthquake, hurricane, attack), everyone goes on the move, the behavior switches to rescue ("flight" or "fight", according to Cannon).*

The phase of alarm is realized automatically through the sympatho-parasympathetic neural axes. Anxiety is a bioelectric effect, so it is instant and unconscious. If the situation is threatening, the second phase of stressor reaction – phase of resistance or strain is developing. It is provided by endocrine-hormonal system which throws out stress hormones into the blood stream leading to effects in different organ-systems. This phase is multistep and multilevel. Each level is maintained by a successive introduction of hormonal axes: the adrenocortical, then the somatotropic and the latest – the thyroid. Stress hormones are associated with the concept of "adaptation energy" by Selye. Numerous investigations of biological adaptation have shown that a stressor reaction has an impulsive, intermittent nature, each time followed by relaxation. As a result, the third phase – the phase of asthenization develops. According to "adaptation energy" by Selye, long-time effect of any stressor will sooner or later inevitably result in losing the "adaptation force – energy", or to its depletion. Adaptation energy always has a quantitative limit and each organism possesses a genetically inherited stock, expended through the lifetime, which can be considered as a component of individual stress resistance. This stock can be used rapidly or slowly. Depletion of adaptation stock of energy will result in ageing or death.

The model of stressor response includes the concept of "end organ" assuming any organ terminating the stressor response. *"Anxiety made my head ache"; "The screaming boss made my*

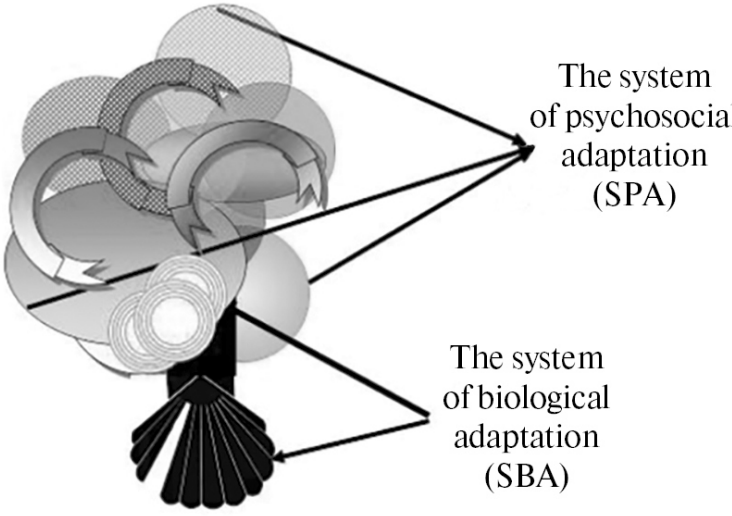
colleague catch hold of his heart"; "The mere look of his body made me barf my guts"; "The mere recollection of my blunder makes me go into sweat and color"; "The mere voice of my mother-in-law makes me shake, I want to ruin everything…", "My pressure is perhaps my daughter-in-law".

These are examples of individual preference of an organ in a stressful situation, each person mostly having his own end stressor organ. The resulted somatic effects are a manifestation of activation of the SBA.

The system of psychosocial adaptation – SPA. Man is not merely a living organism: he has consciousness and speech, imagination and thinking. He has a unique ability to retain memories and re-live them again and again as if they were for the first time. Only man is able to endure a lot in the name of "something", to wait and to hope for the future, while predicting its alternatives. Only man can develop the integrity of his life from the past, through the present, and into the future. Only man seeks meaning in everything: in objects, in physical phenomena, in facial expression, in words and deeds of other people. He is in a permanent whirlpool of physical life, in interaction with himself and his own kind. All this variety of factors and conditions places high demands on the system of adaptation and will naturally entail a need for improving and developing a new system of adaptation.

Since the mid-twentieth century, the biologically-oriented science has gradually initiated a psychological trend revealing

the essence of man's psychosocial adaptation using psychoanalysis founded by S. Freud. It was psychoanalysis that gave in-depth approaches, psychological insights to understanding what is happening in the psychic sphere, having discovered numerous mechanisms of psychological defense. According to Freud, after restoring the balance at the level of the body, man recovers his most complicated extra- and intrapsychic balance. The latter consists of the balance within a social environment with people, the balance of instinctive inclinations and the psycho-social instances that restrain them (vitally essential balance). Then man recovers the balances between the psychic instances themselves, balances of the synthetic functions of "Ego" itself as a specific adaptive apparatus of the individual. That is what comprises the system of psychological adaptation. Thus, man possesses two types of adaptation: the biological type responsible for adaptation of the body and psychological type which adapts personality. All intrapsychic processes are interrelated, dependent and interdependent by the biological adaptation system, but not only.



A metaphoric model of human adaptation.

SBA is the basis of adaptation depicted as “a dark column trunk” with three-phase branching because it has genetically programmed relatively rigid boundaries that limit the variability of adaptive possibilities. A variety of colored balls represents the SPA.

Psychosocial adaptation is flexible, dynamic; it has a large selection of freedoms due to psychological defense mechanisms, dissociation. SPA is multidimensional, it tends to develop; according to the emerging challenges becomes more

complicated, separates from its basis, gives rise to derived forms that somehow remain dependent on the biological adaptation. One can consider the ever-expanding Universe of our adaptation, in proportion with the expanding spheres of life, communication, and with man's perception of all things and his "Ego". Moreover, human adaptation is distinguished by an active volitional conscious process that can get more complex with the change of the environment, with complication of arising assignments and their solutions, and stress-saturation. In the course of evolution, the stereotypes of reactions that arose once in a person based on instinctive reactions to stimuli (adaptation) were replaced by increasingly complex psychic acts. The latter in repetitive situations allowed to change the modes of response, thereby increasing the degrees of freedom of reaction. *Therefore the adaptation of man with its active and passive components has to be clearly distinguished from accomodation.* The latter is in fact a passive autoplastic process materialized through the system of biological adaptation with its basic mechanism – a three-phase stressogenesis, which restores the balance between the body and the environment as the first level of adaptation, as Freud (1931) and Alexander (1933) wrote in their time.

The GAS, being a psycho-physiological response to a changing environment at the very elementary level – anxiety phase is complex and caused by a unity of mental and physical in man. This phenomenon is already complicated as contains both a mental component – emotion (alarm) and a bodily one

(variety of somatovegetational effects). Therefore understanding what is going on with man and in man is possible only through the prism of "correlations of the physiological and the mental, the biological and the social in the nature of man". Actually we deal with the "intertransition" of the psychosocial into the biological and vice versa. This problem has long been under scientists' close scrutiny, and its differing interpretations have long been a stage of fierce disputes. Some psychologists and biologists refer to this trend as "psychophysiological parallelism". Thus, W. Wundt, a German psychologist, physiologist and philosopher, the founder of experimental psychology, as far back as 1874 in one of his most important works in the history of psychology, the book "Principles of Physiological Psychology" thought that physiological research was unable to penetrate into the mystery of the psyche because the psychic processes developed in parallel with the biological and were not determined by the latter. The complexity is primarily in both understanding the concept of the "psychic" and its inaccessibility to direct experiment, direct sensual observation. And a German physiologist E. Du Bois-Reymond in one of his lectures, "On the limits of science" – at the second session of the 45th Congress of German Natural Scientists and Physicians in 1873 suggested that the emergence of psychic phenomena was one of the seven fundamentally unsolvable mysteries of the world. Since then, much has changed.

Emergence of the principle of systemic activity of the nervous system, which replaced the previous three: the principle of reflex

(R. Descartes, I. Sechenov, I. Pavlov), the principle of dominant (A. Ukhtomsky), the principle of reflection in understanding the brain activity, resulted in abandoning the notion of the role of the brain as an anatomical organ. For this purpose, it was necessary to abandon monocausalgia to interpret mental and behavioral paradigms. In view of polyetiology, psychic manifestations began to be treated as a consequence of exposure to more than one factor, rather to a sum of factors; and not simply a sum, but as a result of their specific interaction.

Gunthern von Hagens (2009), trying to embrace an individual in a holistic systemic concept on the one hand, describes different levels of the body – physiological, cognitive, emotional and transactional, and on the other hand, he can see man as part of the socio-cultural field. Karl Ludwig von Bertalanffy was an Austrian biologist, known as one of the founders of general systems theory (GST). It is an interdisciplinary practice, which describes systems with interacting components used in biology, cybernetics and other areas. Von Bertalanffy (1973) suggested a concept of hierarchal orders to describe the body of man, wherein the simpler systems (e.g. cells) were integrated into more complex systems (e.g. organs) as elements or subsystems. As to the organs, they were included as elements or subsystems in even more complicated systems, like organisms, which on the next hierarchical level again interacted with the environment forming social systems. This viewpoint brings into the foreground a thesis by V. Ehrenfels (1890)

that the whole (in this case, it is a system) is more than the sum of its parts (subsystems). It is all about the Gestalt psychology. The idea of Gestalt has its roots in the theories of Johann Wolfgang von Goethe and Ernst Mach. The concept of Gestalt was first introduced in contemporary philosophy and psychology by Christian von Ehrenfels in his famous work "Über Gestaltqualitäten (1890). With the increase in the complexity of the system, new qualities appear that have not yet existed at the level of the subsystem; psychosocial adaptation becomes such a quality.

I. M. Sechenov, A. A. Ukhtomsky, P. K. Anokhin, N. A. Bernstein, each from his own position, have made a weighty contribution into the development of living systems. As noted by Yu. Alexandrovsky, by virtue of systemic analysis, "…which is a specific logical and methodological instrument for studying different complex processes, it becomes possible to explain the mechanism of qualitatively new features of the whole (system) …" (2004).

In recent decades, physicists and mathematicians got involved in the study of human, his consciousness, being rather active and productive at that. The theory of information field has led to the creation of a holographic model of the Universe, each point of which contains all information. Psychologists have sounded the alarm about the growing amount of information, the information flow, in which a person lives. However, the human brain does not perceive, nor does it process the information around us. We do

not perceive radio waves, TV waves; we do not hear ultrasound nor do we see infrared rays because of the stimulus barrier. According to L. Vygotsky, the psyche is a "sieve that filters the world". But this process is not passive; the psyche "allows" that we receive exactly what we need "here and now". It builds its structure on the basis of reflection, pleasure/displeasure, learns to select what corresponds to a person's interests, value orientation, and only then passes to a new level of adaptation. This level is more complex since it is the basis for own reality in the process of exchange with the environment.

All open systems live by exchanging information and energy with the outside world. But this is not a random exchange, but rather a self-selection based on **the principle of correspondence**. The interaction occurs where compliance is found as the reason for the selective interaction of a person with the environment that seeks to find in the world "its own that has not yet become its own". Where there is a correspondence, a meaning is born. So the sense reality is born – people live not in optical spaces, but in fields of meanings. When this "own, that has not yet become its own" finally becomes its own for the system in the course of its interaction with the outside world, it changes the structure of the system itself, complicating it. This complication occurs because each time the system receives from the outside not only what it "wanted" but also what it even "did not think of". In other words, when a person receives something from the world, he becomes different. As a result,

in the inner reality of meanings there is a harmonious fusion of what we consider to be "opposites" – "I" and "Not I", the subject and the object, the inner and the outer. There is a multi-dimensional human world, containing both subjective and objective dimensions. This is the way of its development or rather self-development.

As Goethe said: – "Everything inside is long ago outside". Thus a person changes the space by his subjectivity. This is a unified ability of any open complex system to "distort" the space around it in order to select again and again what most of all corresponds to it at present (I. Prigogine, 1986). "The path of man to himself lies through the world", (V. Frankl, 1990). Indeed, we find ourselves in the world that is proportionate (corresponds) to us, but not in the world that is indifferent to us. A person meets in the world with himself – with his needs and opportunities. He is projected into this world, and from there he receives answers. But this is an active process on the part of man, since before that, having an affective sphere, the principle of pleasure/displeasure, he had built the architecture of his mental apparatus. And his brain through the lens of this apparatus filters the information field from the outside, sorting out the patterns of information corresponding to him – and in no way vice versa. But this process of filtration largely depends on the filter, or the sieve, which is used by this or that individual. And this is again a personal choice as a result of upbringing, imparted moral cultural traditions. If a person has not developed a core, he becomes an

easy prey for catchers of human souls.

When he finds himself, the person occupies an active position. If this does not happen, he simply accommodates himself, but does not adapt. Actually he does not live and, according to V. E. Klochko, author of the theory of psychological systems, "a state may come when a person ceases to understand whether he lives his life, or whether his life lives". That is, you have to be a subject, not an object of your own life. Moreover, life is not only a transition to the future, but also a transformation of its past. A person has always to reconstruct this experience of the past under new tasks. Experience includes, among other things, customs and rituals.

Gradually came the understanding that only a person has two sources of activity: not only needs, but also opportunities. Animals act mainly in the field of their needs. Human is given consciousness first of all to realize his potentials. At the beginning the concept of self-actualization was mentioned. In the light of new approaches, we are talking about self-realization, that is, first of all, about realization of the opportunities that are inherent in each person, transference of human potentials in potencies. Potentials are genetically incorporated programs. By itself the availability of potential does not guarantee that it will necessarily turn into reality. M. Mamardashvili (1997) writes that there is potential as an opportunity, and there is a potency that, unlike a simple possibility, "is an opportunity that simultaneously has the strength to realize it". And self-

development should be seen as a transition of opportunities into reality, and not only as a process conditioned by the satisfaction of basic needs. Behind creativity, for example, there is a "tense opportunity" for a person to create himself and the world.

The brain as the main constituent of the higher nervous activity (HNA) fulfills a systemic organization of all its components to form a systemic multi-level response adequate to its capabilities. This manifests its multi-functionality from the standpoint of psychology, psychoanalysis and psychopathology. The brain perceives information from the outside and from within; selects it with subsequent differentiated fixation, using the mechanisms of mirror neurons, eidetism, mechanisms of short-term, operational, long-term memory; chronicizes the effect of the stressor by the inclusion of a psychological mechanism – displacement; forms echo effects, creates flashbacks, dreams, somatic conversions; fills the sphere of the unconscious. This activity is provided by the mechanism of stressogenesis (there is no other) manifested by the GAS.

The first phase of the GAS is the phase of alarm – manifests itself as a non-specific symptom complex in the form of "neuroticism". It has a bioelectric nature, and therefore a discontinuous (discrete) character; with a prolonged, lingering stress-situation a person enters the permanent stress zone, which is provided by the three-axis second phase of the GAS, which is neurohormonal in nature and manifests itself as psychosomatic symptoms, syndromes and diseases. The latter

arise as a consequence of the transition of functional changes to structural in different organs and organ-systems. In the absence of psychotherapeutic and biotherapeutic assistance, permanent stress leads to the consumption of the hormonal limit, loss of some links of the GAS, which is fraught with the development of the third phase of the GAS – the phase of astenization revealed by the burnout syndrome, chronic fatigue syndrome, various asthenic and asthenic-vegetative states.

The structure of the adaptation model consists of two different levels:

1. The neurophysiological part includes: HNA with the brain in the center, sensorium, mirror neurons, the mechanism of eidetism, memory, endocrine glands, the conductor system, skin, organ systems, body.

2. The psychoanalytic part of the model includes: psychosensory reflection (sensations, feelings, pain), mechanisms of psychological defense, flashbacks, dreams, amnesias, conversions.

The inclusive concept by Hartmann (2002) regards the adaptation as a nonstop ongoing process that has its roots in the biological structure, with many of its manifestations reflecting the constant attempts of "Ego" to balance the internal or inter-systemic tension. According to A. R. Luria, if the initially developing mental activity has a relatively elementary basis while depending upon a "basal" function, it will subsequently become

more complicated starting to be realized with involvement of the structurally higher forms of activity. Mental adaptation results from the activity of an open system which, according to L. Bertalanffy is characterized by "a state of mobile equilibrium" in which its structure remains constant. But in contrast to an ordinary equilibrium, this constancy persists in the process of continuous motion of its constituent substance. The mobile equilibrium of open systems is characterized by the principle of equiphility, that is an open system can be preserved and develop not depending on the initial conditions. At the same time, the author emphasizes, "the living systems can be defined as hierarchically organized open systems that preserve themselves or develop in the direction of achieving the state of mobile equilibrium" (L. Bertalanffy, 1969).

The main distinction of psychological adaptation from the biological is in that the latter provides the adaptation of man to the environment, i.e. has the function of an adaptive character when the environment is primary and determines the sphere and the range of man's activity and behavior. Figuratively we can imagine that man and environment roll along the road of life in the same harness wherein environment is the "wheel horse". This adaptation assumes a reasonable conformity with regard to the outside realities, therefore in many cases it also includes activities aimed at modifying the environment or its adequate control. It is this process that initiates and triggers the psychological adaptation enabling man to change the environment adapting

it to his needs, demands and purposes. And so, already not two horses, but three: "Environment, Man and his Intellect" are tearing along the road of life, among which the anchor is variable.

As a separate, third form of adaptation appears the choice of a new environment, where alloplastic and autoplastic changes are combined. Human as a carrier of consciousness has one more form of adaptation including both the first and the second kinds, but containing a qualitatively new purpose, namely, the search for and choice of a "new" – "the new environment", which is favorable for human functioning. This constant search for "the new" is very meaningful in human life and adaptation. It is implemented by the functional subsystem of perception and information processing, the so-called "information subsystem" consisting of a number of leading links. One of those is a link providing search and information processing, its storage and usage. For a full-scale work of this subsystem it is necessary that the information items contain elements of novelty and be somewhat indeterminate. It is the presence and search for novelty in information flows that are developed in males but not due to genetic peculiarities of their brain structure but as a consequence of the developing psychosocial adaptation in the world full of stresses.

The activity of this subsystem functioning is directly proportional to the state of the environment in which a person lives at every particular moment in his life. The more crisis-prone the environment, the less active is the search for novelty in

information, but the greater the need for experience to overcome the complexities of this environment.

Another important principle of adaptation, according to Hartmann, is change of function. To estimate the adaptive significance of a particular behavior, it is necessary to distinguish the currently existing function of this behavior from the one that existed originally. Behavioral functions often change in the process of adaptation, and, ultimately, behavior can serve a purpose different from the original. The knowledge that functions change helps to avoid the so-called "genetic error", a simplified assumption that an individual's current behavior is a direct outcome of the past. This point of view confirms the role of the social environment in changing the genetically engineered program, i.e. "A man himself is able to choose some part of his fate and adjust it himself". Change in the environment and change in the functions provide the flexibility of mental adaptation, without which a productive full-fledged life is impossible.

Equally important role in the process of adaptation plays the automation mechanism, which provides, as opposed to flexibility, the rigidity of mental adaptation. The interrelation and interdependence of the mental and somatic in the course of human evolution and the formation of a healthy "I" ("Ego") are manifested in a systemic behavior and use of bodily capabilities – the somatic system for adaptation. Integration of somatic systems involved in the operation, with their constant use, is automated;

the same happens with mental efforts involved in the action. With the increased training of some action, its intermediate steps disappear from consciousness.

To explain this, E. Kretschmer (1922) proposed a law of "*formula abbreviation*": not only motor behavior, but also perception and thinking show automation (a certain similarity to a habit). S. Freud (1905) wrote: "Such processes played out in the preconscious and elusive, with which consciousness is connected, can be called the appropriate term "automatic". The place of these automatisms in mental topography is the preconscious, rather than the unconscious ("Id"), besides, these automatisms can be distinguished from the automatisms of the unconscious". We are interested here in the purpose-oriented achievements of these automatisms and their important role in the schematics of the adaptation process. Automation has undoubted economic advantages and stipulates many complex achievements in central psychic domains. It is common knowledge in physiology that generation of automatism reduces metabolic expenditures, accelerates transformation and saves energy.

As Hartmann writes (2002), "we can say, automatisms – like other mental phenomena are also under the control of the external world, and under certain conditions, formula-abbreviated behavior is a better guarantee of mastering reality than new adaptation in each specific occasion". This manifests the protective role of pre-consciousness automatisms, their stimulus barrier.

Thus, both flexibility and automation (rigidity) are inherent and necessary for the "Ego". There are three groups of functions that are active in the mental sphere of man: some mental functions assuming a flexible form provide flexibility and plasticity of the psyche, behavior of man and his state of health; other functions assuming the automated form provide lower expenditure of energy resources and time that are often crucial for adaptation, accelerating the conversion of energy; and the third group is comprised of mental functions, which combine the initial two in different proportions.

In a complex human mental sphere thought, imagination, and recollection often become a triggering factor, "stressor of stressors" activating the mechanism of stressogenesis, eliciting the entire range of the vegetosomatic effect inherent to the phases of GAS. As a result mental adaptation becomes more complex, expanded, evolved, reflecting the evolution of the world of man and the evolution of man himself, his knowledge, values, wishes and purpose of life. *In the course of evolution there comes about the "central regulating organ", commonly called "the inner psychic world" that is located between the receptors and the effectors.* This inner world (psychic) is built up gradually, by virtue of the so-called existing "stimulus barrier" that enables to perceive and to forward "only a fragment of the initial (stimulus)" reality of the world of man (Freud, 1920).

But man is an amazing creature! He is not content with a life-long adaptation to the actually changing environment,

the changing human environment and to his own self. With the development of consciousness an individual, and only he, as shown by many studies, while living his own life, is also permanently forming his own "subjective reality", his own idea of the world of things, of other people and of his own status. Meanwhile, the latter category is associated with self-rating, varying from an overestimation of oneself, one's capacities and capabilities, to their underestimation. The result is that the individual adapts not so much to the objective reality but to the so-called "psychic reality" built by himself as an integrative "product", as a fundamental integrative formation of the perceived outside world, colored by personal experiences and personal estimates. As a result, a "semantic reality" is created, enriched and framed by thoughts, feelings, fantasies, anxieties and suspicions. In forming this reality a sizeable role belongs to the past events, imagination and perspectives, to say nothing of the unconscious predictions forming the guidelines.

The emerging mental reality is not the reality that is mostly identified with the outside world and regarded as "objective reality". The mental reality, at close scrutiny, is a colored palette of diverse interpretations of the outside world by different people, for each of them "his own reality is the most objective", the one he is being adapted to. The mental reality is constructed through personal experience enabling perception of current life. E.g., a person gone through a traumatic situation, retains this experience, often perceives this world acting in it at present and

in the future in the light of a traumatic reality of the past. It is this person who crosses the threshold of the doctor's office, having his own idea of the disease, the formulated internal picture of the disease. The mental reality can be regarded as synonymous to the inner and subjective reality. All three terms – mental, inner, and subjective realities are designed to limit the subjective experience of an individual from the world of physical objects. Some theorists attempt to introduce certain corrections to delimit the mental and the inner reality.

They correlate the mental reality with the inner sources of subjective experience that is with unconscious fantasies and images, for which the perceptions incoming from the outside world are an outside source of subjective experience. With regard to the term "inner reality", they understand it as a most general phenomenon reflecting a total subjective experience based upon integrative images of the perceived outside world.

Similar to the inner reality, which is not a "pure" product of imagination, the outside reality has its complex structure. The outside reality is reducible to two basic manifestations: "the actual" – objectively verifiable and confirmed by the scientific cognition of the world, and "the artificial" – the intersubjectively generally accepted "conventional" consisting of the world of words, myths, traditions, interpersonal and collective forms of behavior. The abovementioned shows the variety of factors and situations that can cause a state of deadaptation, anxiety, stress in modern man, and as a consequence, the improvement and

complication of the adaptation system itself.

In the outside world structure the major portion falls on the world of people, so that task number one in human everyday life becomes man's ability to adapt to another person, to other people who are carriers of individual psychosocial "Egos" that are present from the very beginning of life and to the last breath. "Man is a tangle of interrelationships" is an ancient philosophical aphorism. And this kind of adaptation is a super task and super goal for any person. K. Cherry (1972) believes that every act of communication between people, each new perception of another person adds something to the experience and improves the adaptability. Communication with people of one's own kind is already a subsystem of social contacts, leading to an expansion of mental adaptation which in fact becomes psychosocial adaptation. L. Feuerbach (1955) noted that the individual "as something isolated" could not comprise the human essence in himself "either as a moral being, or as a thinking entity"; the human essence is "evident only in communication, in the unity of man with man…". Thus, a crucial adaptation to be performed by man is adaptation to the social structure and his participation in building it up (Bernfeld, 1931). This type can be attributed to the fourth form of adaptation. The SPA is characterized by the multidimensional self-organizing subsystems, which provide greater freedom and variability in the choice of adaptation.

The mechanisms of the SBA and SPA, which determine

the vital activity of a person, are extremely complex structures containing multiple subsystems, interconnected and interdependent. N. P. Bekhtereva regarded the increasing number of flexible links in the control system of mental activity as the main principle of complicating the brain systems. She assumed that the mental activity was supported by the cortical-subcortical structural-functional system with links of varying degrees of rigidity. Human adaptive capabilities have the widest range of flexible links, which when interacting with the environment allow to keep "essential variables" within the physiological boundaries. This is reflected in the"interfunctional" reorganization of the entire structure of mental activity in the process of ontogenesis.

The system adaptive approach enables to present a complete picture of man in his onto- and phylogenetic development; in health and illness; a picture stipulated by psychosomatic interrelations between the component paradigms – the biological and the psychosocial.

A historical development of human consists in the fact that today we have a person as a conscious volitional trinity (biological, social and mental), for whom sense formation (meaning formation) has become a leading need. *Sense formation is the main function of the brain distinguishing a person from all living beings, and it is this ability to attach personal significance to environmental signals that makes each person unique and unrepeatable*. It is sense formation that underlies many conscious

and unconscious psychological defenses that make up the core of the SPA.

Example. They say that *"Rafael Santi was driven mad with love towards a model for the image of Psyche. Once he, a dreamy young man was walking in the park thinking about finding a model for his canvas "Cupid and Psyche". Suddenly he noticed a beautiful girl resting in the shade. Such pure features, such angelic face he had never seen! "Psyche" looked with interest at Rafael blinded by her beauty. She was 17 years old. Her name was Margarita Luti. Rafael immediately invited her to become model for the image of Psyche. Painter offered her a gold ring for ten kisses. Maid graciously agreed. Rafael lost his head with passion. Rafael went mad with beautiful "Fornarina" (translated from Italian means "baker"). Her delicate face with expressive brown eyes, silky skin and lush shoulders forced him to get off the breath. But that was not the Fornarina, whom worshiped Rafael. The young mistress of Raphael, though living with him, twisted love affairs with wealthy Romans right and left, often returning home at dawn. What about Rafael Santi? He did his job – he painted, and his paintings have become part of the golden fund of world art. The beauty with innocent charm, that struck the painter's heart, became a common courtesan. Rafael went crazy with countless betrayals of Margarita but in work continued to depict the ideal he "was looking for Psyche". The most famous of his creations became written in the years 1512–1513 "Sistine Madonna." Flying in the clouds the Virgin with child*

still touches deeply. The model for the image of Mary became the same Margarita Luti. The artist gave her face an expression that he would like to see and "saw": a mother's love, the fear of the loss of a child, tenderness. He loved and painted the one whom he sought, whom he loved and by virtue of whom created his works. He lived in his world woven out of values, desires and symbols. Suffering from reality, he immersed into work and came back to reality again. Rafael suffered unspeakably, like any addict, splashing his hidden feelings on canvas or wet plaster. Perhaps his work would not be so heartfelt, if his life with Fornarina evolved happily.

Patient's drawing.

Is it so or not – we will never know.

We will not make any conclusions with respect to a specific example, because we are deeply convinced that it will be another version and nothing more if follow the basic principle of psychology “That might be so, might be otherwise” of which we wrote at the beginning.

But it seemed to us that the example will help understand all of the above said on the individual, his life, motivation, adaptation, objective and subjective realities, psychological defense and the role of suffering in his deeds.

CORRELATION OF CONCEPTS: "STRESS", "EMOTIONAL STRESS", "TRAUMATIC STRESS" (APES)

Stress. For the first time the word "stress" emerged in the English language in 1303 when the poet R. Manning wrote: "The Lord had sent manna of heaven for the people in great stress".

In the late eighteenth – early nineteenth centuries Goya, whose art was distinguished by passionate emotional and social orientation, created a series of paintings that he called "Desastress". The series includes paintings reflecting the human grief and suffering, among them: "Unhappy mother" (Sheet 50 of the famous etchings), "I have seen it" (Sh. 44), "They are a different breed" (Sh. 61), "This is the worst" (Sh. 37).

The concept "stress", introduced into biology and medicine, is associated with the name of H. Selye and it was used to refer to a non-specific response of the body to any harmful and subsequently a harmless effect too. It is a natural genetically programmed normal and necessary response of the body to provide its survival and development. The essence of Selye's teaching is his discovery of the three-phase general adaptation syndrome (GAS).

The first phase (stage), called by Selye the "***phase of***

combat alert" includes orientation reflex accompanied with restructuring of the whole body. It is mainly implemented by an automatic neurobiological mechanism, by the action of a sympato-parasympatic nervous system BSA and has a bioelectric character.

The second phase is the stage of resistance (strain); it is also figuratively referred to as the "stage of fight or flight". If during the first stage the situation is assessed as dangerous, and anxiety as the expectation of an uncertain danger becomes a "concrete fear", then through the activation of the endocrine glands the second stage of the stress reaction develops and stress hormones enter the bloodstream. Spread by blood to organ/systems, they put the body into the state of readiness either to flight from danger or to fight with it (muscles tense, heartbeat vigorous, pressure jumps, etc.). Self-preservation mode is triggered throughout the body.

The whole complex is a normal, necessary effect of self-preservation instinct and similar for both types of behavior. The choice of behavior depends on the impulsivity and genetic program; but in human more often on the acquired experience of response in the deadaptation situation. It is stipulated by activation of three endocrine axes. The effects are caused only biochemical or neurobiochemical mechanism, which activates the appropriate organ/systems by hormones.

The third phase is the stage of asthenization. H. Selye has shown that stress accompanies any life activity and corresponds,

in certain sense, to the life intensity. It increases with nervous tension, bodily injuries, muscular work, infections, in the situations of joy or sorrow, even with recollection of tragic events of the past and leads to the shift of the internal state of balance to deadaptation.

Let us denote the process of deadaptation – adaptation by one term – ***stressogenesis***. A person in the course of the whole life gets "stress" injections and acquires stress-resistance in the form of behavioral patterns of overcoming stressful state, learns to comprehend and act in a constructive direction. If it does not occur, destructive characteristics of stress trigger. Using the expression: "Stress is the aroma and the taste of life" we should not forget that they are also different as the favorite aroma and taste in different people are different. The classical version of GAS, its evolutionary core, has a discrete nature and represents a unity of three phases. In this embodiment, the GAS came into use as "stress" and became the property of biology.

Revealed opportunities of studying and understanding what is happening in a person for a long time made their way to medicine with difficulty because of the lack of the concept "man in medicine". Throughout the twentieth century medicine developed as an aid and health improvement of the diseased body, therefore it would not be a mistake to call it "body medicine". Human health and disease were regarded as structural injuries of different organ/ systems under the impact of various external factors. The role of mental component was reduced to

zero or completely ignored in both the questions of etiology, etiopathogenesis of diseases and those of dynamics, therapy and forecast. Psychological principles and laws acting in man, psychosocial component of man were disregarded due to total ignorance of medical sciences – psychology and sociology.

This was promoted by principle of parallelism dominating in neuroscience. Psychiatry should have been exclusion but it was also biologized. The desire of psychiatrists to find a biological substrate in the brain as a cause of schizophrenia, manic-depressive psychosis is still alive, despite the generally accepted by WHO definition of health. According to the Constitution of WHO, "health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". This definition provokes lots of questions, reprimands and critics and it needs serious correction and specification. But it will be possible only with appearance of the concept "man in medicine", when the issues of mental health and social well-being are considered from the viewpoint of a triad concept: "man" as a unity of biological, mental and social.

As far back as 1861 I. M. Sechenov suggested that a body without environment supporting its existence is impossible. Man thus is the system with two complex components "body + environment". Since not only man's body lives in the world, but rather a personality with the soul lives, acts, suffers and overcomes difficulties of life, this concept of I. M. Sechenov can be expressed using the following formula:

Man =
B (body) + P (personality) + S (soul) + E (environment) and referred to as an
INTEGRITY

Within this integrity, these composites interact with each other via bilateral feedback. Environment, including social medium, affects the body through the data flow of signals in the form of:

- positive – eustressors;
- negative – distressors;
- indifferent.

Among stimulants are identified stimulant signals acting without violating the internal balance. This category of customary signals constitutes the background. An unusual signal of the environment produces an orientation reflex aimed at assessing the environment with regard to the body threat.

If a factor is not threatening, the **BE** system continues functioning in the same mode. If a factor bears a threatening element, anxiety, fear, the deadaptation mechanisms of stressogenesis are triggered introducing the body into the mode of adaptation and it re-adapts. Thus, the factor containing a threat becomes a distressor causing emotional stress.

Emotional stress. The term appeared when the concept "stress" was transferred from biology to psychic (mental) reactions occurring under critical conditions. These reactions were called "emotional stress" which includes emotional reactions to stress (anxiety, fear) and somatovegetative symptoms caused by sympato-parasympatic nervous system. Actually, the emotional stress implied affective experiences separating them from non-specific stressor sympatocomplex of physiological changes in human body. "Intellect or feelings", "mind or emotions", "please, no emotions" – that is an incomplete list of common expressions reflecting different attitudes to emotionality and intelligence.

G. Hegel rightly noted that for intellect "…the difficulty is to get rid of the once loosely admitted by it division between the feeling and the thinking spirit and to come to the view that in man there exists only a single intelligence in feeling, will and thinking".

With the lapse of time the term "emotional stress" has undergone a series of transformations. Thus, the second half of the last century was marked with descriptions of psychosocial models of stress, the models of response not only by the body, but by man as a whole, not only to the changing environment, but also to the psychosocial stressors. It was all about the search for a "medical" model of stress (H. Wolff, 1953), to substantiate the association between social changes and the health of population. This conformity is nowadays considered universal. The social-

psychological approach to the medical model of stress is represented by several theories. The theory of loss by P. Marris (1974) assumes that each of us is a holder of some fundamental and universal beginning aimed at sustaining everything that regularly occurs in our environment attaching to it a subjective and personal meaning. Social changes are experienced as losses, disrupting the structure of interpreting the environment, thereby deeply hurting the personality. The traumatic situation (from Latin trauma – injury, wound) mentally traumatizes a person and provokes a storm of emotional experiences often in the form of affects. Therefore, the ***mental stress is conventionally considered to be the emotional sphere***. Such view on its nature is due to the specificity of perception of stressor. At the first moment of perception anxiety and fear come to the fore limiting a judgment about the occurring and the gnostic (from Latin gnosis – cognition) and volitional components are negligible. This link is provided by activation of the autonomous neural axis as bioelectrical effect.

Some medical models of emotional stress development are described: the model of "biosocial resonance" by G. Moos (1973); the formalized model of the effect of social disintegration on health by D. Dodge, W. Martin (1970); the linguo-structuralist theory by R. Totman (1979); the theory of salutogenesis by A. Antonovsky (1979). It can be assumed that researchers of stress pursued one goal: to convince people living in the epicenter of stressful life and professionals in

medicine (and they are men in their majority) that there exists the dependence of human health and longevity on the psychosocial structure of life and peculiarities of its perception. As a result emotional experiences have shifted to the category of the causes of developing stress. Thus the term "emotional stress" appeared.

Traumatic stress. It is not just a terminological kaleidoscope around the same phenomenon, but rather an understanding of the difference between diverse emotional, behavioral, somatic reactions of man on different stressors. The knowledge accumulated in the field of stress study has shown that not always the intensity of the stressor is of primary importance.

Lazarus and Folkman while delimiting the field of stress aftermath, considered only moderate stress. Different comprehension of the role of stress "intensity" (that might be light, moderate and traumatic) led researchers to different findings. Furthermore, for a long time, studies of post-stress disorders in human developed independently of stress studies. The whole problem rested on the stereotype approaches that had been adopted as the stress theory developed for the body, while the post-stress disorders were considered responses of the personality involving the body, psyche, consciousness and will. Man responds to environment with his conscious psycho-bodily unity and the aftermath effects are a vector complex systemic response to traumatic events. The generalization of multiple research results of different aspects of traumatic stress described as the structure of self (Laufer); a cognitive model

of the world of the individual (Yanov-Boulemane); the affective sphere (Kristal); the neurological mechanisms controlling the processes of learning (Kolb); the memory system (Pittman); emotional learning (LeDoux Romanski) are obvious proofs that the post-stress process involves the entire complex system of man. The leading element is the human ability to attach meaning to any, sometimes even indifferent stimulus (a phone call, the night phone call, a special knock on the door, sleep, crow's cry). Stress becomes "traumatic" when the meaningful significance of what has taken place results in disorders in the psychosomatic sphere, which is similar to the physical injury – hence is the name (mental injury, mental crash-syndrome). However, in contrast to a physical injury a mental wound can be invisible; it does not impress bystanders with a bloody mash of muscles, vessels and nerves. A spiritual crash-syndrome is a "silent volcano" that can burst at any time, at any place, by any kind of suffering.

In the concept of traumatic grief of Linderman (1944) and "syndrome of stress reaction" of Horowitz (1986) a factor of "time" after trauma during which a person experiences mental discomfort, anxiety, aggression and grief, occupies a special place. As a result the term "chronic stress" appeared alongside with the term "acute stress". Chronic stress assumes remote aftermaths occurring after disappearance of stressor effect.

Opponents of the concept of a unified mechanism of stress and post-stress disorder, being aware of the affinity of these concepts, suggest using the term "stress" for correctness,

to denote the immediate response to stressor and the term "post-traumatic mental disorders" for delayed reactions to the traumatic stress. We think that such "correctness" would adversely affect the understanding of an integral process.As a result, comparison would be done to quite differing conditions, for stress in its classical meaning is a normal response of the body to a stressor, while PTSD is a disease. They are however connected via the integral mechanism of stressogenesis, which changed its function; the function of protection became the function of destruction. It is here that an "impassable" barrier to see the unity of stress and post-stress disorders appears, the emergence of which is connected with the fact that stressogenesis as a normal adaptation reaction becomes a pathogenesis of post-stress disorders. Flashbacks, imagination stipulate transition from acute stress to chronic depriving it from the main peculiarity – discrecity, moving to the category of permanent processes entailing conversion from the norm to pathology.

In her early works (2002–2011) A. Tadevosyan described traumatic stress under the name of APES – Antropogenic Psycho-Emotional Stress thus underlying its specificity already in the name. APES is specific for man and contains both emotional and cognitive components, the proportion of them varying depending on the memory peculiarities of a particular person, his personality, peculiarities of perception, content and duration of the state of grief. Resulting from the interaction

between the stressor and the mental vulnerability of man, a state of deadaptation has a number of specific features relevant to man only, which mark its distinction from the emotional stress in general (A. Tadevosyan, 2002, 2003, 2011). An individual, having suffered a mentally traumatic situation himself or as its witness, experiences the emotional stress as an acute state. Actually, this first phase of stressor response as the first step of man's response to a traumatic event can be easily modeled on animals. When the first emotional outbreak (shock) of traumatic experience somewhat calms down man begins to think over what had happened; memory, comprehension are turned on, the past, present (the cognitive component of the psyche) are assessed often from the standpoint of loss for the person himself. The trauma acquires the category of meaning for a particular man. "The meaningfulness" of injury, its sense results from processing the life entire past, present aimed at the search for "anchors" for the future. Sometimes it takes quite a long time to interpret what happened in detail; during this period "molecules" of emotions of various qualities, various intensities and duration are released. The variety of emotional experience of this period depends on what man remembers about stress, what the content of his traumatic memory is. The emotional palette when alone (***stress outprice***) can be very dynamic and manifold: from anger, wrath, to the sense of guilt, despondency. The flow of these conditions may be undulating: the emotional tension going up and down. Thus usually the emotional discharge

proceeds gradually reducing the destructive activity of the injury – "time heals". However, there are cases when deliberation of what happened may be accompanied by a growing emotional experience intensified by assuming a personal role in the loss, the rejection of a random set of circumstances, self-blame. This can result in self-generation of an affect with suicide or alcoholization, psychopathology or somatization of the injury. Thus, processing of the event may be accompanied by the second emotional wave, which in a number of cases is much stronger than when it really happened. This stage includes a new phenomenon of the evolution – consciousness and imagination.

The first mention about the cognitive aspect of mental stress is found in R. Lazarus work. He notes that only an interpretation of the fact or a situation makes the stimulus stressogenic. The evaluation attributed by the individual to a specific factor is the main intermediate variable between the stressor and the response. Defining stress as a situation whereby the requirements to a person are either a trial or something that exceeds his capabilities for adaptation, Lazarus concludes that even if a stimulus affects the individual through some sensorial or metabolic process, this process being stressogenic, the stressor response may fail to appear. A stimulus becomes a traumatic stressor only by virtue of the meaning ascribed to it by man. Therefore, an excessive stress can be initiated by the individual himself, by the one who ascribes sometimes the stressing characteristics even to the neutral stimulus.

This feature was already known to philosophers of the ancient world, who wrote: *"People are frustrated not by an event, but rather by how they see it" (Epictetus). And Andre Gide wrote: "How wonderful life would be if we were content with some real disasters, not bowing to the ghosts and chimeras of our mind…".*

Usually three periods are distinguished after an injury:

The acute period can be considered up to 3 months.

Subacute period lasts up to 3–6 years.

Delayed or remote consequences can be extended for years, sometimes for the whole life.

Example from a husband's story:

"I cannot understand why she did it now. We lost a child 3 years ago, she handled herself well. We have born a girl again. Life began to improve. And suddenly – she commits suicide, leaving a note: "I'm sorry. All this time, I tried to forget … every time embracing our second daughter, I see the face of my daughter, she looks reproachfully at me. I can no longer"… (from the suicider's note).

Mental trauma is an act of the impact of mentally traumatizing event limited in space and time "there and then". The traumatic event, having become the content of consciousness, in the course of time can be repeatedly manifested as unprompted flashbacks or initiated by the individual himself anywhere, anytime and in any situation.

Its strength and meaningfulness can be amplified by the imagination, which manipulates the traumatic experience, moving it in time, expanding by connecting other people and events. Thus the state of traumatization develops, the core of which is the so-called in psychology and psychoanalysis "trauma body". At the level of consciousness the "trauma body" (psychoanalytical term) or a traumatic constellation (neuro-physiological term) has a basic quality – the quality of attracting everything that can be tied up into a "single unity" and comprise a traumatic reality.

The latter does not already have clear space-time boundaries. Man "starts to live" not in the objective reality, but rather in the subjective post-traumatic one. Each time when activating that reality, man lives all through again with the whole complexity of the sensory perception of the traumatic injury, the somatovegetative symptomocomplex, supplemented with the affectivity of the moment and the behavior of the traumatized man during the traumatic injury. As a result, the act of "mental trauma" goes over into a "condition of mental traumatization" converting acute stress to chronic. The condition of chronic traumatization is manifested by anxiety, strain or asthenia.

Traumatization is a process, which starts from the sensory triggering factor (a psycho-traumatizing event) and going on when the system generates certain traumatic constellations based upon the A. Ukhtomsky's dominant (A. Tadevosyan, 2000). The peculiarity of traumatic stress is its ability to retain stressful

events in the form of a psychic echo – "echo-stressor" known as flashbacks. "Echo-stressors" can be of different types depending on the mechanism of origin and development (A. Tadevosyan, 2002). A common feature of all varieties of flashbacks is *automatism*, i.e. they can emerge from the memory anywhere, anytime and in any situation, regardless of the consciousness and desires of man. This category of mental phenomena is caused by the memory capacity to imprint individual sensory perceptions or entire situational events (gestalts).

This category of mental phenomena is conditioned by the activity of mirror neurons and the mechanism of eidethism of the SPA, the ability of memory to imprint individual perceptions or whole situational events, including the feelings, thoughts and behavior of the person himself.

We have singled out several variants of ***flashbacks – "echo-gestalts"***:

- sensory;
- convulsive;
- somatic;
- painful;
- cognitive.

Sensory echo-stressor (sensory flashback). Traumatic dominant (constellation) occurs immediately, without a period of formation. A traumatic event is retained in memory in the

form of pictures, situations or fragments of those situations that took place in reality. This phenomenon comes up unprompted. Considering the holographic concept of the memory and psyche, it is clear that "a fragment of man's life" reflecting a traumatic event retains the spatial and temporal characteristics of the trauma moment and the whole complex of sensations and emotions. Most probably all this happens through the mechanisms of eidetic memory. Neuro-Linguistic Programming (NLP) makes it possible to determine which information channel is preferable for this or that person.

Based on NLP data it is possible to pre-determine the kinds of flashbacks that can develop in a particular individual in cases of traumatic stress. This "mould" (gestalt) of reality has a capacity to break into the current everyday life, pushing aside the current moment, and so a person starts to live, go through and act in accordance with the echo-reality. Having come up through the mechanism of association, this flashback possesses strength of the real event changing the clarity of consciousness into a psychogenic fuzzy consciousness, making a person lose his bearings in the real situation. This is the analog of hallucinatory illusory experience of epileptic twilight disorder of consciousness (mental equivalent). The individual can hear, see, smell the traumatic "echo-reality" in all variations of features, which is manifested in the common stressor response. As distinct from epileptic twilight, the content of traumatic twilight disorder of consciousness is stereotypic, it repeats in every detail the

traumatic reality. The psychic equivalent involuntarily emerging from the memory, can change the mood, behavior that become inadequate to the reality, but adequate to the content of traumatic experience.

Examples.

1. Patient K. used to drop to the floor and crawl to a wall every time she heard a buzz of a flying plane. Squeezing herself in a corner or under a table she stayed there until the buzz ended. Her face showed fear; she was trembling, sometimes grappling her head and lamenting: "Again bombing, again bombing…"

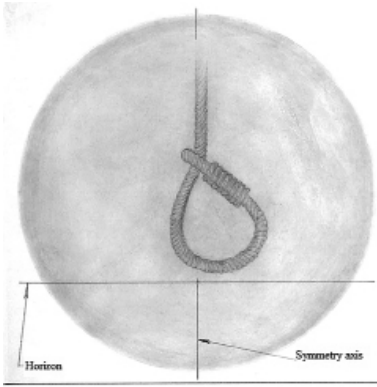
These conditions emerged six months after the fears experienced during "Grad" bombings in Karabakh and moving to Yerevan.

2. Patient M., a survivor of the Spitak earthquake, each time during high wind used to run out of her apartment down the stairs screaming: "Earthquake!!!". She lived on the 9th floor. In this state no one could stop her or make her change her mind.

3. Patient T. lost his 9-yearold son in the earthquake. 12 months later he applied to the Center "Stress" on account of his condition that scared him and made him think he was going mad. He said that almost every day he heard his dead son talk to him. Walking along the street, "… clearly saw the son either walking or playing in the street or running to meet me".

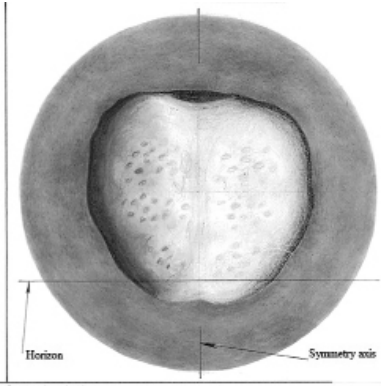
The described phenomenon is not merely a symptom. Its appearance makes it possible to understand the mechanism of

transformation of the external signal into an act of consciousness, the mental phenomenon. Flashback is a reflection of the event or its fragment by mirror neurons. The parameter of a physical object – seen, heard, having become the content of consciousness, is transformed into a mental phenomenon. Echo-phenomenon is an intermediate link between the world of physical phenomena and mental world (between physics and psyche, matter and consciousness). It is a key to understanding the transformation of the external world energy into the internal one. Mirror neurons perform this first level.



Visions with closed eyes

16.11.66. –16[42] There is a report-re-election meeting In the department. Cannot keep my eyes open. On a gray background there appears an image of a rope loop of a slightly yellowish tint. At the same time I think of a form of loop that would not cause physical pain in the last moments of my life. Then the eyes open, the vision disappears, I continue listening to the speeches. The vision lasted 7-10 seconds. There was no fear. P.S.: See the separate sheet for details.

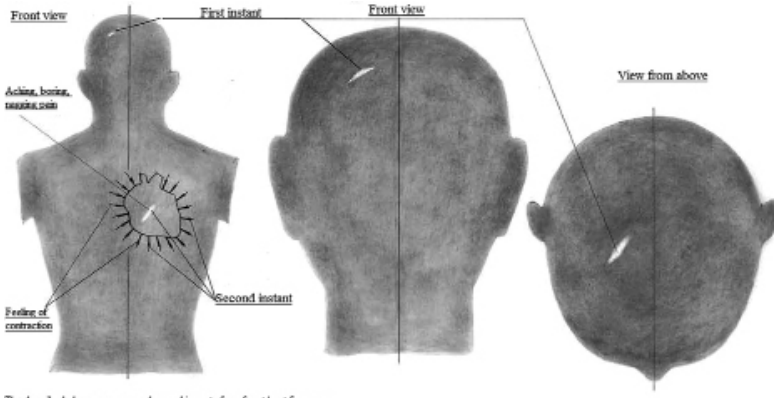


Outward projection

20.11.66. 20[60] After supper I lie in bed in a state of deep slumber. On a dark gray background there appears an image of a half of a fruit of sweet pepper, turned to me by the cut off side. I am looking at the image with indifference. The left side is ripe, red; right – unripe, green. Grains are weakly visible. The shape of the fruit is strange, like an apple, instead of the flattened, inherent to the fruit of sweet pepper. The still image was held for 25-30 seconds, after which the drowsiness with vision quickly disappeared. I got up with a clear head. P.S.: See the separate sheet for details.

Drawn 20-21.11.66 Signature

Picture 1. Flashbacks as described by one of the patients.



The described phenomenon was observed in acute form for at least five years.

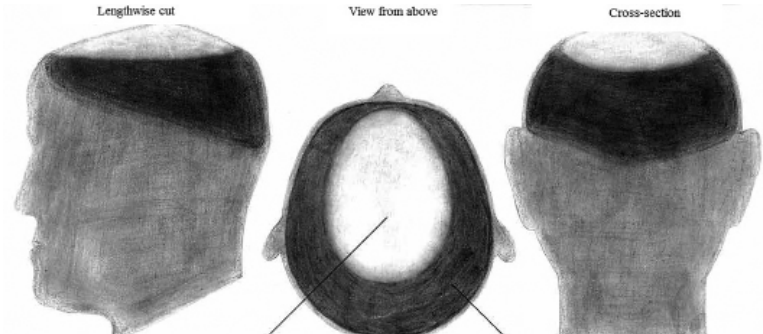
Nerve impulse from the brain to the heart. Physical subjective sensation + visual image (inside the heart and head)

In everyday life, the phenomenon is frequent - almost every day (sometimes several times a day).

Only from a fleetingly filtering subconscious unformed thought, *and often without it* - in the head with the speed of a short lightning flies some painless feeling (in the middle depth of the brain on the right parietal region). *At the same time* a visual image appears; in the brain, something bright lighted, like a short lightning (See the picture). *The next moment*, in the heart there is a slight acute aching pain (accompanied by a visual image - a light line at an angle - See the picture), a feeling of squeezing the heart; the same pain, but somewhat weakened, spreads around the heart, is accompanied by a fleeting feeling: there is no desire to live, nothing pleases, not happy with yourself. The place where the pain occurs is two fingers below the left nipple. Note. after treatment for 20-25 days in the clinic (intravenous infusion of 2 ml of bicquinol once every three days) the sensations and visual image of a short flashing lightning in the head - ceased to occur.
Remained (only occasionally) weak sensations in the heart (they are caused by thoughts of the conflict situation that will arise after the discharge from the clinic).
The picture and description for it were made in the clinic named after Korsakov 19.04.66

Signature

Picture 2. Flashbacks as described by the patient.



"Pressure" belt and zone of "emptiness" - simultaneously

The picture is made according to *subjective sensations*. Such attacks occur suddenly, in any situation and in any position of the body - sitting, standing, lying, walking. Attacks are accompanied by: a) *in any position of the body* - the *"dizzolution"* of thoughts felt in the zone of "emptiness" and a partial thinking disorder; b) *in the vertical* - sharp shocks of the body from side to side for 1-2 seconds; dizziness and a tendency to fall - for up to several minutes; c) *in the lying position* - a feeling of dizziness. Attacks force: stop movement or reduce its intensity; reduce the speed of walking (often to a complete stop) until the attack is over.

Note: described and outlined the most severe attacks from those happened to date.

Drawn 24-25.11.65 Signature

Picture 3. Flashbacks as described by the patient.

Convulsive "flashback". An epileptiform convulsive fit may occur in a psychotraumatic situation, especially if it is accompanied with oxygen deficit. Actually, the fit results from hypoxia. The state of "asphyxia" is accompanied with a characteristic facial expression and a specific pantomimic mask. A man who lacks air starts to "grab" air with hands, face is strained, neck reaches out, mouth opened, breathing outwardly reminds breathing of a fish thrown out on the shore and strenuously grabbing the air with the mouth open. Epileptoform

"echo-stressor", if it happens in situations with air deficiency, is accompanied by similar movements.

Examples:

4. Once the Epileptological Center sent a young man to the "Stress Center. He complained of epileptiform convulsive fits occurring once in 2–3 months for over 8 years. A careful examination in the Epileptological Center failed to yield any objective paraclinical data. Since the fits were rare and over time the tendency of their frequency was not observed, and the clinical picture did not change, the parents decided not to give the boy anticonvulsant drugs, for fear of their undesirable side effects. No epileptic symptoms were discovered. The father was a witness of fits and was able to describe in detail the onset of the fit, focusing my attention on the grasping movements of the hands, "as if lacking air" – added he. Some leading questions helped father to remember the occasion that happened with his son when he was taught swimming in the pool. On the second day of swimming lessons, not knowing how to swim, the child was dipped head and ears into water. The boy experienced strong fear and refused to attend the pool. Several months passed between that event and subsequent fits. The relatives forgot about it. The patient himself confirmed that the fit usually occurred in stuffy rooms. It happened twice in a vehicle packed with people, once it recurred when he saw the sea for the first time.

5. Three years after the earthquake, mother of a 12-year-old

girl consulted the "Stress" Center on the occasion of convulsive fits in her daughter. Mother said that she and her daughter remained under the ruins for 10 hours. It was there that the first convulsive fit occurred to the girl. The subsequent examination revealed no data in favor of the organic origin of the fits. A fit starts with short breath, the girl grasps her throat, trying to catch her breath. The girl herself said she always felt short of breath before the fit.

Both examples mentioned are similar in their stereotype clinic, lack of dynamics and mechanisms of occurrence. In both cases, the parents decided not to give the anticonvulsants thus retaining their original form not burdening the clinic with side-effects of medications.

Somatic "flashback". The memory retains not only "a piece of the objective-emotional world" in the form of a sensory "echo-stressor", in the same way it can register any bodily symptom or syndrome accompanied by a strong emotional response – "somatic echo-stressor".

"Somatic echo-stressors" can be exemplified by various somatic conversions well known to psychiatrists, neuropathologists, psychotherapists. It is common knowledge that in contrast to the somatoform manifestations, conversions never give way to organic changes. Functional disorders never convert to the structural ones, even when frequently repeated. Probably, the somatic conversions are stipulated only by the first level of the stress process or the autonomous nervous axis

providing only a bioelectrical effect, without involvement of endocrinal axes or hormones.

Pain "flashback". The most common is somatic-pain syndrome of various localizations. Phantom pains also relate to this category.

Example: *Five years ago, a patient having fallen on the stairs experienced a terrible pain in her back, which then gradually ceased. She did not pay much attention to this since there was clearly no fracture. However, after a while, about a week, the pain resumed and did not pass. X-ray and other examinations did not reveal any abnormalities, but the pain became chronic despite the ongoing therapeutic measures. The pain occurred even when she accidentally touched the furniture. "As if I fell down the stairs again",– the patient said. The pain recurred many times. Sometimes the pain appeared all of a sudden when she was watching TV: "I did not touch anything, but the pain is there! I cannot walk; I hardly do something around the house. But what is really strange is that a sharp sound, sometimes even an ordinary conversation or a draft cause attacks of the same pain". Gradually she began to limit herself in mobility, ceased going out, bought crutches, became disabled. The pain sharpened with physical or mental loads".*

An example is well-known to orthopedists phantom pains when a person experiences severe pain in the amputated part of

the leg. Analgesics do not bring relief from this suffering and the pain remains there for several years. Both phantom and chronic pains in the back are not related to the current external injuries. The pain effect had a real cause but it happened in the past, once and in a specific place – "Then and There". Now the pain appears anywhere, anytime. As the patient describes, "appears when it wants to appear. It does not change, does not increase or does not fade with time, as if it is stuck in me and under some conditions makes itself felt: "I'm here, I'm in you". Indeed, pain has become part of human body and life.

Example: *"Two years have elapsed since I suffered herpes in the waist (lumbar region) and chest. All the external signs have long since passed; there are no changes on the skin. But it is hard to imagine what pains I am experiencing. As soon as I come home, and now I live alone, itching and pains seem to be waiting for me at home. Nothing helps. I was examined – no deviations. But the pain does not leave me, and it is always the same – with itch".*

A person experiences pain in the absence of bodily injuries and moreover, such pain is as real for a person as a physiological one. It is not "imaginary". As distinct from the primary pain, chronic does not calm down with time, its appearance does not have spatial and time boundaries, analgesics do not help, antidepressants give a temporary relief. In neurology, such pain is known as neuropathic. In psychiatry – as a "chronic pain

syndrome", which is treated as psychalgia (mental pain), equated with it and included into the group of somatoform disorders (ISD–10/F–45).

Anxiety and pain are signals of danger but of different levels: pain is a signal of danger to the body, and anxiety – for the psyche of an individual. These protective reactions, similar in their discreteness, are due only to the autonomous bioelectric mechanism of the first phase of stress reaction. If there is a fixation of pain sensory stimulation, then it becomes obsessive and can be attributed to a bodily flashback symptom.

Studies of recent years make it possible to understand why the amputated limb hurts; why symptoms of herpes persist after the disappearance of all objective manifestations; why a pain syndrome persists in some people when there is not even a scar left from an injury or wound, not to mention some internal injuries. A differential sign that distinguishes the pain "flashback" from other numerous manifestations of the pain syndrome is its paroxysmal character independent of place and time and not changing its qualitative characteristics: localization, the character of pain over a long time.

As far back as 1894, the German neuropathologist and psychiatrist Franz Kisel showed that nerve injury led to significant changes in glia cells in the area of nerve fiber switching in the spinal cord. At the same time the number of microglia cells increased, astrocytes became denser, and thick bundles of fibers that strengthen cytoskeleton appeared in

them. A hundred years later, in 1994, Stephen Meller from the University of Iowa proved the participation of glia astrocytes in the formation of chronic pain. Further studies shed light on the mechanism of this phenomenon. Glia cells secrete various substances capable of increasing the excitability of neurons of spinal ganglia and spinal cord responsible for the transmission of pain sensitivity. Such substances include also growth factors. It has been found that glia cells perceive enhanced impulse from neurons as a sign of their functional tension. With these data, a real opportunity appeared to explain one of the mechanisms of obsession (involuntary repeatability). According to them, with bodily injury, the pain "excitability" in the glia of the spinal cord can persist for too long and then the neurons of spinal ganglia continue to send pain impulses in the absence of external irritants. These effects resemble mental flashbacks in PTSD. It can be assumed that the glia of the brain as a memory carrier and its cells or groups of cells retain enhanced excitability. The latter is considered as the main cause of neuropathic pain in neurology. The injured body, when confluence of some factors, is able to preserve the memory of trauma at different levels of pain formation, using different links of the same process – the process of feeling pain. The aftereffect of traumatic injury in the form of a trace pain "echo-stressor" can become stuck in glia cells of the spinal cord, astrocytes and microglia cells. The glia cells themselves are not capable of impulses, but they are capable of capturing neurotransmitters – substances released by

the endings of nerve fibers and providing signal transmission from one neuron to another.

Example: *All my life, as long as I can remember, I have been sensitive to the pain of others at the bodily level. Someone fell – I have pain and feel creepy all over, got wounded – synchronously with him I feel pain in the body. Once in the third year of the Medical Institute during a practical lesson in surgery we were taught spinal puncture. As soon as the needle entered the spinal canal of the patient – I reacted: having experienced pain, I was covered with cold sweat and fell into a subconscious state. Becoming a professional, I began to analyze the events of childhood, life, memories. Looking back at everything that happened in my childhood, I recall my first experience of feeling pain in the body, the experience of curiosity and pain. It was the first year after the war. My father was awarded a sanatorium trip. I was 9 years old then, and father took me to Georgia, to the Black Sea. It was a fairy world where I was amazed at everything: palm trees, salt water in the sea, huge white flowers on the trees – magnolia, in the air the aroma of oleander, roses, flourishing lemons and oranges. And I touched everything, picked flowers, leaves; I ate melons and watermelons for the first time in my life. One evening guests came to us and while they were sitting at the table I went out into the garden. The sun had already set, twilight came and the shape of the surrounding trees and bushes became vague. I stopped at the plant which I had never seen before, it*

was very strange, and at the top there was a flower of marvelous beauty and some other fruits. I grabbed the plant with both hands, pressed it to me and the same moment screamed, screamed in pain in the whole body, incomprehensible, sharp and stabbing. Hundreds of needles pierced me. It was cactus. I screamed, but I could not get rid of the pain and the plant. The dog ran from me to the house and barked loudly. I screamed in pain, it barked until the adults heard. My memory did not keep everything, I remember only that I was given cognac and all amicably began to pull out bundles of thorns that pierced my body. Even the next day my grandmother still found needles. Since then, I hate cacti and synchronously feel pain when someone nearby feels it. Even when I watch a TV program about "black humor" I am pierced with pain or shiver all over if suddenly someone fell or got injured.

The examples cited above unveil the mysteries of intracerebral activity and make it possible to look at facts differently. If a person encounters the event that traumatizes his psyche for the first time, the mechanism of repression (the psychoanalytical term and mechanism) is triggered. Repression (suppression) is one of the mechanisms of psychological defense. It is triggered as an active, motivated elimination of something from consciousness into the unconscious, usually manifesting itself in the form of unmotivated forgetting or ignoring some moments of a traumatic situation due to protective inhibition (neurophysiological mechanism). Clinically these "forgettings"

are described as various amnesias (A. Tadevosyan, 2011).

Since memory lapses violate the integrity of the inner mental world of a traumatized person, in everyday life, specialists have the expression "holey memory". Repressed experiences, let's conditionally call them "lost memory puzzle" are in a "semi-active state", in all probability, making up operative memory. The stored information as operative memory is between the consciousness and unconscious (in the pre-consciousness, according to Freud) and systematically breaks into the sphere of consciousness through nightmares, flashbacks that are described as symptoms of PTSD. We view these mental paradigms not as psychopathology but as a normal functioning of the mental apparatus in a state of post-trauma, which has a threefold meaning.

1. The appearance of nightmares, flashbacks makes it possible for the consciousness to "fill in the gaps in the memory", to restore the integrity of the mental world torn by amnesias. Cognitive processing of them, spontaneous or in the office of a psychoanalyst, is the therapy of the trauma itself.

2. At the same time recurring memories together with the work of consciousness form a leading reflection as a person's readiness for repeated traumas, thereby reducing their destructive impact on the psyche; and this is an increase in stress resistance.

3. If cognitive processing of the obtained traumatic experience does not occur timely (within 6 months on the

average) and in the right direction, the appearing phenomena are fixed and can acquire an obsessive character (the mechanism of the mental apparatus) becoming symptoms of post-stress disorder.

Cognitive echo-stressor. This type of traumatic event memorizing is of a conscious nature. A traumatic event can be retained in the form of memories or images that the individual randomly recalls in memory. When alone, he can mentally "play back" the events, and by active use of his imagination, man can distort reality. Imagination and fantasies can reduce a pathogenic effect of a stressor using one of the mechanisms of psychological defense; however they can also amplify a traumatic event, resulting eventually in affectivity growing like a snowball. Having been processed by consciousness, recollections acquire a personally significant meaning and can entirely devour a person. A constructed subjective mental reality replaces the objective reality, forcing a person to adapt within the framework of its new priorities. This kind of mental "echo" has an arbitrary character and results from man's evolution.

The state of stress outprice (when alone) produces self-generation of "echo-stress". A thought is a stressor to which the brain responds by one of the components: anxiety, strain, or exhaustion. Each time recollections of events again trigger a stressor response, stressogenesis with some of its links dropping out, e.g., the orientation reflex, the anxiety stage. The psychophysiological response can be stipulated by one of

the neuro-endocrinal axes of the anxiety phase, while as the stressor in this case can appear the cognitive senses (thoughts) of man. Since the end organs permanently receive the stress hormones, somatoform disorders acquire an organic basis. So, it is the presence of cognitive "echo stressor" that converts acute stress into chronic. The peculiarities of the brain and psyche based upon their rules and mechanisms make it possible to generate the interiorized (internal) distress (*neurophysiological term*) or intrapersonal conflict (*psychoanalytical term*) keeping man under condition of prolonged stress.

A stressor response, having a discrete nature, is manifested by functional disorders. Stressogenesis, due to the frequency of conscious flashback to the experienced trauma, actually becomes non-stop, resulting in increase of the degree of disrupting the homeostasis that in turn can lead to transition of functional disorders into the structural ones. As shown by clinical experience, if "echo-stressors" exist due to the bioelectric mechanism, functional disorders, regardless of the duration of symptoms, practically do not pass into the organic. However, if the "echo-process" involves the endocrine system, and the stimulation of the end organ is done through hormones in the blood system, then the development of organic disorders becomes more probable.

Availability of different varieties of "echo-stressors" explains the commonly known fact that a traumatic event affects man years later, manifesting itself by one of the varieties of a delayed

post-stress disorder or behavioral disorders. The appearance of delayed effects is a peculiarity of APES.

The total response is a vector of complex internal processes that manifest themselves as a personal experience of trauma. The complexity of this response requires an integrated approach due to the peculiarities of APES, its multisensory nature, complexity and ability to produce the whole range of health and behavior disorders manifesting itself as one of variants of the stress-phase-oriented model of the mentioned disorders.


АТЫ ДЕЛО ДЕЛАЙ

“Boring, oh, how boring, it’s horribly boring… And you do it”
Patient’s drawing.

Part Two
PSYCHOLOGY OF MALE PERSONALITY

Quite often the truth is cruel,
If you live in the imaginary world
Ada Tadevosyan

Painting by Joel Rea.

The man and his interaction with the elements –
the main theme of the Australian artist

The first part of the book highlights modern knowledge about a person, key features and components that determine specificity of his/her SBA basis, on which arise, develop, spread and then fade away various momentary, short- and long-term states – vibrations of the ocean of human life along which like waves fly life collisions, dramas, comedies and tragedies changing the quality of life and reducing it. The SBA is a chip inside of which the psychic world (subjective reality) of man is being formed and only by virtue of interaction and interpenetration of these opposites man lives and develops.

There is a great deal of literature, researches relating to the man's psychic world. There are even more discussions around this subject. The presence of the Internet has opened up easy access to the accumulated knowledge, to comprehend which is not always easy, even to a professional, because of the complexity of the research subject, its versatility, availability of different approaches to the study, different schools and different theoretical concepts. Multiple reiterations, terminological diversity depending on the chosen approach complicate understanding. We are not inclined to retell them, analyze or all the more to prove or disprove anything.

As required, we will refer to a particular source for the

sole purpose to bring a reader to treat many issues of interest in a different way, overcoming the persistence of stereotypes. Offering our vision of this or that problem – we follow our authors' logic. Perhaps we are mistaken. We are always ready to listen to another point of view and change our own, if the evidences are convincing. But we are going our way to the Temple where a person, both a professional and amateur (to both of them "all that is human is not alien") will find those anchors, life buoys, sweeps, islands using which, taking hold of which will be able to overcome anxieties of the life ocean easier. On our way we gathered pearls of the foregone generations abundantly scattered in the fields of physiology and neurophysiology, psychology and psychoanalysis, logic and philosophy. Summarizing many years' professional experience of the psychiatrist ("Psyche") and the urologist ("Eros") we weaved the found "pearls" of knowledge into a single necklace "Stressology" and through its lens tried to address the current health problems of men in particular, and medicine in general.

PECULIARITIES OF MALE SENSITIVITY

We view the study of the inner mental world of a man as the most reliable way to explore deep mental processes that affect health, life and healthy longevity. Unfortunately, these issues are ignored in medicine. The chosen approach predetermined the direction of the search for the causes of the early mortality of men in comparison with women. The task turned out difficult since it does not have clear boundaries and limits. It is boundless because, if we collect together the spiritual activity of the mature man, after his release from the bondage of phallic libido, it is necessary to give a picture of the whole set of human culture, in fact, world history of mankind with all its curves. The spiritual life of a man fully coincides with the bulk of overcoming life stressors of humanity and the achievements of human culture, scientific and technological progress. At the same time all negative, destructive, devastating ever created by man also come forward as the result of his activity. At all times of history a man lived on the crest of a wave of stressful life ocean, he was the first who took the blows of fate and was looking for the island of hope and stability. But having found them, he returned again and again to the ocean in search for the new and unknown. It is clear why in many languages the word “Male” and “Man” are identical.

In ancient Egypt, the Male-Man was represented by a single hieroglyph.

In English – Man
In French – homme
In Russian – молодой человек
(when applying to a man)

In the Armenian language there is a peculiarity, which reflects man's maturation. When born – a boy (tgha), who growing up becomes a "boy-man" (tgha-mard). And this age period is not so much due to the time factor as to the formation of the social role with its main characteristics, realization of both biological and, mainly, social needs. "Tgha – martes dartsel" (became a man) is the most significant praise in the mouths of adults for teens.Tracing man's development and moving up the biological stairs of fauna in phylo- and ontogenesis, it is clear that the role of social and psychological relations is ever increasing and the influence of genetic and hormonal factors, on the contrary, decreasing. One of the most important concepts of the traditional Chinese world view – "san tsai" – "three matters", "three gifts", "three riches": Heaven, Earth and Man connecting them. In the

cycle of its development, Chaos gives rise to two principles of the universe – Heaven and Earth and receives completion in Man. The "Tao Te Ching" states: "One gives birth to two; two produces three; three engenders all the darkness of things". Man (male), according to the Chinese notions, stands in the center of the universe, he closes and keeps the global flow of life. We do not know as to the whole "global flow of life", but on the Earth all the good and evil begins and ends with the man and he is in the middle of the stress-saturated ocean of earthly existence. It is man who at all times and everywhere has been in the epicenter of stress-saturated life, at the forefront of the fight against all stressors and constantly enriched the life with ever new and new stress-factors. Having experienced their effects, he, perhaps for this reason, as a defender, "pushed" the woman into the family, home, protecting her and offsprings from the harmful effects of the environment.

We all know the symbol of ancient Chinese mythology and natural philosophy Yin-Yang ("Tai Chi", the Great Ultimate) – the symbol of the creative unity of opposites in the Universe. It was depicted as a circle, the image of infinity, divided by a wavy line in two halves – dark and light. Two points – light against a dark background and dark against a light one, symmetrically located inside the circle, indicate that each of the two great forces of the Universe bears in itself the germ of the opposite beginning. Dark and bright fields, denoting the corresponding Yin and Yang are symmetric, but this symmetry is not static. It

assumes constant movement in a circle – when one of the two beginnings reaches its peak, it is already ready to retreat. Yang, having reached its peak of development, retreats in front of Yin, which, having reached its peak, retreats in front of Jan.

Yang symbolizes a male beginning personifying the white, light with an emphasis on the external confirmation of male's activity and his role in life. Current data confirm that boys are more influenced by the environment and girls – by inherited factors. Male beginning Yang is in close, indivisible connection with the Yin – the female beginning symbolizing the black, with an emphasis on the inner. This symbol is universal. Human life is a circle closed to the body-personal boundaries that define the basic paradigms of human existence. Human life is a circle, closed to the body-personal boundaries, which define the basic paradigms of human existence.

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Men's mythological images:

1. "Shield and Spear" – the symbol of the male, as well as the sign of the planet Mars and the god of the same name;

2. Heracles – the ideal of male power. 3. Apollo – the ideal of male beauty.

At all times, the image of the man came forward as a heroic character, as an object for depicting in the visual arts, and imitation. Since ancient times, the symbol of the planet Mars, named after the ancient Roman God of War, has been used to refer to a male; genetics also uses this symbol.

There are two areas in human cognition, which require sensitive attitude and careful logos penetration into these spheres. One area – biological component – is the human body, and

no matter how much we would like to dissociate ourselves from Freud, the essential part of human is the sexual sphere. Understanding what is happening in it affects the foundations of self-image, especially in men, and often, with different points of view, causes strong opposition, aggression. This area is functionally highly variable and is thoroughly protected by the EGO. Mystery covers this area. Its "nakedness" hidden from the external world, developing in one direction or another, in many ways forms the character, value orientations and hence the behavior and lifestyle of men, on the one hand; and on the other hand, it creates a variety of symptom complexes, internal imbalance and health disorders, affecting the life span.

The second area – man's psycho-social component – is his emotional sphere with a feeling of belief as a core. It is less variable and fits into a few basic specific confessions. But it is even more sensitive and vulnerable to whatever other point of view, provoking intolerance, aggression and violence, on the one hand, the sufferings, suicides, health disorders on the other hand.

It would be simpler and faster to finish the book not saying anything or not going into special details, just referring or appealing to the already accepted postulates. But we have chosen a compromise option: in the most debated "painful" moments of the narrative we present our position by large strokes as information for consideration or doubt in a personal presentation of the problem, giving readers the right to make a choice.

Such an approach meets our motivation and the main

purpose of writing this book. Considering complex, difficult, and sometimes mysterious and incomprehensible situations and collisions faced by virtually every man, we refer not only to the existing stock of knowledge, look into the fount of wisdom of ancient civilizations, but also share many years of practical experience. The obtained information and knowledge will undoubtedly help the reader overcome the "pitfalls" and bends, takeoffs or bogs encountered in the river called Life.

The psychoanalytical approach is used in psychology to substantiate psychodynamics, namely, when the basic problems of adult behavior are derived from real events and childhood experiences. Results are presented as symbolic conclusions of the kind of five stages of psychosexual development of the individual, the Oedipus complex or Electra complex, which are based on what Freud called "envy of the phallus".

According to Freud, repressed sexual desires of man, his libido ultimately underlie all his actions and all his problems. Not only Freud's opponents but also his disciples and followers often criticized psychoanalysis for this pansexuality. Until now, debates do not cease around the so-called Freud's psychohydraulic model of sexuality, according to which individual's energy (libido) is realized, depending on the type of culture of the society in which he exists.

The amount of this energy is fixed and limited, so everyone is forced to choose between his own sexual activity and certain kinds of activities accepted in a given society. It is in this that

Freud saw an inherent conflict between sexuality and culture. Sexual repression creates neuroses in the individual, and its free manifestation is the decline of culture.

PRINCIPLE OF PLEASURE/DISPLEASURE

Freudism means teaching of Sigmund Freud in the form in which it was created by him in the period from 1900 to 1938 and implies the classical (orthodox) psychoanalysis, in contrast to the neo-Freudism, analytical psychology of Jung and individual psychology of Adler.

I. Babel wrote: *"… we are born to enjoy the work, fight and love."…*

Undoubtedly he absorbed all the theories of pleasure, dominating from the mid–20th century to the present day, as the basis of mental world of the man. According to these theories, "the element of the male inner world is an eternal pursuit of pleasure, which he derives from the fight-war, labor and sex. And if the first two the man rejects sooner or later by this or that reason, he is trying to prolong sex by all imaginable and unimaginable ways, beyond time and space. That is why sexuality is more known as the "basic instinct" and not because it serves the instinct of reproduction.

Eric Fromm called researchers first of all to define the terms. Let us follow his wise advice. Without going into the intricacies of psychoanalysis (psychoanalysis requires more careful study), we note that, according to the traditional Freud's approach, deriving pleasure underlies the psychic world. The

explanatory dictionary defines “PLEASURE” as a feeling of joy and contentment from pleasant sensations; enjoyment of the pleasure of meeting, of a trip, work; finding pleasure in reading books; having pleasure of seeing somebody, being engaged in something; pleasing somebody with a conversation, walk; being happy to listen to music, doing something for fun …; and finally live happily, carefree, just for fun.

One may not accept the latter because it is unnatural to man’s mental world; his elements are perpetual search for adventures, comprehension of new, solving or inventing simple or complex puzzles of life. Only in the whirlpool of life the majority of men tear the flowers of pleasure. The aphorism: “Every woman should be a mystery” is a wonderful gift to all women ever invented by man for all times and for all. Women try to comply with a “mystery”, and men are always in search of this “mystery” clue. Dali grotesquely portrayed this mystery of woman.

Salvador Dali, The infinite mystery (1938).

None of psychological terminological dictionaries contains an explanation of the concept “pleasure”, though “pleasure” refers to the category of psychological terms. It is most likely the result of evaluation work of the brain, which occurs after receiving information and its reflection in the form of sensation.

Sensation (Empfmdung) is a psychological function to comprehend the immediate reality through the sense organs. French psychologists call it “la fonction du reel” (a reality

function), which is a set of knowledge of external factors obtained through the senses function. “The sensation does not tell me what it is, but only indicates that there is something”. The sensation, as an elementary initial phenomenon of cognition, is something definitely given, not subjected to rational laws, as opposed to thinking or feeling. Physiological sensitivity, which appears upon stroking the skin, is an elementary pleasure.

The presence of skin sensitivity is a genetic factor included into the human genetic program, which can be pleasant, because it does not cause muscle tension, but relaxes it. It can be added – a sensation is an initial change of homeostasis, the local “first wave” of the brain activity, excitement of mental element of the awakening brain. The ability to sense is the need, built into the genetic program, which is necessary for activation of the brain. The vital activity of the brain can be judged only due to a wave nature of the irritation sensation recorded by electroencephalogram.

Feeling – the second level of cognition – is the ability of a living being to perceive the amount of mental and physical sensations, to respond to external stimuli; it is the inner excitement of the whole mental ocean, in which a person lives and able to respond to life’s impressions: can experience the elation, the rush. Feeling is a psychological function, which informs the subject about the value of certain things for him, about their importance. The feeling above all is a process that takes place between the EGO and some given content, moreover,

a process that gives the content a certain value in the sense of accepting or rejecting it ("pleasure" or "displeasure"). But at the same time, the feeling is also a process, which besides the specific content of consciousness as an amount of sensations of the moment, may originate in isolation, as the mood. In this case, there is a causal relationship with the earlier consciousness contents or association with the unconscious contents. However, the mood – be it general or only partial feeling – is an evidence of evaluation of the whole state of consciousness (pleasant or unpleasant) available at the moment, rather than evaluation of not specified, single content of consciousness. Therefore, the feeling is above all is quite a subjective process, which can be in all respects independent of external stimulation, though it is attached to every sensation. Even the "indifferent" sensation has "sensual coloring", namely the coloring of indifference, which again expresses the well-known estimate.

Therefore the feeling is also a kind of judgment, which is different, however, from an intellectual judgment. Evaluation with the help of feeling covers all content of consciousness, whatever kind it may be. If the intensity of feeling is increased, there appears affect, accompanied with noticeable bodily innervations – it is already a storm. The feeling is different from the affect – it does not cause appreciable bodily innervations, i.e. causes no more and no less innervations than a normal thinking process. The sensations, all the more, feelings realize that part of the genetic program, that essentially important unit

of it, which evaluates the incoming information of pleasant-unpleasant, "pleasure-displeasure".

The concept "pleasure" belongs to psychoanalysis, according to which the activity of the mental apparatus begins with an unpleasant sensation (the principle of displeasure), which is automatically regulated by the principle of pleasure. The principle of displeasure/pleasure was understood in classical psychoanalysis as an initial concept, setting the program of mental functioning and based on the innate human unconscious desire to avoid displeasure and achieve pleasure. Freud, realizing lack of knowledge in physiology, neurophysiology, has come to the conclusion that pleasure is somehow connected with the decrease, reduction of the amount of irritations, while dissatisfaction – with their increase, and the mental apparatus serves the purpose of release from irritations coming in from outside and from within. He assumed that on the basis of the facts that prompted to accept the domination of the pleasure principle in mental life, we could talk about the internal tendency of the mental apparatus to keep the quantity of excitation in it is as low as possible, at a constant level. In accordance with this assumption, he expressed the idea of the need to take into account that in the mental life there also existed the principle of constancy (***homeostasis***), of which, strictly speaking, ***the pleasure principle*** was derived.

A newborn baby perceives the surrounding world as a flow of rapidly changing sensations. The bulk of the flow passes

a baby because of underdeveloped receptors corresponding to these modalities. Immediately after the birth, ***skin and pain sensitivities*** in infants are the most advanced. Perhaps this is due to the fact that in the course of phylogeny, these sensitivities are the oldest. It is through them that a baby gets the first unpleasant sensations, which as the first irritants violate homeostasis, along with hunger and physiological needs. These irritants are the cause of the vibrating (oscillating) activity of the developing brain, which automatically switches the reflexes. Reflex motor activity eliminates the cause of displeasure, changing it to pleasure. A baby is experiencing the feeling of pleasure, first of all, from the pleasant tactile sensations. The baby is born with a pretty impressive collection of tactile reception. Even before birth, it felt the warmth of mother's hands, touched cheeks with fingers, felt the movement of amniotic fluid as vibration sensations. The little one not merely heard these ***vibrations*** but felt by the whole body. A new world prepared a lot of tactile surprises for the baby. Kiss of mother is the first of them, the warmth of her skin – the second. There are so many further discoveries that the count is lost. A newborn baby comes into the world, keeping in stock a large set of behaviors based on the unconditioned reflexes. Most of them are vital for the baby. For example, if you stroke a newborn's cheek, he turns the head and looks for a pacifier with lips. If you put a pacifier in his mouth, the child will automatically start sucking it. Sensations of different modalities have different dynamics in the development; their degree of

maturity at different times is different.

Psychoanalysis practically did not pay due attention to the phenomenon of pain as the cause of vibration and sensation of displeasure. And as claimed by K. E. Izard (1999), the pain is the underlying motivation, which causes a great variety of negative emotions. It cannot be disagreed. Both tactile skin and nonspecific pain receptors are spread throughout the body and are sites of entry through which reality penetrates and stimulates the development of the inner mental world. Nonspecific theory of the origin of pain impulses, or the intensity theory was developed by various authors, including A. Goldscheider (1894). According to this theory, sensation of pain is caused by intense stimulation of different nonspecific sensory receptors (temperature, pressure, visceral, and others) and conduct of pain impulses to certain brain formations. Based on this theory, we can talk about the infancy period of nonspecific pain prevalence. Modern pain theories already relate to a specific phase of the pain as a consequence of psychodynamics. The data of both foreign and domestic scientists (Dionesov S. M., 1963; Reynolds, 1969; Terenius, Schneider, Perth, 1973; Kryzhanovsky G. N., 1973–1993; Kassil G. N. 1975; Kalyuzhny L. V., 1984; Filin V. I., Tolstoy, A.D., 1996, Reshetnyak V. K., Kukushkin M. L., 2001, and others) single out specific pain receptors, specific afferent pathways and specific brain structures forming pain sensation and body responses to it. According to this theory, the pain arises due to the prevalence of activity of nociceptive

(algogenic) system over activity constantly functioning in a healthy body of antinociceptive (antialgogenic) system.

A. D. Zurabashvili considered pain as a protective response, which represented the ancient form of experiences and which served to a human as a trouble signal. Pain is associated with fear. Fear is unpleasant in itself. A baby when alone starts crying, and if nobody comes up to it, the crying turns into screaming. The baby gets rid of the tension and takes pleasure only through the sense of the kinetics of someone else or through making movements itself. Therefore, the kinetic modality of irritations is determinative equally with the tactile and pain sensitivities.

Considering the pleasure principle as the main driving force, Freud at the same time admitted that on the whole it would be wrong to say that that principle rules over all the mental processes. The case is that "in the soul there exists a strong tendency to the domination of the pleasure principle, which is, however, opposed to various other forces or conditions, and thus, the final outcome will not always comply with the principle of pleasure". He admitted that considering the existence of the external world with its all possible limitations, the pleasure principle from the very beginning should be acknowledged useless and sometimes even dangerous to human life. On three sides the psyche is threatened by various distressors: on the part of the body – pain, diseases, traumas; on the part of the society – interpersonal conflicts; on the part of "I" – intrapersonal conflicts and complexes. Therefore, according to Freud, the

principle of pleasure under the influence of life circumstances transforms into the ***reality principle***. The task of getting rid of suffering and exclusion of pain forces out the pleasure principle. It must be emphasized that the redistribution of the roles of "pleasure" and "reality" in the structure of the mental world is carried out under the influence of the psychosocial factors associated with human maturation. An adult male is able to consciously control the display of the desire for pleasure, or also consciously move away from the world, for example, to a monastery. In both cases it is a conscious departure from the reality of existence of secret desires that modern man forces out into the unconscious, and curbs them there with the help of mental barrier erected between consciousness and the unconscious. But there is also an unconscious escape from the outside world problems in the form of mental illness, particularly post-traumatic stress disorder, schizophrenia; among semiconscious, can be mentioned deviant behaviors, drugs and alcohol.

Freud did not restrict himself to the consideration of the two principles of mental activity – the pleasure principle and the reality principle. He tried to look beyond the pleasure principle, in order to understand what forces are at work in the depths of the human psyche. Such an attempt has led to the fact that the founder of psychoanalysis recognized striving for the preservation of peace as the dominant tendency of mental life, and even of the entire nervous activity, that is, put forward

the third principle – ***the principle of the constancy*** (peace, nirvana). Considering that the striving for preservation of peace, the cessation of internal irritant tension finds its expression in the pleasure principle, he has come to the conclusion that this is one of the strongest motives for confidence "in the existence of ***attraction to death***".

Probably, the presence of the "peace principle" predetermines the presence of its alternative – the ***principle of vibration*** (oscillation) as the basic principle of the brain life activity proved by the data of EEG. Cessation of the brain wave activity on the electroencephalograph monitor is the basis to certify person's death in reanimation. It may make sense to speak about two primary principles, existence of two dominant tendencies of mental life: striving for vibration ("oscillations") as a neurophysiological principle of the brain activity, deadaptation, according to Selye and striving for preservation of peace – the nirvana principle, which was acknowledged by the founder of psychoanalysis S. Freud. The interaction of these two opposite principles is carried out through the pleasure principle.

If adhere to the psychodynamic approach, the mental world of a male develops through the brain constant need to sensor stimulation recorded by EEG in the form of wave activity. Any constancy and duration of the situation, which is passionately desirable from the point of view of the principle of pleasure and the principle of peace, causes only a feeling of indifferent content.

The psyche is set up so that it is able to enjoy only in the presence of contrast, which can be attributed to the novelty principle. Freud and his followers tried to unify the active principle of the psyche by discovering the pleasure principle and eliminating all discrepancies through discovery of unconscious. But at the later stages, Freud introduced the concept of the reality principle, then of nirvana, later on – *intrusive memories*, thus proving that the psyche is virtually not subjected to unification, because different laws operate in the biological and mental worlds.

Probably, it is necessary to recognize the existence of the following principles underlying the formation of the structure of the mental world: the principle of vibration, the principle of novelty, the principle of peace – nirvana, the principle of pleasure, the principle of obsessive repetition; and the irritations of the three modalities – tactile, painful and kinetic.

Reflecting on the structure of the mental apparatus, Freud insisted that it consisted of the conscious, preconscious and unconscious phases of the mental process. Preconscious-Consciousness are sensitive to any qualitative difference in impressions from the outside world; from the inside they perceive only the growth and weakening of tension, which on the scale of pleasure – displeasure are expressed by a whole range of mental qualities. Freud realized the difficulty that he faced in the search for a simple answer to this question. At first, he marked equality sign between pleasure and weakening of tension, between dissatisfaction and its increase, but soon this relationship

ceased to be simple and clear for him: "… pay attention to the fact that this hypothesis suffers uncertainty, because we were unable to determine the essence of the relationships between pleasure and displeasure through a change in the strength of mental excitations. One thing is clear: these relationships can be quite different and certainly in any case may not be easy", he wrote. As for the mechanism operating here, we find in Freud several approaches to this problem. In the work "Beyond the Pleasure Principle" (Jenseits des Lustprinzips, 1920) Freud called to distinguish displeasure and the feeling of tension (distress by H. Selye) because pleasant tensions also exist (eustress by H. Selye).

Psychologists and humanists traditionally blame Freud for seeing the cause of all disorders in human sexuality and considering the principle of pleasure overriding. If this thesis is partly believable for the early Freud (before he actually talked about the primacy of the pleasure principle), then in 1920, Freud described a more fundamental principle that worked regardless of the principle of pleasure – ***the principle of obsessive repetition***, which gave the mechanism for symbolizing the loss and work of mourning. In all cases, peace is restored by the objective physical activity. According to recent data, the latter implies an objective movement – a movement that meets certain vital need rigidly defined by this need, unfolding in the outside world. In order to be successful it should correspond by its structure to the characteristics of the external

world. Such characteristic as the objectivity of movement is very important because the relationship of the subject with the outside world is carried out through the behavioral act and through this relation it becomes possible to form all human mental functions as they provide man's adaptation to the outside world. Thus, we can say that along with such a characteristic of the movement as its temporal development, there is one more important feature – space-time or subject-time characteristic of the motor act. Motor acts are means of restoring homeostasis, means of obtaining pleasure and stress relief. Subjected to the evolution, kinetics in itself has become a source of pleasure in modern man (fitness classes, running, body building, climbing, all kinds of extreme sports). Gustav Fechner – German physicist, psychologist, one of the first experimental psychologists, founder of psychophysiology and psychophysics substantiated "the pleasure principle of action". Unlike conventional hedonistic doctrines, he was not referring to the pleasure as the goal of human action, but as the conditionality of our current actions by pleasure or displeasure of committed actions.

SEXUALITY. LIBIDO

As Otto Kernberg wrote, it takes many years for a person to reach the phase of mature sexual love. Experiencing it occupies one of the leading places on the Olympus of human presence on the earth. All the more, to come to an understanding of the mental world of male, a researcher needs to live a long life without losing interest to constantly observe and study the question he is interested in.

Brief etymology of the main concepts: sex, sexuality, libido

One of the symbols of the 20th century was a concept of stress, and the symbolism of the 21st century includes the concept of sex. And it is likely not a coincidence. A stress-saturated human life of the 20th century resulted in a sex-saturated human life of the 21st century. Sex became the most available (irrespective of place, situation, time and money) way to discharge stress and derive pleasure. No wonder there appeared "sex with friends", "sex – a pleasant pastime", "sex – mutually agreed", "safe sex".

In the last century Berdyaev wrote: "Only our era allowed the exposure of sex life. And the man was laid out on the sections. This is Freud and psychoanalysis, this is the modern novel. This is the shamelessness of the modern era but also a great enrichment of knowledge about human". Freud, so that to less shock the Puritan society of his time, used to tell that the accurate scientific

study did not imply moral categories or an appeal to the idea of human integrity, because scientific study always led to a partial (model) representation of the object. The purpose of science is not to frighten or to console.

Today one can smile remembering the flow of profanity showered on television, and the Internet is the fount of readable, audible and visible "shamelessness". Strong language is bravado of emancipation from morality and virtue. But this is at one terminal, at the other one – are the past centuries, in communion between man and woman. And between them is the largest cluster of people, who preserve a reasonable balance of word usage and action.

Sex. Translated from the French (*"sexe"*) and English (*"sex"*) it means no more than – "gender". This word appeared in Latin (*"sexus"*), indicating human activity in order to obtain a set of mental and physiological reactions, feelings and actions related to the manifestation and satisfaction of a sexual desire or a desire to continue the race. The word "Sex" (Lat. *"sexus"* – "gender, male or female) comes from the word *"seccare"*, which means to "cut, split", because according to the ancient myth, the gods divided the first people on the two halves, which must seek each other around the world. Oddly enough, but the word *"sex"* in the sense of "sexual intercourse" came into wide usage only recently. Sexual intercourse predetermines female sex organ (vagina) and that of male (penis) ("pistil and stamen"). Sex is an act, action aimed at discharge, deriving pleasure via sex and need

to continue the race.

For the first time the term "sex" in the meaning of "coitus" ("sexual intercourse") was recorded in 1929. Modern dictionaries decipher the word "sex" as "all that relates to the sphere of sexual relations". Synonyms for sex are intimacy, sex, bed, sexuality, intercourse. In the British comedy series "The Black Adder 3" principal character Edmund once said to writer Samuel Johnson that people would peep into his famous dictionary of intimate lexicon solely in search for obscene words. True or not, but the interest in such words certainly exists, and there is no getting around it. Sexual intercourse is carried out through genitals – vagina and penis.

Vagina (Lat. *"vagina"* – "sheath"). The old meaning of the Russian word *vagina* is "sheath".

Penis (Lat. *"pendere"* – "hang"). The origin of this word, denoting a male penis is not as straightforward as it might seem at a first glance. The fact that this part of the body is hanging is clear, but ancient Romans often used this word to call the tail of the animals, so it was an allegory. The Greeks were more straightforward – to indicate male sexual organ they used the unequivocal word *"peos"*, although there was also the word *"phallus"* ("the phallus") in their language, which denoted intense penis. It is doubtful whether one in the army barracks could be satisfied with the "tail". Many men, especially soldiers, willingly identified their dignity with the word *"gladius"* (Lat. – "sword»), especially against the background of the origin of the word

vagina.

Sexuality. The language problem faced by Freud is that the word ***"die Sexualität" is ambiguous in its content and indicates both the quality of an object*** and function of the body itself. This duality is well perceived in the Russian language when comparing such expressions as "sexual girl" and "sexual dysfunction" (sounds a bit different in English – "sexy girl" and "sexual dysfunction"). Sexuality as the quality is demonstration of personal orientation on own capabilities and the desire to have sex (the phenomenon of "Macho") by means of facial expression, pantomime (gestures), clothing, behavior, figure, anecdotes, humor. It is an inherent desire to manifest your inner libido, transforming it into an external manifestation of behavior. This is purely a personal orientation, which is made up of own fantasies, fashion requirements, imposed standards. In the modern world, the functions of sexuality and reproduction rarely coincide completely.

The function of sexuality is treated as a set of biological, psycho-physiological, mental, and emotional reactions, feelings and human actions related to the manifestation and satisfaction of sexual desire (G. B. Deriagin). Sexuality is an inherent need and function of the human body like the processes of respiration, digestion. Man is born with a certain physiological sexual potential, then sexuality is formed within the scope of individual life experience. On the whole human sexuality is determined by the integrated interaction of biological, mental

and socio-cultural factors.

Libido (Lat. *"libido"* – "lust") is a sexual desire. In more general terms, libido is manifestation of life, which includes strivings, desires, attractions, mental drive, usually associated with sexual instinct. It is the energy, but the special one, which can be transformed assuming any kind of human activity, which is not directly related to the sexual instinct. Freud borrowed the term "libido" from A. Moll (1898), who defined two components in it, which are the manifestation of the true sexuality: the desire to touch, inducing to the physical (hugging, kissing) and spiritual communication with an individual of the opposite sex, and the desire to relax encouraging to achieve changes in the genitals, associated with vasomotor and muscular processes, following ejaculation in men and orgasm in both sexes. In fact, originally there was a sign of equality between the libido and sexuality. Rooted understanding of sexuality and libido, as analogs of a function of genital organs was and remains dominant in the minds of both researchers and people, resulting in a constant substitution of one concept by the other. Freud himself did not escape this, and therefore became a target of criticism for his pansexuality, at a time when it was not about the sexual instinct but about the principle of pleasure. E. Fromm, in his monograph "Greatness and limitations of Freud's theory", wrote: "Freud did not come to the concept of "social character", because on such a narrow basis as sex, such a concept could not develop". However, in everyday life the term "libido" has preserved its

original meaning, given by Freud – sexual passion and in the consciousness of modern man it has only one definition: sexuality.

Libido, sexuality, sex – is a chain of linguistic concepts reflecting links of a single biological function, the genetic program of which is realization of the reproductive instinct with the purpose of procreation, pleasure and stress relief.

Sexual arousal and its satisfaction occupy a completely special central place among other affective states in the psychological experience of human, especially of male. It is impossible to study and understand sexuality at some particular stage of research in isolation from the context, the psychological world of the individual, social and cultural world of the society and the evolution. Due to the dominating in the medieval Europe attitude towards manifestations of sexuality as a grave sin, the development of sexology for a long time turned out impossible. At that time the human body was considered as a source of "dirty" lusts and desires, and sexuality, love – as a sin between man and woman.

Among all pioneers and founders of the scientific study of sexuality, the most well-known figure is, of course, Sigmund Freud. It was Freud who first drew public's attention to the role of sexual and sexuality on the whole in the personal life of man, his development, peculiarities and inclinations, his life together with other people. He, considering sexuality as a basis of human existence understood it otherwise than representatives of the

science of that time, the community of the past and present. He has changed the concept of "sexual", having separated first of all sexuality from too close association with the genitals, regarding it as a more general bodily function having the aim of pleasure and only indirectly serving the purpose of reproduction. He clearly distinguished between the concepts of "sexual" and "sex". The first concept is much broader and includes many manifestations having nothing to do with the genitals. According to Freud, the sexual life (not sex) does not begin with the onset of puberty but shortly after birth and includes a function of obtaining pleasure from the various areas of the body; the function, which was subsequently used by the body for the purpose of reproduction.

In the course of his further research and therapeutic activities, Freud specified his initial ideas about the prevailing principle of regulating mental activity and correlated it with the "principle of pleasure/displeasure", which was considered by him as the "economic principle" of functioning of the psyche. In the article "The formulation of the two principles of mental activity" (1911) he wrote: "Apparently, there is a general tendency of our mental apparatus, which can be attributed to the economic principle of conservation: it is revealed in the stubborn clinging to its available sources of pleasure and difficulties in denial of the latter".

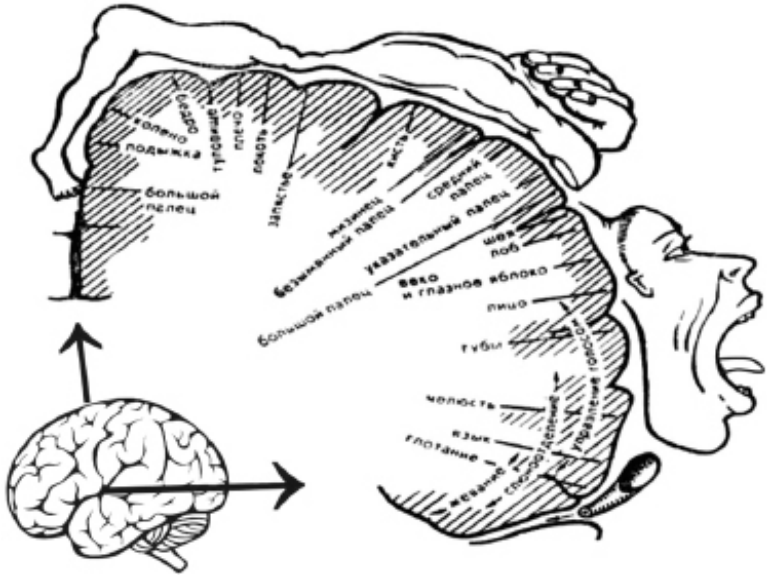
In the opinion of Freud and his followers, the manifestation of sexuality in a child is the pleasure of the excitement experienced by the infant from the mother's caresses, from the pleasant sensations of the contact with those who care about it. It

is this diffuse "excitement" of the skin that Freud and his followers viewed as children's sexuality. Henceforth its erogenic zones, later cognitively imprinted sexual notions and, finally, the development of unconscious fantasies were described. All these components of sexuality are connected by the intense affect of pleasure and enjoyment activated since infancy, as psychoanalysts considered, and reaching its culmination in the form of cognitive-affective experience. If we move away from the theory of "unconscious sexuality", discovered by Freud, another viewpoint is possible, namely: caresses as a soothing excitement, most likely, relieve anxiety, alarm. If we estimate this governing principle in newborns by neurophysiological mechanisms, it is more likely that the feeling of "pleasure-displeasure" is an analog of the reaction of deadaptation – adaptation in the form of unconscious primary GAS phase – alarm phase. As we remember, GAS has a discrete character in the form of automatic activation of neuronic sympatho/parasympathetic axis. These fluctuations of the psyche resemble ocean tides on the earth. The world is universal and man has absorbed the laws of the Universe. Replacement of an unpleasant feeling by a pleasant one is carried out by motor acts – kinetics, the set of which is limited. The same movements are used to achieve different goals, and this shows the economic principle of functioning. Already in the early stages of development there is a polymodality of functions. For example: sucking reflex – a life reflex fulfills several functions: satisfaction of hunger (a

mechanism for satisfying the food instinct), soothing ("saving pacifier"), obtaining pleasure and the way of the world primary cognition. The kid makes use of the mouth pulling into it everything at first indiscriminately, gradually – only a new toy. This reflects one of the laws of psychophysiology – the law of economy, when one and the same function has several purposes, the number of which increases as the child gets older and as the system of psychosocial adaptation develops together with the development of the social "instincts".

Canadian neurologist W. Penfield drew a funny man – a homunculus with a huge tongue and lips, big thumbs and toes and small hands, legs and body. This was the first map of "functions and semiotics of lesions".

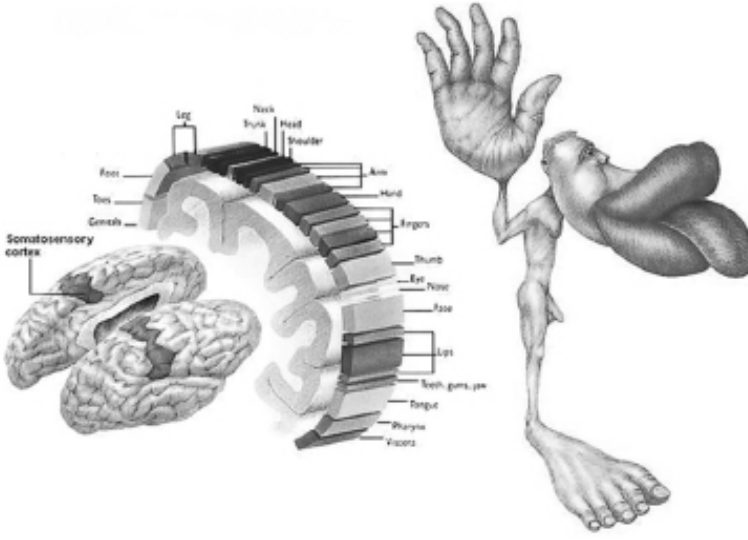
In the end, a surrealistic portrait emerged, where the human body was stretched across the surface of the brain.



W. Penfield. “Sensitive homunculus”.

Homunculus is a symbolic representation of motor and sensory zones in the cerebral cortex.

Homunculus has abnormally big hands, fingers, genitals, lips and tongue (and the head as a whole), since these parts are used constantly, from day to day. There is a match between the frequency of functioning and the size of the region in the sensory cortex, responsible for this activity. The more benefits – the greater the area in the sensory cortex.



Homunculus. Somatosensory cortex.

We do love kissing because “the mouth has a large representation in the cortex” and through kisses, touching lips, the subjective world of man, his psychosocial mechanisms of psychological protection and social models of behavior are created in many respects.

Children show a natural interest in their bodies including the genitals, notice anatomical differences between men and women and often play with their genitals. But before they tackle

their genitals, which they have to reach, babies first suck their hands, then start playing with legs, trying to shove them into the mouth, drag diapers, suck them, and only when you start to teach them to the pot they detect their genitals, playing with them – reveal "pleasantness". The latter is usually regarded by adults as masturbation, though it is not. Finding relationship between genitals and "pleasantness" many children are involved in "sexual games", usually with their friends, brothers or sisters. "Sexual games" include nudity and study of sexual organs of each other. Most likely Freud and his followers were in power of stereotypes of interpreting the behavior of an adult and were led on their string. Baby's movements were regarded similar to the sexual body movements of an adult (masturbation) and identified them as a manifestation of infantile sexuality. Another misconception is to interpret the seen through the prism of personal experience. The baby's genitals have not yet been formed, the sexual instinct has not yet been woken up – and the child is already "having sex" masturbating. Freud solved this inconsistency and riddle attributing "sexuality" of this period to the unconscious. So unconscious was discovered, which in the initial stages subjugated the entire human psyche, because it seemed to open the universal core of human personality – the unconscious field in which the sexual instinct "calls the tune".

In the early school years the interest in "sexual games" slightly reduces despite the fact that children may have romantic feelings for peers. A new wave of increasing sexual interest is observed

in the transitional age.

Recent advances in neuroscience confirmed Penfield's metaphor on the predominant representation in the cortex of "mouth" and "motions" zones in the infant. These two zones stimulate the brain oscillatory activity as a necessary condition of its functioning and development. The kinetic zone and an arsenal of movements with all their seeming diversity are limited and in fact the same motor acts, functions are used to achieve very different effects. As a classical example can serve modern dances, during which the dancers reproduce a set of "sexual movements – dance-masturbation". The man introduces himself into a trance, which generates sexual fantasies and experiences. Moreover, spectators also experience sexual arousal due to the presence of mirror neurons and the principle of intrusive memories. John Bancroft writes (1989) that sexual arousal in humans is a comprehensive response, consisting of such elements as sexual fantasies, memories and desires, as well as a growing conscious search for external stimuli, specific for the individual's sexual orientation and sexual object. Bancroft believes that sexual arousal includes activation of the limbic system, which is the nerve substrate of sexual behavior from the point of view of physiology (MacLean, 1976).

In the culture of the 20th century "the principle of Ego" in relation to the social functioning of the human-male and human-female has gained strength and root; it is still in progress

in the form of three global revolutions – sexual, gender and family (I. Kon, 2004, 2009, 2010; N. Amosov, 1978). The peak of the first of these revolutions – sexual, in the developed Western countries fell on 1960–1970-ies. Sexuality in the modern world has undergone significant changes due to the growing role of psychological and socio-cultural factors. Such a motif of sexual activity, as reproduction, receded into the background giving way to the need for sexual satisfaction, relaxation and communication. The reason is considered to be women's emancipation.

However the behavioral shifts are associated with a deep process of separating sexuality from reproduction, which began long ago and gradually. Only recently the public consciousness of the West has recognized that sexuality itself is not aimed at procreation, needs no justification, it is valuable in itself. The sexual revolution of the 20th century in addition to the liberalization of mores and change in the forms of social control over sexuality involves the gradual assertion of the principle of gender equality. "Friends with benefits", the film of the American cinematography of 2011, gave the researchers of sexuality a remarkable term of sexuality in the modern western world. Although the film is not about this, it is a comedy; but "sex with friends", not committing to anything, not a result of the game of passions and love is more and more frequently used in the modern western world – had fun, discharged and ran away.

Конец ознакомительного фрагмента.